6th International Science Congress

ISC-2016

8th & 9th December-2016

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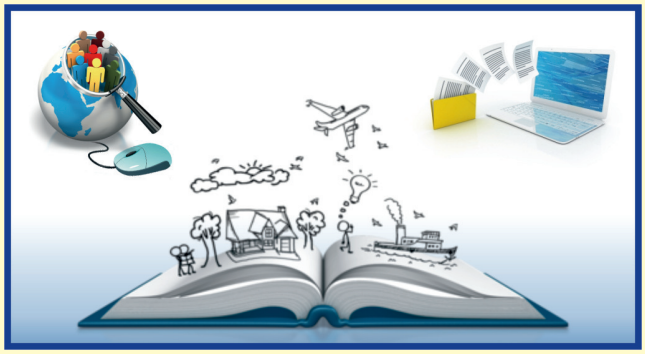
Digitization in Research for Cultural, Commercial & Scientific Development



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Hutatma Rajguru Mahavidyalaya, Rajgurunagar

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॥ प्रज्वलितो ज्ञानमयः प्रदीपः ॥

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6th International Science Congress

ISC-2016

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8th and 9th December-2016

Focal Theme

Digitization in Research for Cultural, Commercial & Scientific Development

SOUVENIR

Collaboration with

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ISBN: 978-93-84659-15-8

ISC- 2016 Inaugural Ceremony

Thrusday, 8th December 2016, Time 10:00 am

Inauguration By

Dr. P.B. Vidyasagar
Vice Chancellor, Swami Ramanand Tirth University Marathwada University,
Nanded, Maharashtra, India

Dr. Verla Andrew Wirnkor
Senior Lecturer and Consultant Analytical/Environmental Chemistry,
Department of Chemistry, Imo State University, Imo State, Nigeria

ISC-2016 Valedictory Ceremony

Friday, 9th December 2016, Time 03:30 pm

Felicitation By

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7th International Science Congress (ISC-2017)

Focal Theme: Widespread Research, Strengthening Nations and Spreading Happiness
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Early Registration	: 31st May 2017
Acceptance of Abstract upto	: 30th November 2017
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Focal Theme: Global Research: Reform, Perform and Transform

&

Workshop on Statistical Skill

5th to 10th August 2017

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Important Dates

Conference & workshop Date	:	5th - 10th August 2017
Submission of Abstract (E-Souvenir with ISBN) up to	:	04th August 2017
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Registration Contribution

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3rd International Young Scientist Congress (IYSC-2017)

Focal Theme: Interdisciplinary Research Cooperating Global Strength and Promising Future

&

Workshop on Scientific Writing

8th and 9th May 2017
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E-Souvenir ISBN 978-93-84659-52-3

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Important Dates

Conference and Workshop Date	:	8th & 9th May 2017
Submission of Abstract (E-Souvenir with ISBN) upto	:	30th April 2017
Early Registration	:	31st January 2017
Acceptance of Abstract upto	:	30th April 2017
Last date of Submission of Full Paper	:	30th April 2017
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8th - 9th December 2016

at

Hutatma Rajguru Mahavidyalaya, Rajgurunagar, Pune, MS, India

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Programme Schedule

Date	08:00 am to 10:00 am	10:00 am to 11:00 am	11:00 am to 01:00 pm	01:00 pm to 02:00 pm	02:00 pm to 03:30 pm	03:30 pm to 05:00 pm	05:00 pm to 06:00 pm
8th Dec. 2016	Registration & Breakfast	Inaugural Ceremoney	Plenary Sessions	Lunch & Interaction	Special Lecture & Oral Presentation	Oral Presentation	Cultural Program & High Tea
9th Dec. 2016	Breakfast & Poster Presentation	Oral Presentation	Oral Presentation	Lunch & Interaction	Oral Presentation	Validictory Ceremoney	Certificate Distribution & Tea

Date 8th December 2016

12:30 pm : *Sectional President, Sectional Secretary, Sectional Recorders are requested to assemble in Conference Control Room for smooth conduction of sectional program.*

05:00 pm : Cultural Program

05:00 pm : High Tea

Date 9th December 2016

08:00 am to 10:00 am: *Poster Presentation*

10:00 am: *Sectional Programme in continuation of first day.*

02:30 pm: *Group Photograph*

04:30 pm: *Certification Distribution*

ISCA-ISC-2016-Plenary Session-01

Effect of Yoga hand Mudra on Cardiac and Neurological parameters in preventing Heart attack

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Heart attack is the leading cause of death and a major clinical health problem worldwide. The prevalence of heart failure in India ranges from 1.3 to 4.6 million, with an annual incidence of 4,91,600-1.8 million cases. Despite recent advances in Medical science, medications and therapy, morbidity and mortality from heart failure remain high. Other chronic conditions like diabetes, hypothyroidism, rheumatic heart disease etc complicate the problem of cardiovascular disorders. As preventive aspect exercise and yoga has been shown to be effective to maintain good cardiovascular health. With precautions and on expert advice heart patient have shown improvement in health condition by regular practice of yoga and Exercise. It is important to explore specific effect of different yoga postures on chronic conditions like cardiovascular diseases so that patients can be advised on proven methods of yoga. Yoga can be practiced by all as preventive measure as well as a parallel treatment in diseased condition. We performed this study to explore the effect of one particular hand mudra called "Mritsanjivani mudra" in ancient text. We have shown that regular practice of this mudra improves cardiovascular parameters of the subjects.

Yoga is originated in India thousands years back and Yoga techniques described in ancient Indian texts have been proven to working as described in text. Modern methods have been employed to seek the effect of specific postures on various physiological parameters. With various postures which involve multiple organ systems and whole body certain hand mudra have been described which only involve interplay of fingers in hand in different ways with the movement of hand. Our learned scientists called "***RISHIS"*** have correctly taught us the correct mode of hand mudra posture, the correct pressure, the correct amount of pressure, the correct place of pressure but all these procedures are ***"shruti"*** means they have passed on to disciples practically or through oral tradition. With advent of knowledge keeping as written text this practical practice has been disappeared and text remains for us to explore it again through practice.

Hand mudras have been hypothesized to balance the imbalances of sympathetic and parasympathetic nervous system and maintain optimal health. The literature search showed very limited scientific studies on yoga hand mudras and warrant more work on this area. Hand mudras particularly provide ease of practice and can be done anytime anywhere by anybody. In cases of emergency, some other person can also make the subject's hand in the prescribed posture with the required pressure at correct places by his hand.

In our study, we included male and female subjects (n=41) (normal 27 and heart patients 14) aged between 30-65 years. On all subjects, yoga hand mudra was tried as per study protocol and both cardiac and neurological parameters were recorded before and after performing mudra. In all the subjects we found almost similar trends in all parameter's examined. Specifically in patients we observed significant reduction in systolic, diastolic blood pressure, heart rate and blood viscosity. Moreover, increase in myocardial blood perfusion volume, coronary perfusion pressure, brain tissue blood supply and memory index was also observed in all the cases.

As there is no physical activity other than pressure on specific area of Palm and wrist thus we propose, this mudra exert its effect through the nerve endings in fingers not by directly effecting blood circulation as opposed to most yogic postures and physical exercise. The interplay of fingers (middle finger, ring finger, index finger and thumb) sensitizes nerves in palm and wrist area. Pressure on these nerves in turn makes a systemic effect on cardiovascular parameters through spinal nerves and specific areas of brain. Subsequently reduction in heart rate and blood pressure indicate a shift in the balancing components of autonomic nervous system towards the parasympathetic activity. This modulation of autonomic nervous system activity might have been brought about through the conditioning effect of yoga hand mudra on autonomic functions and mediated through the limbic and neural system and higher areas of central nervous system. As we proposed this mudra may have conditioning effect on autonomic system and also involve specific areas of central nervous system can hold the physiological condition of emergency patient till hospitalization and can save a life, thus we coined this mudra as "V Mudra - a possible victory over death".

ISCA-ISC-2016-Plenary Session-02

Political Ideology of India and Afghanistan from the Perespective of Sociology

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Abstract: Political ideology is one of the important aspects which cover all the ideologies which is Pertaining entire Afghanistan. Since advent of ideology up to present time different ideology practiced with their own perspectives views. Afghanistan is 99% Muslim country since long back different regimes exposed to use their ideologies as tools of their politics. But till now no ideology could succeed and sustain entire this country. So the main objectives of this study will focus on the word of ideology, Political ideology, impact of ideology on politics, Islam behavior, Secularism actions, reactions, and effect of that on government ruling entire country. All ideologies help avoid complex social world. Napoleon sees ideology as a set of false beliefs and even disruptive. After the concept of Marx and Engels, ideology consequences of widespread reflect. It is clear ideology is science of ideas and Political ideology is the most applicable characteristic which is exposed in different period of time in Afghanistan. Moreover the study will explicit the effective ideology of Communism, Marxism, Leftism, Anarchism, Radicalism, Talibanism, Extremism, Fascism, Conservatism and Liberalism that is being practiced in Afghanistan.

Keywords: Ideology, Political Ideology, Political System, Islam, Secularism, Afghanistan. Talibanism.

1. Agriculture, Forestry and Horticulture

ISCA-ISC-2016-1AFH-01-Oral

Biofortification of Major Cereals with Micronutrients for Improving Productivity and Ameliorate the Deficiency Symptoms of Micronutrients in Human Beings: A Review

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Abstract: Large population of human beings in developing countries is mainly reliant on a staple diet of cereals, such as rice, wheat and maize. Unfortunately all of our major cereal food crops lack of certain essential vitamins and minerals, as milled cereal grains are poor sources of lysine, vitamin A, iron, zinc and selenium, which are essential for normal growth and metabolism of human beings. In Asia about 35 per cent of children between age group of 0 and 5 years suffer from Zn or Fe-deficiencies, 250 million people suffer from vitamin A deficiency and 58 per cent of pregnant women in developing countries are anemic from iron deficiency. Certainly, agronomic biofortification practices creating micronutrients denser staple food crops with increased bioavailable concentrations through agronomic intervention (soil and foliar application of micronutrients) or genetic selection. Biofortification works for twin objective of increasing the concentration of the micronutrients in the grains, yield and simultaneously improving the bioavailability of micronutrients in the grains to alleviate the micronutrient deficiency in human beings and also animals. According to World Health organization it is estimated that biofortification of iron could help in curing two billion people suffering from iron deficiency-induced anemia.

Key words: Biofortification, Cereals, Productivity, Human beings, Micronutrients.

ISCA-ISC-2016-1AFH-02-Oral

Influence of climate on Morphological and Biochemical Composition in sesame (*Sesame indicum* L.) varieties collected from Jabalpur location, Madhya Pradesh, India

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Abstract: Sesame (*Sesamum indicum* L.) is world's most mandatory oil crops, impact of climate change mainly rainfall and temperature which is one of the foremost concerns. This discipline experiments were convened to enumerate the influence of climate on sesame. Aim of this work was to evaluate the effect of climate on oil content and protein as well as the morphology in seven Sesame seed viz; TKG-22, GT-10, PKVNT-11, PRACHI, HT-1, DS-9 and TMV-7. Experiment was convened during two successive *kharif* seasons 2014 and 2015. Sesame oil content and protein content varied between (39.5±0.1 to 48.4±0.05) (13.2±0.1 to 19±0.57) respectively. Main components of seed fatty acids were found to be (0.8±0.1 to 1.8±0.05). Branches number per plant (2.2±0.05 to 5.1±0.05), capsule number per plant (38±0.5 to 72±1.52), 1000 seed weight (2.57±0.01 to 3.7±0.05), and seed yield kg/ha (289±0.5 to 1098±1). The results showed that monthly temperature and rainfall had significantly effect on number of branches/plant, seed weight, seed yield/plant, oil content, protein, carbohydrate content, oxalic acid as well as free fatty acid.

Keywords: Oil percent, Protein, Free Fatty Acid, Morphological characters, Rainfall and Temperatures.

ISCA-ISC-2016-1AFH-03-Oral

Introduction of Soy Bean Milk to Subtitute Coconut Milk in Cendol Vendors in Central Lombok Indonesia: Learning for Innovation Uptake

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Abstract: Small holder food vendors play a significant contribution in supporting family economy for many peasant farmers in Central Lombok, Indonesia. Food vending activities are usually run by women farmers to fill their spare time between farming activities. One of the food vendors is "cendol" vendors, a kind of dissert drink made of coconut milk and palm sugar with some content in it. An innovation was introduced to the cendol vendors in a women farmer group of MulyaRezeki in Tanak Rarang village Central Lombok to produce soy bean milk which then substitutesthe coconut milk for cendol. This paper aims to explore results of the introduction of this innovation and lesson learnt for impact achievement pathways. A case study was conducted in a women farmer group to serve this purpose using a mixed quantitative and qualitative approach. The study was conducted from April to September 2016 in Mulya Rezeki group that has 20 members. The site selection was done purposively by considering various factors including potency of soybean and existence of cendol vendors in the location. Qualitative and quantitative data were collected using semi structured interview and observation methods. Data were analysed to obtain economic features of cendol bussines such as the Benefit Costs Ratio (B/C) and Return of Investement (ROI). The study found that introduction of soy bean milk has led to a number of positive results for the woman farmers. These include increased income by four fold as soy bean milk has reduced the production cost and increased ROI figure 15.19 of the existing practice into 67.36 of the introduced innovation. Moreover, the healthy soybean cendol has been noticed by midwives in the village which then include it into food assistant program, meaning more order for woman cendol vendors and improved self-confident as their cendol has been rated as good quality dissert by highly respected leaders in an exhibition, making them more confident to improve and expand their business. This study has also identified several lesson learnt for an innovation to achieve results leading for impacts. First, the innovation needs to consider the local needs and potencies. Second, there are experiential learning processes which allow woman farmers to learn and internalize the innovation into their existing system. This process also needs to be designed to improve woman farmers' knowledge and skills for decision making in implementing the innovation. Lastly, there is facilitation processes to enable women farmers to get exposed to wider consumers and access to information.

Keywords: Innovation uptake, Soy bean milk, Home industry, Food vendors, Impact achievement.

ISCA-ISC-2016-1AFH-04-Oral

Geotrichum Candidus Inciting Fruit Rot of IVY Gourd in Synergistic Effect of Agrochemicals on Carbendazim

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Abstract: There was variation in the MIC of carbendazimamong the *Geotrichum candidus* incitant of fruit rot of *Ivy gourd* (*Cucurbitaceae*) fruits and isolate on (CZA) Czapek Dox agar medium plates. Minimum inhibitory concentration (MIC) on CZA plates ranged from 4000 µg/ml while it was more resistant with resistant factor. Use of carbendazim with other agrochemicals like Fungicides (mancozeb, copper oxychloride, chlorothalonil), Insecticides phorate, chlorpyriphos and endosulfan), Herbicides (metribuzin, sodium salt and atrazine), Antibiotics (bacipen, ambistryn's and penicillin), Salts (mercuric, chloride, stannous chloride and barium chloride), and Fertilizers (MOP, urea, 10:26:26) inhibited the growth of the pathogen in in-vitro studies.

Keywords: *Geotrichum candidus,* agrochemicals etc.

ISCA-ISC-2016-1AFH-05-Oral

Productivity and Micronutrient Concentration in Sweet corn as Agronomic Biofortification with Special Reference to Zinc and Iron Nutrition

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Abstract: A field experiment was conducted at Main Agricultural Research Station, Dharwad, to study the productivity and micronutrient concentration in sweetcorn as agronomic biofortification with special reference to zinc and iron nutrition during *Kharif* 2015. The field experiment was laid out in split plot design with three replications and 21 treatment combinations involving three main plots (soil application) and seven subplots (foliar application). The results revealed that, soil application of enriched $ZnSO_4$ and $FeSO_4$ @ 10 kg each/ha with vermicompost at 250 kg/ha along with foliar spray of $ZnSO_4$ and $FeSO_4$ @ 1.0 % each at 20 and 40 DAS were recorded higher fresh cob yield with husk (321.67 q/ha), fresh fodder yield (624.03 q/ha), zinc and iron concentration in grain (38.20 ppm and 114.39 ppm) and fodder (50.74 ppm and 215.28 ppm) respectively. And it was on par with enriched $ZnSO_4$ and $FeSO_4$ @ 10 kg each/ha with vermicompost at 250 kg/ha along with foliar spray of $ZnSO_4$ and $FeSO_4$ @ 0.5 % each at 20 and 40 DAS.
Keywords: Biofortification, Enrichment, Sweetcorn, Productivity, Micronutrients.

ISCA-ISC-2016-1AFH-06-Oral

Agronomic and Physiological Responses to Temperature, Water Stress and Elevated CO_2 in oilseed crops: A Review

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Abstract: Indian vegetable oil economy is the fourth largest in the world and next to the US, China and Brazil, accounting for about 14 per cent of oilseeds area and 8.5 per cent of the world's oilseeds production. The oilseeds sector occupies a distinct position in the Indian agriculture sector after cereals sharing of 13 per cent of country's gross cropped area and accounting for 3 per cent of Gross National Product and 10 per cent of the value of agriculture products. Oilseed production is being severely affected due to varying abiotic factors like temperature, moisture and elevated CO_2. In climate changing scenario, study about agronomic and physiological responses of oilseeds to these varying weather conditions is to enlighten the need of oilseeds production in future days. Global climate change is negatively affecting crop yield under current climate and is predicted to have a more severe impact on food production in future climate scenario. Abiotic factors (Temperature, CO_2 and moisture) play important role in growth and productivity of oilseed crops. However, growth and productivity of C3 plants like groundnut, soybean and sunflower were more benefited by increased concentration of carbon dioxide.
Keywords: Oilseeds, Temperature, Moisture, Carbon dioxide.

ISCA-ISC-2016-1AFH-07-Oral

Assessment of Groundwater quality in Jaisamand catchment for drinking purpose using Geographical Information System

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Abstract: The present study focuses on a GIS-based assessment and characterization of groundwater quality using pre monsoon and post monsoon groundwater quality data. Spatio-temporal variations of water quality parameters in the study area were analysed by using GIS techniques. Maximum area of Jaisamand catchment shows the drinking water quality within permissible limit. EC somewhat extent within permissible limit during pre monsoon period. Sulphate content also exceeds from permissible limit some extent in pre monsoon period but in post monsoon period it is within permissible range. The maximum total dissolved solids found in western site of study area during pre monsoon period whereas in post monsoon period maximum area showing total dissolved solids within permissible range.
Keywords: Water quality, GIS, assessment, Spatio-temporal.

ISCA-ISC-2016-1AFH-08-Oral

Effect of different Varieties and Spacing on Growth and Yield contributing characters on Broccoli (*Brassica oleracea* L. var.Italica Plenck) under Pune (India) conditions

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Abstract: Broccoli (Brassica olerace L. var. Italika Plenck) is an important winter season vegetable crop after cabbage and cauliflower from the family Brassicaceae. It is cherished for its delicious taste, flavour and nutritive value and has been reported to prevent cancer. In Broccoli adhock recommendations are being followed by the growers in Maharashtra. Hence, keeping this in view the present investigation was planned. The present investigation was carried out during 2006-2007 to study the effect of different varieties (Ganesh Broccoli and Pusa KTS -1) with five spacing S_1 (60x60cm), S_2 (60x45cm), S_3(45x45cm), S_4(60x45cm) and S_5 (45x30cm) in factorial randomized block design with three replications under Pune conditions. The result of experiment revealed that cv. Ganesh Broccoli performed superior over the cv. Pusa KTS- 1 with days to curd appearance (32.80 days), days to first harvest (44 days), days to last harvest (68.4 days), curd diameter (10.81 cm), average weight of curd (154.79 g) and yield per hectare (70.75 q/ha). While cv. Pusa KTS-1 recorded significantly highest values for growth parameters viz., plant height (65.69 cm), no. of leaves (19.81), plant spread (68.60 cm in N-S and 65.8 cm in E-W), days to curd appearance (48.47 days), days to first harvest (59.73 days) and days to last harvest (85.27 days). The cv. Ganesh Broccoli harvested earlier than cv. Pusa KTS-1. Amongst five spacing S_5 (45 x 30 cm) gave significantly minimum values of the various parameters except days to last harvest (79.33 days) and yield per hectare (77.08 q). However, S_1 (60 x 60 cm) gave significantly maximum values of various parameters except days to last harvest (74 days) and yield per hectare (50.38 q). Numerically, optimum values of all parameters under study were recorded by interaction effect of V_1S_2.
Keywords: Broccoli, Variety, Spacing.

ISCA-ISC-2016-1AFH-09-Oral

Study on Resistance to Papaya Ringspot Virus (PRSV) in Intergeneric Hybrid Population of Papaya cv Washington (C*arica papaya* L.) and *vasconcellea cauliflora*

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Abstract: An intergeneric hybridization programmee was conducted between papaya cv Washington (Carica papaya L) and Vasconcellea cauliflora. The objective was to incorporate the PRSV resistantce from V. cauliflora in to papaya cv Washington. From the cross six plant types were studied. Among these selections, present population study of promising papaya selection GKPS-2-7 (F_7 generation) was conducted at ZARS, NARP, Pune during 2015-16. The performance of this promising selection population was studied in comparison with popular cultivars viz. Arka Prabhat and Red Lady. From this study it was observed that, at 7 months after planting genotype GKPS-2-7 recoded minimum ring spot infection (1.24 as PDI) However, cv Arka Prabhat and Red Lady recorded maximum papaya ring spot infection (54.00 and 100 as PDI respectively). This selection is to be explored for further development of a papaya ring spot resistant cultivar.
Keywords: Papaya, PRSV, Population study.

ISCA-ISC-2016-1AFH-10-Oral

Molecular Characterization of *Metarhizium Anisopliae* (Sorokin) for management of Sucking and foliage feeder insect pest in soybean

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Abstract: Entomopathogenic fungi play a crucial role in controlling insect populations. About 380 species of insects

have been reported worldwide on soybean. Among them whitefly, *Bemesia tabaci* (Gennadius) and tobacco caterpillar, *Spodoptera litura* (Fabricius) are major sucking and foliage feeder insects causing significant yield loss. To control these insect pests a number of chemical insecticides are used injudiciously which lead to development of resistance in the insects, pest resurgence and adverse effect on natural enemies and create residual effect on environment. Exploitation of environmentally safe entomopathogens as biocontrol agents may be resorted to combat the devastating insect pests. The anamorphic entomopathogenic fungi *metarhizium anisopliae* (Sorokin) is a potential natural enemy against sucking and foliage feeders of soybean. The genus *Metarhizium* includes the best studied insect killing fungi at the molecular and biochemical level. *M. anisopliae* have been characterized by various molecular and other techniques. Now a days the use of microsatellite markers, simple sequence repeats (SSR) have gained more attention as molecular markers for genome mapping as well as population genetics in fungi while internal transcribed spacer (ITS-rDNA) sequence analysis have been an effective tool for detecting the genetic diversity in many fungal species. Generally, fungi produce a wide variety of biologically active compounds, mostly as products of the secondary metabolism. The evolution of fungal entomopathogenicity has been found to be associated with the production of some similar secondary metabolites such as destruxins cyclic peptide toxins.

Keywords: *Metarhizium anisopliae*, Molecular markers, Insect pests.

ISCA-ISC-2016-1AFH-11-Oral

Bio-control of Parthenium by the *Zygogramma bicolorata (Trishul)* and it Management

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Abstract: *Parthenium hysterophorus* is an annual herbaceous plant which have potential to damage agriculture and economic crops and also harmful for the environment and public health. This weed also caused serious human health hazard causing allergic dermatitis and respiratory. This plant commonly called congress grass in India has been considered as one of the worst weeds responsible for causing health problems in men and animals and become loss in productivity of plat of agriculture crop and also disturb the plant biodiversity. Agriculture and biodiversity of the region for to control with biological method which involved like mechanical and second is with help with the introduction of leaf feeding beetle *Zygogramma bicolorata* it has successfully. The paper give details records and current status of this weed in Sangamner rejoin and its method of effectiveness of the biocontrol agent in controlling *Parthenium* has been discussed.

Keywords: Parthenium, Biological control, *Zygogramma bicolorata.*

ISCA-ISC-2016-1AFH-12-Oral

Special Cases of Discontinuance, Dissonance, Reinvention, Over Adoption and Forced Rejection found during the research of 'AdoptionBehaviour and Rejection Behaviour towards Recommended Production Technology among Soybean Growers'

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Abstract: The present study attempts to know the adoption behaviouras well as rejection behavior towards recommended production technology among soybean growers as, rejection is a natural and integral reaction to an exotic attempt for implanting any technology in rural mind which imposes with adoption of the technology in mutual reciprocal manner.. This investigation was conducted in Jabalpur district of Madhya Pradesh. The district comprises of 7 blocks, out of which Shahpura block was selected on the basis of maximum area under soybean crop. Out of 220 villages, 9 villages were selected due to larger area coverage under soybean cultivation and 10 soybean growers were selected from each village by using simple random sampling method which made total 90 respondents for the study. And the most important is the questions in interview schedule framed according to the detailed recommended soybean production technology derived from the magazine "KrishiVishwa" published by ATIC, JNKVV, Jabalpur and specially structured for Jabalpur division. Some special outcomes have been observedapart from reasons of adoption and rejection towards

recommended soybean production technology e.g. cases of discontinuance of seed variety and application of oxydamide as seed treatment; dissonance in use of organic fertilizers; reinvention in water management practices; over adoption in the use of seed rate, fertilizer, pesticide and forced rejection in soil selection.

Keywords: Adoption, Rejection, Recommended production technology, ATIC, Discontinuance, Dissonance, Reinvention, Over adoption, Forced rejection.

ISCA-ISC-2016-1AFH-13-Oral

Genic and miRNA Precursor based SSRs Mining from Tea EST database towardassociation Analysis with Agronomic traits

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Abstract: From time immemorial Tea (*Camelia sinensis,* (L.) Kuntze) holds an esteemed position for its commercial importance as well as its global demand to the health-conscious people as potential sources of antioxidant supplement. The worthwhile property relies on its rich polyphenolic (catechin, anthocyanin etc.) contents which are regulated by networks of different metabolic pathways. Recent evolution in molecular breeding techniques hunts appropriate markers associated to the subjected traits in that particular crop. MicroRNAsare noncoding, short RNAs those directly regulates gene expressions at the post-transcriptional level. Diversity in miRNA gene interferes the formation of its characteristic hair pin structure and the subsequent function. In present study, all available EST (Expressed sequence tag) sequences of tea reported in database so far were retrieved, filtered, assembled and annotated using different bioinformatics tools. Furthermore putative miRNA precursors also found out from the local database. Finally simple sequence repeats (SSRs) were explored from the selective sequences with particular annotations. Primers from SSR flanking regions were designed in order to experimental validation of genetic diversity among the tea germplasms under study. This *in-silico* approach would provide some novel clues toward understanding marker trait association that can be used for genetic improvement of Indian tea.

Keywords: EST, Genetic diversity, miRNA, Molecular breeding, SSRs, tea.

ISCA-ISC-2016-1AFH-14-Oral

Potassium Solubilizing Bacteria (KSB): Efficient Microbe for Sustainable Agriculture

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Abstract: Potassium is one of the essential macronutrient and the most abundantly absorbed cation in higher plants. It plays an important role in the growth and development of plants. In addition to plant metabolism it improves crop quality as it helps in grain filling and kernel weight, it strengthens straw and helps plant to withstand stress. In soil, Potassium found mostly in soil mineral form (90-98%), which is unavailable to crop. The potassium solubilizing bacteria can made it available by slow solubilization or weathering. The experiment was carried out with object to isolate potassium solubilizing bacteria (KSB) from rhizosphere of maize from Western Maharashtra. Out of 21 collected soil samples, two isolates of KSB were obtained; which were further studied for their morphological, physiological and biochemical characteristics. An efficient strain of KSB i.e *Pseudomonas* sp. was identified on the basis of its ability to release K by solubilizing muscovite mica. The field experiment was conducted during *Rabi*, 2014 in a randomized block design with three replications and eleven treatments to study effect of KSB on maize. The results showed that yield obtained with T_7 (100% RDK + efficient strain of KSB) was significantly superior over other treatments. Potassium solubilizing bacteria have effectively increased germination, plant height, stalk yield, dry matter produce, grain yield of maize crop along with microbial population count of KSB in rhizosphere and K uptake.

Keywords: Potassium solubilization, Biofertilizer, Microflora, Yield, Maize.

ISCA-ISC-2016-1AFH-15-Oral

Chemical Composition of Vegetable Soybean Varieties

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Abstract: Vegetable soybean is rich in nutraceuticals and possess favourable sensory characteristics. A total of 10

vegetable soybean varieties/genotypes AGS-432, AGS-436, AGS-438, AGS-439, HIMSO-1563, NRC-105, DSb-15, Karune and Kv genotype including the control (JS 335) harvested during kharif 2014 were analysed for chemical composition . The vitamin c content ranged from 15.1 to 20.15mg/100g. The calcium content was highest in AGS-436 (66.40mg/100g and least was observed in genotype AGS-438 (53.84mg/100g) and results were found to be statistically significant ($p \leq 0.01$). Phosphorous content ranged from 175.80 to 237.20mg/100g .Variety Karune had (196.27mg/100g) highest tannin content followed by AGS-438 (192.03mg/100g) and least was observed in AGS-439 (115.13mg/100g) and results were statistically significant. Phytic acid ranged from 8.15mg/g to 23 mg/g. Insoluble dietary fibre content ranged from 19.96g/100g (AGS-439) to 29.02g/100g (Karune) respectively. Soluble dietary fibre was found to be highest in AGS-436 (3.24g/100g) followed by AGS-439 (2.81g/100g). Soluble dietary fibre (SDF) and total dietary fibre (TDF) contents significantly ($p \leq 0.01$) differed among the varieties/genotypes, where as insoluble dietary fibre found to be non significant statistically. Thus the variety karune found to be nutritionally superior which can be promoted to combat micronutrient malnutrition.

Keywords: Vegetable soybean, Nutraceuticals, Composition, Micronutrient, Varieties/genotypes.

ISCA-ISC-2016-1AFH-16-Oral

Cooking quality of Vegetable Soybean Varieties

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Abstract: The effect of pressure cooking and shallow frying on cooked weight, volume and density of green seeds of 10 vegetable-type genotypes viz., AGS-432, AGS-436, AGS-438, AGS-439, HIMSO-1563, NRC-105, DSb-15, Karune and Kv genotype including the control (JS 335) harvested during kharif 2014 were carried out. Effect of pressure cooking on cooked weight of vegetable soybean varieties/genotypes ranged from 3.61 to 4.93g with lowest in genotype AGS-432 and highest in control. Highest per cent increase in volume was revealed by DSb-15 (2.07ml) followed by AGS-438(2.4ml) and least was observed by Karune (0.97ml). Per cent increase in density was found to be highest in AGS-438(0.75 g/cm^3) followed by AGS-432 (0.67 g/cm^3) and least was observed in JS 335 (0.22 g/cm^3). Domestic processing like shallow fat frying resulted with highest per cent decrease in weight (24.03g) and volume (1.5ml) in DSb-15 and density (3.3 g/cm^3) in AGS-439. The lowest decrease in weight (14.56g) and density were observed by JS 335 (c). The vegetable soybean varieties varied in their cooking qualities significantly but however the sensory evaluation of the cooked grains revealed that shallow fat fry ing had better acceptable values.

Keywords: Vegetable soybean, Cooking quality, Pressure cooking, Shallow frying, genotypes.

ISCA-ISC-2016-1AFH-17-Oral

Sensory Profile and Acceptability of Custard Powder from Substandard Potatoes

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Abstract: Value addition to farm produce through processing is gaining importance and if preserved it can render agri-business more vibrant in the years to come. Potato consumption in different processed products need to be enhanced to sustain the increase in production and to ensure remunerative prices to the farmers. Sensory profile of custard from substandard potatoes (pinepple flavour+Lemon yellow/kesar yellow color) found to have significant difference in appearance, texture, color, flavor, taste and overall acceptability in comparision with standard custard. Custard prepared from 90% potato starch with 10% potato flour exhibited highest values for appearance (9.123), texture (8.604), flavor (8.293) and overall acceptability. .First rank was secured by 90% potato starch with 10 % potato flour (Pine apple flavor+ kesar yellow color) followed by 90% potato starch with 10%ptato flour (vanilla flavor +lemon yellow color) custard and least was secured by 100% potato starch (Vanilla + Lemon yellow color) custard. The custard with 90% starch and 10% potato flour secured 1rst rank among all. Standard custard secured 12th rank compared to potato custard of different proportions.

Keywords: Sensory profile, Custard powders, substandard potatoes, Flavour, Overall acceptability.

ISCA-ISC-2016-1AFH-01-Poster

Structure, Composition and Regeneration of Tree Species along a Disturbance Gradient in Community Managed Forests of Kumaun Himalaya, India

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Abstract: Present study deals with structure, composition and regeneration of tree species along the disturbances gradients in community forests (van panchayat forests) of Central Himalaya. Forest disturbance was assessed on the basis of tree canopy cover, density, collection pressure and status of tree lopped in the forest. Density of trees, saplings and seedlings were 747-910, 507-1290 and 1553- 6660 ind.ha^{-1} for sal (*Shorea robusta*) mixed VP forests; 443-683, 137-207 and 1003-8843 ind.ha^{-1} for chir-pine (*Pinus roxburghii*) mixed VP forests and 773-873, 237-937 and 1193-1233 ind.ha^{-1} for oak (*Quercus leucotrichophora*) mixed VP forests, respectively. In present study, VPs forest site-1 and site-5 was sal mixed and oak mixed forests, respectively, showed good regeneration. VPs forest site-2, site-3, site-4 and site-6 which were teak mixed, pine mixed and oak mixed forests showed fair regeneration though the numbers of seedlings was sufficient they are unable to reach the sapling stage. Girth class structures of present studied sal and oak mixed VP (van panchayat) forests clearly indicate good regeneration potential. In contrast, the chir-pine VPs forests indicate fair regeneration because of anthropogenic disturbances change the forest structure. Therefore, it is very essential to develop proper management and conservation strategies for maintenance of tree species and their sustainability in the forest of the region. Thus management strategies should be framed in such a manner that involvement of local people should be increased, so that they can play an important role to reduce the global carbon emission, conservation and better management of forest in the area. Thus it is concluded that in mixed forests with multiple broad-leaved of tree species possibly reduces the pressure on individual species, therefore such forest comparatively received performed better than monocultures.

Keywords: Community forests, Regeneration, Density, Oak, Sal, Chir-pine.

ISCA-ISC-2016-1AFH-02-Poster

Standing tree Biomass and Carbon Stock of Sal (*S. robusta* Gaertn f.) Forests in Shiwalik Region of Kumaun Himalaya, India

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Abstract: Present study deals with the biomass and carbon stock in different sal forests located in Shiwalik region of Central Himalaya. Forests play a major role to mitigate the carbon concentration of atmosphere and resolve the climate change problems. Sal is deciduous, light demander tree species belonging to family Dipterocarpaceae. The objective of this study was to assess the biomass and carbon stock of sal forests. Study was based on the random sampling in different canopy forests. Total biomass ranged from 634.83 to 884.88; 371.21 to 442.87; 298.64 to 385.71 for tree and nil to 1.04; 35.99 to 43.33; 3.5 to 4.36 t ha^{-1} for sapling in sal dense canopy forest, sal mixed dense canopy forest and sal open canopy forest, respectively. Of which, sal shared 61.4 to 98.9 percent biomass in studied forest sites. Total carbon stock was 420.32-538.26; 176.32-210.35; 141.86-181.21 for tree and nil-0.49; 17.09-20.58; 1.67-2.07 t C ha^{-1} for sapling in sal dense, sal mixed dense and sal open forest, respectively. In sal dense forests had maximum biomass and carbon stock followed by sal mixed dense and sal open forest because sal dense forest showed maximum basal area was 53-78 m^2 ha^{-1} while the sal mixed dense and sal open forest showed 35.1-36.5 and 25.4-33.7 m^2 ha^{-1}, respectively. Thus, it is concluded that maximum forest biomass and carbon stock reduced the global warming as well as climate change so we have to be very careful about forest management and their conservation in sustainability point of view.

Keywords: Sal, Canopy cover, Biomass, Carbon stock, Tree, sapling.

ISCA-ISC-2016-1AFH-03-Poster

Structure and Function of the Different Agroforestry Systems in high altitude of the Kumaun Himalaya, India

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Abstract: Agroforestry is a unique land use system that intentionally blends perennial vegetation and herbaceous land cover types to enhance crop productivity, profitability and overall soil quality in agro-ecosystems.Traditional agroforestry

based land-use system, in the mountain are very close to natural ecosystems as they provide ecosystem services similar to the forest such as the biodiversity, provision of food stuff and fibre, water resource and water purification, climate regulation and nutrient cycling, primary production of oxygen, soil formation, recreation and the cultural services for the well being of the people and society. The present study deals with the structure and function of different agroforestry systems viz. agri-silviculture, agri-silvi-pastoral, agri-horticulture and home garden systems in Hill region of the Kumaun Himalaya. The total tree density and basal area of agri-silviculture system was 400 ind ha^{-1} and 5.40 m^2 ha^{-1}, agri-silvi-pastoral system 290 ind $ha^{-1}$and 6.29 m^2ha^{-1}, agri-horticulture system 1170 ind $ha^{-1}$and 22.05 m^2ha^{-1}, and home garden 590 ind ha^{-1} and 9.14 m^2ha^{-1}, respectively. Allometric relationship between the biomass of the tree components (Y kg $tree^{-1}$) and circumference at breast height (x cm) were significant. Total vegetation biomass was 75.45 t ha^{-1} in agri-silviculture system, 36.46 t ha^{-1} in agri-silvi-pastoral system, 324.52 t ha^{-1} in agri-horticulture system and 241.25 t ha^{-1} in homegarden system of which maximum contribution accounted for tree layer followed by sapling, shrub, seedling and herbs layer. Net primary production of total vegetation was 9.94, 1.68, 12.81 and 6.60 t ha^{-1} yr^{-1} of which tree layer contributed maximum proportion followed by herbs, shrubs, saplings and seedlings layer. The dry matter storage and flow of dry matter with in the system, compartment model were developed for all the agroforestry systems.

Keywords: Agroforestry, Agri-silviculture system, Agri-silvi-pastoral system, Agri-horticulture system, Homegarden system, Biomass and Productivity.

ISCA-ISC-2016-1AFH-04-Poster

Diversity of Bryophytes in the mixed oak forest Nainital Catchment, Kumaun Himalalya

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Abstract: Bryophytes can be found in all ecosystems of earth. Bryophytes are one of the first colonizers of the terrestrial habitat. Bryophytes have a substantial and distinctive influence on the functioning of mountains ecosystems, as they are abundant by virtue of their moderate to high levels of primary production, high water holding capacity, direct uptake of mineral nutrients from precipitation and slow rates of decomposition. In the present study, diversity of bryophytes was assessed in different habitats of mixed-oak forest accordingly undisturbed, Moderately disturbed and Highly disturbed forest. The study site was selected at an elevation of 2000-2300 m above mean sea level in Nainital, Kumaun Himalaya. The site was divided into three sub sites viz. Hill base, Hill slope, Hill top and each sub site was further divided into eight habitats. The phytosociological analysis of bryophytic layer was conducted by placing 10 quadrates of 10x10cm. Size at each habitat of each selected site. The data were quantitatively analysed for frequency, dencity, abundance and IVI using standard ecological methods. A total of 39 species of bryophytes was found and maximum number of species was reported from undisturbed mixed oak forest. The bryophytic density ranged from 2433.33 to 29066.67 ind.m-2. The total bryophyte density was maximum in undisturbed site of mixed oak forest and minimum in highly disturbed site of mixed oak forest. Morphologically acrocarpous mosses were dominant the pleurocarpous mosses and fifty types of community patterns were found in the study area.

Keywords: Bryophytes, Oak, Density, Diversity and Mosses.

ISCA-ISC-2016-1AFH-05-Poster

Losses Caused due to *Carpomyia Vesuviana* (Costa) Infestation on Ber

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Abstract: The ber (*Zizyphus mauritiana* Lamk) being nutritious, richer than apple in protein, phosphorus, calcium, carotene and vitamin C is gaining popularity among the growers especially in hot arid ecosystem with limited inputs. Ber fruit fly, *Carpomyia vesuviana* (Costa) is one of the notorious monophagous pests of ber in India. Data available validates the fly infestation and internal damage in most of the *Zizyphus spp*. grown in the world. Various studies have marked that ber fruit fly caused low yield and poor quality of fruits. In severe cases it causes yield loss upto 80% or even upto 100% damage stamping fruitfly as most destructive pest of ber. Continuous monitoring of insect pests population and host plant resistance may promote cumulative protection against fruit fly without any environmental hazards with least management cost.

Keywords: *Zizyphus mauritiana, Carpomyia vesuviana,* damage, pest.

ISCA-ISC-2016-1AFH-06-Poster

Insecticidal Properties of Plant Oils against *Sitophilous Oryzae*

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Abstract: The oils extracted from *Acorus calamus* and *Syzigium aromaticum* were most effective causing 100% mortality of *Sitophilus oryzae* on 4th and 6th day after incubation. Oils from *Brassica nigra* and *Pongamia pinnata* showed 40 and 60% mortality as compared to the control which showed 70% mortality 7 days after incubation.
Keywords: *Sitophilus oryzae*, Mortality, Plant oil.

ISCA-ISC-2016-1AFH-07-Poster

Comparative Studies on Biochemical components in Sesame (Sesamum indicum L.) Varieties cultivated in summer and *Kharif* seasons

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Abstract: Sesame is one of the oldest and important oil seed crop in the world. Sesame is grown in almost all the states of India in large or small areas. It is grown in different seasons in different parts of the country Sesame plant needs fairly high temperature during its life cycle. The nutritional benefits derived from sesame seeds are based on the variety being utilized. The information in comparison to climatic conditions affecting seed biochemical components of sesame was lacking the present investigation was carried out to compare the biochemical components in three sesame varieties cultivated during kharif and summer seasons. Biochemical constituents viz., oil, protein, carbohydrate, fiber, ash, oxalic acid and free fatty acid in sesame varieties were analysed. Oil content in white, black and brown sesame seed in *kharif* season is 47.85,45.23 and 45.21% whereas in summer it is 49.63,48.52 and 47.23 having difference of 1.78,3.29 and 2.02%. Result obtained showed that crude protein ranges from 18.52-24.36%, fiber 3.01-3.29%, ash 3.45-3.85%, carbohydrate 14.43-18.52%. All the values obtained are within the range as reported but highest values were found in summer season seed of different colour. The calcium concentration were 1052 μgg^{-1}, 1026 μgg^{-1} and 958 μgg^{-1} in white, black and brown seed of *kharif* season whereas it is highest in summer season i.e, 1167 μgg^{-1}, 1036 μgg^{-1} and 998 μgg^{-1} in white black and brown seeded varieties. The free fatty acid and oxalic acid were highest in *kharif* season seed i.e 1.32,1.43 and 1.58%. Thus all the three varieties are seasonally effected from quality point of view, when sown in *kharif* than in summer season, while within the varieties white sesame seed is better in quality too when sown in summer.
Keywords: Biochemical constituents, *kharif* and Summer seasons, Sesame and Seed composition.

ISCA-ISC-2016-1AFH-08-Poster

In Vitro Assay of Alpha Amylase Inhibitory Activity of Piper Species

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Abstract: In vitro methods play an important role for the preclinical studies for any activity, which makes support to the in vivo studies. Diabetes mellitus is a clinical condition characterized by hyperglycaemia in which an elevated amount of glucose circulates in the blood plasma, its type II is the major form of diabetes, accounting for 90% of cases worldwide. The management of the blood glucose level is a critical strategy in the control of diabetes complications. There are many and diverse therapeutic strategies in the management of Type II diabetes. The inhibition of carbohydrate hydrolyzing enzymes such as á-amylase can be an important strategy to lower postprandial blood glucose levels. Such inhibitors which find application in the clinical practice for management of diabetes are known to be associated with various gastrointestinal side effects. Therefore, it is the need of time to identify and explore the amylase inhibitors from natural sources having fewer side effects. The genus Piper contains a very large number of species, distributed mainly in the Central and South America, India, Malaysia, Indonesia and Sri Lanka. Some of the important species of this family include P.umbellatum, P. nigrum, P. chaba, P. betel, P. galeatum, P colubrinum, P. argyrophyllum, P. longum etc. The objective of the present study, the methanolic extract from three Piper species, namely P. umbeliatum, P. chaba, and P. betel, which are used in the Ayurvedic traditional system of medicine to treat diabetes were tested for their inhibitory effect on á-amylase. The assay showed that the methanolic extracts of all piper species at 100 µg/ml exhibited maximum inhibition of alpha amylase. The results revealed that methanolic extract of leaves of P. betel exhibited 77.14% of inhibition at 100µg/ml. The IC50 for the leaves extract P.umbellatum, P. chaba and P. betel was found to be 42.07%, 43.11% and 43.35% respectively.
Keywords: Methanol, Piper species, Alpha amylase, Diabetes mellitus.

ISCA-ISC-2016-1AFH-09-Poster

In Vitro Assay of Alpha Amylase Inhibitory Activity of Different Vegetables

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Abstract: Diabetes mellitus is a metabolic disorder characterized by chronic hyperglycemia and its type II is the major form of diabetes, accounting for 90% of cases worldwide. The management of the blood glucose level is a critical strategy in the control of diabetes complications. There are many and diverse therapeutic strategies in the management of Type II diabetes. The inhibition of carbohydrate hydrolyzing enzymes such as α-amylase can be an important strategy to lower postprandial blood glucose levels. Such inhibitors which find application in the clinical practice for management of diabetes are known to be associated with various gastrointestinal side effects. Therefore, it is the need of time to identify and explore the amylase inhibitors from natural sources having fewer side effects. In the present study, aqueous extracts from leaves, of selected vegatables namely *Fenugreek, Spinach, Coriander* or *Cilantro* leaf which are used in the Ayurvedic traditional system of medicine to treat diabetes were tested for their inhibitory effect on α-amylase. The results revealed that aqueous extracts of leaves of *Feenogreek* 9 mg/mL, extracts from the leaves of *Corriander* and *Spinach* (9 mg/mL) exhibited significant (more than 60%) reduction in amylase activity. The highest inhibition i.e. 62.85 % was observed at a concentration of 9mg/mL with the aqueous extract of leaves of feenogreek.
Keywords: Anti-diabetic, α-Amylase, Inhibitory effects.

ISCA-ISC-2016-1AFH-10-Poster

Comparative Study on Biochemical Analysis of Moth Bean (Vigna Acitinifolia) when Treated with Hot Water and $HgCl_2$

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Abstract: The present study aimed at investigating the effects of Hot water and Mercuric chloride on Biochemical parameter of Moth bean. Carbohydrate, Protein and Amylase consequently increase with hot water and $HgCl_2$. The amylase activity at 3rd day of germination was highest in all the treatments hence recommended at 3rd day as optimum period for utilizing moth bean as a diet. $HgCl_2$ treatment for seed is recommended for germinating moth beans for crop purpose as highest enzymatic activity was observed in 5th day of germination.
Keywords: Moth bean, Mercuric chloride, Carbohydrate, Protein, Amylase.

ISCA-ISC-2016-1AFH-11-Poster

Study on Phytochemical Analysis of Citrus Sinensis Leaves

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Abstract: Preliminary screening of phytochemicals is a valuable step, in the detection of the bioactive principles present in medicinal plants and subsequently may lead to drug discovery and development. In the present study, *Citrus Sinensis* leaves were screened for its phytochemical composition. The phytochemical analysis of aqueous extract of *C. sinensis* indicated the presence of tannins, flavonoids, terpenoids, carbohydrates, glycosides and alkaloids. This study demonstrates that *C. sinensis* may be used as nutraceuticals for disease prevention and health promoting benefits.
Keywords: Phytochemical screening, *Citrus sinensis*, Tannins, Flavonoids, Terpenoids, Carbohydrates, Glycosides and alkaloids.

ISCA-ISC-2016-1AFH-12-Poster

Effect of Temperature Regimes on Physiological Parameters in Chickpea Genotypes

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Abstract: Chickpea is a heat sensitive crop hence its potential yield is considerably reduced under high temperatures

exceeding 35°C. In the present study, we evaluated fourth four genotypes under three dates of sowing undertaken to create a different temperature regimes D_1, D_2 and D_3 (9th October 2015 followed by 1st November and 30th November). Under D_2 temperature regimes, membrane stability index was positively correlated (0.536**) with yield at 65 days after sowing (DAS). Under late sown condition relative water content at early and reproductive stage resulted in positive correlation (0.530** and 0.627**) with yield. Higher temperature under late sown condition affected the chlorophyll content due to the reduced photosystem II. Maintenance of canopy greenness for longer period resulted in higher SPAD values under D_2 temperature regimes. Total chlorophyll content was negatively correlated (-0.047) with yield at 65 DAS under D_1 temperature regime. However, the pooled analysis of chlorophyll a content showed positive correlation with yield at 65 DAS. In general, the results suggested that a chickpea cultivar, for increased yield under different temperature regimes, should have high level of RWC. Thus, identifying these traits as selection criteria in chickpea breeding program may be useful for breeders to introduce suitable heat tolerant resistant chickpea cultivars.

Keyword: Effect, Temperature Regimes, Physiological Parameters, Chickpea Genotypes.

ISCA-ISC-2016-1AFH-13-Poster

Evaluating the Insecticidal Potential of Essential Oils of *Eruca sativa* (Mill.) (Thell.) against *Spodoptera litura* (Fab.) (Lepidoptera)

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Abstract: *Eruca sativa* (Mill.) (Thell.) is an annual herb widely used as a salad almost throughout the world. Its importance is that it is also used as cooking oil. This herb is attacked by various insect pests which affect the growth of this plant in the agricultural fields ultimately decreasing the economic crop yield. The approaches involved in the control of these insect pests have relied mainly on the use of synthetic organic pesticides which has generated problems unforeseen at that time. Their indiscriminate use has resulted in a number of environmental and health problems. Biological approaches involving the use of plants and their products are comparatively safe and therefore they are increasingly being explored to identify bioactive compounds. In our study, we evaluated and characterised the extracts of *E. sativa* against an important polyphagous defoliator pest, *Spodoptera litura* (Fabricius). The essential oils were characterised by the method of gas chromatography- mass spectrometery (GC-MS). These extracts containing essential oils showed promising insecticidal activities.

Keywords: *Eruca sativa*, Essential oils, GC-MS, *Spodoptera litura*, Insecticidal activity.

ISCA-ISC-2016-1AFH-14-Poster

Effect on Partially Purified Trypsin Inhibitor from *Trigonella foenum-graecum* on Melon Fruit fly (*Bactrocera cucurbitae*)

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Abstract: Plant protease inhibitors (PI) are natural defence proteins being explored as an important strategy towards countering insect herbivory. Trypsin inhibitor with activity against second instar larvae of melon fruit fly, *B. cucurbitae* was partially purified from the seeds of *Trigonella foenum-graecum* belonging to Fabaceae family by ammonium sulphate precipitation (50-70%) followed by dialysis in 0.25M sodium phosphate buffer. Different concentrations (200, 400, 600, 800 and 1000 µg/ml) of the inhibitor had a detrimental effect on growth and development of *B.cucurbitae* larvae tested in artificial diet bioassays. The larval period, pupal period and total development period decreased significantly whereas larval mortality significantly increased in the treatment. Inhibitory effects were also observed on percentage pupation and percentage emergence which were significantly reduced. The findings revealed the potential of partially purified protease inhibitor from *Trigonella foenun-graecum* to disrupt the development of melon fruit fly.

Keywords: *Bactrocera cucurbitae*, Melon fruit fly, Artificial diet bioassay, Trypsin inhibitor.

ISCA-ISC-2016-1AFH-15-Poster

Bioinsecticidal Effect of Endophytic Fungal Extract of *Jatropha Curcas* L. against *Callosobruchus Chinensis* Linn. (Coleoptera: Bruchidae)

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Abstract: Fungal endophytes are microorganisms that internally infect living plant tissues without causing any visible symptom of infection, and live in mutualistic relationship with plants for at least a part of their life cycle. The insecticidal acticity of endophytic fungal extract of *Jatropha curcas* against *Callosobruchus chinensis*, a pest of pulses was studied. Endophytic fungi were isolated from the leaf and seed of *Jatropha curcas.* The crude extracts of methanol and ethyl acetate were tested against *Callosobruchus chinensis.* Each of the different concentrations of methanol and ethyl acetate endophytic fungal extracts was assessed on mortality, oviposition and adult emergence of *Callosobruchus chinensis*. The result indicate increases mortality at increase in dose and at higher dose showed 100% mortality than control. The effect of endophytic fungal extracts also observed on, oviposition and adult emergence. Methanol and ethyl acetate endophytic fungal extracts reduced oviposition and adult emergence. In the present study the endophytic fungal extracts of *Jatropha curcas* were effective as insecticidal property to control pulse beetle, *Callosobruchus chinensis,* may be due to the production of secondary metabolites.
Keywords: Endophytic fungi, Biopesticides, *Callosobruchus chinensis and Jatropha curcas.*

ISCA-ISC-2016-1AFH-16-Poster

The Effect of *Alternanthera Sessilis* plant Extract on the Economic Parameters of Silkworm, *Bombyx Mori* l.

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Abstract: The effect of *Alternanthera sessilis* plant extract were tested against 4th and 5th instar larvae of silkworm for improving the performance of growth and cocoon characteristics of silkworm, *Bombyx mori* L. The various concentrations of *Alternanthera sessilis* plant extract (0.5, 1.0, 1.5, 2.0, 2.5 %) were administered to 4th and 5th instar silkworm with mulberry. The larval weight, cocoon characteristics were influenced by various concentration of plant extract. The intensity of influence was depending on the time and dose exposure. The plant extract at 2.0% concentration resulted higher larval growth and increased cocoon weight. The mean larval weight, relative growth rate of final instar larvae of *Bombyx mori* was increased. The average pupa weight, shell weight, shell ratio and silk filament length were also increased with this supplementation of plant extract over the control. In the present study the plant extract of *Alternanthera sessilis* have growth promoting effect in silkworm which helps to improve the performance of silk in *Bombyx mori.*
Keywords: Plant extract, *Bombyx mori*, Parameters.

ISCA-ISC-2016-1AFH-17-Poster

Evaluation of Single cross Experimental Hybrids and Inbred lines for Turcicum Leaf Blight (TLB) tolerance under Artificial Epiphytotic Condition in Maize (*Zea mays* L.)

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Abstract: Turcicum Leaf Blight (TLB) caused by *Exserohilum turcicum* is a major foliar disease of maize in Karnataka with yield losses upto 70% under severe cases. In the context of developing tolerant genotypes against this disease an experiment was conducted using 16 CIMMYT and IIMR germplasm lines selected based on their test weight and *per se* performance and were crossed with 3 testers (CM-111, CM-500 and PA-15) to produce 48 experimental single cross hybrids in Line X Tester design. These hybrids along with the parents were sown in Kharif 2016 at Main Agricultural Research Station (MARS), UAS, Dharwad to study the disease reaction against TLB. Scoring was done using 1 to 5

scale, where 1 being highly resistant and 5 being highly susceptible. The performance of these lines and hybrids were compared with the resistant check CI-4 and susceptible check CM-202. Artificial inoculation was done in the leaf whorls with grounded TLB infected leaves at 40 days after sowing and were scored at silk drying stage. Hybrids GH-1518, GH-1523 and lines P4, P5, P6 were found to be highly resistant while the hybrids GH-1540, GH-1541and line P8 showed highly susceptible reaction. This information can be useful for selection of parents and to develop tolerant hybrids in breeding programs or utilize them as source of resistance.

Keywords: TLB, Single Cross Hybrids, Artificial inoculation, Resistance, Tolerance.

ISCA-ISC-2016-1AFH-18-Poster

Crop Diversification of Oilseeds in Rainfed Region of Maharashtra, India

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Abstract: Vegetable oil is an important part of daily meals. The vegetable oil is obtained from nine cultivated oilseed crops like groundnut, rapeseed/mustard, sesame, safflower, niger seed, soybean, sunflower, etc. for edible whereas linseed and castor seed for non edible purpose. In Maharashtra near about 80% of oilseed cultivation area comes under dry land, where irrigation facilities do not exist at all. It has been observed that often absence of rains at critical growth stages of *Kharif* oilseed crops before maturity, causes significant reduction in yield and oil content. In Maharashtra oilseed crops are cultivated in red sand soils and loamy soils. This soil is poor in phosphorus and other minerals, their water holding capacity is poor and soil is acidic in pH. In present study crop diversification provides significant advantages in land use efficiency, crop productivity and monitory returns as a result of effective use of solar energy and input as compared with sole cropping. Among the different intercropping systems, groundnut+sunflower (5:1); soybean+sunflower (5:1); Soybean + sesame (5:1); soybean+niger (5:1) followed by the same system in 3:1 row proportion with pod yield. Soybean+sunflower give maximum yield while soybean+ niger gives minimum yield.

Keywords: Soybean, Oilseeds, Diversification, Groundnut.

ISCA-ISC-2016-1AFH-19-Poster

Flora and Vegetation in a Special Protected Area of Mount Taygetos, Southern Greece

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Abstract: Greece is characterized by special rich flora and fauna. Flora and vegetation between Natural and Forest ecosystems (burned and unburned areas) in the Special Protected Area, of Mount Taygetos, Southern Greece were investigated. The most frequently occurring plants were *Helictochloa agropyroides* and *Galium peloponnesiacum* in the herbaceous plants of Natural ecosystem-Burned areas and Natural ecosystem-Unburned areas. The most frequently occurring woody species was *Cistus creticus* in Natural ecosystem-Burned areas and Natural ecosystem-Unburned areas. Also, the most frequently occurring herbaceous and woody plants *Bromus sp*. and *Cistus creticus*, respectively, in Forest-Burned areas. Moreover, *Daucus carota* and *Sesleria taygetea* (herbaceous plant species) and *Cistus creticus* (woody plant species) were the most frequently occurring species in Forest-Unburned areas. Moreover, the data revealed significantly higher alpha herbaceous plant diversity in Forests-Unburned areas, Natural Ecosystems-Unburned areas, Forests-Burned areas than in Natural Ecosystems-Burned areas. Furthermore, Natural Ecosystems-Unburned areas and Forests-Unburned areas exhibited the highest values of alpha woody plant diversity followed by Forests-Burned areas, whereas the Natural Ecosystems-Burned areas had the lowest values. Conclusively, Mount Taygetos is a purely Mediterranean mountain, in view of its general physiognomy, climate, soil and mainly the biogeographical significance of its rich flora.

Keywords: Ecosystem, Diversity, Plants, Monitoring, Environment.

ISCA-ISC-2016-1AFH-20-Poster

The Biodiversitical Analysis of Crude Honey Obtained from the Hotgi Village of Solapur, MS, India

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Abstract: The word biodiversity shows the variation in living forms for that reason the study and protection of biodiversity

is very important. There are 20,000 species of honeybees is known all over the globe which shows diversity in between them. The present work completed on the study of biodiversity of crude honey by analysis of pollen grains present in the honey. Generally the bees collect pollen grains through their pollen basket bag and used for feeding their young larva. Honeybees generally have capacity to fly from 1.5 to 2.5 Km area for collection of both pollen and nectar but this flying capacity depends on the species of bees. Due to different types of flower visit the honey contains different pollen grains. We studied the crude honey by staining method and observed the three different types of pollen grains *R. sinensis, S. lycopersicum,* and *capsicum.* That is the honey shows biodiversity of pollen grains.

Keywords: Biodiversity, Crude Honey, Multifloral, Pollen, Staining.

ISCA-ISC-2016-1AFH-21-Poster

Correlation Studies on Reproductive Parameters and Yield Components of Groundnut (*Arachis Hypogaea*) under Varied Temperature Condition

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Abstract: Peanut is an indeterminate plant capable of recovering from high temperature stress even during the reproductive period to rebloom and produce another crop of pegs but the optimal yields are produced when high temperature stress is avoided. However, there are limited studies elucidating the correlation between reproductive parameters at elevated temperature on growth and yield of peanut plants. The present study was aimed at understanding the correlation on reproductive growth of groundnut cultivar to yield. The data indicated that yield was positively correlated with pollen sterility percentage, nodule count plant^{-1} and number of pods plant^{-1} (0.156, 0.019 and 0.248 respectively). However, the total flower count had no significant relation with yield (-0.239). The inter-relation between pods plant^{-1} obtained was a positive correlation with flower count and nodule count (0.433 and 0.200 respectively). Further, flower count and pollen sterility percentage had a significant positive correlation with nodule count (0.105 and 0.211) where as there was no relation obtained between flower count and pollen sterility percentage (-0.367). The experiment suggested that, genetic potential for high productivity is already present in crops, but productivity is limited due to abiotic stress, of which, temperature is more predominant and breeding for reproductive efficiency is at most necessary.

Keywords: Reproductive Parameters, Yield Components, Groundnut (Arachis Hypogaea), Varied, Temperature, Condition.

ISCA-ISC-2016-1AFH-24-Poster

Correlation and Path Analysis for Yield and Yield Contributing Characters in Wheat (*Triticumaestivum L.*) over the Environments

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Abstract: The present investigation of 48 genotypes from eight wheat crosseswere evaluated at two locations viz., Wheat Research Unit, Dr. P.D.K.V, Akola (M.S) and Agriculture Research Station, Niphad under M.P.K.V, Rahuri (M.S) during 2011-2012. The highest significant genotypic correlation recorded for Protein content (%) followed by no of spiklets perspike while highest phenotypic correlation recorded for beta carotene (ppm) with highest environmental correlation recorded for sedimentation value and days to heading. Path analysis revealed that number of grains per spike exhibited highest positive direct effect on grain yield per plant (g) followed by grain weight per earhead, 1000 seed weight (g), sedimentation value (ml), beta carotene (ppm), plant height (cm) and protein content (%) while the negative direct effects on grain yield per plant are as follows, number of spiklets per spike and number of tillers per plant. The residual effects was found to be 0.463 which indicates that the dependent variable grain yield per plant may influenced by other characters which are not included in the present investigation. Thus, path analysis revealed the importance of number of grains per spike, grain weight and 1000 seed weight (g).Study concluded that the characters like number of grains per spike plant grain weight per earhead, 1000 seed weight (g), sedimentation value(ml), beta carotene (ppm), plant height (cm) and protein content (%) may be selected for future Wheat improvement programme.

Keywords: Wheat, Correlation, Path analysis, Environments.

ISCA-ISC-2016-1AFH-25-Poster

Bioinsecticidal Effect of *Cassia Occidentalis* Plant Extract Against, *Tribolium Castaneum* (Herbst) (Coleoptera: Tenebrionidae)

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Abstract: The insecticidal activity of *Cassia occidentalis* plant extract against *Tribolium castaneum*, a store grain pest was studied. The plant extracts of *Cassia occidentalis* were tested for their effect on oviposition, adult mergence from grains and mortality of the store grain pest, *Tribolium castaneum.* Observations were made on the number of eggs laid on seeds treated with extracts, adult emergence from wheat grains and mortality of adults exposed to treated grains. The number of eggs laid and the adults emerged from grains treated with aqueous extract of *Cassia tora* were less than from wheat grains treated with methanol extract. In the present study the extract of *Cassia occidentalis* were effective as insecticidal property to control rust red flour beetle, *Tribolium castaneum*.

Keywords: Plant extract, bioinsecticide, *T. castaneum*.

ISCA-ISC-2016-2AVF-Guest Speaker-01

Enigmatic Episode of Anisakid Nematode Larvae in the Upper Gangetic Region of India

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Abstract: One year (2015-16) continuous investigation was conducted for parasitic occurrence in the fresh water fishes, *Mystus tengra*, *Rita rita* and *Bagarius bagarius* of river Ganges in western Uttar Pradesh, India. The occurrences of anisakid nematodes in the fishes of this stretch were not common so far. During the rainy season of year 2016 (July and August) the enigmatic occurrence of anisakid larvae were observed in the fishes taken in consideration for investigations. The larvae were identified morphologically using compound light and scanning electron microscopy (SEM). The morphological and taxometric profiles confirmed that the worms were recovered from gut of *R. rita, M. tengra* and muscles of *B. bagarius* as larvae of anisakid roundworms. The prevalence and abundance of these nematodes did not significant. There were only eight larval anisakid nematodes were recovered during the period of infection from selected freshwater fishes of the river Ganges. The mysterious episode of anisakid nematodes larvae reported here can, therefore, be used to manage commercial fish and fisheries of western Uttar Pradesh, India in perspective to health and economy.
Keywords: Anisakid larvae, Morphotaxometry, Nemic prevalence, SEM, Fresh water fishes.

ISCA-ISC-2016-2AVF-01-Oral

The Length-Weight Relationship of Labeo Rohita (Hamilton-Buchanan) from Borgaon Reservoir, Maharashtra, India

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Abstract: The length-weight relationship was calculated for 40 fish species caught from Borgaon reservoir of Sangli dist. The sampling was carried out from September 2014 to April 2015 by using cast net from fisherman. The sample length varies from 18.7 to 27.9 cm while weight varies from 83.85 to 178.64 gm. The length weight relationship in fishes is affected by a number of factors including season, habitat, gonad maturity, sex, diet health, preservation condition and annual differences in the environmental conditions. The aim of the present study was to contribute the length weight relationship of 40 fishes of Borgaon reservoir. The result shows that values of exponent b in regression region varied between 1.80 to 3.01. This relationship was first studied for this reservoir from this area. The present study shows weight in relation to total length in both sexes shows allometric growth pattern. The exponential value of fishes indicates allometric growth pattern in the natural habitat. The coefficient of correlation for male was r = 0.706 and for female r = 0.862 which shows the correlation factor revealed positive correlation between length and weight.
Keywords: Length-weight relationships, Borgaon reservoir, Condition factor.

ISCA-ISC-2016-2AVF-02-Oral

Hematological Profiling of Sahiwal Breed at Different Age Groups

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Abstract: The Complete Blood Count (CBC) is an important and powerful diagnostic tool as a component of a minimum database. It can be used to monitor response to therapy to gauge the severity of an illness or as a starting point for formulating a list of differential diagnosis. So, various hematological parameters viz. Hemoglobin (Hb), Total Leucocyte Count (TLC), Differential Leucocyte Count (DLC), Packed Cell Volume (PCV), Total Erythrocyte Count (TEC), Mean Corpuscular Hemoglobin (MCH), Mean Corpuscular Hemoglobin Concentration (MCHC) and Mean Corpuscular Volume (MCV) were analyzed at age groups namely 0-1 year, 1-2 years, 2-3 years and above 3 years of age. The values for Lymphocytes, Hct and TEC were recorded highest upto 1 year age. In age group, 1-2 year highest values were recorded

for TLC, neutrophils and MCH. Hb and MCHC were highest among 2-3 year age group while Monocytes and MCV were highest at age above than 3 years.

Keywords: Hematological, Profiling, Sahiwal Breed, Different, Age, Groups.

ISCA-ISC-2016-2AVF-03-Oral

Habitat Fragmentation for Avian Diversity around Balasore Town, Odisha, India

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Abstract: The birds are more fascinating creature. The abundance of birds mostly seen near the green vegetation, availability of food and better roosting site .The aves are good biological indicator; small variation in environment is immediate traced by bird distributation pattern. The Balasore town is well distributed by floral species, where various kinds of host plants and various kinds of water bodies are found. Since, few years, the bird density of this region is continuously going to be decline by the anthropogical pressure, which is directly influenced over the diversity of aves. These problems are generally created by urbanization, industrialization, contamination of water by sewage, deforestation etc. This habitat fragmentation cause the loss of avifauna.

Keywords: Creature, Roosting, Floral, Indicator, Anthropogical

ISCA-ISC-2016-2AVF-04-Oral

Evaluation of Herbal Formulation for Dermatitis under *In Vivo* Condition

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Abstract: Traditional medicinal practices using herbs are still playing a major role in the treatment of cattle diseases in developing countries. In the present study, different concentrations and combinations of aqueous extract of *Andrographis paniculata, Lawsonia inermis* and *Madhuca longifolia* were used for the preparation of herbal formulation to treat animals infected with skin disease caused by microbes under *in vivo* condition. Number of days took for the animals for complete recovery was recorded and compared with the allopathic drugs Povidone iodine ointment and Candid cream used as control. Animals treated with herbal formulations recovered faster (5-8 days) than with allopathic drugs (19-21 days). This combination of herbal drug is novel, effective, economical and safe for treating the skin disease of animals.

Keywords: Skin disease, Animal, herbal formulations, *Andrographis paniculata, Lawsonia inermis, Madhuca longifolia.*

ISCA-ISC-2016-2AVF-05-Oral

The Study of Substratum Preference in Pestiferous Land Snail, *Macrochlamys Petrosa* (Hutton)

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Abstract: The distribution and population of land snail Macrochlamys petrosa depends up on type of soil, temperature, rainfall, humidity and natural enemies. The observations on the ecology were made in the natural as well as under laboratory conditions by performing the experiments. To test experimentally the behavior of the snail towards substratum preference, round glass troughs were used as the experimental containers. Moist soil, sand and stones were collected from the natural habitat of the snail and this material was divided into four parts i. moist soil ii moist soil and sand iii sand with stones and iv only sand. In the centre of troughs 50 snails were placed and left for 24Hrs. After 24hrs location of the snails was noted down. Average percentage distribution and substratum preference of the snail was calculated for each type of substratum. It is observed that moist soil was preferred by 80% of snails, 10% snails preferred moist soil and sand substratum, 8% snails preferred sand with stones and only 2% snails found in only sand substratum. No mortality of snail was observed during this experiment.

Keywords: *Macrochlamys petrosa*, Pestiferous, Substratum.

ISCA-ISC-2016-2AVF-07-Oral

Seasonal Evaluation of Toxicity levels of Agrochemical on Mortality of Local Freshwater Fish, *Nemacheilus Botia*

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Abstract: The acute toxicity of Monocrotophos on the mortality and behaviour of *Nemacheilus botia* has been studied. The Lc50 values for 14 days exposure were 12.9 ppm 8.42 ppm and 6.26 mg/lit. During winter, summer and rainy seasons respectively. The observed result indicates that the mortality of the test fish to Monocrotophos was dose-time dependant. The altered behavioural responses were also observed under investigations in the test organism exposed to Monocrotophos.
Keywords: Seasonal, Bioassay, Monocrotophos, Mortality, Behaviour.

ISCA-ISC-2016-2AVF-08-Oral

Propolis Amelioratesantituberculosis Drugs Induced Hepatorenal Injury in Rats

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Abstract: Present study assessed therapeutic potential of propolis against anti-tuberculosis drugs (ATDs) induced hepatorenal injury. Rats were administered with ATD for 8 weeks (3 day/week) followed by propolis at three different doses (100, 200 and 400 mg/kg) conjointly for 8 weeks (3 days/week), and silymarin (50 mg/kg) as positive control orally. After 8 weeks, animals were euthanized; blood and liver and kidney samples were collected to perform various biochemicals, serological and histopathological studies. Significant increase in LFT's and KFT's along with reduction in glucose and albumin level was noted after ATD induced injury. Significant increase in lipid peroxidation, triglyceride, cholesterol and CYP2E1 activity; decline in reduced glutathione, catalase, superoxide dismutase, glutathione reductase, glutathione peroxidase, glucose-6-phosphatase dehydrogenase activity were observed after ATD intoxication. Administration of propolis encountered ATD induced toxicity which was evident by significant reversal in biochemical indices towards control in a dose dependent manner. Histopathological and electron microscopic observations also supported biochemical findings. Assessment of TNF-α, IL-6 and IGF-I indicated therapeutic potential of propolis at molecular level. Present study concluded that propolis possess protective role against ATD induced hepatorenal injury and can be used clinically in future.
Keywords: Antituberculosis drugs, Propolis, Biochemical parameters, Hepatotoxicity, Antioxidants.

ISCA-ISC-2016-2AVF-09-Oral

Comparative Study of Morphometric Traits of Freshwater Snails Lymnea Acuminata and Bellamya Dissimilis

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Abstract: Four hundred snails (400), two hundred (200) each of *Lymnaea acuminata* and *Bellamya dissimilis* with weight ranging from (0.40gm to 1.15 gm and 0.81gm to 4.23gm) respectively. Data was collected to evaluate phenotypic correlation and multiple regression equation analysis. The snails *Lymnaea acuminata* and *Bellamya dissimilis* shell width, aperture length, aperture width and total body weight were the parameters predict the animal shell length. The mean recorded animal shell length (ASL), animal shell width (ASW), aperture length (APL), aperture width (APW), and total body weight (TBW) was (2.108±0.29096 cm, 2.82±0.50812 cm, 1.285± 0.17700 cm, 0.6895 ±0.14049 cm, 0.53675± 0.19704 cm and 3.157 ± 0.36868, 4.721±2.9761, 1.225±0.15619, 1.00935±0.70899, 2.03935±0.64611) for *Lymnaea acuminata* and *Bellamya dissimilis*. The result showed correlation among morphmetric traits which indicated highly positive significant at (P<0.01%) for *Lymnaea acuminata* and for *Bellamya dissimilis* some parameters are highly significant and some are negatively significant (P<0.01%). All morphmetric parameters were best predicted animal shell length of *Lymnaea acuminata* and *Bellamya dissimilis* [r^2=68.5%, r^2=62.8%] respectively.
Keyword: Prediction, Morphmetric traits, Freshwater, Lymnaea acuminata and Bellamya dissimilis.

ISCA-ISC-2016-2AVF-10-Oral

Genotoxicity Evaluation of Pendimethalin-based Herbicide to Fresh Water Fish *Clarias batrachus* (Linnaeus) using Micronucleus test and Single Cell Gel Electrophoresis

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Abstract: Pendimethalin based herbicide such as pendamil is a pre-mergence and post-emergence herbicide of the di-nitroaniline class. Although the pendimethalin was found to be very toxic for fishes, very little work has been done so far to evaluate its genotoxic effect. Thus, the aim of this studywas to determine the genotoxic effects of acute exposures of pendamil on the fresh water fish *Clariasbatrachus*. Genotoxicity of pendamilusing different concentrations were determined by the micronucleus test andsingle cell gel electrophoresis (SCGE) assay in peripheral blood erythrocytes. Three sub-lethal concentrations of the test material *viz*., SL-I (1/2nd LC_{50}-1.74 mg/L), SLII (1/4th LC_{50}-0.875mg/L) and SL-III (1/8th LC_{50}-0.437mg/L) were calculated usingLC_{50} value and the fish specimens were exposed to these concentrations for 2, 4 and 6 days for both micronucleus and SCGE assay.Significant increase in the frequencies of micronuclei for all sub lethal test concentrations were observed.Similarly DNA damage in the SCGEwas observed in erythrocytes at all tested concentrations.

Keywords: Herbicide, Pendamil, Genotoxicity, Micronuclei, Single cell gel electrophoresis, *Clarias batrachus.*

ISCA-ISC-2016-2AVF-11-Oral

Ecology of Ant-treehopper Interaction in Southern Tropical Thorn Forest habitats of Solapur Region, MS, India

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Abstract: Ants are considered as one of the dominant insect taxa from variety of terrestrial habitats. It establishes different kinds of interactions with variety of vertebrate and invertebrate groups including treehoppers. Treehoppers are plant sap sucking pests of various plants as well as crop fields. Mutualistic association between horn mimic Treehopper, *Leptocentrus taurus* Fab., with the ant, *Camponotus compressus* Fab., on Indian Zijubae, *Zizipus mauritiana* Lam., during January to March 2014 in and around Southern Tropical Thorn Forest habitats of Solapur region, (M.S.), India were studied. There is significant positive correlation between number of ant attendance and the number of treehoppers present on the Indian Zijubae tree. The density of treehoppers, number of ant attendance and fecundity of treehopper nymphs was greatly season dependent. Rainfall, air temperature and relative humidity influence the same.

Keywords: Ant, Nymphs, Solapur region, Zizubae, Ecology.

ISCA-ISC-2016-2AVF-12-Oral

Diversity of Ants (Hymenoptera: Formicidae) from Dr. Babasaheb Ambedkar Marathwada University Campus, Aurangabad, MS, India

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Abstract: The present study deals with diversity of ants from Dr. B.A.M University, Aurangabad. Ants were collected during June 2015 to May 2016. Total sixteen species of ants belonging to twelve genera and five subfamilies were identified. These ant species belongs to five subfamilies like Formicinae, Myrmicinae, Ponerinae, Dolichoderinae, and Pseudomyrmicinae. Out of six subfamilies Myrmicinae, and Formicinae, found dominant with five and three species respectively while subfamily Dolichoderinae, representing with only one species.

Keywords: Ants, Diversity, Aurangabad, Myrmicinae, Dolichoderinae, Formicinae.

ISCA-ISC-2016-2AVF-13-Oral

Study on Biochemical Content in fresh water fish *Anabas testudineus*, *Mastacembelus Armatus*

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Abstracts: Biochemical composition such as carbohydrate, Protein and Lipid were estimated in the fresh water fishes Anabas *testudineus*, *Mastacembelus armatus*. The maximum levels of carbohydrate were noted in *Anabas testudineus* and minimum level was noted in *Mastacembelus armatus* fish. The maximum level protein were noted in *Mastacembelus armatus* and low level of protein was observed in *Anabas testudineus*. The maximum level of lipids was present in *Mastacembelus armatus* and minimum level of lipids was noted in *Anabas testudineus*.
Keywords: Biochemical Composition, *Anabas testudineus*, *Mastacembelus armatus*, Fish.

ISCA-ISC-2016-2AVF-14-Oral

Genetic basis of Resistance against Bovine Tuberculosis

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Abstract: Bovine tuberculosis (BTB) is a chronic, infectious disease found in domestic livestock and wildlife. It is transmitted predominantly by inhalation. It is caused predominantly by Mycobacterium bovis which forms part of the Mycobacterium tuberculosis complex. BTB has serious implications for the movement of animals and animal products, biodiversity, and public health and is of significant economic concern. Generally treatment for BTB is not recommended in animals since there is no cost effective treatment. Therefore, there is an urgent need to develop some alternative strategies to combat infectious diseases. An ideal approach to the control of zoonotic infectious diseases in animals is the development of genetic resistance. In recent years, significant progress on the identification and characterization of candidate genes, microsatellite markers and comparative gene mapping has been made. Genetic polymorphisms in the SLC7A13, IL1α and DMBT1 genes were associated with bovine TB infection status in the African buffalo. Solute carrier family 11 a1 (Slc11a1; also known as NRAMP1) has been implicated in resistance to tuberculosis in humans, and possibly cattle. The cytokine related genes like IL-22 are essential to elicit an appropriate response to mycobacterial infection. Hence, identification of individual candidate genes which control natural resistance and the actions of these genes will greatly expand the knowledge of genetic resistance. Molecular markers have provided enormous scope to unravel the genetic variations at DNA sequence level. These markers can be utilized for selection of disease resistance either using linkage analysis or candidate gene approach. Hence the basic principle is the identification of already resistant animals and further use of its superior genotype for the production of new population which could resist the disease causing organism.
Keywords: Genetic, Resistance, Bovine, Tuberculosis.

ISCA-ISC-2016-2AVF-15-Oral

Architectural Concept in Web Building Behavior of *Cyrtophora bidenta* Tikader 1970: in situ Observations

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Abstract: *Cyrtophora* is a tropical cosmopolitan spider and commonly known as tent web spider, found within the dense bush foliage with its peculiar web structure. This is the only genus which shows tent web construction behaviour. The study included architectural concept of tent or dome shape of the web by *Cyrtophora bidenta* [Tikader 1970]. The construction of web included irregular thread forms and circular horizontal web weaving for the shape of dome. Female spider rest at the middle of the dome to protect their two or three cocoon, situated at the top of the web.
Key words: *Cyrtophora*, Tropical spider, *Cyrtophora bidenta*, Tent-web.

ISCA-ISC-2016-2AVF-16-Oral

Comparative study of the Immunocompetence status of Road side Insects of Jabalpur city, India

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Abstract: The current study focuses on the impact of rapid expansion of towns and habitat fragmentation on the immunocompetence status of the road side insects of Jabalpur city which is one of the rapidly progressing cities of central India. The morphological examination of insect haemolymph showed 4 distinct types of haemocytes viz: prohemocytes, granulocytes, plasmatocytes, and adipohaemocytes. Significant difference were observed between differential counts of various insects during the current study. The THC of black-yellow bug was found to be highest as 25,600 cells/mm^3 of haemolymph while that of larva of order Lepidoptera was found to be lowest as 3,200 cells/ mm^3 of haemolymph. High values of THC was correlated with the coagulation time of insect haemolymph. RI values (in Brix %) and Total Protein conc. (mg/ ml)of adult insects were found to be less than that of larva. Estimation of Heamolymph protein by SDS-PAGE followed by silver staining revealed bands in L1 [Adult insect-Grasshopper] representing 5.90 mg/ ml of total protein and in L7[Larva] representsing 8.35mg/ ml of total protein . The present study indicates variations in haematological parameters like DHC% ,THC, serum protein content and clotting time in relation to their habitat and thereby they can be used as potential stress indicators for monitoring the immunocompetence status of roadside insects
Keywords: Road side insects, Jabalpur city, Haematological parameters, Iimmunocompetence status.

ISCA-ISC-2016-2AVF-17-Oral

Impact of Different Levels of $CaCO_3$ Liming on Growth Performance of Indian Major Carp Fingerlings

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Abstract: The hardness of aquatic bodies is a serious problem for fish production in India, which varies considerably from place to place. During the present study, an experiment was conducted to study the growth performance of the fish fingerlings of Rohu (*Labeo rohita*) Catla (Catla catla) and Mrigal (*Cirrhinus mrigala*) for a period of 160 days at three $CaCO_3$ liming levels (50, 180 and 350mg/L) in glass aquaria's, each having capacity of 15 L of water. Total body weight significantly differed by $CaCO_3$ treatments, however , significant difference in terms of total gain in body weight of all the fingerlings in different hardness levels were observed. The growth rate of fingerlings gradually increased up to 180mg/L and then onward decreases. Growth in terms of body lengths also showed similar significant difference in all the fingerlings.
Keywords: Indian major Carps, $CaCO_3$ liming and Growth performance.

ISCA-ISC-2016-2AVF-01-Poster

AChE as Potent Biomarker of Organophosphate Pollution in *Eisenia fetida*

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Abstract: The OP compounds are used as in secticides, pesticides, chemical war fare agents, petroleum additives, and industrial plasticizers. Organophosphate (OP) compounds potentially target the cholinesterases, acetylcholinesterase, and neuropathy target esterase (NTE), in animals. They irreversibly inhibit AChE by combining with acetylcholinesterase to form a phosphorylated enzyme (enzyme.OP complex). Acetylcholinesterase inhibition resultsin prolonged action and excess of acetylcholine at the autonomic, neuromuscular, and the CNS synapses. Earthworms being the indicators of soil health play an imperative role in refining soil fertility. In *Eisenia fetida*, significant reduction in acetylcholinesterase activity has been reported in various studies. AChE activity in body tissue extracts also showed dose-dependent response; higher doses significantly decreased the enzyme activity.
Keywords: Acetylcholinesterase, Organophosphate, *Eisenia fetida*.

ISCA-ISC-2016-2AVF-02-Poster

Effect in Alkaline Phosphatase enzyme activity in Indian major carp exposed to Dimethoate, Chlorpyrifos and Malathion

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Abstract: Chemical pollutants such as agricultural pesticides enter aquatic environments via run-off water, urban drainage, and precipitation. This results in alteration of the physio- chemical properties of water which prove detrimental to fish health. Enzymes, also known as biocatalyst are the potent bio-indicators of fish health. So, a study was conducted to study the effect of pesticides namely dimethoate, chlorpyrifos and malathion at concentrations 0.0001, 0.0005 and 0.001 ppm in fishes viz. *C. mrigala* and *Labeo rohita*. Alkaline phosphatase increased with increasing concentration of dimethoate, chlorpyrifos and Malathion. In *C. mrigala*, maximum increase i.e. 36.2 % was induced by Malathion at 0.001ppm. Similar trend was seen in *Labeo rohita* maximum increase of alkaline phophatase activity in blood serum was 16.5% caused by Malathion at 0.001 ppm.
Keywords: Dimethoate, Chlorpyrifos, Malathion, *C. mrigala*, *Labeo rohita*.

ISCA-ISC-2016-2AVF-03-Poster

Study on Biochemical Composition in Fresh Water Fish *Cirrhinus Reba*

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Abstract: In the present study biochemical composition such as carbohydrate, Protein and Lipid were estimated in the fresh water fishes *Cirrhinus reba*.In present work the protein and lipid contents of *Cirrhinus reba* showed successive decrease in their estimated values from June to May Whereas muscle glycogen content of fish species shows significant increase during June to May are observed
Keywords: Biochemical composition, *Cirrhinus reba.*

ISCA-ISC-2016-2AVF-04-Poster

Population Dynamics of Insect Fauna near Yamuna River at Dibholi Ghat, Panchnada Area, Etawah, India

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Abstract: Insects constitute the dominant group in the animal kingdoms and also a major part of global diversity. Because of their small size, aerial mobility, dispersal adoptability and evolved features of Insects they are found in all biogeogrphical regions and ecological zones and have a dominating influence on total biodiversity. Yamuna River is a big tributary of Panchnada area. Biodiversity of Dibholi ghat is totally untouched till now and it is also a touch point of National Chambal Sanctuary declared by Govt. of India. During our regular survey various fauna were encountered including Arthropods (insect, crustaceans) and Molluscs near river Yamuna. It was observed that insects were more abundant species then other faunal diversity at our all selected sites and they play an important role to maintain river ecosystem.
Keywords: Insect, Biodiversity, Fauna, Population.

ISCA-ISC-2016-2AVF-05-Poster

Studies on Sensory Evaluation and Cost of Production of *Basundi* Blended with Kesar Mango Pulp

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Abstract: *Basundi* blended with kesar mango pulp *was prepared* in the laboratory of Department of Animal Husbandry and Dairy Science, College of Agriculture, VNMKV, Parbhani. *Basundi* was prepared from buffalo milk (standardized

at 6 % fat) with constant level of sugar (5 per cent by weight of milk) and different levels of kesar mango pulp (5, 7.5, 10 and 12.5 per cent by weight of milk). It was observed that the overall acceptability score for treatment T_1, T_2, T_3, T_4 and T_5 were 7.70, 8.16, 8.33, 7.63 and 7.40 respectively. The highest score for overall acceptability was found to be 8.33 for 7.5% kesar mango pulp (like extremely) and lowest score was found to be 7.40 (like moderately to like very much). The cost of control *basundi* was found to be lowest for T_1 as Rs. 129.00 per kg. The highest cost was recorded for treatment T_5 as Rs. 192.50 per kg. The cost for treatment T_2, T_3 and T_4 were Rs. 152.70, 165.40 and Rs. 178.80 per kg, respectively. As the level of kesar mango pulp in *basundi* increases the cost of production increases. The cost of production of a most acceptable *basundi* i.e. 7.5 % kesar mango pulp was 165.40/Kg.

Keyword: *Basundi*, *Kesar* Mango Pulp, Sensory Evaluation, Economics.

3. Biological Sciences

ISCA-ISC-2016-3BS-Guest Speaker-01

Impact of Alkalophilic Bacteria on Industrial Applications

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Abstract: Research on extremophiles has opened a new door for widening our understanding, not only about the existence of life at extreme environment but also for newer biotechnological and other applications. Alkalophile is the group of bacteria that typically flourish at alkaline pH, with most extremophilic strains growing up to pH values as high as 12-13. Interest in extreme alkalophiles arises because they are sources of useful, stable enzymes that can be used for biotechnological and other applications at high pH. A major contribution of alkalophiles comes from the diversity of enzymes they produce. The pH optima of these enzymes is obviously on alkaline side. Uniqueness of the enzymes produced by such group lies in its working at alkaline pH, otherwise similar enzymes are also produced by mesophilic bacteria. The added advantage in many cases found that they also often had additional capacities, e.g., some with high temperature optima and others with low temperature optima that increased the range of environments in which they were catalytically competent. Examples of enzymes from alkalophiles and their uses include alkaline proteases, which are used as detergent additives and for removing hair from hides; starch-degrading amylases with elevated pH optima are also suitable for laundry use and in leather industry. Alkaline keratinases can degrade feathers that are often unwanted by-products; and cyclomaltodextrin glucanotransferases (CGTases) from alkalophilic strains enhance the production of cyclodextrins (CDs), which are used in pharmaceuticals, foodstuffs, and for chemical interactions. Alkalophiles also produce useful metabolites, including antibiotics. Among other metabolites, carotenoids are worth mentioning. In addition to useful alkaliphile enzymes and metabolites, there are many processes that can utilize these extremophiles which will be discussed at length during conference.
Keywords: Alkalophilic, Bacteria, Industry, Applications.

ISCA-ISC-2016-3BS-Guest Speaker-02

Human Population and its Impact on Natural Resources

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Abstract: Human being, *Homo sapiens sapiens* just one species of animals, the most intelligent creature on the earth, sheer on the basis of his intellectual ability and greediness to obtained benefits and comfort expanded range of distribution to almost all conceivable ecosystems across geographical boundaries. Man has changed the entire concept of ecological sustainability and has consumed nearly 40% of terrestrial NPP leaving only 60% for the millions of other land plants and animals species Only a limited and fix amounts of air, water and land resources existed in the atmosphere for the use and with the increase in of population growth, the per capita availability of natural resources get decreased. In current year, the world population is more than 7.4 billion. The United Nations estimates that the world population will reach 11.2 billion by the year 2100. This overgrown population is totally depends on available natural resources to full fill their needs. The consumption of natural resources by humans produced vast amount waste products, air and water pollutants, toxic substances, green house gases and what not. If we see the present state of world, it is overcrowded, highly polluted, less stable, ecologically fragile and vulnerable to disruption. Due to the industrial sector, conversion of forest land into agriculture, mining and construction of roads causing serious problem of environmental pollution leading to the indiscriminate utilization of natural resources**.** The most significant change in environment is due to green house effect ozone distruction because of increased rate of fossil fuel consumption, aviation and deforestation. During the 100 years the average global surface temperature has increased by 0.6ºC and it is predicted that the end of this century it will be additionally increased by 1.4ºC. The forest ecosystems are the major sinks for the CO_2 There is significant decrease by 25% in the the forest land in the past 300 years and global warming has affected the floral and faunal elements. Another impact of emission of greenhouse gas, CO_2 in excess, that the World's oceans are now 30% more acidic than they were 150 years ago. The increased acidity of sea water has affected the molluscs and threatened coral reefs. The problem of overgrowing human population and increased pollution can be solved through combined and coordinated efforts of individuals, communities, and governments. The possible ways to control human population and pollution to keep environment healthy are innovation in clean energy and to minimize per capita consumption of energy, so as to reduce our environmental strain on the planet through awareness, education and policy change.
Keywords: Human, Popultion, Animals, Forest.

ISCA-ISC-2016-3BS-01-Oral

Population Dynamics of Dudhebhavi Wetland in Sangli District, M.S. India

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Abstract: The wetlands are suitable habitats for variety of animals, birds and many aquatic plants, which form a typical food web. A total number of 13 macrophytes were reported from Dudhebhavi reservoir out of them 8 species of emergent and 5 were of submerged type. In aquatic ecosystem, the phytoplankton plays an important role of primary producers. The Chlorophyceae is dominant group represented by 15 genera and 20 species where, Cyanophyceae showed 5 genera and 5 species. Bacillariophyceae reported with 7 genera and 8 species. Euglenophyceae, with only *Euglena acus*. Dinophyceae recorded with 2 species of 2 genera. The reservoir is secondarily being used for reservoir capture fishery. Important major carps, common carp, Chinese carp fish and 2 local species occurred in this reservoir. There were 20 species of aquatic birds were observed in the vicinity of Dudhebhavi reservoir. Attempts have been made to observe the diversity of macrophytes, phytoplankton, fish and bird diversity to obtain the baseline data from June 2013 to May 2015.
Keywords: Dudhebhavi Reservoir, Sangli district, Macrophytes, Phytoplankton.

ISCA-ISC-2016-3BS-02-Oral

Process Optimization for L-asparaginase Production by *Bacillus spp.* isolated from Marine ecosystems in Thane District, M.S., India

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Abstract: *Bacillus spp*isolated from the Ulhas river site located in Kalyan City was selected as the best L-asparaginase producing strain from among 68 isolates. The enzyme was produced by submerged culture technique. Among the carbon sources used, glucose was found to be the best for L-asparaginase production; its optimum concentration being 0.2%.Peptone was the preferred nitrogen source for L- asparaginase production, with optimum concentration being 0.6 %. The optimum pH range for L- asparaginase production was 6.5 to 7.5; optimum being 7.0. The optimum incubation temperature was 28°C. Maximum production was attained within48 hours of incubation. 5 % of inoculum level was found to be optimal for L-asparaginase production.At a ratio of 1:10 (V/V) the activity of L-asparaginase was maximum. Shake flask conditions influence L-asparaginase production. The culture conditions of the strain for L-asparaginase production were optimized using the Classical approach. Media Optimization using Statistical approach with experimental models viz; Plackett-Burman design, Box-Behnken Design etc. is to be carried out.
Keywords: Process, Optimization, L-asparaginase, *Bacillus spp.,* Marine, Ecosystems.

ISCA-ISC-2016-3BS-03-Oral

Antibacterial Attributes of Certain Mushroom Extract against *Aeromonas hydrophila*

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Abstract: The present study deals with antibacterial activity of different mushroom extract against *Aeromonas hydrophila.* The fruit bodies of *Agaricus xanthodermu, Agaricus* sp1*, Agaricus* sp2*, Calocybe indica, Calocybe* sp1*, Crinipellis* sp*, Ganoderma lucidium, Ganoderma* sp*, Lentinula sp*, *Lycoperdon* sp, *Lentinus sequarrosulus, Lepiota cristata, Mycena* sp, *Pleurotus cytidiosus, Pleurotus* sp, *Tricholomia* sp1 and *Tricholomia* sp 2 used in this study. The *Invitro* antibacterial studies showed a significant inhibitory activity against the tested bacterium of *A. hydrophila*. The inhibition zones produced were significantly ($p<0.05$) higher for the ethyl acetate extract of *C. indica, Tricholomia sp1* and *G. lucidium* and when compared to the positive control of Chloramphenicol and Stroptomycin. From the DNA fragmentation analysis, the ethylacetae extract of *C. indica* mixed bacterial suspension showed the confirmatory result for DNA fragmentation, when compared with the control (live bacterial culture). Very clear fragmented DNA band was observed in the tested lane 2 (extract mixed with bacterial culture) and lane 3 (Streptomycin with bacterial culture). Fragmentation was not observed in lane 1 (bacterial culture alone). This result showed that the ethyl acetate extract of mushroom has the ability to diminish or control the growth of bacterial colonies.
Keywords: Mushroom, DNA fragmentation, *Aeromonas hydrophila*, Antibacterial activity, Antibiotic.

ISCA-ISC-2016-3BS-04-Oral

Effect of Extraction Temperature and Technique on Phenolic Compounds and Antioxidant activity of T*amarindus indica* Seeds

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Abstract: Natural antioxidants from tamarind seed pose preservative effect in food and disease protective benefits in biological system. Extraction being the initial and crucial most step of antioxidant recovery is influenced by many conditions. In this study the effects of technique and temperature during solvent extraction of phenolic antioxidants from tamarind seed have been studied. The extraction techniques compared have been shaking and magnetic stirring. A binary solvent system of 50 % ethanol has been used and extraction has been carried out at varied temperatures (ranging 25 - 60°C). Total Polyphenol Content (TPC) and Total Antioxidant Activity (TAA) determined at these conditions have indicated magnetic stirring as the most convenient and exhaustive technique. While the maximum TPC has been extractable at 60°C, the highest TAA has been recorded at the extraction temperature of 40°C. Results have indicated that extracting temperature and technique significantly ($P<0.05$) influenced the antioxidant property and total phenolic compound recovery from tamarind seed.

Keywords: Tamarind seed, Antioxidant, Magnetic stirring, Polyphenols.

ISCA-ISC-2016-3BS-05-Oral

Genetic Diversity Analysis of *Capsicum Frutescence* through RAPD-PCR Analysis

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Abstract: The aim of the present study was to investigate the genetic diversity of *Capsicum frutescens.* These varieties were analysed by Random Amplified Polymorphic DNA (RAPD) technique. The plants of *C. frutescens* are found with variable shapes, sizes, colors and other morphological characteristics. The RAPD characterization of all the local varieties of Karnataka region and their genetic variability was assessed. The seeds of *C. frutescens* (CF) were collected from Western Ghats belts of Karnataka. The seedlings were raised in green house and young seedlings were selected for DNA extraction. The DNA was extracted by CTAB method from the leaf sample and was amplified byRAPD-PCR using 10 different primers (OPA, OPB, OPC and OPD series). The amplified DNA solution was subjected to agarose gel electrophoresis. Around 400 polymorphic bands were observed under UV light. Primers OPA-03 and OPB-08 gave similar patterns with all the samples. The study revealed genetic diversity among all the samples that were used in this research.Seven bands were polymorphic for a specific primer and can be used as differential markers for the identification of CF and thus RAPD markers can be used to find genetic diversity of *C. frutescens.*

Keywords: *Capsicum frutescens*, Genetic diversity, Molecular markers, RAPD and PCR.

ISCA-ISC-2016-3BS-06-Oral

Formulation of Organic Medium for the Cultivation of *Spirulina* using Agro-Wastes

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Abstract: In the present study, attempt was made to develop an economical culture media for the cultivation of *Spirulina.* The mother culture was mass cultivated using the Zarrouk's medium. Such mass cultivated culture was inoculated in the trial organic medium. The organic medium used was skin peel of beet root (*Beet vulgaris*), grape leaves (*Vitis vignifera*), extract of rice bran and rice husk and root of Casuarina (*Casuarina equisetifola*). The growth of *Spirulina* was studied based on the microscopic observation, biomass concentration, Chlorophyll content, Carotenoids and Phycocyanin pigments formed in the slurry. Culture inoculated with Zarrouk's medium was kept as control. The results showed, growth of *Spirulina* was increased 2 folds on 21st day in organic medium than the control. Hence, this organic medium can be suggested for the domestic and commercial production of *Spirulina.*

Keywords: *Spirulina*, Zarrouk medium, Organic medium, Phycocyanin and Carotenoids.

ISCA-ISC-2016-3BS-07-Oral

Phytochemical Analysis of Selected Wound Healing Medicinal Flowers

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Abstract: In the present study, Medicinal flowers like *Nelumbium speciosum, Rosa centifolia*, *Hibiscus rosa-sinensis*, *Cassia auriculata* and *Tridax procumbens* were selected for the phytochemical studies. Ethanol extract of these flowers were tested for its antimicrobial activity against the pathogens *Staphylococcus* sp and *Streptococcus* sp isolated from wound. Hydrogen peroxide scavenging activity was done to prove its antioxidant activity. The results showed the presence of many vital secondary metabolites. Ethanol extract of almost all the flowers showed good inhibitory effect against the pathogens than control (allopathic drugs). *Cassia* sp exhibited high antioxidant activity comparatively than other flowers tested.

Keywords: Wound, Phytochemical, Medicinal flowers, Antimicrobial, Antioxidant.

ISCA-ISC-2016-3BS-08-Oral

Pharmacognostical and *In Vitro* Antioxidant Studies of Ulcer Curing Selected Medicinal Flowers

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Abstract: In the present study, phytochemical analysis of selected medicinal flowers like *Nelumbo nucifera*, *Rosa domestica*, *Mimusops elengi*, *Tridax procumbens*, *Moringa oliefera* and *Musa paradisiaca* were done. Hydrogen peroxide scavenging activity was done to prove its antioxidant activity. The results showed the presence of many vital secondary metabolites in ethanol and methanol extracts of almost all the flowers. *Nelumbo nucifera* exhibited high antioxidant activity followed by *Rosa domestica*, *Moringa oliefera, Mimusops elengi* and *Tridax procumbens*. Hence, these flowers can be used for the preparation of ulcer curing drugs.

Keywords: Medicinal flowers, Phytochemical, Antimicrobial, Antioxidant.

ISCA-ISC-2016-3BS-09-Oral

Structural Elucidation of Bioactive Metabolites Produced by *Streptomyces puniceus* LC13

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Abstract: Actinomycetes have the potential to produce secondary metabolites like antibiotics, anticancer drugs, immunosuppressors and enzyme inhibitors. *Streptomycetes puniceus* LC13 strain was isolated from rhizosphere soil of *Lantana camara*, Jabalpur (M.P.), India and it was chosen for bioactive metabolite production. The compounds were purified by solvent extraction, silica gel column chromatography and TLC, consecutively. The structures of the compounds were elucidated by Gas Chromatography and Mass Spectroscopy investigations. During the continuous search for new antibiotics, various fractions were obtained from *S. puniceus* LC13. The bioactive fraction was analyzed on the basis of GC- MS analysis. These compounds showed antimicrobial activity against tested bacterial pathogens. Our studies are motivated by an interest in the functional role played by natural products in the ecological interactions of the strain with other members of the microbial community.

Keywords: Bioactive Metabolites, *Streptomyces puniceus* LC13, Actinomycetes.

ISCA-ISC-2016-3BS-10-Oral

Seed Germination and Antibacterial Effect of Mycosynthesized Silver Nanoparticles

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Absrtact: The seed germination and antibacterial effect of silver nanoparticles was evaluated using seed germination test and antibiotic susceptibility test with different concentrations of silver nanoparticles synthesized by *T. asperllum.* Formations of Silver nanoparticles were investigated by UV-Visible (UV-Vis) spectroscopy and Transmission Electron Microscope (TEM) observations. The U.V-Vis analysis of nanoparticles shows absorptions peak at 430 nm. Whereas TEM helps to know its shape as well as size of nanoparticles. Silver nanoparticles show heady effect on seed germinations, root and shoot growth on Soyabean, and Sunflower when they were soaked and incubated at different concentrations of nanoparticles. *T. asperllum* synthesized silver nanoparticles observed optimistic effect on seed germination. Therefore biosynthesized silver nanoparticles have biological assay used in agricultural purposes to increases the viability of seeds. *T. asperllum* synthesized silver nanoparticles found strong antibacterial activity against *K. pneumoniae* and *P. aeruginosa* compared with antibacterial drug streptomycin.
Keywords: Antibacterial effect, *T. asperllum,* Transmission Electron Microscope, *K. pneumoniae*, *P. aeruginosa.*

ISCA-ISC-2016-3BS-11-Oral

Aeromycoflora in a Hospital at Beed M.S., India

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Abstract: Aerobiological investigation of Hospital at Beed was conducted during June 2015 to May 2016 to identify fungal spores which are allergenic nature in Air causing allergic diseases and Air pollution. The atmospheric Air of Hospital environment contains variety of fungal spores transported through air current are the main source of human allergic and different diseases. The fungal spores are toxic and responsible for causing serious health hazard diseases in human beings and create lot of environmental pollution in the entire surrounding of Hospital. Total 24 fungal spores were recorded, Aspergillus, Curvularia, Cladosporium, Fusarium, Mucor, penicillium, Candida and Alternaria were found present in almost all seasons through the year which are known to be the major Allergic and causes Sinusitis, Rhinitis's, Asthma, Eczema, Dermatitis, Mycoses, Utricaria. The Present investigation proved that Patients, Visitor, Doctors, hospital staff and children's are exposed to fungal spores in Hospital environment which are Allergic and pathogenic in nature and may causes serious health hazards problems in them and therefore cleanness should be maintained.
Keywords: Aermycoflora, Fungal spores, Allergic diseases.

ISCA-ISC-2016-3BS-12-Oral

Diversity of Marine Decapods along Dandi creek, West Coast of India

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Abstract: The order decapoda comprises of commercially important species of cray fish, prawns, shrimps, crabs and lobsters. Planktonic decapods constitute a major constituent of zooplankton community represented largely by larval stages including juveniles of economically important species. Total five stations were selected for collection of zooplankton sample of which 3 stations were in open sea and two stations were within the creek. Observed variation of decapods population at station 1 was in the range of 5652 to 23928/100m^3 (av.13861.53/100 m^3). The population of decapods at station 2 ranged between 5637 and 40489/100 m^3 with an average of 15582.6/100 m^3. Decapod population at station 3 varied between 3659 to 30790/100 m^3 (av.17981.93 /100 m^3). Observed variation of decapods population at station 4 was between 5594 and 33721/100 m^3 giving an average of 15655.13/100 m^3. A range of 3660 to 27400/100 m^3 for decapods population was observed at station 5 giving an average value of 12889.67/100 m^3. Invariably, postmonsoon season recorded high population of decapods at all stations in comparison to premonsoon and monsoon seasons. During the present investigation total 24 species of planktonic decapods belongs to 18 genera and 13 families were encountered

in the zooplankton collection. They including *Acetes indicus, Penaeus penicillatus, P. semisculatus, P. merguiensis, P.monodon, Metapenaeus affinis, M. dobsoni, M. srtidulans, Panulirus polyphagus, Squilla mantis, Charybdis cruciata, Grapsus albolineatus, Pseudograpsus intermediates , Varuna litterata , Matuta planipes, Myomenippe hardwickii, Uca annulipes, Scylla serrata, Portunus sanguinolentus, Leptodius exaratus, Pagurus predeaux, Lucifer hanseni, L. typus and L. protozoaeae*.

Keywords: Decapods, Dandi creek, Zooplankton, Maharashtra, West Coast.

ISCA-ISC-2016-3BS-13-Oral

Response Surface Methodology for Optimization of Laccase from *Trichoderma harzianum* strain HZN10 and its Application in Delignification of Biomass

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Abstract: In the present study, an indigenous fungal strain capable of producing laccase was isolated from vermicompost and identified as *Trichoderma harzianum* strain HZN10 based on 18S rDNA gene sequencing and phylogenetic analysis. *Trichoderma harzianum* strain HZN10 showed highest laccase activity with wheat bran under solid state fermentation in comparison to other substrates. Statistical optimization of laccase by Plackett-Burman and Response Surface Methodology using various process parameters was studied and 8.09 fold increases in laccase production was achieved. The laccase produced was applied for delignification of saw dust biomass. The phenolic compounds present in the laccase pretreated saw dust hydrolyzate were analyzed using HPLC. Peaks at retention time of 2.7 and 4.1 for 4-hydroxy-3-methoxybenzoic (vanillic) acid and 4-hydroxy-3,5-dimethoxybenzoic (syringic) acid showed a drastic reduction in the laccase pretreated saw dust sample indicting the removal of toxic inhibitors during laccase pretreatment indicating detoxification of the saw dust sample. A 1.6 fold increase in reducing sugars was observed after laccase treatment when saw dust was subjected to enzymatic hydrolysis. The structural alterations occurring during the delignification of saw dust biomass using laccase was studied by FTIR. The peaks near 836 cm^{-1} and 1,166 cm^{-1} typically represent the Syringyl-Guaiacyl-p-hydroxyphenyl lignin, the decrease in the transmittance of these regions revealed the destruction of lignin structures in treated saw dust in comparison to untreated. The potentiality of fungal laccase for delignification could be employed in biofuel applications.
Keywords: *Trichoderma* sp., Phylogenetic analysis, Laccase, Optimization, Delignification.

ISCA-ISC-2016-3BS-14-Oral

Zooplankton Diversity in Polluted Water Bodies from Rajgurunagar Nagarpalika, Khed Tahasil Pune District, Maharashtra, India

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Abstract: Zooplanktons are mysids of animal organisms that drift with currents. In an aquatic ecosystem zooplankton from an important link in the food chain from primary to tertiary level leading to the production of fishery. The fin fishes, crustaceans, molluscuas and marine animals eitherdirectly or indirectly depend on zooplanktons. They play an important role as the intermediaries for nutrients/energy transfer between primary and tertiary tropic levels. Due to their large density, shorter life span, drifting nature,high group/species diversity and different tolerance to the stress, they are being used as indicator organisms for the physical, chemical and biological processes in the aquatic ecosystem. Due to increase in civilization in Rajgurunagar the domestic vest increase with high concentration, the water sources are also affected / polluted. in the year 2014 and 2015 study on diversity of zooplanktons result that decreases mortality of the same species.
Keyword: Pollution, Zooplankton, Water bodies.

ISCA-ISC-2016-3BS-15-Oral

Impact of Toxicity on Reptile Fauna from Khed Tahasil, Pune district, Maharashtra, India

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Abstract: The Khed Tahasil is a part of Western Ghats, which is biodiversity hotspot declared by UNESCO. The ecosystem developed in Western Ghats shows unique nature. The endemic species of reptiles are occurs in Tahasil are habitat

sensitive species. Our study between 2014-15 estimated the toxic impact on Trimeresurusgramineus, Python molurus, Sitanaponticeriana, helenamonticollaris, Uropeltisphipsonii, Ophioscincus truncates like endemic species. Due to increase in industrialization and civilization the industrial waste and domestic waste production in large amaunt.

Keyword: Western Ghats, Habitat sensitive, Endemic, Toxic impact.

ISCA-ISC-2016-3BS-16-Oral

Taxonomic Diversity of Epiphytic Algae from Junnar Taluka of Pune District, Maharashtra, India

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Abstract: The Junnar Tehsil in Pune District is situated between $19^0$11'59" Northern $73^0$52'47" Eastern latitude on the northern part of Deccan Plateau & composed of undulating hills. Junnar Tehsil is famous for its wells and Dams. Survey was done of the following impoundments - Manikdoha Dam, Yedgaon Dam, Pimpalgaon joge Dam, and Wadaj Dam. Sub-aerial algae growing attached to tree barks, on damp walls or other such substrata were collected by scraping with a scalpel and then picked up with the help of a forceps. All Algal plants were identified up to genus, species, variety as well as formas level. We visit all stations from Junnar Tehsil. The 22 species, 3 varieties, 1 forma consisted of belonging to 8 families from 5 orders of 2 classes from 2 divisions. Family Oedogoniaceae includes 2 genera, 3 species, 1 variety and 1 forma; while family Nostocaceae include only 1 genus, 1 species and 1variety; Family Scytonemataceae include only 1 genus, 1 species and 1 variety; Oedogonium is more densely occur in Junnar tehsil.

Keywords: Pune, Epiphyte, Oedogoniaceae, Nostocaceae, Scytonemataceae.

ISCA-ISC-2016-3BS-17-Oral

Observations on the Life cycle, Mating and Cannibalism of *Mantis religiosareligiosa*Linnaeus, 1758 (Insecta: Mantodea: Mantidae)

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Abstract: The biological studies in insects have great significance to know the insect world. The life cycle studyalong with other observations made on the mating and cannibalism in *Mantis religiosa religiosa*. *M. religiosa religiosa* show sootheca (egg), nymph and adults tages in the life cycle as it is hemimetabolous insect. For hatching of ootheca is about 18 days while nymphal duration is about 61 days with six moults with the average lifespan male and female is 165 and 196 days respectively. The female survival duration is more by about 31 days than male. The mating was allowed mostly when female is engaged in feeding which decreases females aggression. Due toovercrowdingcannibalism was noticed during nymphal stage as well as in female devoursthe male at time of mating. As *M.religiosareligiosa* is preys on grasshoppers, aphid, planthoppers etc. The information of the present study will be usedfor biological applications in crop pestscontrol.

Keywords: Life cycle, *Mantis religiosareligiosa,* behaviour.

ISCA-ISC-2016-3BS-18-Oral

Assessment of Ghrelin Levels in Exacerbation Period of Patients with Chronic Obstructive Pulmonary Disease (COPD)

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Abstract: Malnutrition is one of most common causes of morbidity in patients with COPD. Especially, patients with COPD have a worse and less food in exacerbations periods. Ghrelin is hunger hormone which has growth hormone releasing effect, plays role energy balance and in the regulation of food intake. Ghrelin has various influences in almost anywhere of the body and on virtually every system. In this research we aimed to determine ghrelin levels in patients with COPD. Ghrelin levels were determined via using ELISA method. Statistical analysis was performed using SPSS 20.0. After assessing the normality distribution (Shapiro-Wilk test), non-parametric Mann Whitney-U was used for the comparison of differences between groups. Our study examined serum samples of 25-COPD patients and 10-healthy individuals. The ghrelin levels of these patients were found lower level according to healthy group. The ghrelin levels of

patients detected to have a statistically significant difference compared with the healthy group (U=26.500, p‹0.05). As a result, a decrease in levels of ghrelin, which is important a hormone, especially during exacerbations of COPD patients were identified. These patients should be given attention in the nutrition, even necessary ghrelin be suggested taking the supplement from outside to reduce the risk of morbidity.

Keywords: Chronic obstructive disease, Ghrelin.

ISCA-ISC-2016-3BS-19-Oral

The Prevalence of Respiratory Syncytial Virus (RSV) and Adenovirus in Patients with Asthma

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Abstract: Asthma is a chronic inflammatory disease of the airways characterized by variety of recurring symptoms. The risk factors such as genetics, gender infections, smoking, pollutants and allergens play an important role in the development of asthma. Especially, respiratory viruses lead to exacerbations of chronic respiratory diseases like asthma. The main respiratory viruses associated with respiratory diseases are respiratory syncytial virus, adenovirus rhinovirus, corona virus, influenza and parainfluenza. In this research we aimed to determine of respiratory syncytial virus and adenovirus in exacerbation period of patients with asthma. The ELISA kits and serological methods were utilized for the determination of respiratory syncytial virus and adenovirus positivity in serum samples of 40 patients with asthma. According to the positivity results of respiratory syncytial virus adenovirus patients with asthma, prevalence of viral agents were significantly higher in patients with asthma. The positivity rate of RSV and adenovirus were found respectively 52.5 % (21/40) and 40.0 % (16/40) in patients with asthma. In conclusion, the respiratory viruses such as RSV and adenovirus lead to the exacerbations of chronic respiratory diseases. These respiratory viruses have led to increased morbidity and mortality by affecting particularly chronic respiratory diseases.

Keywords: Asthma, Respiratory Syncytial Virus, Adenovirus.

ISCA-ISC-2016-3BS-20-Oral

Effect of Three commonly used Insecticides on Histomorphology of Brain Neurosecretory Cells of the Earthworm Eudichogaster kinneari (Stephenson)

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Abstract: Eudichogaster kinneari were exposed to 0.6 ppm concentration of Dimethoate, 0.5 ppm concentration of Azodrin and 0.003 ppm concentration of Thiodan for 20 days to evaluate profound changes in the histomorphology of neurosecretory cells (NSCs) of brain by adding denatured neurosecretory cells due to vacuolization and liquification in cytoplasm, in nucleoplasm, in neurosecretory material (NSM) and in neuropile. Initially neurosecretory cells exhibited accelerated neurosecretory activity while repeated treatment lead exhaustion of neurosecretory material. Irregular shape of neurosecretory cells, accumulation of neurosecretory material around the nucleus, devoid of neurosecretory material from cell perikariya and pile up at the tip of axons, ultimately caused imbalance and lethal effect. Size enhancement in cell area, nuclear diameter, cell length, axon length of neurosecretory cells (P>0.001) were noticed in case of dimethoate treatment while decreased diameter (P<0.001) were noticed in case of azodrin and thiodan treatment. The present study indicates that among the three insecticides tested, thiodan is most toxic to earthworm E. kinneari, than azodrin and dimethoate respectively. The intensity of deterioration were noticed more toxic in thiodan>azodrin<dimethoate respectively.

Keywords: Eudichogaster kinneari, Insecticides, Brain Neurosecretory cells, Neurosecretory material, Histomorphology.

ISCA-ISC-2016-3BS-22-Oral

Physical and chemical mutagenic effect on pollen sterility in sunflower (*Helianthus annus* L.)

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Abstract: Sunflower [*Helianthus annus* L.] belongs to family composite (Asteraceae). In the present study M1 generation of sunflower was raised by treating the dormant seeds of variety 'Bhanu' and 'SS-56' with varied concentration of

chemical mutagens [EMS and SA] and physical mutagen (Gamma rays) Effect of these mutagens on pollen sterility were studied in M 1 generation. The maximum pollen sterility in the variety of Bhanu (71.42%) could be seen gamma ray 10 kR while variety of SS-56 (42.32%) observed in EMS 0.10 %. The results are discussed in the present paper. The induction of mutation in plant material can be achieved either through physical and chemical mutagens. Many workers opinion that mutation breeding may be an alternative to hybridization as a source of variability. Through effective selection, varieties of better types can be developed out of the mutated population. In early and late generation the pollen sterility are more important as initial indicators.

Keywords: *Helianthus annus* L, Pollen sterility, Sunflower, Mutagenic.

ISCA-ISC-2016-3BS-23-Oral

Applications of Fungal Glucose-oxidase in Food industry

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Abstract: Glucose oxidase - a thermo tolerant enzyme was produced in laboratory from screened strain of *Aspergillus niger* strain F-C405-2. The extracted enzyme was used to study its application in Food industry, such as stabilizer in wine and additive in bakery and as a food preservative due to its antibacterial activity. In wine preservation, glucose oxidase reduces the alcohol content in wine by 2.5% upto 3 months when compared to control sample. Glucose oxidase acts as a stabilizing agent for color (White and Red Wine) and flavoring agent (light, crisp, fruity). In Bakery, glucose oxidase improved the macro properties like weight, height to width ratio, water absorption property and tenacity. While comparing weight of bread loaf over 12 days, its weight decreased from 46.94 to 33.15gms when compared with control and test sample containing 0.0075% of Glucose oxidase. However height to width ratio increased from 0.33% to 0.70%; water absorption property increased from 1.11% to 3.52% and tenacity increased from 41mm to 88mm. Bactericidal activity was observed on Lab scale for common food contaminants like *E.coli*, *Salmonella typhi*, *Pseudomonas aeruginosa* and *Staphylococcus auerus*. At lab scale gluconic acid was produced using Glucose oxidase. Gluconic acid (4.11%) was estimated from fermentation liquor which finds wide application in food and pharmacy. Cheap and economic production of fungal glucose oxidase will be widely applicable in food and pharmaceutical industry.

Keywords: Fungal glucose oxidase, Food industries (Bread and Wine), Stabilizing agent, Additive, Bactericidal agent, Pharmaceutical industry.

ISCA-ISC-2016-3BS-24-Oral

Attempt for Callus Induction from Young Leaves of *Vigna umbellata* (Thunb.) Ohwi and Ohashi

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Abstract: *Vigna umbellata* (Thunb.) Ohwi and Ohashi, commonly known as rice bean, is a small leaved angiospermic leguminous plant with edible beans. Rice bean is also valuable as a Nitrogen fixing legume since it can fix nitrogen in depleted soils and helps in mixed cropping system with enhanced productivity. Since rice bean has high nutritional value, productivity of this crop can be improved by adopting modern plant genetic improvement technique including *in vitro* regeneration. In the present study, optimum concentration of different growth regulators corresponding to the callus induction from the young leaves of *V. umbellata* was optimized. It was possible to initiate callus from all the explants which were grown in Murashige and Skoog's (MS) basal media supplemented with B5 vitamins, 3.0% (w/v) sucrose, 100 mg/l Casein hydrolysate (w/v) and BAP (2 mg/l, 2.5 mg/l and 3 mg/l). Lower concentration of BAP did not favour callus induction. The best callus growth was observed in MS media enriched with 2 mg/L of BAP and 1.5 mg/L of 2, 4-D. Therefore, 2 mg/L of BAP + 1.5 mg/L of 2, 4-D combination can be regarded as the optimum concentration for callus development from the young leaves of *V. umbellata*. These preliminary results will have bearing on our future research activities aiming at genetic improvement of *V. umbellata*.

Keywords: *Vigna umbellata*, Callus induction, BAP, 2, 4-D, MS media.

ISCA-ISC-2016-3BS-25-Oral

Evaluation of Ameliorative Effect of Wheat Grass juice against Arsenic–Induced Toxicity in Intestine of Swiss Albino Mice

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Abstract: Arsenic is a metalloid element and exists in organic and inorganic forms. Arsenic exposure is an important problem to human health in many parts of the World. Several studies have shown that populations chronically exposed to arsenic have significant oxidative stress that, in turn, induces DNA damage, as well as lipid peroxidation and decreased glutathione levels. It is a well-documented human carcinogen affecting numerous organs. The major site of absorption of Arsenic is the small intestine and therefore becomes the first site to bear the consequences of toxicity. The crypt is the proliferative unit supplying cells for maintenance of villus integrity and as such assumes a central role in the intestinal response to toxicity. Which therefore necessitates finding a drug that can effectively protect the intestine against the ill effects caused by Arsenic. The purpose of this study was to demonstrate the ill effects of I As in the intestine of Swiss albino mice and the reparative effects of *Triticum aestivum* against these damages. The animals were divided into 6 groups. Group I animals served as control and were fed distilled water. Group II: Animals were treated with sodium arsenite (4mg/kg body weight/day) orally in distilled water. Group III animals were fed on *T. aestivum* extract only. Group IV: *T. aestivum* leaves extract (20ml/kg/body weight/day) for 10 consecutive days prior to sodium arsenite treatment and continued for 30 days along with $NaAsO_2$ treatment. Group V animals were treated with *T. aestivum* extract post the exposure to Arsenite. Group VI animals were treated with *T.aestivum* extract both prior to, and post the exposure to sodium arsenite. The animals were autopsied at various times intervals. The biochemical estimation of Lipid peroxidation (LPO), Acid phosphatase (ACP) and alkaline phosphatase (ALP) and Reduced Glutathione (GSH in intestine was done. In the arsenic treated group there was a significant increase in ACP, ALP and LPO content, Pre- and Post- treatment of Triticum aestivum with arsenic significantly alters the biochemical parameters in intestine. A significant decline in ACP, ALP and LPO content and increase in GSH content was observed in intestines. The results indicate that the *Triticum* extract may be useful in reducing the side effects of arsenic- induced intestinal toxicity.
Keywords: Metalloid, Intestine, Swiss albino mice, *Triticum aestivum.*

ISCA-ISC-2016-3BS-26-Oral

Pediastrum from Jayakwadi Wetland, MS, India

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Abstract: Pediastrum are the common non-motile colonial Chlorococcalean algae, abundant in the Jayakwadi dam. They occur in free-floating or attached on the surface of other aquatic plants. Pediastrum is 4-64 celled algae. During the investigation 12 taxa Pediastrum of have been identified.
Keywords: Pediastrum from Dam.

ISCA-ISC-2016-3BS-27-Oral

Effect of Precursor Feeding on Flavonoid Production and Phenylalanine Ammonia Lyase Activity in Callus Cultures of *Glycyrrhiza Glabra*

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Abstract: *Glycyrrhiza glabra* is ancient herbal medicine rich flavonoids which attribute mainly to its therapeutic properties. This study dealt with the enhancement of major flavonoids of this plant through precursor feeding in callus cultures of *G. glabra* and investigated the influence of cinnamic acid on phenylalanine ammonia lyase (PAL) activity and production of licochalcone A and licoisoflavone B. Callus cultures were established from young leaf explants on Murashige and Skoog's medium supplemented with NAA (1mg/l), BAP (0.5 mg/l) and various concentrations of cinnamic acid. Flavonoids were obtained from calli through solvent extraction and were identified and quantified through Gas-Chromatography Mass

spectrometry. Cinnamic acid supplementation at appropriate concentrations (50mg/100ml for licochalcone A and 125mg/100ml for licoisoflavone B) significantly increased their production to 1.28 and 9.76 folds respectively. However, prolonged treatment of cinnamic acid at concentrations beyond 50mg/100ml led to decrease in the production of licochalcone A, but caused fair increase in licoisoflavone B. Also cinnamic acid concentrations higher than 50mg/100ml reduced the activity of PAL enzyme due to its feedback inhibition, but at the same time might have modulated other intermediate enzymes of the pathway like chalcone isomerase favoring the formation of licoisoflavone B. Therefore, this study provides clear evidences of enzymatic regulation of phenylpropanoid pathway by cinnamic acid in *G. glabra* callus cultures.

Keywords: Cinnamic acid, *Glycyrrhiza glabra*, Precursor, Callus culture, Flavonoids.

ISCA-ISC-2016-3BS-28-Oral

Use of Botanicals to Control Fungal Disease of Turmeric (*Curcuma Longa L.*)

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Abstract: The combat use of fungicides has become integral and economically essential part of agriculture when resistant against the variety fails. These fungicides cause pollution and influence microbial balance of soil. Under integrated fungal disease management programme, cost effective and eco-friendly component like plant extract is used to control plant pathogen. *Pythium myriotylum* is a soil borne pathogen which causes soft rot to turmeric rhizome. The present study was designed to evaluate the antifungal activity of two different plant extracts (*Ipomea carnea Jace., Ocimum sanctum Linn.,*) at four different concentrations viz., 5, 10, 15 and 20 percentage on the pathogen was studied by food poisoning technique. Results of the present investigation indicate that *Ocimum sanctum* has good antifungal activity which inhibit the growth of the pathogen while *Ipomea carnea* was ineffective to inhibit the growth of *Pythium myriotylum.*

Keywords: Plant extract, *Pythium myriotylum*, Turmeric.

ISCA-ISC-2016-3BS-29-Oral

Evaluation of Various Screening Methods to Isolate Potential Biosurfactant Producing Marine Bacteria

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Abstract: Due to their unique properties and vast array of application, identification of new biosurfactant producing microbes is in great demand. Although different screening methods are available, it is however, difficult to detect the types of biosurfactant / bioemulsifier produced by the microbes using a single method owing to the chemical and functional properties. Hence for efficient detection of potential biosurfactant producers, combination of various screening methods are required and these were evaluated during this study. Initially hemolytic assay, drop collapse test, oil spread method and hydrocarbon overlay agar method were carried out using 33 bacterial isolates. Almost all of these isolates showed positive hemolytic test but only around 23 isolates were showing remaining three tests positive. These isolates were grown in sea water broth containing various hydrocarbons such as motor oil, coconut oil and toluene to observe growth and emulsification. 24 isolates were able to grow on sea water broth containing hydrocarbon and emulsification was shown by only few isolates. Maximum growth and emulsification was observed in medium containing coconut oil followed by motor oil and toluene.Emulsification activity was tested by performing emulsification index and Emulsification assay. Around 15 isolates were showing good emulsification activity. Emulasification index E_{24}, E_{48} and E_{72} was determined. Maximum emulsification was observed within 24 hours and maximum E_{24} is around 70% and emiulsification activity ranging from 48 – 129 EU/mLwas observed for different cultures.

Keywords: Biosurfactant, Screening, Evaluation, Emulsification.

ISCA-ISC-2016-3BS-30-Oral

Effect of Am Fungi on Some Bichemical Parameters in *Capsicum Annum* L. (Chilli)

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Abstract: One of the most effective biofertilizers amongst the biological fertilizers is Mycorrhiza. Majority of angiospermic plants show presence of mycorrhiza. Earlier Family Chenopodiaceae was considered to be one of the exceptions for mycorrhizal host plants, but now reports of mycorrhiza are available in some of the plants like spinach. This symbiotic association proved to be beneficial for both of the symbionts. The benefits of this symbiotic association can be easily checked in host plants which are often a higher plant like angiosperm. In present investigation *Capsicum annum* L. plant commonly known as chilli was screened and assessed for such benefits shared by mycorrhiza. In present paper biochemical aspects were studied in controlled (non mycorrhizal) and treated (mycorrhizal) plants of chilli. The estimation of alpha amino nitrogen, nitrate content, nitrate reductase activity from leaves and protein content of fruit was carried out in mycorrhizal chilli plants and is compared with non mycorrhizal plants of chilli. Results from above experiment showed that there is a significant increase in all the studied biochemical parameters in mycorrhizal chilli plants than the non mycorrhizal chilli plants. These results may contribute to the increment in overall yield of chilli plants.
Keywords: Arbuscular mycorrhiza, Capsicum annum L., Alpha amino nitrogen, Nitate reductase, Nitrate content, Protein content.

ISCA-ISC-2016-3BS-31-Oral

Tertiary Trisomics in 2n=12 *Coix* taxon

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Abstract: Teritiary trisomics were recorded among progenies raised from the open pollinated population of *Coix* sp. with 2n=12 chromosome number as well as from selfed progenies of chromosomal variants ranging from 2n=11 to 2n=13. Different chromosomal associations forming a trivalent, pentavalent and univalent were recorded frequently at diakinesis. Disomics (2n=12) and their monosomics (2n=11) showing interchanged quadrivalents were found to be the main sources of the tertiary trisomics.
Keywords: Tertiary trisomics, *Coix*, Pentavalents, Interchanged Quadrivalents, Diakinesis.

ISCA-ISC-2016-3BS-32-Oral

Phenological Studies of Some Ferns from the Parts of Northern Westerns Ghats of Maharashtra, India

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Abstract: The aim of this study was to study some phenological phases of ferns of parts of Northern Western Ghats of Maharashtra for ecological studies of the species from the study region. We collected data from Sawantwadi, Amboli, Aronda, Reddi and Terekhol and recorded characteristics of each species. Microclimatic conditions also recorded during the study. It was observed that all species require rainwater in nature for their spore germination. The common species like *Adiantum philippense, Pteris biaurita, Adiantum incisum* and *Athyrium hohenackeranum* start germination after the first rainshower. The species collected showed maximum growth in rainy season, setting of spore during the late monsoon and maturation of spores in the start of winter. Most of the species are depending upon the microclimatic conditions of the area for the survival and showed 3-5 months life cycle. Some species can tolerate summer conditions if water source is available. Knowledge of fern phenology promotes understanding of the biology and ecology of ferns. Detailed study regarding period of collection, spore maturity and germination timings will give support to management and conservation of the ferns from the study region.
Keywords: Conservation, Germination, Microclimate, Phenology, Spores.

ISCA-ISC-2016-3BS-33-Oral

Status of Some Important Pteridophytes from Northern Western Ghats of Maharashtra, Inida

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Abstract: The present paper deals with the enumeration important ferns from Western Ghats, one of the World's 12 mega-biodiversity hotspots. Total 30 species of pteridophytes were collected out of which some species have high medicinal importances which are being used in Ayurvedic, Unani, Siddha, Homeopathic and other preparations. Some of them are playing an important role as horticultural plant. Moreover, the population studies in the present investigation indicate that there is reduction of the pteridophytic flora. The anthropogenic factors have posed a serious threat, due to which there is complete disappearance od some species. The rapidly shrinking fern cover of Northern Western Ghats prompted to ponder over the issue.
Keywords: Western Ghats, Medicinal ferns, Population of pteridophytes.

ISCA-ISC-2016-3BS-34-Oral

Population Studies in a Common Fern: *Adiantum Philippense* Linn. from Northern Western Ghats of Maharashtra, India

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Abstract: The expanding population was observed during rainy, while the stable population in winter was followed by declining population towards the end of winter season. It was found that *A. philippense* belongs to Raunkiaer's frequency class E in rainy season, showing homogeneity at the study region, while in summer species was seen to possess class A and B, showing the heterogeneity of the species. The high population size in rainy season may be due to production of more number of young individuals and low in summer may be due to completion of their life cycle or disappearance due to unfavourable conditions. The distribution pattern of the species was found to be clumped and this may be due to biotic and abiotic interaction of the species. The clumped distribution of species may be useful in understanding the behaviour of species within population. Population studies can help to identify the adaptive significance of variations in species from the different localities of study region.
Keywords: *A. philippense*, Population size, Distribution pattern.

ISCA-ISC-2016-3BS-35-Oral

Characterization of *Eclipta prostrata* (L.) L. Leaves by FTIR Spectroscopy Method, CHNS and ICP-MS analysis Techniques

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Abstract: *Eclipta prostrata* (L.) L. is a medicinal herb which has wide application in the indigenous medicinal system. Chemical constituents plays important role in any therapeutic activity. CHNS and ICP-MS techniques were used for quantitative determination of chemical composition of *Eclipta prostrata* (L.) L. leaves. Various functional groups were determined by using FTIR spectroscopy method. Elemental analysis of *Eclipta prostrata* (L.) L. leaves confirmed presence of pharmaceutically essential elements such as B, Na, Mg, P, K, Ca, Cr, Mn, Fe, Se, Mo, Co, Ni, Cu and Zn. Some traces of heavy metals also have been observed. The FTIR spectroscopy is important to obtain information of different characteristic peak values with various functional groups. The aqueous, methanolic and acetone extracts of *Eclipta prostrata* (L.) L. leaves were used for FTIR analysis which successfully revealed presence of medicinally and biologically active functional groups. The present investigation is evident that *Eclipta prostrata* (L.) L. has some bioactive compounds and may be useful for isolation of pharmacologically important components would help to find new drug formulations.
Keywords: *Eclipta prostrata* (L.) L., Therapeutic activity, CHNS, ICP-MS, FTIR, Elemental analysis.

ISCA-ISC-2016-3BS-36-Oral

Isolation, Screening, Optimization and Production of Anti-tumor L-Asparaginase by Fungi from Karwar Coastal Region

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Abstract: L-asparaginase is an extracellular enzyme that converts L-asparagine to L-Aspartic acid and has received considerable attention in the recent years. In the present study, soil samples were gathered from different areas in and around the Karwar regions, Karnataka, India. Different fungal species were isolated and identified using standard manuals, screened initially for the production of extracellular L-Asparaginase during their growth on Czapek's Dox medium containing L- Asparagine as sole source of carbon. A total of 50 fungal cultures were isolated from soil. The fungal isolates obtained were selected by plate assay method for screening ofpotential L-Asparaginase production using Modified Czapek Dox's (mCD) medium. Enzyme production was performed by submerged fermentation and was carried out by using mCDliquid media. Quantitative enzyme assay was performed to determine the rate of hydrolysis of L-Asparagine by measuring the liberated ammonia by nesslerization. From the 50 total isolates 10 fungal cultures showed L-Asparaginase activities. The cultures were morphologically identified as *Penicillumsp, Basidiomycetes sp. Aspergillus sp, Mucor sp. Fusarium sp.* Among the above species *Aspergillus sp*showed potential L-Asparaginase production. An attempt is made to optimize the cultural conditions for the production of potential L-Asparaginase by using submerged fermentation. Different temperature (15^0C, 25^0C, 35^0C, 45^0C) different pH (3.5, 5.5, 7.5, 9.5, and 11.5) different carbon and nitrogen source were used. The highest amount of enzyme production was observed at pH 7.5(155 U/ml) and temperature at 35°C (160 U/ml), among the various carbon sources dextrose promoted maximum enzyme activity (176 U/ml) and highest activity was obtained when nitrogen source ammonium sulphate was used (185 U/ml).
Keywords: *L-Asparaginase, Aspergillus, Fusarium, Czapek's Dox medium, submerged fermentation.*

ISCA-ISC-2016-3BS-37-Oral

Study of Aeromycology in Sangamner Slum Area, MS. India

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Abstract: Fungi are everywhere. There are approximately 1.5 million different species of fungi on Earth, but only about 300 of those are known to make people sick Fungal diseases are often caused by fungi that are common in the environment. Fungi live outdoors in soil and on plants and trees as well as on many indoor surfaces and on human skin. Some types of fungi are harmful to health. The fungal organisms can't live and grow at any region of earth surface. Aeromycological is a scientific and multidisplinary biological science which deals with the source release, dispersion of different microorganisms found in the air and their impact on the ecosystem or life of plant, animal and human being. This study was done on slum region of sangamner with the help of Petriplate method. About 18 fungal colonies found we observed during the present investigation period. Environmental factor play an important role for the distribution of the fungal spores. The fungal species were Cladosporium oxysporium, Fusarium Mycelia sterilia, Aspergillus, Penicillium, Curvularia, Cladosporium, Rhizopus, Trichoderma species were observed. It is found that maximum percentage contribution is observed for Cladosporium oxysporium and Aspergillus niger.
Keywords: Aeromycology, Fungi, Slum, Sangamner.

ISCA-ISC-2016-3BS-38-Oral

Size Specific Variation in the rate of Oxygen Consumption, Ammonia Excretion and O:N ratio of Freshwater Bivalve, *Indonaia caeruleus* from Kukdi river during Monsoon season, MS, India

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Abstract: Considering the size specific variations in metabolic rates of bivalve shell-fishes I report here the size dependent variation in the O: N ratio in freshwater bivalve molluscs, *Indonaia Caeruleus* from the banks of Kukdi River at Yedgaon,

near Junnar. The freshwater bivalves with specific size i.e. small (49-52 mm shell length) and large (66-69mm in shell-length) were selected for determination of changes in the rate of oxygen consumption, rate of ammonia excretion and O:N (oxygen : nitrogen) ratio on July and August during monsoon. The adult bivalves with small size, showed high values of O:N ratio as compared to large ones. The values of O:N ratio were found maximum in large sized bivalves on August during monsoon season. The results are discussed in the light of metabolic processes in fresh-water bivalve molluscs.

Keywords: Ammonia excretion, *Indonaia Caeruleus*, oxygen consumption.

ISCA-ISC-2016-3BS-39-Oral

A Comparative Antimicrobial Activity of Methanolic Leaf, Seed Cotyledon Extracts of *Annona Squamosa*

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Abstract: *Annona squamosa* belongs to the family Annonaceae, commonly known as custard apple. A comparative antimicrobial activity of methanolic leaf and seed cotyledon extracts of *Annona squamosa* were evaluated against three bacterial strains namely *Bacillus subtilis, Escherichia coli, staphylococcus aureus* using agar well diffusion method. Maximum inhibition was found with 40 mg/ml concentration of methanolic leaf and seed cotyledon extracts against all the tested organisms under investigation. The minimum inhibitory concentrations were determined by disk diffusion method. The study suggests that the leaf and seed cotyledon extracts of *Annona squamosa* are promising the development of phytomedicine for antimicrobial properties.

Keywords: *Annona squamosa,* Bacterial strains, A comparative antimicrobial activity.

ISCA-ISC-2016-3BS-40-Oral

Air Pollution Tolerance Index of Selected plants from MIDC area of Dombivli city: A Case Study

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Abstract: Air Pollution Tolerance Index (APTI) is an index which explains the tolerance level of the plants against the air pollution. Calculation of this index requires determination of four biochemical parameters of leaves which are Ascorbic acid, pH, Total Chlorophyll Content and Relative Water Content. This index may show variations in inter-specific manner as well as intra and Inter-zonal. Dombivli is a rapidly developing city with its well classified industrial area. It is located on central railway line, district Thane, state Maharashtra, India. Geographical location of Dombivli is 19°132 063 N 73°052 123 E/ 19.218433°N 73.086718° E, and having mean sea level on an average 13.534 meters (44.403 feet). 3.4788 sq. Km area of Dombivli is occupied by MIDC area. This is a causal reason for air and water pollution, and noise pollution in nearby area. By planting selective species of trees such air pollution can be reduced. In present studies, Ficus bengalensis (Banyan tree), *Anthocephalus cadamba* (Kadamba tree)*, Pongamia pinnata* (Karanj)*, Terminalia catappa* (False almond)*, Eucalyptus globulus* (Nilgiri) plants were selected and APTI was calculated for every selected plant for four different industrial sites (Highly Polluted sites), four different urban sites (Moderately polluted) and one control site (Unpolluted). Such APTI was calculated season-wise, i.e. summer, Monsoon and winter. In present studies it was observed that, Ascorbic acid content and APTI is directly proportional to air pollution where as pH and Total Chlorophyll Contents are inversely proportional to air pollution in all five plants. Out of five plants studied four plants show direct proportion of Relative Water Content to air pollution, no such fixed trend for Relative Water Content observed in *Pongamia pinnata* (Karanj). This data can be used for designing of green belts and urban forests to ameliorate air quality.

Keywords: Dombivli, APTI, Ascorbic acid, pH, Relative Water Content, Total Chlorophyll Content, Green Belt, Urban Forest.

ISCA-ISC-2016-3BS-41-Oral

Plant diversity studies in the Rural Homegardens of Bhatkal Taluk of Uttara Kannada disrtict, Karnataka, India

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Abstract: Home gardens are integrated production systems and stable ecosystems that maintain the diversity of life as well as biological wealth and they are regarded as an important *in situ* method of biodiversity conservation. Such home gardens have been recorded from India and other nations. The results of plant diversity studies conducted in the home gardens of Bhatkal, one of the coastal taluks of Karnataka is reported in this paper. Bhatkal is one of the Coastal Taluks of Uttara Kannada district of Karnataka state. The present study was carried out in 05 villages of Bhatkal taluk from July 2014 to August 2015 to document their plant diversity and associated knowledge. Of the total 50 home gardens surveyed, 236 plant species were recorded and are distributed among 69 families. The most represented families are Fabaceae, Apocyanaceae, Lamiaceae, Cucurbitaceae, Acanthaceae, Asteraceae) and Phyllanthaceae in order of decreasing number of species. The minimum number of plant species recorded is 62 and the maximum number is 145. Species diversity depends on the size of the garden and highest percentage of garden (32%) and highest species numbers ranging from 71 to 80. The survey clearly reveals that the occurrence of medicinal (22.03%), ornamental (36.44%), vegetables (21.61%), fruit (13.98%) yielding plants and miscellaneous (5.93%) uses.
Keywords: Home garden, Bhatkal and Plant Diversity.

ISCA-ISC-2016-3BS-42-Oral

FESEM and FTIR Spectroscopic Characterization of *Aegle marmelos* (L.) Unripe Fruit

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Abstract: *Aegle marmelos* (L.) is very important fruit plant in all over India which has great importance due to their economic value, nutritive value and major source of medicines. *Aegle marmelos* (L.) unripe fruit is considered as most natural medicinal fruit. The knowledge of the elemental content of fruit plant is important because it may influence the production of their active constituents and their pharmacological action. Active constituents of plant are metabolic products of plant cells and a number of trace elements play an important role in metabolism. In present study characterization of *Aegle marmelos* (L.) unripe fruit powder was carried by Field Emission Scanning Electron Microscopy and Fourier Transform Infrared Spectroscopy. The *Aegle marmelos* (L.) unripe fruit powder showed various elements like C, O, N, K, Ca, Mg, S, Se and Pt. FTIR spectra showed various functional groups to elucidate its structure and composition. The FESEM technique with EDAX helps to characterize the biomaterial in *Aegle marmelos* (L.) at its elemental and morphological level. The present study concluded that, determination of functional groups by FTIR and characterization of elemental and morphological properties by FESEM techniques helps to identify the potential bioactive constituents of *Aegle marmelos* (L.) unripe fruit.
Keywords: *Aegle marmelos* (L.), FTIR, FESEM, EDAX, Bioactive constituents.

ISCA-ISC-2016-3BS-43-Oral

Determination of Elemental and Morphological Properties of *Aegle marmelos* (L) by FTIR and FESEM Technique

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Abstract: *Aegle marmelos* (L.) is an important medicinal plant found all over India. Its Leaves, fruits, stem, bark and roots have been used in ethnomedicine to exploit its medicinal properties including astringent, antidiarrhoel, antidysentric, antioxidant, anti-inflammatory etc. Different parts of *Aegle marmelos* (L.) contains alkaloids, flavonoids, tannins, steroids,

polyphenols etc. The objective of this study was to identify the functional groups present in *Aegle marmelos* (L.) leaves by Fourier Transform Infrared Spectroscopy and to determine its elemental and morphological properties by FESEM. Result of the FTIR spectra of *Aegle marmelos* (L.) leaves revealed the presence of different functional groups indicating the presence of aldehydes, amines, alcohols, phenols, ethers, esters, carbohydrates etc. These results confirm the presence of secondary metabolites like alkaloids, saponins, tannins, flavonoids, steroids, polyphenols etc. The FESEM technique with EDAX showed the presence of various elements like C, O, N, K, Ca, Mg, Al, Cl, Se, Pt, Na, S, P, Be, Ba, Cu, Ag, Cr, Ni, Co, Mn, Zn and Fe. The present study on *Aegle marmelos* (L.) leaves will provide useful information about qualitative, quantitative and pattern of composition of these biocomponents responsible for its medicinal properties.
Keywords: *Aegle marmelos* (L.), FTIR, FESEM, EDAX, Secondary metabolites.

ISCA-ISC-2016-3BS-44-Oral

Effect of Tetracycline on Acid Phosphatase Activity in fresh water Bivalve, *Lamellidens corrianus* (Lea)

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Abstract: Acid phosphatase is a biomarker used to assess different changes occurring due to different contaminants in aquatic ecosystem. The effect of antibiotics used during freshwater aquacultural practices may or may not have similar kinds of effect in bivalve tissues. To find out the effect of tetracycline, one of the broad spectrum antibiotics on this lysosomal enzyme alterations, the present study has been taken as antibiotic treatment is applied during artificial pearl culture. Sublethal doses of tetracycline used to expose to *Lamellidens corrianus* for acute and chronic treatments were 369.10 PPM and 73.82 PPM respectively. After exposing the bivalves for 96 hrs for acute and 21 days for chronic treatments, acid phosphatase activity was determined in different tissues like mantle, gills and digestive gland. Acid phosphatase activity was measured by the method of Gutman and Gutman (1940). There was a continuous increase in enzyme activity in almost all tissues after treatment. Gills were most affected by the treatment and showed increase in acid phosphatase (28.88 %) and (61.31 %) after acute and chronic treatment against control. The changes were significant at 5%, 1% and 0.1 % probability levels while some changes were non-significant.
Keywords: *Lamellidens corrianus*, Tetracycline, Acid phosphatase, Artificial pearl culture.

ISCA-ISC-2016-3BS-45-Oral

Phytochemical Screening and Evaluation of Antimicrobial and Antifungal activity of *Entada rheedii* seeds

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Abstract: Herbal drugs are used in all traditional system of medicines. It is important to fight against various infectious diseases. World Health Organisation (WHO) estimated that 80% of population of developing countries trust on herbal drugs, as medicinal plants are being natural and have no side effects. From the literature review it is clear that various pharmacological activities are associated with *Entada rheedii* seeds. The objective of study is to evaluate the phytochemical properties of seed extract which shows, the presence of carbohydrates, phenols, flavonoids, proteins, tannins, saponins and steroids and also to evaluate antibacterial and antifungal activity of *Entada rheedii* seed extract against bacterial strains *Escherechia coli* (Gram negative), *Staphylococcus aureus* (Gram positive) and fungal strain *Aspergillus niger.* Aqueous, Ethanol and Acetone extract of various concentrations such as 0%, 3%, 6% and 9% were prepared and tested against test microorganisms using Agar Well Diffusion method. The values of zone of inhibition were tabulated according to concentrations of plant seed extract and data was statistically analysed. The zone of inhibition showed efficiency of seed extract, *Entada rheedii the* ability to control certain strains of microorganisms is of great importance. The result showed that zone of inhibition is seen in order 0%, 3%, 6% and 9% and concentration of 9% shows maximum inhibitory activity. The antibiotic and antifungal activity of *Entada rheedii* seeds and their utility in diseases have been confirmed experimentally. The result therefore confirms the traditional use of *Entada rheedi* for its pharmacological properties.
Keywords: Zone of inhibition (ZOI), Maximum inhibitory concentration (MIC), Antibacterial activity, Antifungal activity, Colony forming unit (CFU).

ISCA-ISC-2016-3BS-46-Oral

Mutagenic Effect on pollen Sterility in M1 Generation of Chickpea (Cicer arietinum L.)

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Abstract: The present investigation was carried out of find Plant height, pollen sterility and plant survival at maturity induced by with varied concentrations of chemical mutagens (EMS and SA) and physical mutagen (Gamma rays) in chickpea (Cicer arietinum L.) seeds of variety BDNG 797 and PG 0408. Effect of these mutagens on seedling height, pollen sterility and plant survival at maturity was studied in M1 generation. The Seedling parameters of gamma rays, EMS and SA treated seedling were progressively decreased with increase dose/concentration in all mutagenic treatments when compared to control. The maximum pollen sterility could be seen at 30 KR dose of gamma ray, 0.15% EMS and 0.6%SA. The result regarding these parameters are discussed in the paper.
Keywords: Pollen sterility, Chickpea, M1 generation, EMS, SA and Gamma ray,

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Impact of Awareness Programme on Growth and Conservation of Indian Sarus Crane, *Grus antigone antigone* in and around Alwara Lake of District Kaushambi, UP, Inida

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Abstract: Sarus crane is a monogamous, social and omnivorous bird and its occurrence represents a healthy wetland ecosystem. It is well known as an eternal symbol of unconditional love, devotion and good fortune. These cranes belong to family: Gruidae, order: Gruiformes, class: Aves and phylum: Chordata. Indian Sarus Crane, *Grus antigone antigone* is the largest of the crane species found in India. As such the authors have initiated a public awareness campaign since 2011 to save and conserve this species from becoming extinct. The awareness programme tends this vulnerable species towards an increasing trend in the said wetland. The present study concerns the survey of Indian Sarus Crane in and around Alwara Lake of District Kaushambi (U.P.) from 2011 to 2014. This present study will help to draw the attention of policy makers for making and implementing the effective strategy for the conservation of this crane and declaration of this entire Alwara lake region as a "Sarus Safe Zone".
Keywords: Alwara Lake, Indian sarus crane, Vulnerable, Conservation, Awareness programme, Increasing population.

ISCA-ISC-2016-3BS-48-Oral

Bioactive Compounds Suitable Alternatives to Synthetic Indicators

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Abstract: By last decade environmental issues had encompassed the world to become aware of highly polluting and hazardous nature of synthetic chemical compounds. In attendance contemporary work has created lot of interest in the field of natural products and their alternative use in scientific experiments. *Murraya koenigii* is a member of the large *Rutaceae* family which represents 150 genera and 1600 species whereas *Curcuma ameda* belongs to *Zingiberaceae* family encircling 1300 species. Methanolic extracts of both plants provoked effective indicator assets in acid base titration. Partial purification of crude extracts by chromatographic technique and photometric estimation reveled basic information about bio-active compounds in fraction D and E responsible for indicator property.
Keywords: Acid-Bases Titrations, *Curcuma amada*, Methanoloic Extracts, *Murraya koenigii.*

ISCA-ISC-2016-3BS-49-Oral

A Study of Seasonal Variations of Water Quality 0f Bhima River in and Around Khed Tehsil Pune District, Maharashtra, India

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Abstract: The present paper deals with study of the physic-chemical analysis of water sample of Bhima River flowing through Khed Tehsil, Pune District, and Maharashtra. The water samples were collected at an interval of a month. 10 sampling stations were selected on the basis of their topology, and various incoming water resources joining the main rivers stream. Following parameters were analyzed viz. temperature, total dissolved solids, pH, dissolved oxygen, total hardness, chlorides, alkalinity, phosphate and nitrates. The analysis of the data showed marked difference in the water quality at different sampling stations due to various inputs from different sites.
Keywords: Physical-Chemical analysis, Bhima River, Khed Tehsil.

ISCA-ISC-2016-3BS-50-Oral

A Methyl Eugenol rich germplasm of Cymbopogon khasianus from NE India

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Abstract: Genus Cymbopogon is a valuable medicinal and aromatic grass of the world. The experiment aims to evaluate and identify the major chemical constituents of high yielding genotypes of Cymbopogon khasianus. Total 48 accessions of Cymbopogon khasianus were collected from different parts of North eastern India and planted in randomized block design with three replications at Experimental farm of CSIR-NEIST in the year of 2013. Morphology and its chemical constituents were done during 2014-2015. Essential oils were extracted through hydro distillation methods and found that in most of the accessions Methyl eugenol was the major component in the essential oil and varying from 55 to 78%. The quantification was done by the by Gas Chromatography instruments. Myrcene was the minor component followed by Geraniol, Elemicin, Citral, Linalool, Geranyl acetate, Methyl Iso eugenol in the oil.
Keywords: Cymbopogon khasianus, Essential oils, Methyl eugenol, Myrcene, Geraniol, Gas Chromatography.

ISCA-ISC-2016-3BS-51-Oral

Mitochondria and Environmental Stress Response: A Case Study in Drosophila Melanogaster

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Abstract: In recent times, the structural and functional status of mitochondria in response to environmental stress has attracted attention of stress biologists. Although there are studies on stress-induced involvement of mitochondria, especially during redox and apoptotic signalling, there have been little investigations on the status and integrity of mitochondria during cellular response to various stresses. Since insects have small body size and high metabolic rate, we have chosen Drosophila melanogaster as our model system which is one of the most well studied insect groups with respect to cellular response to stress. We have carried out a preliminary study on mitochondrial membrane potential during desiccation and starvation stress in Drosophila melanogaster using spectrofluorimetric and fluorescence microscopic techniques. Our studies indicated that mitochondrial membrane potential ("Ø) varies depending on the type of environmental stress the organism is subjected to. Moreover, alteration of mitochondrial integrity is a crucial parameter to understand environmental stress induced cellular dysfunction which can be a relevant endpoint for future studies. Mitochondrial status can therefore be considered as a potential bio-dosimetric marker of environmental stress.
Keywords: Mitochondria, Environment, Drosophila Melanogaster, Stress.

ISCA-ISC-2016-3BS-52-Oral

Molecular Docking studies of IL-1β involved in Coronary Artery Disease

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Abstract: The deadliest disease in the world is the coronary artery disease (CAD). World Health Organization (WHO) estimates that about 7.3 million people died of ischemic heart disease in 2012. In CAD, Inflammation also participates in all stages of local, myocardial and systemic complications of atherosclerosis. However, Interleukin (IL-1β) represents one of the most important mediators of inflammatory response that induces a cascade of proinflammatory effectors molecules. IL-1β may enhance atherogenesis and exacerbate left ventricular dysfunction is by contributing to endothelial dysfunction. In the present study, Curcumin (1E,6E)-1,7-bis(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione also known as diferuloylmethane, is the main ingredient of turmeric with regard to its anti-inflammatory action, curcumin was reported to downregulate the secretion of prominent cytokines, like TNFα , IL-1β and IL-6. Curcumin natural inhibitor was retrived from Pubchem database and designed new lead with its analogues by bioinformatics virtual screening methods. Further, drug lead molecules were evaluated for their drug likeness using "Lipinski rule of five" and pharmacokinetic and ADME Toxicity properties. In molecular docking studies curcumin derivative showed the better binding energy with the target protein. The In silico approach can be appropriate to develop new drug lead molecules against IL-1β in CAD.
Keywords: Coronary Artery Disease, IL-1β, Curcumin, Molecular Docking, Lipinski 5 Screening and In silico.

ISCA-ISC-2016-3BS-53-Oral

An Approach to Biological Degradation of Polystyrene

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Abstract: Protein production increases from five types of bacteria namely Pseudomonas fluorescens, Bacillus firmus, Brevundimonas diminuta, Bacillus subtilis, Pseudomonas putida at the time of Biodegradation of plastic cup were studied in sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS PAGE) containing a Plastic cup substrate. SDS PAGE studies were done at 76 days of biodegradation. Bacteria with plastic cup substrate have number of protein bands of BF>BD>PF>PP>BS. The Molecular weights of the each protein bands were estimated. The optimum temperature and pH for the biodegradation of plastic were between 30^0C – 32^0C and pH 7.5.
Keywords: Biodegradation, Substrate, Plastic cup.

ISCA-ISC-2016-3BS-54-Oral

Behavioral Changes in Channa Punctatus exposed to Lead Nitrate

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Abstract: Fish play a significant role in our economy, food chain and serve as an excellent ecological indicator. During the past few decades our knowledge concerning the incident along their mass mortality due to aquatic pollution has increased as these fish play important role of mediator or carrier of toxicant and pathogen leading to gradually an inhibition of their population. The present study is carried out to evaluate the toxic effect of heavy metal Leadon fresh water teleost Channa Punctatus.
Keyword: Channa Punctatusexposed, Lead nitrate, Fish, Water.

ISCA-ISC-2016-3BS-01-Poster

Molecular Characterization of Cluster Bean [*cyamopsis tetragonoloba* (l.)] using ISSR Markers

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Abstract: Cluster bean [*Cyamopsis tetragonoloba* (L.) Taub] is one of the important legume vegetable crops also known for its industrial usefulness. Indian cluster bean cultivars have been developed by selection, hybridization and back

crossing with locally adapted high yielding lines. Genetic diversity analysis is crucial for breeders to understand genetic relationship among accessions to select germplasm for breeding programme. In present study twenty genotypes of cluster bean having good adaptive and yielding capability were selected for genetic diversity analysis at molecular level using ISSR markers. About 25 ISSR primers were screened for amplification and 11 primers viz. P-827, P-834, P-817, NISSR -1, NISSR -2, NISSR -3, NISSR -4, NISSR -5, NISSR -7, NISSR -8 shown amplification. Primer P-817, P-825, NISSR -1 and NISSR -3 shown polymorphic banding pattern while rests shown monomorphic. Concentration of different PCR components was 10X buffer 1X, $Mgcl_2$ 2.5mM, dNTP mix 2.5mM, Taq DNA Polymerase 1U, Primers- 15pm, and template DNA taken for 20µl reaction mixture was 3 µl. The PCR was programmed with initial denaturation step at 94°C for 3 min, followed by 35 cycles of 30 sec at 94°C, 45 sec at annealing temperature and 2 min at 72°C. A final extension was carried out at 72°C for 5 min and a hold temperature of 4°C at the end. Annealing temperature was primer specific and ranged between 45-55 °C. The ISSR markers used in this study showed greater degree of polymorphism suggesting their usefulness for identification and in making distinction between the different genotypes of cluster bean.

Keywords: Molecular Characterization, Cluster, Bean, *Cyamopsis tetragonoloba* (l.).

ISCA-ISC-2016-3BS-02-Poster

Antibacterial Activity of *Bacillus species* Isolated from Hypersaline Environment in Lonar Lake, Maharashtra, India

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Abstract: The alkaline Lonar Lake is a unique ecosystem formed by meteor impact, situated in the Buldhana District, Maharashtra, India. The Lonar Lake harbours diversified microbial flora which can detoxify and degrade most harmful pollutant such as methanol. The Methylotroph which degrade harmful methanol can produced bioactive substances having antimicrobial potentials. The two methylotrophic *Bacillus* species were isolated and characterized by cultural, morphological, biochemical tests. All these selected *Bacillus* species exhibited antimicrobial activities against pathogenic bacteria. The Present study provides primary evidence that isolated *Bacillus* species were promising sources for production of antimicrobial bioactive substances and represent a new and rich source of secondary metabolites that need to be explored in medical microbiology.

Keywords: Lonar Lake, *Bacillus* species, Antimicrobial, Bioactive, Substances.

ISCA-ISC-2016-3BS-03-Poster

Isolation and Characterization of Protease produced by *Bacillus flexus* from Hypersaline Condition

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Abstract: Halo-alkaliphiles grow high pH and high salt concentration can be a source of novel enzymes. The enzymes produced by these bacteria have great importance in industry due to its high thermo and pH stability. The alkaline protease enzymes have great importance in industries due to its thermo and pH stability. The alkaline protease producing bacteria are generally found in sea water or alkaline lakes such as Lonar Lake. Present study deals with the isolation, characterization, production dynamics and optimization of protease from bacteria. A total of 6 bacterial cultures were isolated from alkaline Lonar Lake, one strain DHT 13 showed prominent proteolytic activity which was studied further for its phenotypic and biochemical characters. The bacterium DHT 13 was screened for production and partial characterizations of protease, and 16SrRNA sequencings identified as *Bacillus flexus*. Protease from *Bacillus flexus* is active at high temperature of 80ºC and pH 10 and finds potential applications in food, pharmaceutical, leather and detergent industries.

Keywords: Alkaline protease, *Bacillus flexus*, Extremophilic conditions, Lonar Lake.

ISCA-ISC-2016-3BS-04-Poster

Isolation and Characterization of Lipase produced by *Lysinibacillus mangiferihumi* from hypersaline Condition

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Abstract: Alkaline Lonar Lake, a unique ecosystem situated in Buldhana District of Maharashtra State, India, harbors various haloalkaliphilic bacterial species which produces biotechnologically important thermo-haloalkaliphilic enzymes

such as lipase. Lipases are diversified enzymes in their properties and substrate specificity, which make them attractive tools for various industrial applications. In this study, an alkalinethermostable lipase producing bacterium was isolated from Lonar Lake and characterized morphologically, culturally and biochemically and identified as *Lysinibacillus mangiferihumi* by 16S rRNA sequencing. Alkaline lipase production was optimum at pH 9 and at 60^0C and enzyme activity was maximum at 1.54 unit/mL to 1.66 unit/mL. Lipase from this bacterium was active at higher temperature and pH and finds potential applications in food, pharmaceutical and detergent industries.

Keywords: Hypersaline environment, *Lysinibacillus, Lipase,* Haloalkaliphilic).

ISCA-ISC-2016-3BS-05-Poster

Bioprospecting Actinomycetes for Production of Phytase

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Abstract: Phytate [myo-inositol (1,2,3,4,5,6) hexakisphosphate] is the main storage form of phosphorus (P) in many plants which is the key food ingredient for animals but, this phytate-bound P is not available to monogastric animals as they lack the endogenous enzyme required to hydrolyze, and make the available phytate phosphorous. For this reason the availability and digestibility of phytate phosphorous is very low in these animals. Phytase (myo-inositol hexakisphosphate hydrolase) catalyses sequential hydrolysis of phosphate ester bond of phytate and releases a usable form of inorganic phosphorus. Fortification of animal feed with phytase is an effective way to increase the availability of phytate bound phosphorus. It also reduces the anti-nutritional properties of phytic acid and eutrophication caused by excretion of phytic acid. The aim of the present work is to isolate thermotolerant phytase producing microorganism. So that feed supplementation of phytase produced by these organism can increases the body performance measured in terms of body weight. Sixty two different actinomycetal isolates were isolated from sixty nine soil and litter samples collected from various poultry, goat and cattle farms. These isolates were further screened for phytase activity in liquid PSM medium. Isolates showing high phytase activity further studied for effect of temperature for phytase activity at 30^0C, 40^0C, 50^0C, 60^0C, 70^0C, 80^0C, 90^0C.

Keywords: Phytate, Phytase, Thermotolerant.

ISCA-ISC-2016-3BS-06-Poster

Fresh Water Ascomycetes from Khargone District of Madhya Pradesh, India

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Abstract: During the investigation of freshwater fungi from Khargone district of Madhya Pradesh four species of ascomycetes encountered on dead wood samples collected from different localities of rivers, streams and dams. These are *Annulatascus hongkongensis* Ho, Ranghoo, Hyde and Hodgkiss, *Natantispora retorquens* (Shearer and Crane) Campb., Anderson and Shearer, *Panorbis viscosus* (I .Schmidt) J. Campb. J.L., Anderson and Shearer, *Zopfiella latipes* (N. Lundquist) Malloch and Cain. All these fungi are being reported for the first time in freshwater habitats of Madhya Pradesh. Brief notes, illustrations and geographical distribution in India are also provided.

Keywords: Ascomycetes, Freshwater, fungi, Wood, Samples.

ISCA-ISC-2016-3BS-07-Poster

Protease Inhibitory Activity from five Common Dried Fruits by Dot Blot Method Using X-Ray Film

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Abstract: Dried fruits are fruits from which majority of the original water content has been removed either naturally, through sun drying or through the use of specialized dryers or dehydrators. A dried fruit has a long tradition of use dating back to the fourth millennium BC and is prized because of its sweet taste, nutritive value and long shelf life. Also these Dried fruits were recognized for their physiological and medicinal properties but along with this benefits, dried fruits are also known to posses the inhibitory activities against digestive enzyme, trypsin. These may lead to many digestion related troubles such as indigestion, acid reflux and other digestive troubles. Presence of protease inhibitors in five dried

fruits was described for the first time. These proteins were detected in considerable amounts 43.47% and 39.77% in two dried fruits, namely pista (Pistacia vera) and walnut (Juglans regia) respectively, where as 26.32%, 23.36% and 17.39% in chironji (Buchanania lanzan), cashew (Anacardium occidentale) and almond (Prunus dulcis) respectively, the protein was detected at low concentrations.

Keywords: Protease, Inhibitor, Dry fruits, Almond, Cashew, Walnut. Pista, Charoli.

ISCA-ISC-2016-3BS-08-Poster

Nutritional Assessment of Moringa Oleifera Leaves

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Abstract: Moringa Oleifera lam (moringaceae) is a very useful tree in tropical countries. In Folklore and Ayurvedic all parts of the tree used in different healing procedure for different diseases. The plant leaves are very good nutrient supplement for malnutrition and also used as an antibiotic. Various articles describes habitat, pharmacognostic features, phytochemistry, nutritive values and pharmacological activities like anticancer, antimicrobial, anti-inflammatory, anti-hyperlipidemic, hypotensive, anti-diabetic, hepatoprotective, anti-asthmatic, anthelmintic, anti-fertility etc. Moringa Oleifera is the richest source of vitamin, protein and enzyme etc. This study aims to determine nutritional properties of moringa oleifera leaves. The possible health benefits of these underutilized leaves were explored by determining total protein content by Folin Lowry method. Vitamin-c content by titration method, alpha amylase content by DNSA (Dinito salicyclic acid). Lipase content by titration method. Protease inhibitor content by trypsinolytic assay. Moringa Oleifera leaves were found to be the presence of high crude protein (733.32 mg/ml) and vitamin-c (297mg/100mg), the leaves also contain appreciable amount of lipase (0.36 milliequivalent) and alpha amylase (0.34% activity) and protease inhibitor (37.62%).

Keywords: Moringa Oleifera leaves, Protein, Protease inhibitor, Vitamin C., Alpha amylase, lipase.

ISCA-ISC-2016-3BS-09-Poster

Preliminary Phytochemical Screening and Antimutagenic Activity of Cow Urine

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Abstract: Cow urine has been used by traditional healers and Ayurvedic and Unani pharmacists for treatment of various ailments. This study was aimed at carrying out phytochemical analysis and antimutagenic activity of cow urine. Phytochemical screening revealed the presence of alkaloids, carbohydrates, protiens, steroids, terpenoids and cardioglycosides. Phenolic flavonoids, phlobatannins, anthrocyanins, anthraquinone, tannins and saponoins were totally absent. Cow urine is an important source of substances claimed to induce antimutagenic effect. Cow urine works as an antimutagenic agent due to the antioxidant property of uric acid and allantoin present in it. Cow urine has been granted U.S. patents (No. 6, 896, 907 and 6, 410, 059) for its medicinal properties and it functioning as an anticarcinogenic agent. Ames test is used for the study of the antimutagenic effect of cow urine when used in combination against sodium azide, 2-nitrofluorine and mitomycin C in absence of metabolic inhibitor (Sq). The combination showed a gradual respective decrease in the number of revertant colonies against tester strains Salmonella typhimurium TA 100, TA 1535, TA 98 and TA 102. The percentage inhibition ranged from 58% to 107%.

Keywords: Alkaloids, Anticarcinogenic agent, Antimutagenic activity, Cow urine, Phytochemical constituents.

ISCA-ISC-2016-3BS-10-Poster

Study of Qualitative and Quantitative Biodegradative Potential of *Arthrobacter* Isolated from Soil and Sewage

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Abstract: *Arthrobacter* show typical rod-to-coccus morphogenesis and have ability to survive under extreme conditions of starvation. Due to their ubiquitous presence in soil, and ability to metabolize a variety of substances, *Arthrobacteria*seems to degrade a variety of nasty chemicals. *Arthrobacter* which is a common occurant in sewage and soil , have the ability to degrade organic compounds such as acetonitriles, herbicides, polychlorobiphenyls, insecticides, nicotinic acid, caffeine, carbophos , inorganic compounds such as salts of chromium, cadmium, mercury, flourene. Several species of *Arthrobacter*

can reduce hexavalent chromium, which is widespread throughout the environment because of its use in dyes, pigments, refractory material, leather tanning, which can cause severe irritaions to humans Arthrobacter also exhibits remarkable ability to survive under starvation, water deficiency, high salt concentrations and low temperatures. *Arthrobacter* were isolated on *Arthrobacter* medium with pyridine. About 45 samples of soil and sewage from in and around. Thane district were used .85(55sewage +30soil) isolates were obtained. Colony characteristics and gram staining of these isolates were studied. Identification of the above isolates was carried out by using phase contrast microscopy and specific biochemical tests. In the current project *Arthrobacter* which were screened on the basis of rod to coccus morphogenesis and biochemicals were studied for theirqualitative and quantitative biodegradative potential.12 isolates plus 2 standards obtained from mtcc, Chandigarh (*Arthrobacter* nicotinae* no.21, *Arthrobacter* chlorophenicolus* mtcc no.3706) were studied simultaneously. About 19 compounds (including dyes) were checked for qualitative analysis. Organic compounds: Phenol, Toluene, Benzene, Ethyl acetate, Aniline, Nicotinic acid, Xylene. Nitrogen containing Organic compounds: Trimethylamine, Diphenylamine, Acetonitrile, Picoline (methyl pyridine), Inorganic compounds: Chromium as Potassium dichromate, Chromium nitrate, Mercuric chloride, Lignocellulosic waste Lignin, CMC, Xylan, Sawdust; Organochlorines: Pentachlorophenol, Dyes Methyl orange, Methyl green, Methyl blue, Methyl violet. One organic compound (Acetonitrile), one inorganic compound (chromium in form of dichromate) and dyes (methyl orange and methyl green) were checked for quantitative degradation. The isolates show Acetonitrile degradation from 2-70%. Hexavalent Chromium to trivalent chromium conversion ranged from (12-42%). The isolates show decolorization from 66-94% Further these need to be identified by 16S rRNA sequencing technique.Thus ***Arthrobacter*** can become useful in environmental cleanup.

Keywords: Phase-contrast, Acetonitrile, Chromium, Decolorization, Hexavalent.

ISCA-ISC-2016-3BS-11-Poster

Antioxidant, Antibacterial and UV light Protective Activity of Carotenoids

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Abstract: Carotenoids are considered to be the most diverse natural pigments. Even then their location is restricted to plants, bacteria and fungi. Mammals that cannot produce them have to rely on these natural sources; as carotenoids play productive roles in prevention of degenerative disease and as precursors of vitamin A. Further their inherent nature of being antioxidant and photoprotective suggest it could provide protection against diseases like cancer. Bacteria which are potential source of novel carotenoids were used over traditional sources like plants and algae. Preliminary screening of marine water samples resulted in 20 pigmented isolates in the range from yellow to orange. Methanolic extracts prepared from these cultures were screened for antioxidant nature. DMSO extracts were prepared from potential isolates for the study of antibacterial nature against standard pathogenic cultures. Isolates were further screened for UV light protection activity using cling film assay. One isolate showed high antioxidant activity and good UV protective activity suggesting that carotenoids could be used as a preventive measure against cancer.

Keywords: Pigments, Carotenoids, Antioxidant, Photoprotective, Antibacterial.

ISCA-ISC-2016-3BS-12-Poster

Quantitative analysis of Nitrate and Nitrite ion concentration in different Vegetables of Akola and Barshitakli Markets, MS, India

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Abstract: Vegetables constitute the major dietary source of nitrate generally leafy vegetables. However, frequent consumption of large quantities of vegetables high in nitrate contents may prove health hazards, particularly to infants. In this study, the nitrate and nitrite contents of a total 30 samples of 5 different vegetables (tomato, carrot, spinach, cabbage, pumpkin) sold in Akola and Barshtakli markets in Vidarbha region of Maharashtra state were determined. The nitrate contents in the vegetables were determined by phenolsulfonic acid method, while the nitrite contents were determined by the Nessler's reagent method and absorbance's were measured at 410nm and 525nm respectively using a spectrophotometer. The highest content of nitrate was found in spinach than carrot. While lowest level of nitrate was found in tomato. Nitrite concentration was found higher under adversely post-harvested vegetables. The values of nitrate and nitrite were found slightly higher than the established Acceptable Daily Intake (ADI) values. In general, the leafy vegetables had higher nitrate content than root and fruit vegetables.

Keywords: Vegetables, Nitrate, Nitrite, Tomato, Spinach, Carrot.

ISCA-ISC-2016-3BS-13-Poster

Seed Germination Effect of Myco-synthesized Silver Nano-particles from *Aspergillus niger*

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Abstract: Silver nanoparticles were synthesized from the fungus Aspergillus niger using Ultra-sonication method. Characterization of AgNPs by UV-Vis showed a maximum absorption peak at 430nm. TEM revealed AgNPs to be smaller in size, spherical in shape ranging from 30-40nm. Different concentrations of AgNPs were tested against germination of Mung bean, Pigeon Pea and Chickpea seeds. Percent seed germination, root and shoot length of all the three seeds were measured. Results revealed that lower concentration of AgNPs can enhance root and shoot germination while, higher concentration of AgNPs showed Phyto-toxicity revealing that dose dependency will have good effect on overall plant growth.

Keywords: Aspergillus niger, Silver Nanoparticles, TEM, Seed germination, Phyto-toxicity.

ISCA-ISC-2016-3BS-14-Poster

Preliminary Study on Diversity of Coleopteran Fauna from Kopargaon Tahsil, District Ahmednagar, Maharashtra, India

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Abstract: Present communication reports the diversity of beetles from Kopargaon tahsil. The study period was from June 2015-May 2016 of different locality *viz* agro ecosystem, temporary reservoir and local residential rural area. Total 35 species was recorded under 28 genera belonging to 8 families. Scarabaeidae was most divers family with 9 genera and 15 species followed by Cerambycidae with 5 genera and 6 species, Elateridae with 1 genera and 1 species, Meloidae with 4 genera and 5 species, Tenebrionidae with 4 genera and 4 species, Coccinellidea with 3 genera and 3 species, Buprestidae with 2 genera and 2 species, and Trogosiitidae with 1 genera and 1 species.

Keywords: Diversity, Coleopteran fauna, Kopargaon tahsil.

ISCA-ISC-2016-3BS-15-Poster

Antioxidant and Antimicrobial activity of Staphyloxanthin pigment from *Staphylococcus gallinarum* gut Microflora of *Bombyx mori*

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Abstract: Insects have survived the tests of nature through evolution and they exist in almost all types of environments. Immune system in insects is very simple by having cellular as well as humoral mechanism. The insect gut is an important organ supporting the growth and development of the organism due to its voracious feeding nature. The normal microflora of insects plays a very important role in dictating the survivability of insects during biotic and abiotic stress. We have isolated Staphyloxanthin, the carotenoid pigment obtained from *Staphylococcus gallinarum* from *Bombyx mori* gut microflora. The bacterium produced intense yellow colored colony and was characterized as *Staphylococcus gallinarum* based on biochemical and molecular level identification. The pigment was extracted in methanol and was characterized as Staphyloxanthin by UV-Vis spectroscopy, FTIR and GC-MS analysis. It was screened for the antioxidant and antimicrobial activity. Microbial pigments possess wide range of medicinal properties like the antioxidant and antimicrobial activity and hence confer protection from many diseases. Hence, the role of Staphyloxanthin pigment in insect immunity needs to be elucidated in light of its potential antioxidant and antimicrobial nature.

Keywords: Staphyloxanthin, *Staphylococcus gallinarum*, *Bombyx mori*, antioxidant, antimicrobial, gut microflora, pigment.

ISCA-ISC-2016-3BS-16-Poster

Distribution of Some Pteridophytes from Parts of Konkan Region, MS, India

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Abstract: In the present investigation the most ignored group- pteridophytes was explored for the purpose of their distribution and ecological studies. These studies were carried out from Konkan region at different localities. The studies were made with respect to their diversity and population characters like frequency, density, abundance etc. There is correlation among these characters, these studies shows significance in the conservation of different species.
Keywords: Pteridophytes, Konkan, Population study.

ISCA-ISC-2016-3BS-17-Poster

Determination of lethal concentration (LC_{50}) of Mercuricchloride to Channa*punctatus* (Bloch)

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Abstract: Mercury, a sulfhydryl reactive heavy metal, exists in very small amounts in nature. Mercury has been shown to affect numerous intracellular signal transduction pathways causing many alterations in cellular functions. It gets accumulated in the tissues of organisms, mainly in fishes. The present study was conducted to evaluate the acute toxicity of mercuric chloride to *Channapunctatus* by static bioassays. Fishes were brought to laboratory from local fish market and acclimatized in laboratory for 2 weeks, prior to experiment. The average weight and length of fish used instudy were 20-22g and 10-11cm, respectively. The physico-chemical analysis of water was carried out in which fishes were kept, and values of various parameters such as pH, dissolved oxygen, salinity, total dissolved solids, conductivity, temperature, were recorded on daily basis. The four groups of fishes were exposed toa range of mercuric chloride with different concentrations of 0.4, 0.8, 1.2, 1.6 mg/lt. All the exposed fishes were observed daily and dead fishes were removed. The mortality was recorded. The LC_{50}value at 96 hours was found to be 1.38mg/L to *Channapunctatus*. Statistical analysis was done by Finney's probit analysis method.
Keywords: *Channapunctatus*, Mercuric chloride, LC_{50}, Probit Analysis, Mortality.

ISCA-ISC-2016-3BS-18-Poster

Assessment of Physico-Chemical Parameters of Ranjit Sagar Reservoir by applying Multivariate Correlation and Regression Techniques

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Abstract: Rivers are the main source of water for peopleand water of these rivers is stored in reservoirs by construction of dams. Reservoirs control the regular flow of river at site of dam and are sustainably used for various purposes like power generation, irrigation and most importantly fish culture. Quality of water in the water bodies should be favorable for aquatic flora and fauna. Therefore the objective of the study is to analyze the physico-chemical properties of Ranjit Sagar Reservoir located on river Ravi (32º26'30"N latitude and 75º43'30"E longitude) at an elevation of 1690 m on the border areas of three states i.e. Punjab, Himachal Pradesh and Jammu Kashmir. For analysis, Water samples were collected in pretreated HDPE (High Density Polyethylene) bottles from marked sites of the reservoir and carried to laboratory for further analysis. Parameters taken into consideration were analyzed by different techniques. Results were statistically.Parameters like Turbidity, Cadmium, Lead, and Manganese were higher than maximum permissible limits. Correlation and regression between physico-chemical parameters was also calculated.
Keywords: Physico-chemical analysis, Ranjit Sagar Reservoir, Ravi Correlation, Regression.

ISCA-ISC-2016-3BS-19-Poster

Seasonal Variation in Fish Diversity of Harike Wetland, Punjab, India

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Abstract: Harike is one of the most important Wild Life Sanctuaries of India. It is situated on the confluence of the river Beas and Sutlej at the Ferozepur and TaranTaran border. The sanctuary encompasses an area of approximately 86 sq km.

It was declared a Ramsar site by the International Body of Wetlands 1990. Earlier 20 fish species were reported from Beas region of the wetland. 35 fish species are recorded for the same region during present study viz. *Bagariusbagarius, Catlacatla, Channapunctatus, Channastriatus, Cirrhinusmrigla, Clupisomagarua, Colisasota, Cyprinuscarpiospecularis, Cyprinuscarpiocommunis, Garragotylagotyla, heteroneustesfossilis, Hypostomusplecostomus, Labeobata, Labeocalbasu, Labeodero, Labeorohita, Macrognathusaral, Mastacembelusarmatus, Mystusbleekari, Mystuscavasius, Nandusnandus, Notopteruschitala, Notopterusnotopterus, Ompokbimaculatus, Osteobramacotiocotio, Parambasisranga, Puntiuschola, Puntiussophore, Rasboradanioconius, Rita rita, Salmostomabacaila, Salmostomahorai, Salmostomaphulo, Wallagoattu and Xenentodoncancila.*Species diversity index, evenness and occurrence were calculated to ascertain the fish diversity and occurrence in Harike wetland.

Keywords: Harike, Wildlife Sanctuaries, Wetlands, Diversity, Species Diversity index.

ISCA-ISC-2016-3BS-20-Poster

Quantitative determination of Elements in *Bacopa monnieri* (L) extracts by ICP- MS technique

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Abstract: Mineral elements play important role in health and disease states of human. These are also responsible for the medicinal properties of plants like antioxidant, antiaging anti-inflammatory, analgesic, antipyretic etc. The determination of elemental content in medicinal plants is necessary for quality control, for ensuring purity, safety, to determine the dosage and for efficacy of herbal products. *Bacopa monnieri* (L) is being traditionally used to treat various diseases. Quantitative determination of major, minor and trace elements in soxhlet extract and maceration extract of *Bacopa monnieri* (L) was carried out using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique. The soxhlet and maceration extract of *Bacopa monnieri* (L) showed essential elements like Na, Mg, P, S, Fe, Co, Cu, Zn, Se, Mo, Ca, Cr, Mn and K. The higher concentration of elements was observed in maceration extract of *Bacopa monnieri* (L) than soxhlet extract. The *Bacopa monnieri* (L) contains essential elements which can play an important role in the various biochemical and physiological processes in humans can provide possible source of elements other than diet. The rich elemental concentration in *Bacopa monnieri* (L) will be useful to prove its medicinal potential.

Keywords: ICP–MS, *Bacopa monnieri* (L), Elements, Analgesic, Antioxidant, Antiaging.

ISCA-ISC-2016-3BS-21-Poster

Heterochromatin Distribution in the species of *Iphegenia Kunth*

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Abstract: Banding patterns were revealed in the somatic chromosome of 4 species Iphigenia Kunth using HCL-Giemsa staining techniques. There was considerable variation both regarding the amount and distribution of bands; C-banding of chromosome promises to be the most valuable technique for routine chromosome analysis due to its inherent simplicity, sensitivity and stability of the material obtained. HCL- Giemsa banding technique was used to study Heterochromatin (HC) banding pattern in genus Iphigenia. The genus Iphigenia is a monocot. The species studied here named as, I. pallida (Baker), I stellata (Blat), I.magnifica (A&R) and I. indica (Linn.) were characterized by 2n= 22 chromosome. The chromosome complement exhibited telomeric and centromeric HC. I. magnifica (A&R) and I. indica (Linn.) showed more banded chromosomes than I. pallida (Baker) and I. stellata (Blat). Telomeric bands were mostly present on short arm of the chromosomes.

Keywords: HCL-Giemsa banding, Heterochromatin (HC), Telomeric, Centromeric.

ISCA-ISC-2016-3BS-22-Poster

Studies on Symptomatology and Disease Intensity of Post Harvest Fungi Causing Rot Diseases of Apple (*Malus domestica* Borkh)

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Abstract: Apple is highly delicious fruit which is very commonly grown in the countries of temperate regions of the world. It is the native of Caucasus. In India apple growing areas are limited. The Himachal Pradesh, Simla, Kashmir are

the main regions growing apple in large scale. Besides India it is cultivated at Spain, Yugoslavia, Korea, Chile, Brazil, Poland, Hungary, USA, China, Germany, Italy, It is the best source of energy, minerals, and vitamins. There are many varieties of apple occur in world. Patel, et, al. reported about 500 varieties of apple occur in the world. The important varieties of apple which occur in India are Golden delicious, Ambri, Lal Ambri, Maharaji, Red delicious, red June, king of pippins, starking delicious, Benonic, Irish, Peach and Sunehari.

Keywords: Symptomatology, *Malus domestica,* Fungi, Disease Intensity.

ISCA-ISC-2016-3BS-23-Poster

Synergistic Effect of Agrochemicals in the Management of Resistant *Fusarium Semitectum* Causing Leaf Spot of Betelvine (*Piper Betel Linn*.)

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Abstract: Betel vine (*Piper Betel Linn*) is grown for its leaves. The leaves are used for chewing purposes. The betel vine has high medicinal values. It is grown in part of Maharashtra, Tamilnadu, Andhra Pradesh, West Bengal, Assam and Orissa. The crop is attacked by many fungal pathogens. Among them *Fusarium semitectum, phytophthora parasitica, phytophthora capsica* are more common. These pathogens were managed by using synergistic effect of benomyl with other agrochemicals on fungicide resistant of *Fusarium semitectum* studies showed that benomyl in combination with fungicides (Captan, Mancozeb and Carbendazim) antibiotics (amphicillin,streptomycin and aureofungin) salts (magnesium chloride and calcium chloride). Micronutrients (Co, Cu, Mb, Mn and Bo) inhibited the growth of pathogen completely suggesting reduction in benomyl resistance. In vivo studies showed that all above mentioned agrochemicals in combination with benomyl positively reduced the growth of pathogen and disease index.

Keywords: *Piper Betel Linn*., Agrochemicals, *Fusarium Semitectum*, leaves.

ISCA-ISC-2016-3BS-24-Poster

The Effect Colors of Light and Aeration on Growth and Sclerotia Formation of *Sclerotium rolfsii* on Chili Rot

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Abstract: The pathogenic fungi Sclerotium rolfsii is damaging in numbers of vegetables, which causes several losses. This pathogenic fungi has shown to cause collar rot and root rot in many vegetable crops and has need suggested way to control the pathogen as well as vegetable diseases. Since effective control of plant diseases depends on the throughout knowledge of the causal organisms. In various factors which directly and indirectly the development of growth and sclerotia of S. rolfsii. In the present experiment effect of continuous exposure different color of light black, blue, green, red, yellow, sealed and control (as without control served as control) on S.rolfsii radial growth, number and weight of sclerotia was assess by poisoning technique. In the investigation it was observed that growth of Sclerotium rolfsii on potato dextrose agar medium were not affected by blue, green, yellow and sealed, but it affect by red and black 2.34mm to 2.67mm respectively. But in this investigation total number and weight of sclerotia found affected by sealed and black light after fifteen days of incubation periods. From result of experiment, we conclude that proper aeration is essential for the development of sclerotia.

Keywords: Aeration, Incubation periods, Light, Sclerotia, *Sclerotium rolfsii*.

ISCA-ISC-2016-3BS-25-Poster

Advantages of Digitization in Biodiversity Information

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Abstract: In this modern world of constantly evolving technology, researchers today have the advantage of extensive technological resources that allow them to take their questions to a new level. One such resource is still growing, but has already increased scholars' ability to reach out and use materials that had once been unavailable. Online databases and the digitization of libraries and museum collections have opened up an unprecedented opportunity for collaboration and comprehension. Digitization is an activity that museums and academic institutions increasingly recognize, though many

still do not embrace, as a means to boost the impact of collections to research and society through improved access. The acquisition and use of scientific collections is a global endeavour, and digitization enhances their value by improved access to core biodiversity information, increases use, relevance and potential downstream value, for example, in the management of natural resources, policy development, food security, and planetary and human health. Investments in digitization will ultimately yield a better return if use expands and specimen data are linked across a wide array of related biotic and abiotic data. The specimen objects provide a physical basis for linking data to other biodiversity science domains. Scientific collections document who, what, where, and when of biological diversity. Digitization, beyond making collections more accessible to researchers, provides access to downstream users such as the general public, government and non-government agencies and private enterprises.

Keywords: Scientific collections, Bodiversity, Digitization, Specimen access, Biodiversity informatics, Data sharing, Linked data, Interoperability.

ISCA-ISC-2016-3BS-26-Poster

Diversity of macrofungi in Nameri National Park, Sonitpur District, Assam, India

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Abstract: Macrofungi or mushrooms play a very important place in the ecosystem of any forest and are highly valuable as food and medicine. Though they are of such importance, much study has not been carried out on them, especially in this part of the globe. The present study was carried out with an aim to document the diversity of macrofungi in Nameri National Park, Assam. The national park is located in between 27º0´N 92º47´E and 27.01ºN 92.79ºE in the foothills of Eastern Himalayas. The investigation was carried out in the month of February 2016 to document the diversity of macrofungi in the park. A total of 15 species of macrofungi belonging to 9 families viz. Auriculariaceae, Clavariaceae, Ganodermataceae, Hymenochaetaceae, Nidulariaceae, Polyporaceae, Pleurotaceae, Schizophyllaceae, Xylariaceae were collected. Many of the collected macrofungi possess medicinal properties and some of them are used as food.

Keywords: Macrofungal Diversity, Macrofungi, National Park, Polyporaceae, Eastern Himalayas.

ISCA-ISC-2016-3BS-27-Poster

Macrofungal Diversity in the Adjoining areas of Dihing Patkai Elephant Reserve under Digboi Forest Division, Assam, India

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Abstract: The present investigation was carried out in the adjoining areas of Dihing Patkai Elephant Reserve under Digboi Forest Division of Tinsukia district, Assam representing three different habitats such as litter, wood and soil respectively. The study sites were selected randomly and macrofungi were collected during the month of November, 2015. In an extensive survey a total of 16 species of macrofungi belonging to 13 genera and 10 families were enumerated. Association of species were found to be abundant with wood followed by litter and soil. Members of the family Polyporaceae were predominant followed by Agaricaceae and Cantharellaceae, Auriculariaceae, Dacrymycetaceae, Fomitopsidaceae, Ganodermataceae, Schizophyllaceae, Tremellaceae and Tricholomataceae.

Keywords: Macrofungi, Polyporaceae, Macrofungal diversity, Wood, habitat

ISCA-ISC-2016-3BS-28-Poster

Pollution Tolerant Plant from Salim ali lake, Aurangabad, Maharashtra, India

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Abstract: One of the most important environmental areas is the quality of life giving water. Knowledge of the qualitative and quantitative composition of water is the first step to reveal the nature of the particular environmental problem. The present paper deals with the identification of pollution tolerant aquatic plants growing in the water environment of Salim

Ali Lake, Aurangabad. During the investigations it was observed that 42 aquatic plants species, out of which 22 species belonged to Dicotyledons and 12 plant species of monocotyledons representing 24 families. Dicot dominates over monocot in the ration of 5:3. The Collected species have been documented and arranged in alphabetical order according to local names, Latin names, family, flowering periods, dominance and distributional pattern and medicinal use. The following species were recorded in this locality, e.g. *Ceratophyllum demersum, Hydrilla verticillata, Leersia hexandra, Nymphaea mouchali, Nymphoides cristatum, N. indicum, Pistia stratiotes, Vallisneria spiralis* and different species of Cyperus. Plants like *Pistia stratiotes,* and *Hydrilla verticillata* have already proved to be as Hg (II) and Cr (VI) accumulators. These plants can be utilized for removal of the heavy metal pollutants from the polluted water bodies without endangering the lives of other flora and fauna. It may be concluded that these aquatic plants, which employ solar energy, can be utilized for the scavenging of heavy metals from waste water for water purification.

Keywords: Pollution, Tolerant, Plant, Species, Salim Ali Lake, Aquatic Plants.

4. Chemical Sciences

ISCA-ISC-2016-4CS-Guest Speaker-01

How Metal Concentrations could affect Enzyme Activities: A Case Study of a Range, near Port Harcourt, Rivers State, Nigeria

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Abstract: Heavy metals released from military exercise and training could affect soil enzyme activity. In this study, five composite soil samples collected near Port Harcourt were analyzed in triplicates for physicochemical properties, heavy metals, and enzyme activities. Data was analyzed to determine the level of contamination and to find out the trend of enzyme activity in the presence of certain heavy metals in the natural environment. Heavy metal pollution index ranged from edge (0.71) to center (1.43) indicating multi-element contamination within the range. Contamination factors showed that cadmium was the most polluting element with a degree of contamination that ranged from edge (35.4) to center (118.7). Lead and copper showed higher values while zinc and copper were only higher than the control. Soil enzymes, dehydrogenase, urease, phenol-oxidase and acid phosphatase showed a negative correlation with heavy metal concentrations. Dehydrogenase with a range of 0.79 – 8.24mg/g dry soil 6^{-1} was the most affected while acid phosphatase, 0.42 – 2.11 μMo – p – nitrophenol was the least affected. Results obtained suggest that the activities of shooting range have a negative effect on soil enzyme activity following decreasing metal concentrations from center to edge.

Keyword: Enzyme activities, Metal contamination, Pollution index, Shooting range.

ISCA-ISC-2016-4CS-01-Oral

Gum polysaccharide structure from Medicinal plant of *Moringa oleifera* Lam. by Methylation and Periodate oxidation studies

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Abstract: *Moringa oleifera* Lam. plant belongs to family-Moringaceae and commonly called as *Sainjna*, upto 10 m in height. It occurs in all over India, Thailand, Pakistan, Afghanistan, Mexico, Philippines, Nepal, Indonesia, Africa, Sri Lanka, America, Cambodia, etc. Medically the plants are used in indigenous system of medicine for cardiovascular, gastrointestinal and haematological diseases. Gum used for dental infection, astringent and blood pressure. Young pods are used as pickles and vegetable purposes. Leaves are rich in Vitamin A and C, β-Carotene, protein, calcium, potassium are used in scurby, antioxidant, piles, fever, bronchitis, eyes and ear infections. Leaves have a potential source for antitumor, anticancer while leaves alkaloid Niazimian has been proposed for chemopreventive agent in chemical carcinogenesis. Seeds extract have also been found to be effective on hepatic carcinogen metabolizing enzyme and antioxidant parameter and have specific protein fraction for skin and hair cure. Seed peptides are also used to protect the human skin aging with dual activity as antipollution and conditioning of hairs. Plant gum contains a water soluble polysaccharide as L-arabinose and D-galactose in 1:4 molar ratio with traces of L-fucose, were identified by TLC, Column and Paper chromatographic analysis. Present investigation mainly deals with the methylation and periodates oxidation studies of purified gum polysaccharide structure from *Moringa oleifera* Lam. plant. Purified gum polysaccharide was methylated by Hakomari's and Purdie's method with methanolic hydrogen chloride and obtained hydrolysate after saponification in ether soluble fraction (A) and ether insoluble fraction (B). Ether soluble fraction (A) methylated sugars were characterized and identified as : (I) 2,3,4,6-tetra-O-methyl-D-galactose, (II) 2,3,4-tri-O-methyl-D-galactose, (III) 2,4-di-O-methyl-D-galactose and (IV) 2,3-di-O-methyl-L-arabinose in 1:1:2:1 molar ratio. Ether insoluble fraction (B) methylated uronic acid was characterized and identified as: 2,3,4-tri-O-methyl-D-glucuronic acid (1 mole). Isolation of methyl sugar (I) suggested that the side chain of methoxyl group (R) is terminated by D-galactose moiety. Gum polysaccharide structure showed 5 moles of di-methyl-D-galactose. It assumed that partial demethylation of tri-methyl-D-galactose has taken place. Hydrolysis of methylated gum polysaccharide did not furnish any methylated sugars of L-fucose. Gum polysaccharide was oxidised with sodium metaperiodate with usual manner. It liberated 1.264 moles of formic acid per equivalent of gum polysaccharide with consumption of 6.024 moles of periodate after 60 hrs. This finding the idea of highly branched nature of gum and also indicates that those of D-galactose residues which have survived periodate oxidation are involved in branching chain. Presence of linkages contain (1-6)-β, (1-3)-β and (1-5)-α-type in the gum polysaccharide structure of *Moringa oleifera* Lam. plant. Final decision regarding the detailed molecular structure of gum polysaccharide can only be made by further quantitative assessment of methylation and periodate oxidation results.

Keywords: Methylation, Methyl sugars, Periodate oxidation, Periodate consumption, Formic acid liberation, *Moringa oleifera* gum, polysaccharide.

ISCA-ISC-2016-4CS-02-Oral

Inferring the Chemical Parameters for the Dissolution of Fluoride in Groundwater of Bastar zone, Chhattisgarh, India

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Abstract: Geochemical study of groundwater from 40 selected fluoride rich areas in different part of Bastar zone, Chhattisgarh highlight that decomposition, dissociation and dissolution are the main chemical process for the occurrence of F^- in groundwater. Few physico-chemicals also give positive correlation of F^- ion dissolution. These groundwater are alkaline in pH (7.5-8.5), HCO_3^- concentration varies from 266-370 mg/l and F^- concentration from 1.6-7.68 mg/l. Presence of F^- bearing mineral in bedrock is not only factor but physico-chemical environment like aqueous ionic species, residence time of interaction, chemical behavior of F^- ion with other cations and anions in groundwater, play key role of its dissolution. This study indicates that 82% groundwater samples have EC- 940-1750 µS/cm, pH- 7.5-8.5, HCO_3^- / Ca (epm ratio) 0.8-2.5. The Ca^{2+}, HCO_3^-, Cl^- and Na^+ concentration in groundwater show strong relation with F^- ion.
Keywords: Fluoride ion, Dissolution, Weathering, Correlation, Hydrochemistry.

ISCA-ISC-2016-4CS-03-Oral

Anion Concentrations and Its Impact on Groundwater Quality of Bilaspur City, MP, India

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Abstract: Ground water is about 20 % of the world resources of fresh water and widely used by industry, irrigation and domestic purpose .The anions present in water are directly related to human health and agricultural activity and it's parametric value decides it's suitability for drinking and agriculture purpose. In water, all of the dissolved solids are either positively charged ions (cations) or negatively charged ions (anions). The total negative charge of the anions always equals the total positive charge of the cations. A higher TDS means that there are more cations and anions in the water. With more ions in the water, the water's electrical conductivity (EC) increases. By measuring the water's electrical conductivity, we can indirectly determine its TDS concentration. At a high TDS concentration, water becomes saline. Bilaspur is a second largest city of Chattisgarh, is in one of the most industrialised district of the C.G. state. Some Anion study of the underground water in Bilaspur has been taken up to evaluate it's suitability for domestic purpose for Anion analysis water samples were collected over a period of one year from march 2015 to march 2016 to evaluate the qualitative status of groundwater of Bilaspur city. Anions like Chloride (Cl^-), Nitrate (NO_3^-), Sulphate (SO_4^{-2}), Fluoride F^- , Phosphate selected as indicator of ground water quality. To collect the ground water samples, six sampling stations have been selected which are situated in prime location of Bilaspur city. Although thirty two water samples were collected from eight sampling stations. Analysis of results indicates that in 30% sampling station the concentration of F^-, Cl^-, SO_4^{-2}, and NO_3^- exceeds the permissible limit and in remaining 70% of sampling stations Cl^-, SO_4^{-2}, NO_3^-, F^- and PO_4^{-2} concentration lies within permissible limit. Thus it is suggested that urgent precautionary measures should be taken so as to prevent contamination of ground water resources by sewage, industrial and agricultural discharge.
Keywords: Anions, Indicator, Groundwater, Contamination.

ISCA-ISC-2016-4CS-04-Oral

Chemical Constituents of *Urtica Ardens* leaves

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Abstract: Urticaceae is a large family of about 45 genera and 550 species found in tropical and temperate regions, 21 genera and 120 species in India. The plants of this family are herbs, undershrubs or rarely trees, without latex; epidermal cells often cystoliths, stem fibrous, leaves alternate or opposite, simple, stipulate or not. Flowers are minute, unisexual, regular, usually cymose, sometimes crowded on enlarged receptacle. Perianth lobes 3-5, sepaloids, free or united and stamens are equal to tepals, inflexed in buds, pollens 3-5 porate, spheroidal, stenopalynous. Ovary 1-locular, 1-erect ovulate, style simple and fruit achene or drupe. Urtica ardens, vern. Stinging nettle, belong to family Urticaceae is a perennial, erect, pubescent herbs or shrubs often attaining to 2.5m high; stem greenish-pale, bark fibrous, petioles,

leaves, branches covered with stinging bristles. Flowers are small, pale green, clustered on spreading, axillary 4-8cm long, paniculate cymes. Male flowers with 4-perianth segments and 4 stamens. Female perianth segments 4, unequal, inner ones twice longer than outer ones. Achenes ovoid, pale-brown, hairy, enclosed by persistent perianth. The plants of genus Urtica is distributed throughout the world including Paraguay, Uruguay, Brazil, southwest of Hubei province, China, Asia, America, Europe, Iran, Greece and Turkey. The present abstract deals with isolation and characterization of 3â-hydroxy-35- (cyclohexyl-5'-propan-7'-one)-33-ethyl-34-methyl-bacteriohopane and Glucopyranosyl-O-(1 --- 2) fructofuranoside (Sucrose) from methanolic extract of leaves of *Urtica ardens*. The structures of isolated compounds was confirmed by spectroscopic methods viz. UV, IR, NMR and Mass.

Keywords: *Urtica ardens*, leaves, Plants, Flowers.

ISCA-ISC-2016-4CS-05-Oral

Reverse Phase Extraction Chromatographic separation of Bismuth (III) with High Molecular Mass Liquid Anion Exchanger

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Abstract: New and innovative separation method was developed for extraction of bismuth (III) from aqueous chloride media with 4-Heptylamino pyridine (liquid anion exchanger) coated on silica gel. Bismuth (III) was quantitatively extracted from 1.0 M HCl, eluted with acetate buffer and determined by spectrophotometric method. Different parameters *viz.* effect of HCl concentration and flow rate of mobile phase were studied. The method was applied for separation of bismuth (III) from binary mixtures and synthetic mixtures corresponding to alloys and pharmaceutical samples.

Keywords: Extraction chromatography, Bismuth (III), Alloys, pharmaceutical samples.

ISCA-ISC-2016-4CS-06-Oral

Citrus limon Peel as a Component of Modified Carbon Paste Electrode for Electrochemical Stripping Analysis of Pb (II) and Cd (II)

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Abstract: Present communication describes the development and application of *Citrus limon* peel modified carbon paste electrode for the trace determination of Pb (II) and Cd (II) by adsorptive stripping voltammetry technique. Metal ions were pre-concentrated on the modified electrode surface at open circuit followed by their determination using differential pulse anodic stripping voltammetry. Cyclic voltammetry and electrochemical impedance spectroscopy analysis indicated reduction of charge transfer resistance. The performance of the fabricated sensor under different preparation and operation conditions was analyzed to optimize amount of modifier, accumulating solvent, accumulation time and supporting electrolyte. The analysis of lead and cadmium ions was also carried out in the presence of interfering metal ions and surface active macromolecules. Linear calibration curves were obtained in the concentration range of 100-1000 $\mu g\ L^{-1}$ for lead and 100-800 $\mu g\ L^{-1}$ for cadmium at an accumulated time of 10 min with limits of detection 59.5 and 64.4 $\mu g\ L^{-1}$ respectively. The developed sensor is highly sensitive and the electrode dynamic parameters can be effectively applied for the ultra trace determination of Pb (II) and Cd (II). This work is a green approach in context of using an environment friendly modifier to enhance the sensitivity of carbon paste electrode for metal ion determination.

Keywords: Carbon paste electrode, *Citrus limon*, Stripping, Voltammetry, Lead, Cadmium.

ISCA-ISC-2016-4CS-07-Oral

Scavenging of Phenolic Compounds from Aqueous waste using Magnetic Nanoparticles activated Carbon prepared from Date Seed

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Abstract: Phenol and its derivatives constitute a group of pollutants that are present in industrial and domestic wastewater and carcinogenic in nature. Adsorption on Magnetic nanoparticles activated carbon (MNAC) has emerged an efficient and economically viable technology for removal of toxic phenolic compounds from domestic and industrial wastewater. In the present study activated carbon (AC) is prepared from date seed using KOH in a modified muffle furnace. The

magnetic nanoparticles activated carbon (MNAC) is prepared by combining this activated carbon with magnetic nanoparticles developed by coprecipitation method. A variety of techniques such as N_2-BET surface area, SEM, FT-IR, XRD, TEM, pHpzc and VSM were used to characterize the structure, morphology and magnetic performance of MNAC. The N_2-BET surface area of the MNAC (894 m^2g^{-1}) is found lesser than the prepared AC (2298 m^2g^{-1}). A broad peak at $2\grave{e} = 24^0$ in XRD of AC and MNAC indicates the presence of amorphous carbon. The TEM of MNAC shows iron oxide nanoparticles of size 5-20 nm. MNAC exhibits super magnetic properties under external magnetic field with saturation magnetization value 5.52 emu/g at room temperature. The adsorption of priority phenolic pollutants, namely phenol, p-nitrophenol, o-chlorophenol, o-methoxy phenol on activated carbon and magnetic nanoparticles activated carbon, was studied in a batch system at laboratory scale. The adsorption equilibrium isotherm data shows good linearity when plotted according to Langmuir, Freundlich and BET isotherm equations. The Langmuir Q^0 value, for AC and MNAC show the trend: OCP> PNP > OMP >P. Langmuir kinetic model best suits for determination of adsorption and desorption rate constants for these pollutants. The Pseudo-second order model fit better than Pseudo-first order model for the adsorption of organic pollutants onto AC and MNAC.

Keywords: Activated carbon, Iron oxide, Phenolic compound, Adsorption isotherm, Kinetic.

ISCA-ISC-2016-4CS-08-Oral

Study of Trimesoyl Chloride Based Dipropyl, Dibutly and Dihexyl Malonate Dendrimers: Potential Drug Carriers for Silibinin Anticancer Drug

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Abstract: Silibinin (SB), a flavonoid with an eminent anticancer activity, not freely soluble in water and poses restrictions over its biomedical applications. Considering this as a potential challenge, we have studied SB binding and corresponding release potential of trimesoyl 1, 3, 5-tridipropyl malonate (TTDPM), trimesoyl 1, 3, 5-tridibutyl malonate (TTDBM) and trimesoyl 1, 3, 5-tridihexyl malonate (TTDHM), the 1st tier dendrimers as potential SB carrier for overcoming the inherent solubility restrictions. The TTDPM, TTDBM and TTDHM with dipropyl $(-CH_2CH_2CH_2-)_2$, dibutyl $(-CH_2CH_2CH_2-CH_2-)_2$ and dihexyl $(-CH_2CH_2CH_2CH_2CH_2CH_2-)_2$ dialkyl chains prevalent in their respective structures. Their binding potential with foreign molecule was studied through physicochemical properties, determined by using Borosil Mansingh Survismeter. Through series of rigorous investigations from FTIR, DSC, DLS and SEM studies have inferred SB binding activity in dendrimers that increased with an increase in the dialkyl chain that exits during the encapsulation of SB. UV-Vis spectroscopy has depicted *in vitro* 4 %/h release of SB in PBS + 10 % DMSO (PD) at 37 ^{0}C. Studies on TTDPM, TTDBM and TTDHM with variable lengths of dialkyl chain have revealed that these are noteworthy and potential drug carriers for SB with a controlled and sustained release tendency.

Keywords: Trimesoyl Chloride, Dipropyl, Dibutly, Dihexyl Malonate. Drug.

ISCA-ISC-2016-4CS-09-Oral

Preparation of Magnetic Iron Oxide Nanoparticles Activated Carbon Composite from Corncob and its Application for Removal of Organic Pollutants

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Abstract: Magnetic iron oxide nanoparticles are attractive to many researchers because of their wide ranging applications viz. data storage, magnetic fluids, adsorbent, catalysis, biotechnology, biomedicine and environmental remediation. In the present study, efforts have been made to develop magnetic iron oxide nanoparticles activated carbon composite (MIONAC). The activated carbon is prepared from corncob using zinc chloride as an activating agent in a modified muffle furnace with N_2-gas inflow arrangement and magnetic nanoparticles by chemical co-precipitation method. The prepared corncob activated carbon (CCAC) and Magnetic iron oxide nanoparticles activated carbon composite (MIONAC) are characterized for N_2-BET surface area, SEM, FT-IR, XRD, TEM, pHpzc and VSM. The N_2-BET surface area of the MIONAC (807 m^2g^{-1}) is found lesser than the prepared CCAC (1429 m^2g^{-1}). MIONAC exhibits super magnetic properties under external magnetic field with saturation magnetization value 4.15 emu/g at room temperature. SEM of the CCAC

and MIONAC show the presence of different size pores, cracks and crevices. TEM of MIONAC shows nanoparticles with size in the range of 10-20 nm. A broad peak at 2è = 24^0 in XRD of CCAC & MIONAC indicates the presence of amorphous carbon. The adsorption isotherms and kinetic studies using CCAC and MIONAC as adsorbents and phenols as adsorbates. The adsorption data shows that the adsorption capacity (Q_0) value of MIONAC (90 mg g-1) is slightly lesser than the CCAC (125 mg g^{-1}). A Langmuir kinetic model is fitted well for phenols adsorption on both CCAC and MIONAC.

Keywords: Corncob, Chemical coprecipitation, Magnetic nanoparticles, Phenols, Adsorption isotherm, Kinetics.

ISCA-ISC-2016-4CS-11-Oral

Green Synthesis of Nano Particles from Sterculia Lychnophora for Its Catalytic Properties

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Abstract: Green synthesis and some of Nanoparticles from Sterculia Lychnophora generally known Niranjan phal is also commonly called as China fruit. The silver and platinum Nanoparticles have catalytic and physico-chemical properties. These prepared Nanoparticles have biologically more active compared to its original bulk material. All types of nanoparticles, silver and platinum nanoparticles (Ag NPs and PtNPs) seem to have attracted the most interests in terms, they have more potential application. Syntheses of water-soluble nanoparticles are developed by treating silver & gold metal ions with some Sterculia Lychnophora herbal extract at room temperature. The effect of the extract on the formation of silver and platinum nanoparticles were characterized by Fourier transform infrared spectroscopy, UV-VIS absorption spectroscopy, X-ray diffraction, SEM spectroscopy.

The FTIR spectral study indicated that the extract of Sterculia Lychnophora acted as the reducing and stabilizing agent during the synthesis. The UV-VIS absorption spectroscopy result indicates that, a strong resonance centered on the surface of silver and platinum nanoparticles. The X-ray powder diffraction analysis studies confirmed that, the synthesized AgNPs and PtNPs were single crystalline in nature corresponding with the result of scanning electron microscopy. AgNPs and PtNPs nanoparticles having size of 20-30 nm were also observed in the scanning electron microscopy image. The antibacterial and anti-fungal properties of the synthesized AgNPs and AuNPs were investigated.

The results show that, these Nanoparticals have catalytic properties anti-bacterial and anti-fungal activity. Eco-friendly green synthesis with plant extracts plays a very important role in nanotechnology, without any harmful chemicals. The field of nanotechnology has grown rapidly over the past few years and has even ventured into the field of clinical medicine.

Keywords: Sterculia Lychnophora Herbal extract, FTIR, UV-VIS, SEM, EDX and Microbial activity.

ISCA-ISC-2016-4CS-12-Oral

Degradation of Sesaminol Triglucoside in Sesame Milk Fermentation by β–glukosidase Producing *Lactobacillus plantarum* Dad 13

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Abstract: Sesaminol triglucoside is a bioactive compound in sesame milk which has antioxidant activity. Sesaminol triglucoside exhibits higher antioxidant activity when it is hydrolyzed by β-glucosidase. The aims of this research are to study the increase of antioxidant activity and the decrease of sesaminol triglucoside concentration during sesame milk fermentation by L. plantarum Dad 13. Sesame milk was inoculated with L. plantarum Dad 13 and incubated at 37^0C for 18 h. The viable cell, β-glucosidase activity, sesaminol triglucoside concentration and antioxidant activity were monitored during fermentation. The crude extract of sesaminol glucoside lignan from defatted sesame seed was hydrolyzed using β-glucosidase. The antioxidant activity and the decrease of sesaminol triglucoside were analyzed. The results showed

that L. plantarum Dad 13 grew well in sesame milk fermentation and produced β-glucosidase during fermentation. The antioxidant activity of sesame milk fermentation increased 2.34 times and sesaminol triglucoside concentartion decreased 56,4%. Hydrolysis of β-glucosidase on sesaminol glucoside lignan crude extract resulted in decrease of sesaminol triglucoside concentration and increase its antioxidant activity. It can be concluded that the increase of antioxidant activity was due to the degradation of sesaminol triglucoside by β-glucosidase that produced by L. plantarum Dad 13.

Keywords: Enzim β glucosidase, Sesaminol triglucoside, Hydrolysis, Sesame milk fermentation.

ISCA-ISC-2016-4CS-13-Oral

Synthesis, Characterisation and Antimicrobial Activity of some Schiff base Metal Chelates

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Abstract: The aim of the present work is to synthesize some Schiff base complexes of metal ion and to evaluate their antimicrobial activities. A New Schiff base has been derived From 1,2-diacetyl benzene and 4,5-dimethyl -O-Phenylenediamine and their Complexes with Cu(ll), Co(ll), Ni(ll) have been synthesized and evaluated for their antibacterial activities by disc diffusion method. The complexes have been characterized by conductance, magnetic, IR and electronic spectroscopic techniques.

Keywords: Coordination, Schiff base ligands, infrared, UV/Vis, Antibacterial activity.

ISCA-ISC-2016-4CS-14-Oral

Apparent Molar Volumes of Aspirin in Water at Temperatures from 298.15 to 313.15 K

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Abstract: Apparent molar volumes (ϕ_v) and viscosity B-coefficients for aspirin solutions in pure water system have been determined from density (ρ) and viscosity (η) measurements at 298.15 to 313.15 K using a pycnometer and Ubbelohde viscometer respectively. Eight different concentrations ranging from 0.0040 to 0.0145 M were prepared. The apparent molar volumes were calculated from the density data. In addition, the concentration dependence of the apparent molar volumes was examined using Masson's equation. The Jones-Dole equation was used to analyze viscosity data to obtain viscosity 'A' and 'B' coefficients. The drug interacts with various ions or molecules or biological membranes present in the biological system are an important phenomenon. The parameters derived from these equations have been interpreted in terms of solute-solute and solute-solvent interactions.

Keywords: Aspirin, Density, Viscosity, B-coefficient.

ISCA-ISC-2016-4CS-15-Oral

A Study on the Removal of Eosin-Yellow dye by Copper Incorporated Solid Catalyst from fly ash Brick Clay

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Abstract: Fenton-like Advanced Oxidation Processes remove the refractory organic compounds more effectively from wastewater using strong oxidizing agents like hydrogen peroxide (H_2O_2). The heterogeneous catalysts are used to fasten this process of oxidation. This work discussed about the production of Copper (Cu)-brick clay heterogeneous catalyst from fly ash brick clay and used as catalyst supports for copper with an impregnation method. The synthesized Cu-brick clay catalyst was structurally and texturally characterized by X-ray diffraction analysis (XRD), Scanning Electron Microscope (SEM) and Energy Dispersive X-ray (EDX). Cu-brick clay was then used as a solid catalyst for the removal of Eosin yellow dye in aqueous medium at pH environments near neutrality. The % removal of Eosin Yellow dye from

aqueous solution by Fenton-like process depends on various factors such as a dosage of catalyst, catalyst loading and the concentration of the solution. 10 wt% of Cu-brick clay loading gives the best % removal (95.01 %) for 300 ppm concentration of Eosin Yellow dye comparing to 5 and 15 wt% of Cu-brick clay loading at a catalyst dosage of 1 gm/L. The present study offers a novel modified clay based catalysts for the removal of Eosin Yellow dye contaminant from wastewater.

Keywords: Fly ash brick clay, Copper (Cu)-brick clay heterogeneous catalyst, Eosin Yellow dye and Fenton-like process.

ISCA-ISC-2016-4CS-16-Oral

Evaluation of Electrochemical Reactions on Copper Thin Film

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Abstract: Copper material finds its large application in recent years especially in the area of technology. But due to its instability character in acidic medium compared to alkaline medium it is still area of research interest. Hence, it is a challenge to make the optimum use of Copper material. Uniform layer of T\thin films of Cu is achieveed using electrochemical technique onto to a Aluminium strip on passage of .4V for 15 minutes. The XRD and SEM data revels the formation evenly distrubuted spercial shaped meso sized particles. In present study stability of copper in alkaline medium is studied using electrochemical route. The porous thin film of copper was generated on the Aluminum substrate. The anodic peaks where found correspond successively to the formation of monolayer of Cu_2O and CuO. The Cyclic voltammetry studies infers the generation of porous cupper film which facilitate one step oxidation of Cu to Cu^{+1} at the potential of +0.4V. The formation soluble and insoluble oxides were observed. The CV's obtained at different scan rates. Infers the reproducible nature of oxide formation on to a Al strips in alkaline medium. The peak current increases with increse in the scan rate. This confirms the formation of reproducible and stable phases in the electrochemical oxidation of copper.

Keywords: Cu thin films, Oxidation, Electrochrmical reactions.

ISCA-ISC-2016-4CS-17-Oral

Rheological Studies on Viscous Food Grade Materials

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Abstract: Effectiveness of thermal process in thermal processing of foods is determined by the thermal resistance characteristics and the temperature history of the product. Usually the commercial sterility is achieved by placing the food in container and then heating it to sterility. The rate of heat penetration is depended on the mechanism of heat transfer in the food material. Purees of green leafy vegetable exhibit non-Newtonian characteristics and hence the heat penetration via natural convection currents is highly unpredictable. In order to preserve it in a shelf life and study the heat penetration, studies on rheological properties as function of temperature is important. In the present work, study on the rheological properties of leave purees as function of temperature and frequency is presented. Frequency sweep test were performed for blanched and unblanched puree at 313K. Both storage modulus (elastic modulus) G' and loss modulus (viscous modulus) G" for unblanched and blanched puree were found increased with the temperature and the frequency. The G' of the puree was found higher as compared to G" and hence it signifies that the puree exhibit weak gel behavior. The dependency of G' with frequency was found to fit the power law model. Shear stress (τ) vs shear rate (γ) was plotted and flow behavior is described by Herchel Bulkley model. Puree exhibit yield stress and $\hat{o}_o$ was found. n<1 refer to shear thinning behavior. This work has potential for designing of thermal processing unit and to develop shelf stable purees, which can be utilized for food industries.

Keywords: Rheology, Purees, Thermal preservation, Food.

ISCA-ISC-2016-4CS-18-Oral

Synthesis and Antimicrobial Evaluation of Biologically active Anils Synthesized from Different Halo Vinyl aldehyde of Substituted Cyclic Imides

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Abstract: The new series of biologically active anils (Schiff bases derived from aniline) were synthesized by the condensation of different 3,5-diazido-4-phenylcyclopenta-2,5-diene-1,2-dicarbaldehyde and 2,6-diamino-1,4-dihydro-

1-substitutedphenylpyridine-3,5-dicarbaldehydewith aniline in ethanol. Such azomethines were characterized by different physico-chemical techniques like melting points, FTIR spectroscopy, elemental analysis, ^{1}H NMR and ^{13}C NMR spectroscopy. The compounds have been screened for their in vitro biological activities against bacteria and fungi. The newly synthesized bis aldemines shows potent antibacterial and antifungal activity.

Keywords: Anil, Azomethine, in vitro, Bis aldemine, Antibacterial, Antifungal.

ISCA-ISC-2016-4CS-19-Oral

Some Quantum Chemical Descriptors Used In Piperdine-4-Carboxamide Derivative CCR5 Antagonist (TAK-220) with Anti-HIV-1 Activity

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Abstract: QSAR and SAR studies on the Piperidine-4-Crboxamide Derivatives as non- nucleotide reverse transcriptase inhibitor of HIV-1 using the topological, physicochemical, and hydrophobic parameters, indicator parameters along with the some quantum chemical descriptors. Application of multiple linear regression analysis indicated that a combination of different molecular descriptors and the indicator parameters yielded a statistically significant model for the prediction of activity, $CCR_5{}^{a}logIC_{50}$. The final selection of a potential Piperidine-4-Carboxamide Derivatives as non- nucleotide reverse transcriptase inhibitor of Anti-HIV-1 is made by the quantum molecular modeling.

Keywords: QSAR, Anti HIV-1, Topological indices, physicochemical properties and quantum chemical descriptors and $logIC_{50}$.

ISCA-ISC-2016-4CS-20-Oral

Polypyrrole-WO_3 Nanocomposites Modified Gold Electrode as Electrochemical Ascorbic Acid Sensor

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Abstract: The fabrication of an electrochemical sensor based on polypyrrole-WO_3 nanocomposites modified gold electrode (PPy- WO_3-AuE) and its electrodetection of ascorbic acid is described. The polypyrrole-WO_3 nanocomposites were synthesized by chemical method and characterized by different techniques. The WO_3 nanoparticles incorporated with polypyrrole were confirmed by x-ray diffraction pattern, scanning electron microscopy and transmission electron microscopy. The electrochemical behavior of polypyrrole-WO_3-Au modified electrode towards the electro catalytic oxidation of ascorbic acid was investigated by cyclic voltammetry and differential pulse voltammetry. The observed differential pulse voltammeters responses linearly depend on concentration of ascorbic acid in the range of 100-1000 μM with correlation coefficients of 0.979 and sensitivity 0.222 μA/μM cm^2. The results indicate that the polypyrrole-WO_3 nanocomposites exhibited good platform and could be used for electrochemical determination of ascorbic acid.

Keywords: PPy-WO_3 nanocomposites, Electrochemical analysis, Ascorbic acid sensor, Cyclic voltammetry, Differential Pulse voltammetry.

ISCA-ISC-2016-4CS-21-Oral

Magnetic Fe_3O_4 Conjugates with plant-derived compounds as Promising Nanosystems for Targeted Drug Delivery and Anti-Infection Therapy in TheranosticNanobiomedicine

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Abstract: Theranosticnanomedicineis emerging as a promising therapeutic paradigm. It uses nanoplatforms to ferry cargo and loads onto them both imaging and therapeutic functions. The resulting nanosystems are capable of diagnosis, drug delivery and monitoring of therapeutic response. These nanoplatforms are expected to play a significant role in the dawning era of personalized medicine. The well developed surface chemistry of Fe_3O_4 makes it easy to load them with pharmaceutics, promoting them as nanoplatforms for building up nanoparticle-based theranostics. This paper describes the strategy to design multi functional Fe_3O_4 conjugates with bioactive compounds of plant origin to show enhanced

activity. The conjugates possess magnetic nano Fe_3O_4 as core particle; Chitosan and Dextrin as outer polymeric shell coatings to provide steric stabilisation. These nanocomposites are then conjugated with plant compounds viz Curcumin, Gallic acid and D-Limonene. These plant compounds are known to be powerful anticancer, anti-inflammatory and antioxidant agents and can treat many other illness'. However their bioavailability is limited due to their poor solubility in water. Various techniques used for confirming the formation of the Fe_3O_4 nanocomposites were XRD, FT-IR, SEM, TEM and DLS methods. The magnetic properties were confirmed by VSM studies. The amount of drug loaded on Fe_3O_4nps was measured as Drug Entrapment Efficiency Values using UV-Vis spectroscopy. The antibacterial activity of these compounds were tested on the bacteriums *S. Aureus and E.Coli*. The study showed that Fe_3O_4-Cur/Lim/GA nanoconjugates proved to be efficient for stabilising and controlling the release of these natural plant drugs thus maximising their Biological Activity. Thus Fe_3O_4 conjugates with bioactive plant compounds can be used asexciting nano drug carriers for various biomedical applications such as Drug Delivery Systems, Cancer Therapy, Anti Infection therapy, Tissue repair etc.

Keywords: Fe_3O_4 NPs, Chitosan, Dextrin, Curcumin, Gallic Acid, D-Limonene, Anti infection therapy.

ISCA-ISC-2016-4CS-22-Oral

Comparative Study of Trans-Esterification of Mahua Oil and Karanja Oil in an Oscillatory Baffled Reactor (OBR)

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Abstract: The world energy requirement is mainly provided by petroleum products. Its, extensively utilization has led to climate change, environmental pollution, and health problems. To reduce these adverse affects, it is necessary to enhance the use of renewable energy sources. Among many renewable energy sources biodiesel is one such alternate. Biodiesel is produced by trans-esterification where vegetable oils react with alcohol in present of catalyst such as (NaOH, KOH). In India, there are many trees bearing oil like mahua (madhuca indica), jatropha, and karanja (pongamia pinnata) etc. Among all species, Karanja oil and Mahua oil has been used in India for biodiesel production. Conventionally, Biodiesel is produced in batch reactor which requires high operation cost. Due to high cost, a Novel reactor (oscillatory baffled reactor) has been designed and fabricated. The trans-esterification of karanja oil and mahua oil were carried out in an OBR (oscillatory baffled reactor). As the acid value of mahua oil is more than 1, so the trans-esterification reaction is carried out in two stages where as the trans-esterification of Karanja oil requires single stage only. The optimum conditions for first stage of Mahua oil were as 1:9 oil to methanol ratio, 1% w/w H_2SO_4 acid catalyst, and maximum 10 min reaction time and the yield is 87%. The optimum conditions for second stage trans- esterification reaction of Mahua oil were as 1:9 oil to methanol ratio, 0.75% w/w KOH base catalyst, and maximum 10 min reaction time. The optimum conditions for trans- esterification reaction of karanja oil were as 1:6 oil to methanol ratio, 0.75% w/w KOH base catalyst, and maximum 10 min reaction time and the yield is 92%. The different properties of biodiesel were analyzed as per ASTM standards.

Keywords: Biodiesel, Trans-esterification, Karanja oil, Mahua oil, Batch reactor, Oscillatory baffled reactor.

ISCA-ISC-2016-4CS-23-Oral

Synthesis, Physicochemical and Antimicrobial Activities of some new Transition Metal Complexes of 2- Amino-N[2-(2-nitrobenzoyl)-4-nitrophenyl] Acetamide

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Abstract: Some new ligand and their mononuclear complexes $[ML(NO_3)_2]$ {where M = [Co(II), Ni(II), Cu(II) and Zn(II)], L = 2- Amino-N[2-(2-nitrobenzoyl)-4-nitrophenyl] Acetamide, have been synthesized and were characterized by elemental analysis, molar conductance, FTIR spectra, UV, magnetic moment and thermo gravimetric analysis (TGA). According to these data, we propose an octahedral geometry to all the metal complexes. Antimicrobial activity of the ligand and its metal complexes were studied against two gram negative bacteria: E. coli, Pseudomonas flourescence and

two gram positive bacteria: Bacillus subitilis, Staphylococcus aureus. The activity data show that the metal complexes are more potent than the free ligand.

Key words: Antimicrobial studies, 2- Amino-N[2-(2-nitrobenzoyl)-4-nitrophenyl] Acetamide, ESR, Thermo gravimetric analysis and transition Metal ions.

ISCA-ISC-2016-4CS-24-Oral

Desighning Casein Coated Superparamagnetic Core-Shell Nanocarriers in Magnetic Drug Targeting for Cancer Treatment

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Abstract: Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Chemotherapy is a type of cancer treatment that uses drugs to destroy cancer cells. Thus realizing the need to overcome complexities involved in treating complex diseases motivated the author to design casein coated iron oxide nanoparticles (CCIONPs) crosslinked with glutaraldehyde for achieving efficient MDT. In order to design casein nanoparticles (CNPs) the microemulsion method was adopted. In order to characterize nanoparticles FTIR, XPS, TEM, SEM, VSM, Mossbauer, zeta potential, in-vitro cytotoxicity test were studied. The nanoparticles were loaded with cytarabine and its controlled release was investigated drug loading, chemical architecture of the nanocarriers, and nature of release media. FTIR analysis confirmed homogenous deposition of iron oxide and subsequent formation of CCIONPs. The drug loading efficiency of CCIONPs, drug content and in vitro drug release profiles may be measured by ultraviolet spectrophotometer at λ_{max} 254. It was found to have better payload, in vitro release profile characteristic and better targeting to RES organs. Glutaraldehyde crosslinked casein coated iron oxide nanoparticles CCIONPs form a swelling controlled drug release system, which effectively delivers cytarabine in the presence and absence of magnetic field via diffusion controlled pathway. Thus, the prepared nanoparticles showed potential to provide a possible option for magnetically targeted delivery of anticancer drugs.

Keywords: Magnetic drug targeting, CCIONPs, Drug release kinetics, In-vitro study.

ISCA-ISC-2016-4CS-25-Oral

Cationic and Anionic Rich Mixed Surfactants Interaction at *T*=293.15, 298.15 and 303.15K

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Abstract: The Strong electrostatic interactions behaviour between the oppositely charged head groups of mixtures of cationic and anionic surfactants namely dodecyl trimethyl ammonium bromide (DTAB), sodium dodecyl sulfate (SDS) in an aqueous medium at *T* = (293.15, 298.15 and 303.15K) are reported. Mixtures of DTAB and SDS are studied using conductivity, surface tension, viscosity, density, sound velocity, Kraft temperature. The concentration of dodecyltrimethylammonium bromide varied from 0.0001 to 0.03 mol.L^{-1} in the presence of ~ 0.01 mol.L^{-1} sodium dodecyl sulfate and the concentration of sodium dodecyl sulfate varied from 0.001 to 0.015 mol.L^{-1} in the presence of ~ 0.005 mol.L^{-1} dodecyltrimethyl-ammonium bromide. Hence the concentrations of cationic rich (DTAB-SDS) and anionic rich (SDS-DTAB) solutions are taken in the ratio of 3:1. Density and sound velocity data are used for apparent molar isentropic compressibility. The physicochemical parameters have been depicted relative solute-solvent and solute-solute interactions of SDS-DTAB and DTAB-SDS. Degree of ionization (α) and standard Gibb's free energy of Micellisation (ΔG_m^o), standard enthalpy of micellization (ΔH_m^o), andstandard entropy of micellization (Δs_m^o) were evaluated from conductivity data. The maximum excess surface concentration (Γ_{max}) and area occupied per surfactant molecule (A_{min}), surface pressure at cmc, packing parametersare estimated from surface tension measurement.

Keywords: Apparent molar isentropic compressibility, CMC, Maximum excess surface concentration, Area occupied per surfactant molecule, packing parameters.

ISCA-ISC-2016-4CS-26-Oral

Mn(II), Fe(III), Co(II), Ni(II) and Cu(II) Complexes

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Abstract: β-diketone and its metal complexes have been synthesized by reaction of substituted benzoic acid with 2-hydroxyacetophenone, and $POCl_3$. The ligand and its metal complexes were synthesized by conventional and ultrasonic

methods. Synthesized beta-diketone exists in the intramolecular hydrogen bonded keto-enol tautomerism, hence act as a chelating agent in the preparation of metal complexes. Synthesized compounds have been characterized by ^{1}H-NMR, ^{13}C-NMR, IR, LC-MS, TGA-DTA and elemental analysis. The structures of the metal complexes were found to be monoclinic and have been confirmed by XRD. Solution conductivity, magnetic susceptibility and antimicrobial screenings were also studied. However the synthesized ligand and its metal complexes showed satisfactory antimicrobial activity.

Keywords: Beta-diketone, Metal complexes, Ultrasonic, Magnetic susceptibility, Antimicrobial screenings.

ISCA-ISC-2016-4CS-27-Oral

Synthesis and Characterization of some novel Isoxazoles from Benzasuberone Intermediates

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Abstract: Due to their anti fungal and anti convulsant activities and other pharmacological activities, we have synthesized and characterized some novel isoxazoles from benzasuberones. Acylation and reduction followed by cyclisation with polyphosphoric acid gives benzasuberone. These benzasuberones on treatment with substituted benzaldehydes affords arylidene derivatives. These intermediates gave isoxazoles by reacting with hydroxylamine hydrochloride. The structure of these isoxazoles has been characterized by spectral analysis.

Keywords: Anti fungal, Anti convulsant, Benzasuberones, Arylidene derivatives and isoxazoles.

ISCA-ISC-2016-4CS-28-Oral

Adsorption of Adenine - A Ubiquitous Constituent of Genetic Material on Biogenic Metal Modified Phyllosilicates: A Scientific Approach to Astrobiology

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Abstract: The interaction of a ubiquitous and most stable nucleic acid constituent Adenine (ADN) on biogenic metal (Ca^{2+}, Mg^{2+}, Fe^{2+} and Cu^{2+}) modified phyllosilicate of smectite clay group i.e., Montmorillonite (MMT) has been studied at varied concentrations, optimized pH, time and temperature by using spectrophotometric techniques (UV/Vis, FTIR, XRD and SEM) with a view to find out the conditions of maximum adsorption. Adsorption parameters (K_L and X_m) were calculated from Langmuir adsorption isotherm. The equilibrium isotherm trend showed monolayer formation of adenine on mineral surface. The percent binding trend delineate the effectiveness of biologically significant divalent metal ions towards surface interaction. Results also reveal that the quantity of adsorption depends on the nature of embodied metal dications. Such studies are of immense importance for early biogeochemical processes leading to complex and ordered biopolymers of living systems. The adsorption parameters and the type of binding interactions may also have biomedical applications such as biomedical implants.

Keywords: Adsorption, Adenine, Montmorillonite, Biogenic metal ions and Langmuir adsorption parameters.

ISCA-ISC-2016-4CS-29-Oral

2, 4-Dihydroxy-5-Bromo Hexaphenone Oxime (DHBHPO) as a Gravimetric and Spectrophotometric Reagent: Studies on Mo (II) chelate and its application

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Abstract: Mo (II) was determined spectrophotometrically after precipitation with 2, 4-Dihydroxy-5-Bromo Hexaphenone Oxime (DHBHPO) at room temperature at pH 2.5 in chloroform at 420 nm. Beer's law was obeyed up to 46.05 ppm of Mo (II). Molar absorptivity and Sandell's sensitivity were found to be 4.69 X 10^2 lit.mol^{-1} cm^{-1}and 0.2046 μg/cm^2 respectively. Composition of the chelate was determined using Job's method of continuous variation and Yoe and Jones mole ratio method and was found to be 1:1 (M:L). The stability constant and Gibb's free energy change for complex formation reaction were also calculated and found to be 5.115 X10^5 and -7.836 k.cal/mole respectively. Gravimetric estimation of Mo (II) metal ion was done with reagent DHBHPO within the pH range 1.0 to 5.0. Maximum complex formation occurs at pH 2.5 From TGA, the energy of activation was calculated using Broido method and found to be 9.05 and 52.28 k.cal /mole for first and second step of decompositions. The reagent was characterized using analytical techniques like UV-visible, NMR and elemental analysis. Mo(II) metal complex was characterized by UV-visible, IR

spectra and TG analysis. The reagent had been satisfactory applied for the determination of Molybdenum in a sample of Ferro-molybdenum alloy.

Key words: Spectrophotometrically, Gravimetric, Hexaphenone oxime, DHBHPO, Gibb's free energy change, Energy of activation.

ISCA-ISC-2016-4CS-30-Oral

Synthesis of an Analytical Reagent, its Spectroscopic Characterization, and Studies of its Complexation behaviour with Pd (II) Metal Ion and its Application

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Abstract: 2, 4-Dihydroxy-5-Iodo-á-phenyl acetophenone oxime [DHI-α-PAO] has been used for the gravimetric and spectrophotometric determination of Pd (II) at pH 2.0. Job's method of continuous variation and Yoe and Jones mole ratio method shows metal: ligand ratio in the complex to be 1:2. The molar absorptivity of complex at 420 nm is found to be 4.23 x 10^2 lit.mol^{-1} cm^{-1} and Sandell's sensitivity is found to be 0.2516 µg/cm^2. The stability constant determined spectrophotometrically and Gibb's free energy change for complex formation reaction also been calculated and found to be 4.30 x10^9 and -13.226 k.cal/mol respectively. The Beer law is obeyed up to 74.49 ppm of Pd (II) ion at 420 nm. From TGA studies, the energy of activation for the decomposition step has been calculated using Broido method. It was found to be 14.76 & 8.43 k.cal/mol for step-I and II respectively. The reagent has been successfully applied to the determination of Pd (II) in palladised carbon.

Keywords: Spectrophotometric determination, Acetophenone oxime, DHI-α-PAO, Gibb's free energy change, Energy of activation.

ISCA-ISC-2016-4CS-31-Oral

A Facile Synthesis of Flavones using Glycerol as a Greener Medium

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Abstract: An efficient and greener synthetic protocol for the synthesis of 2-phenyl-4H-chromen-4-ones has been developed using 1-(2-hydroxyphenyl)-3-phenyl-1,3-propane as starting material and organocatalyst in glycerol, which is non-toxic, biodegradable and recyclable liquid manufactured from renewable sources. The merits of this protocol are ecofriendly, mild reaction condition and use of non-expensive catalyst.

Keywords: Flavones, Organocatalyst, Glycerol, Green synthesis.

ISCA-ISC-2016-4CS-32-Oral

Synthesis, Spectral Characterization, Antimicrobial and Antioxidants Screening of Biologically active 1, 3-diones with their Metal (II) Complexes

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Abstract: 1-(2-hydroxyphenyl)-3-propane-1, 3-diones 4(L_A-L_B) and its metal complexes 5(a-e) have been synthesized by using substituted 2-hydroxyacetophenones 1(A-B) and aromatic acids 2(A-B) under ultrasound irradiation method at low temperature. These compounds were characterized by FT-IR, UV-Vis., ^{1}H-NMR, ^{13}C-NMR, Mass Spectroscopy and Magnetic measurement. The stoichiometry of the complexes was found 1: 2 (metal: ligand). The physico-chemical data suggested octahedral geometry for all the complexes. The biological activity of the ligand and their metal complexes compound was identified in solid technique by measuring minimum inhibition diameter zone of antibacterial and antifungal activity such as *Staphylococcus aureus*, *Bacillus substilis* species and antifungal activity *Aspergillus Niger*, *Fusarium Oxysporum* species at the same concentration 250 ppm and 500 ppm. The Ni (II) and Cu (II) complexes shows that good antioxidants capacity in terms of ascorbic acid. Reactions under ultrasonic irradiation had improved yield.

Keyword: 1, 3-diones, Metal (II) complexes, Molecular docking, Antimicrobial screening, Antioxidants activities.

ISCA-ISC-2016-4CS-33-Oral

Electrochemical Studies of Solar Energy Conversion and Storage in Electrical Energy

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Abstract: The scientists of all over the world are working to find out renewable source of energy. Apart from the renewable energy resources like geothermal, biomass wind, tidal and hydro energy etc. The solar energy has required characteristics for present day suitable energy source. Solar energy is not only a none polluting, inexhaustible and harmless but clean, low cost and hazardless having no disposal problem. In the present study it is proposed to investigate the conversion and storage capacity of solar energy taking different types of surfactants with the photosensitizers in the presence of suitable reductant. This field of research is still in the infant stage with respect to its viability and applicability, requires through exploration to increase the conversion efficiency and storage capacity by selecting the suitable redox couple of Photosensitizer and the various types of surfactant .Surfactants are very much useful for increasing the conversion and storage capacity due to formation of micelles in the reaction mixture.
Keywords: Photo potential, Photocurrent, Fill factor, Conversion efficiency, Power point, Storage Capacity.

ISCA-ISC-2016-4CS-34-Oral

Kinetics of poly (N-isopropylacrylamide-co-itaconic acid) hydrogels for the Control Release of an natural isolated Anti-Asthmatic Drugs

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Abstract: The main objectives of this paper is to manufacture and develop the controlled released tablets of anti asthmatic drug. The conversion of monomers to PVP drug release methods was very high. Desired pore size of the hydrogel was prepared by changing the concentration of monomers and cross-linkers. The hydrogel preparation were analyzed for different parameters like TBD, angle of repose, LBD, compressibility index, matrix tablets and as result of which restricted the thickness, content uniformity for the granules and natural drug release from matrix tablets. The kinetic studies of the natural drug release from tablet will be carry out for the *in-vitro* release pattern of polymers as well as their mechanism determined by applying different models matrix tablets like zero order, first order, Higuchi, Hixson-Crowell. All methods used in this project will be those of standards. The compound will be isolated from plant part and then subjected to the appropriate purification technique, for example chromatography on silica or alumina supports, distillation, or recrystallization. Solvents will be dried and purified following the standard procedures in organic chemistry. Compound structures will be elucidated and characterized using a variety of spectroscopic techniques, such as Nuclear Magnetic Resonance (NMR) spectroscopy, Mass Spectrometry, Infrared spectroscopy and X-Ray crystallography, as standard within organic chemistry. The isolated natural compound is compacted with the hydrogel prepared by chemical and converted into tablet. Drug gets releases from the Compressed Tablets containing natural isolated compound and poly (N-isopropylacrylamide-co-itaconicacid) hydrogel.
Keywords: Hydrogel, Anti-asthamtic drugs, Compressibity, Matrix tablets, LBD.

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Study of Different Cooking Method on Mineral Content of Bangladeshi Foods

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Abstract: Various nutrient contents are affected by different types of cooking methods. In this study, we determined the effect of conventional cooking method and microwave cooking method on iron content in Banana flower and calcium content in Bone marrow of cow. This studied showed that iron content for raw sample was 0.019% and calcium content in raw sample was 2.6125%. After conventional cooking iron content was 0.016% where as microwave cooked sample was contained 0.018% iron. For Bone marrow of cow, calcium content was 2.46% in conventional cooked sample and 2.50% in microwave cooked sample. These results indicated that any cooking method decreased the nutrient value.
Keywords: Study, Different Cooking Method, Mineral Content, Bangladeshi Foods.

ISCA-ISC-2016-4CS-36-Oral

Applications of Gold Nano Particles in Medical Research and Cosmetics

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Abstract: Over centuries, Gold nano particles have been used by artists due to the vibrant colors produced by their interaction with visible light. Optical property of Gold nano particles is utilized in various technological applications, such as sensory probes, organic photo voltaic, catalysis, electronic conductors, therapeutic agents, medical applications, and drug delivery. The electronic as well as optical properties of nano particles of gold such as surface chemistry, size, shape, etc. can be fine tuned and used accordingly. Colloidal gold is a sol or colloidal suspension of submicrometre-size nanoparticles of gold in a fluid, usually water. The liquid is usually either an intense red colour (for particles less than 100 nm) or blue/purple (for larger particles). Due to the unique optical, electronic, and molecular-recognition properties of gold nanoparticles, they are the subject of substantial research, with applications in a wide variety of areas, including electron microscopy, electronics, nanotechnology, and materials science. The properties of colloidal gold nanoparticles, and thus their applications, depend strongly upon their size and shape. For example, rod like particles have both transverse and longitudinal absorption peak, and anisotropy of the shape affects their self-assembly. The synthesis of colloidal gold was crucial to the 4th-century Lycurgus Cup, which changes color depending on the location of light source. Later it was used as a method of staining glass. During the Middle Ages, soluble gold, a solution containing gold salt, had a reputation for its curative property for various diseases. Modern scientific evaluation of colloidal gold did not begin until Michael Faraday's work in the 1850s. Faraday recognized that the color was actually due to the miniature size of the gold particles. He noted the light scattering properties of suspended gold microparticles, which is now called Faraday-Tyndall effect. With advances in various analytical technologies in the 20th century, studies on gold nanoparticles has accelerated. Advanced microscopy methods, such as atomic force microscopy and electron microscopy, have contributed the most to nanoparticle research. Due to their comparably easy synthesis and high stability, various gold particles have been studied for their practical uses. Different types of gold nanoparticle are already used in many industries, such as medicine and electronics. For example, several FDA-approved nanoparticles are currently used in drug delivery. Generally, gold nanoparticles are produced in a liquid ("liquid chemical methods") by reduction of chloroauric acid ($H[AuCl_4]$). After dissolving $H[AuCl_4]$, the solution is rapidly stirred while a reducing agent is added. This causes Au^{3+} ions to be reduced to Au^{+}ions. Then a disproportionation reaction occurs whereby 3 Au^{+} ions give rise to Au^{3+} and 2 Au^{0} atoms. The Au^{0} atoms act as center of nucleation around which further Au^{+} ions gets reduced. To prevent the particles from aggregating, some sort of stabilizing agent that sticks to the nanoparticle surface is usually added. This paper focuses review on Applications of gold nanoparticles in medical research which includes in vitro assays, cancer therapy, drug delivery, tumor detection, gene therapy, photothermal agents, radiotherapy dose enhancer, detection of toxic gas, gold nanoparticle based biosensor, optical biosensor, electrochemical biosensor and applications of gold nanoparticles in cosmetics. Paper also deals with Scanning Electron Microscope (SEM) images, Transmission Electron Microscope (TEM) images and FTIR spectra of Gold Bhasma medicine. This research, along with better regulation and reporting, will enable consumers to choose products with confidence. This in turn will allow companies to benefit from these novel technologies in the long term while retaining customer confidence. There are a lot of cosmetics companies that have been using gold nanoparticles in different products such as Day and Night creams, eye serums, and facial masks. The cosmetics industry has discovered multiple positive effects of gold nanoparticles, and the gold infused products has gained popularity due to its luxury appeal and effective therapeutic effects. The nanoparticles can also aid the faster delivery of vitamins and minerals to the skin, as it is in the smallest and most perfect form to stimulate the blood circulation in the skin with a gentle massage in its application. Gold has always been known to aid in healthy skin cell regeneration, especially in its nanoparticle form. They can gently stimulate the skin cells for a better cell renewal, which in turn gives the skin better elasticity and also improves the skin tone. Morphological graphs of the Gold Bhasma medicine samples are provided by scanning electron microscopy (Digital Scanning Electron Microscope - JSM 6100 - JEOL) with a Link analytical system operating at 15 KV (acceleration voltage) and transmission electron microscope (Transmission Electron Microscope, Hitachi H-7500, 120 kV). Scanning Electron Microscope images of Gold Bhasma medicine shows that the material mainly consisted of spherical to dumbbell shaped particles with 5–10 μm in diameter, and has a smaller aggregated particle size. Although the majority of material consists of micrometer grains, smaller particles with nanoscale (10–20 nm) are also present in the TEM images. Transmission Electron Microscope images of Gold Bhasma medicine shows that the material mainly consisted of spherical to dumbbell sized particles with 10–20 nm in diameter, and has a smaller aggregated particle size. Investigations well confirm the presence of gold particles with nanometric size between 10 and 20 nm. FTIR can be routinely used to identify the functional groups and identification/

quality control of raw material/finished products. FTIR spectra of Gold Bhasma medicine is obtained at room temperature by using an FTIR Spectrophotometer-Perkin Elmer - Spectrum RX-IFTIR. The spectra are collected in a range from 450 to 4000 cm^{-1}. Interpretation of FTIR Spectra of Gold Bhasma medicine shows presence of various functional groups such as Alkane - Ethyl, n - propyl, tertiary butyl; Alcohols - Secondary CH–OH; Aromatic – Monosustituted Benzene, Ortho disustituted Benzene, Meta disustituted Benzene, Vicinal trisustituted Benzene .

Keywords: Gold nano particles, Cancer therapy, Drug delivery, Tumor detection, Gene therapy, Photothermal agents, Radiotherapy dose enhancer, Gold nanoparticle based biosensor, Optical biosensor, Electrochemical biosensor, Gold Bhasma medicine.

ISCA-ISC-2016-4CS-37-Oral

Synthesis, Characterisation and Biological activity of 2,2'-(2,5-dichloro-1-substituted Phenyl-1H-pyrrole-3,4-diyl)bis(thiazolidine-4-carboxylic acid) derived from Halovinyl aldehydes and *l*-cysteine

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Abstract: Succinic anhydride was converted to 1-(substituted phenyl)-pyrrolidine-2,5-dione by treatment with substituted anilines in benzene followed by ring cyclisation with acetyl chloride. Their dihaloformylation was carried out by using Vilsmeier-Haack reaction ($DMF/POCl_3$) and afforded halovinyl aldehyde. L-cysteine on condensation with synthesized halovinyl aldehyde derivatives in presence of piperdine and methanol as a solvent afforded 2,2'-(2,5-dichloro-1-substituted phenyl-1H-pyrrole-3,4-diyl)-bis-(thiazolidine-4-carboxylic acid)**.** All these compounds were characterised by their spectral analysis and evaluated for their antimicrobial and antifungal activity.

Keywords: Halovinyl aldehydes, thiazolidine, dihaloformylation, $DMF/POCl_3$, Vilsmeier-Haack reaction.

ISCA-ISC-2016-4CS-38-Oral

Synthesis and Antimicrobial Evaluation of some Novel Chalcones of 2, 6-dichloro-4-trifluoro Methyl aniline

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Abstracts:A new series of chalcoones were synthesized via reaction between 1-(2, 6-dichloro-4-trifluoromethyl-phenyl)-pyrolidine-2, 5-dione,1-(2, 6-dichloro-4-trifluoromethyl-phenyl)-piperidine-2, 6dione and substituted aromatic aldehydes in presence acetic acid. The synthesized chalcones were characterized by spectral analysis and all compounds were screened for their antimicrobial activities.

Keywords: Chalcone, Pyroliodine-2, 5-dione, Piperidine-2, 6dione.

ISCA-ISC-2016-4CS-01-Poster

Photocatalytic Degradation of RB21 dye using $ZnFe_2O_4$ Spinel Catalyst prepared by Reactive Grinding Method and Treatment of Actual Industrial Effluent

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Abstract: The spinel $ZnFe_2O_4$ have been successfully prepared by new improved method of high energy ball milling. Efficiency were observed in milling the powder with different 4 balls of 19 mm, 7 balls of 14 mm and 7 balls of 10 mm size of ball with powder mass ratio 15:1 with rolling speed of sun-wheel 200 rpm anti-clock wise and jars 350 rpm clock-wise to form Coriolises forces for proper mixing with milling time 11 h. Characterization shows $ZnFe_2O_4$ phase was obtained after 11 h milling and further detail characterized by XRD, TG-DTA, band-gap, particle size HPLC, FTIR, LC/MS-Mass, SEM-TEM, EDAX were analysed. Degradation analysis of TOC, COD, UV due to narrow band-gap and small particle size of $ZnFe_2O_4$ release more OH• radicle in photocatalytic process of dye degradation carried out under UV light irradiation. The RB21 dye intermediate products and mechanism were also studied. The prepared $ZnFe_2O_4$ can

be easily separated from aqueous solution with external magnetic field and can be reused number of times without any further treatment accept washing with distilled water or ethanol.

Keywords: Zinc ferrite, High energy ball milling, Photocatalytic degradation, UV light.

ISCA-ISC-2016-4CS-02-Poster

Minerals Analysis of Medicinal Plants from India used for Heart Diseases by Atomic Absorption Spectroscopy and Non-destructive Instrumental Neutron Activation Analysis

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Abstract: Medicinal plants from India are highly beneficial for the prevention of different diseases and are potential sources of minerals which can play an important role in reducing occurrences of many diseases by supplying necessary nutrients and minerals. This work was to explore the mineral element content of five herbs, used in the treatment of cardiovascular heart diseases. Medicinal herbals prescribed for heart diseases were purchased from Ayurvedicmedicine shop and were analysed by Instrumental Neutron Activation Analysis (INAA) using 252Cf Californium spontaneous fission neutron source (flux * 109 n s-1) and the induced activities were counted by γ-ray spectrometry and Atomic Absorption Spectroscopy (AAS) techniques (Perkin Elmer 3100 Model) available at Department of Chemistry University of Pune, India, were used for the measurement of major, minor and trace elements. The results of 15 elements viz. Al, K, Cl, Na, Mn by INAA and Cu, Co, Pb Ni, Cr, Ca, Fe, Zn, Hg and Cd by AAS were analysed from different medicinal plants from India. A critical examination of the data shows that the elements Ca, K, Cl, Al, and Fe are found to be present at major levels in most of the samples while the other elements Na, Mn, Cu, Co, Pb, Ni, Cr, Ca, Zn, Hg and Cd are present in minor or trace levels. Finally, the results were concluded as beneficial therapeutic effect of the studied herbs may be related to their mineral element content. The elemental concentration in different medicinal plants used in the treatment of degenerative heart diseases is discussed.

Keywords: Medicinal plants, Heart diseases, Neutron activation analysis, Atomic absorption spectroscopy.

ISCA-ISC-2016-4CS-03-Poster

Pharmacognostical and Physico-chemical studies of the Leaves of Syzygium Cumini Linn

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Abstract: Most of the population from developing countries mainly relies on traditional medicines.These traditional medicines are derived from different plant extract that contains bioactive constituents.This forms the platform for searching the new economic plants for medicine. In keeping this view in mind the present investigation is carried out on the leaves of *Syzygiumcumini Linn* (Jamun). Jamunbelongs to the family Myrtaceae is a very common large evergreen beautiful tree of Indian subcontinents.The leaves of Syzygiumcumini are considered as antibacterial andits ash is used to strengthen teeth and gums in folklore medicine. In the present work the detailed pharmacognostic study of Syzygiumcumini leaves is carried out to lay down the standards which could be useful in future experimental studies.The present study includes preliminary phytochemical screening and physicochemical evaluation, extractive values in different solvents. Total ash content was found to be 5.13%, Acid insoluble ash=0.32%, Water soluble ash content=3.37%, Water soluble extractable matter=6.86%, Ethanol soluble extractable matter=7.04%, Hydralcohol soluble extractable matter=13.80%, Loss on drying=6.08%. Extractive value in different solvents in the order of increasing polarity was found to be: Cyclohexane = 1.14%, Toluene=1.8%, Chloroform=2.48%, Diethylether=5.86%, Dichloromethane=6.29%, Ethylacetate=2.24%, Acetone=3.96%, Ethanol=7.04%, Methanol=7.01%, Water=6.86%. Preliminary phytochemicalscreening revealed the presence of flavonoids, tannins, phenols, terpenoids, saponins, carbohydrates, steroids, cardiacglycosides, proteins etc. % yield of leaf extract by Soxhlet extraction method is 26.41% & by Maceration method % yield is 10.18. Preliminary phytochemical screening will be useful in finding out the genuity of the drug.Ashvalue, extractive value can be used as reliable aid for detecting adulteration.These simple but reliable standards will be useful to the manufacturers for identification and selection of the raw material for drug production.

Keywords: *Syzygiumcumini Linn*; physicochemical evaluation; phytochemical screening; extractive values; ash values.

ISCA-ISC-2016-4CS-04-Poster

Isolation of antioxidant constituents from *Cassia Javanica* (Lin.) Seeds

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Abstract: *Cassia javanica* (Linn.) is a tree that belongs to family *Leguminosae*. Aerial parts of *Cassia javanica* are used traditionally in herbal drug formulation for diabetics and are active against Herpes simplex infection. These activities are attributed to the fact that aerial parts of *Cassia javanica* contain a variety of secondary metabolites, such as, flavones, sterols, several hydrocarbons, anthraquinones, glycosides etc. Four compounds, Phthalic acid, diethyl ester, 1,2-benzenedicarboxylic acid,dibutyl ester (CAS) Butyl phthalate, Palmitic acid, ethyl ester, Linoleic acid ethyl ester were isolated from the ethanolic extract of *cassia javanica* seeds and identified by chromatographic techniques, based on column chromatography, preparative TLC and identified by spectroscopic methods including ^{1}H, C^{13} NMR, UV, IR, HPLC, GC-MS. Scavenging of DPPH free radical is the basis of a common antioxidant assay.IC_{50} for standard ascorbic acid was 49.47±1.22 ìg/mL (R^2=0.9891), while IC_{50} for methanolic extract of *Cassia javanica* Seeds compounds were in range between 75 to 100 ìg/mL.

Keywords: Cassia Javanica (Linn.), Chemical constituents, 95% ethanolic extract, In vitro antioxidant activity.

ISCA-ISC-2016-4CS-05-Poster

Micro and Nanocrystalline Diamond Skin Care Products and their Applications

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Abstract: A diamond is transparent crystal of tetrahedrally bonded carbon atoms in a covalent network lattice (sp3) that crystallizes into the diamond lattice which is a variation of the face centered cubic structure. Diamonds have been adapted for many uses because of the material's exceptional physical characteristics. Diamonds are naturally lipophilic and hydrophobic, which means the diamonds' surface cannot be wet by water but can be easily wet and stuck by oil. This property can be utilized to extract diamonds using oil when making synthetic diamonds. However, when diamond surfaces are chemically modified with certain ions, they are expected to become so hydrophilic that they can stabilize multiple layers of water ice at human body temperature. Diamonds, the most precious gemstones, have been widely recognized for their exceptional powers and miraculous therapeutic abilities. This review attempts to guide the reader between the various micro and nanocrystalline diamond skin care products and their applications, with a particular focus on Diamond Cellular Anti-Ageing Cream. Paper also deals with Scanning Electron Microscope (SEM) images, Transmission Electron Microscope (TEM) images and FTIR spectra of Diamond Cellular Anti-Ageing Cream.This research, along with better regulation and reporting, will enable consumers to choose products with confidence. This in turn will allow companies to benefit from these novel technologies in the long term while retaining customer confidence. Diamond Cellular Anti-Ageing Cream combines advanced technology with luxurious ingredients to target all the effects of ageing for younger looking skin. It provides all the skin's needs in one product. With this skin appear younger, firmer and brighter, wrinkles and the fine lines appear plumped out, facial contours look redefined. This exceptional beauty treatment contains a Diamond Elixir and an Eternal Beauty Complex that work together to fight against the visible signs of ageing for a younger looking skin. Morphological graphs of the Diamond Cellular Anti-Ageing Cream samples are provided by scanning electron microscopy (Digital Scanning Electron Microscope - JSM 6100 - JEOL) with a Link analytical system operating at 15 KV (acceleration voltage) and transmission electron microscope (Transmission Electron Microscope, Hitachi H-7500, 120 kV). Scanning Electron Microscope images of Diamond Cellular Anti-Ageing Cream shows that the material mainly consisted of spherical particles with 5–10 μm in diameter, and has a smaller aggregated particle size. Although the majority of material consists of micrometer or grains, smaller particles with nanoscale (10–20 nm) are also present in the TEM images. Transmission Electron Microscope images of Diamond Cellular Anti-Ageing Cream shows that the material mainly consisted of spherical particles with 10–20 nm in diameter, and has a smaller aggregated particle size. Investigations well confirm the presence of diamond crystals with nanometric size between 10 and 20 nm. FTIR can be routinely used to identify the functional groups and identification/quality control of raw material/finished products. FTIR spectra of Diamond Cellular Anti-Ageing Cream is obtained at room temperature by using an FTIR Spectrophotometer - Perkin Elmer - Spectrum RX-IFTIR. The spectra are collected in a range from 650 to 4000 cm^{-1}.

Interpretation of FTIR Spectra of Diamond Cellular Anti-Ageing Cream shows presence of various functional groups such as Alkane - Ethyl, n - propyl, Iso propyl, tertiary butyl; Alkene - Vinyl –CH=CH_2, –CH–CH– (Trans), –CH–CH– (Cis), >CH=CH2, >CH=CH–; Acids – Carboxylic acids COOH; Alcohols - Primary alcohols CH_2–OH, Secondary CH–OH, Aromatic; Aldehydes - Aliphatic Aldehydes –CH_2CHO, Aromatic Aldehydes; Anhydrides – Normal anhydrides C–CO–O–CO–C, Cyclic anhydrides; Aromatic – Meta disustituted Benzene, Vicinal trisustituted Benzene, Monosustituted Benzene; Amides – Amide –CO–NH_2; Amines, Primary amines CH_2–NH_2; Amines (Cont) – Hydrochloride C–$NH_3^+Cl^-$; Imines – Substituted Imines >C=N–C; Ethers - Aliphatic ethers CH_2–O–CH_2, Aromatic Ethers; Esters – Acetates –CH_2–CO–O–R, Acrylates =CH–CO–O–R, Fumarates =CH–CO–O–R, Maleates =CH–CO–O–R, Benzoates, phthalates.

Keywords: Diamond Cellular Anti-Ageing Cream, Diamond Elixir, Scanning Electron Microscope (SEM) images, Transmission Electron Microscope (TEM) images, FTIR spectra.

ISCA-ISC-2016-4CS-07-Poster

Facile Synthesis of bis (indolyl) Methanes using Aluminium Hydrogensulfate as an Efficient and Heterogeneous Catalyst

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Abstract: The use of solid acid salt catalysts such as Aluminium hydrogensulfate [$Al(HSO_4)_3$] in synthetic organic chemistry has become increasingly important because of its mild conditions, easy handling of catalyst, simple and eco-friendly procedure, increased yields of products, recovery of catalyst, cost efficiency. Bis (indolyl) methanes and its derivatives have been reported to exhibit a range of biological and pharmacological activities such as anti-tumor, anti-bacterial, anti-hypertensive etc and also usefulness for drug design. Aluminium hydrogensulfate has been used as an efficient catalyst for rapid synthesis of bis (indolyl) methanes at room temperature. Bis (indolyl) methanes derivatives were synthesized from indol and aldehydes by one pot condensation using $Al(HSO_4)_3$ in acetonitrile at room temperature. This protocol is simple, efficient and gives well to excellent yield.

Keywords: Indole, Aldehyde, $Al(HSO_4)_3$, Bis(indolyl)methanes.

ISCA-ISC-2016-4CS-08-Poster

Coumarin based Fluorogenic probe for Carbon Monoxide Detection in Aqueous Buffer

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Abstract: Carbon monoxide has shown an essential regulatory role in a variety of pathophysiological and physiological processes that take place within the nervous, cardiovascular and immune systems. CO produced in the vessel wall by heme oxygenase enzymes possesses vasorelaxing properties, and has been revealed to prevent vasoconstriction and also both acute and chronic hypertension through soluble guanylatecyclase stimulation. CO gas has been described to facilitate potent anti-inflammatory effects at concentrations ranging from 10 to 500 ppm. It effectively inhibits human airway smooth muscle cell proliferation, prevents endothelial cell apoptosis, and protects against hyperoxic as well as ischemic lung injury. Many aspects of CO in chemical and biological systems remain elusive owing to having the significant signal dichotomy because of the lack of ways for selective monitoring of this transient small molecule. Recent reports showed that a genetically encoded fluorescent probe, a carbazole-coumarin fused two-photon platform and some newly designed fluorescent probes are capable of selective detection of CO inside living cells, but still highly selective and sensitive 'turn-on' type systems are greatly desired. In this research, we developed a coumarin-based fluorogenic probe, PCO-1, for the selective detection of CO in HEPES buffer of pH 8.0. The detection of CO in a fluorogenic platform is achieved with a concomitant increase of fluorescence intensity by 150 times using Pd(0)-mediated chemistry through intramolecular cyclization-elimination reaction. PCO-1 represents a unique chemical tool that features a selective 'turn-on' response to CO over reactive oxygen, nitrogen, and sulfur species and can be used to image CO in living cells.

Keywords: Fluorescence, Probe, Coumarin, Carbon monoxide.

ISCA-ISC-2016-4CS-09-Poster

Synthesis of 14-imino-11-methyl-9, 13-dioxo-*8H*-pyrimido [1, 2-*a*] pyrimido [4, 5-*d*] pyrimido [2, 1-*b*] [1, 3] benzothiazole derivatives and evaluation of their Biological activity

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Abstract: The broad spectrum biological importance of sulphur and nitrogen containing heterocycles were constantly encouraged chemists to synthesize their large number of derivatives during last few decades. one of the most significant compound among these are benzothiazole derivatives which was found to be biologically and medicinally potent. in this study we condensed a mixture of 3-cyano-2-methylthio-6-methyl-4, 8-dioxo-9H-pyrimido [1, 2-a] pyrimidine and differently substituted benzothiazoles in presence of catalytic amount of anhydrous potassium carbonate and N, N'- dimethyl formamide as a reaction solvent, to get corresponding 14-imino-11-methyl-9, 13-dioxo-*8H*-pyrimido [1, 2-*a*] pyrimido [4, 5-*d*] pyrimido [2, 1-*b*] [1, 3] benzothiazole derivatives. All the products were confirmed on the basis of IR, ^{1}H NMR and mass spectroscopic techniques and evaluate their biological activity.
Keywords: Potassium carbonate, Nitrogen, Benzothiazoles, Biological activity, Spectroscopic techniques.

ISCA-ISC-2016-4CS-10-Poster

Synthesis and Pharmacological activity of some new Substituted pyrazolo [4, 5-*e*] 4*H*-pyrimido [2, 3-*b*] Benzimidazoles

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Abstract: Now a day the synthesis of fused heterocyclic compounds and its derivatives has attracted the attention of many organic chemists because of the compounds interesting pharmacological activity and their presence in various biologically potent molecules. In the present study we have designed a synthesis of new series of substituted pyrazolo [4, 5-*e*] pyrimido [2, 3-*b*] [1, 3] benzimidazoles by treating 3-cyano-4-imino-2-metylthio-*4H*-pyrimido [1, 2-*a*] benzimidazole and differently substituted aryl / heteryl hydrazino compounds in N, N'- dimethyl formamide (DMF) and catalytic amount of anhydrous potassium carbonate. Reflux the reaction mixture for 5-6 hrs. Structures of compounds were confirmed by spectroscopic techniques IR, mass, ^{1}H and ^{13}C NMR and analytical properties. All synthesized compounds were screened for their pharmacological activity.
Keywords: DMF, Heterocyclic compounds, Synthesis, Reflux, Pharmacological activity.

ISCA-ISC-2016-4CS-11-Poster

Iron Chelating Activity of Various Solvents Extracts of Indian Guava (Psidium Guagava) Leaves

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Abstract: Metals with normal concentration have essential roles in body metabolism, however in higher concentration they can be induce sever toxicity. Treatment with chelating agents is useful practice to reduce metal toxicity in live organism. The leaves of Indian Guava (Psidium Guajava) were taken with the aim of evaluating the chelating activities. The extract in three different solvents viz. aqueous, methanol and petroleum ether were prepared. The ability was studied by using Benzie and Strain method in EDTA was used as standard for this purpose. Methanolic extract was found to be most effective iron chelator. Highest activity was found in 1000µg/ml concentration of guava leaves i.e 68.20% that of standard EDTA was found to be 89.00%. In conclusion the methanolic extract of Indian guava (psidium guajava) could be used in treatment of iron overload diseases.
Keywords: Psidium Guajava, Methenol, Petroleum ether, Chelating activity.

ISCA-ISC-2016-4CS-12-Poster

Synthesis, Thermal and Structural Study of Al^{+3} Substituted Ni-Zn-Cu Nano Ferrites

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Abstract: Al^{3+}, Fe^{2+}, Ni^{2+}, Cu^{2+}, and Zn^{2+} hydroxides have been synthesized by wet chemical co-precipitation method. The dried metal hydroxides were characterized by simultaneous thermo gravimetric (TG) and differential thermal analysis (DTA) at a heating rate of 10^0C/min in the air atmosphere. It is observed that, metal hydroxide were dehydrated completely in the range of temperatures 351 to 448 K, and the oxidation takes place in the temperature range 623-667 K. Infrared spectra were recorded at room temperature in the wave number range of 200–800 cm^{-1}. The IR spectra show two major absorption bands. High frequency bands assigned to the tetrahedral and low frequency bands assigned to the octahedral complex. X-ray diffraction (XRD) showed single cubic spinel phase for all the samples. Stiochemetry of the synthesized samples was calculated from EDAX. The microstructures of the prepared samples were studied by Scanning Electron Microscopy (SEM).
Keywords: Co-precipitation, Spinel, Ferrites, Thermogravimetric, Scanning Electron Microscopy.

ISCA-ISC-2016-4CS-13-Poster

Impact of Edge Functionalization of Graphene Oxide onits Thermal Stability and Biological aspects

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Abstract: Ultrasound assisted exfoliation of graphite oxide (GtO) and direct *in-situ* edge functionalization of graphene oxide (GrO) has been settled to explore its various novel applications. The mechanochemical energy employed for the direct covalent edge functionalization of graphene oxide (f-GrO) with the various organic compoundsthrough nucleophilic substitution reaction. The synergistic impact of the synthesized composite materials is noticed as enhanced the thermal stability of GrO and for its multi-functionalities study including the excellent biocompatibility. However, the f-GrO ensures the multi-functionality of advanced materials for various applicationslike fuel cells, electro-catalyst, supercapacitor performance, photocatalyst and biocompatibility. Hence, the ultra-sound assisted edge functionalization of GrO with amine substituted heterocyclic moieties skips the conventional hazardous steps for its surface modification. The enhanced thermal study of f-GrO was demonstrated by thermal gravimetric analysis (TGA) with respect to total percentage weight loss. The biological study was ensured by the *in-vitro* evaluation on living cell lines. Also, the edge of f-GrO are scrutinised by various analytical instrumentation techniques for its confirmation. Near Edge X-ray Absorption Fine Structure (NEXAFS) Spectroscopyare used for the edge structural confirmation.
Keywords: Covalent Functionalization, Synergistic impact, Thermal stability, Near Edge X-ray Absorption Fine Structure Spectroscopy.

ISCA-ISC-2016-4CS-14-Poster

Synthesis of Pyrimido [1,2-*a*] Pyrazine Derivatives by Cyclocondensation

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Abstract: The parent compound, 3-substituted-4-imino-2-(methylthio)-4*H*-pyrimido [1,2-*a*] pyrazine was prepared by condensing 2-amino pyrazine and bis (methylthio) methylene malononitrile. 2-Substuited derivative of the parent compound were prepared by condensing with aryl amine / substituted phenols / compound containing active methylene groups / heteryl amine. The newly synthesized compound was characterized by elemental analysis IR, ^{1}H NMR, ^{13}C NMR and Mass spectroscopy. Currently, further efforts to evaluate the bioactivity of the resulting compounds are underway in our laboratory.
Keywords: 2-amino Pyrazine, (Bis methylthio) Methylene malononitrile, K_2CO_3.

ISCA-ISC-2016-4CS-15-Poster

Effect of Rhodamine B on interaction behaviour of Lanthanide nitrates with Dendrimer

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Abstract: The density ($\tilde{n}$), viscosity (ς) and sound velocity (u) for hexahydrate nitrate salts of gadolinium, samarium and neodymium (1.2 to 7.2) m'"mmol'"kg^{-1} have been determined in (a) 40% aqueous DMSO (b) 40% aqueous DMSO of + Trimesoyl 1,3,5-tridimethyl malonate (TTDMM) (0.10 to 0.30)m'"mmol'"kg^{-1} (c) 40% aqueous DMSO + Rhodamine B (0.10 m'"mmol'"kg^{-1}) (d) 40% aqueous DMSO + Rhodamine B + TTDMM (0.10 to 0.30)m'"mmol'"kg^{-1} at 298.15 K and atmospheric pressure. From aforesaid primary parameters the apparent molar volume (V_ϕ), viscosity *B*-coefficient, isentropic compressibility (k_s), and apparent molar isentropic compressibility ($k_{s,\phi}$) have been determined. However, the data were regressed against composition and regression constants: apparent molar volume at infinite dilution (V^0_ϕ) apparent molar isentropic compressibility at infinite dilution ($k^0_{s,\phi}$) and viscosity B-coefficient are studied. Physicochemical activities of these systems have been interpreted in terms of solute-solvent and solute-solute interactions. Thus, an effort has been made to investigate the additive effect of fluorescent dye rhodhamine B on interaction of 1st tier dendrimer TTDMM with lanthanide nitrate salts.
Keywords: TTDMM, Rhodhamine B, Viscosity *B*-coefficient, Apparent molar volume, Isentropic compressibility.

ISCA-ISC-2016-4CS-16-Poster

Synthesis, Characterization and In Vitro Antimicrobial Activity of Transition Metal Complexes of Novel Schiff Base

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Abstract: Transition metals Mn(II), Co(II), Ni(II), Cu(II), Zn(II) and Cd(II) ions complexes with novel Schiff base , resulted from the condensation of 1-(5-methyl-2-hydroxy-3-nitrophenyl)ethanone with 4-cholo-(3-trifluromethyl) aniline as a Schiff base have been synthesized and characterized using elemental analysis, spectra (FT-IR,1H NMR),magnetic moment and thermal studies.The IR data suggest that coordination mode for Schiff base ligand which behaves octahedral with metal ion.TheSchiff base and the complexes have been screened for their antimicrobial activity against bacteria *Escherichia coli, Staphylococcus aureus, pseudomonas aeruginos in* Mullar-Hilton medium and *Aspergillus niger* and fingi *Trichoderma viride* in potato dextrose agar medium. Their study shows that the Schiff base complexes show more antibacterial activity as compared to ligand.
Keywords: Schiff base, 1-(5-chloro-2-hydroxy -3-nitrophenyl) Ethanone, Diffuse reflectance, Magnetic and antimicrobial.etc**.**

ISCA-ISC-2016-4CS-17-Poster

Synthesis of Benzopinacol using CFL Bulb Light Source

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Abstract: Aromatic pinacols are widely used as polymerization initiators. Photochemical synthesis of benzopinacol from benzophenone is used to evaluate the effectiveness of sunscreen lotions. These uses of benzopinacol promoted us to find an alternative procedure for the synthesis of benzopinacol which is independent of the natural climatic conditions and is also cost effective.Benzopinacol is prepared in high yield from benzophenone by direct irradiation with sun light (photochemically), using isopropanol as the reducing agent in presence of acetic acid. But, being a natural source the time taken to form the product is dependent on the natural climatic conditions. Artificial light source i.e. CFL bulb light gave appreciable yield of product. Also, it is independent of the natural climatic constraints and cost effective.
Keywords: Aromatic pinacols, benzopehenone, benzopinacol, polymerization initiators, sunlight, CFL Bulb, natural climatic constraints and cost effective.

ISCA-ISC-2016-4CS-18-Poster

Synthesis and Characterisation of Unsymmetrical Bis-Thiourea

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Abstract: The current development of general organic and medicinal chemistry is deriving much benefit from the expertise of carbohydrate specialists, be it in elucidation and synthesis of complex, carbohydrate-containing natural products of biological or medical significance. Substituted thiourea are useful catalysts for organic synthesis, the phenomenon is called thioureaorgano catalysis. Thiourea derivatives have biological properties such as antioxidant, antibacterial, antimicrobial, ant HlV activity, anti-malarial and anticancer. Some Heterocyclic thiourea has been reported as new class of potent non-nucleoside inhibitors of human viruses type 1 reveres Ariansscriptas (NNRTIS). In view of the advantage conferred by glycosylthiourea, it was interesting to carry out synthesis of various per-*O*-acetyl and per-*O*-benzoylunsymetricalbis-thiocarbamides by the interaction of per-*O*-acetyl and per-*O*-benzoyl glycosylthiocarbamides witho-tolylisothiocyanate. The identities of these newly synthesized compounds were established on the basis of usual chemical transformations, IR, ^{1}H NMR, and Mass spectral studies. All the synthesized compounds have been evaluated for their antibacterial and antifungal activity against different bacteria and fungi by agar diffusion method.

Keywords: Glycosylthiocarbamides, *o*-tolylisothiocyanate, Bis-thiocarbamides, Antimicrobial analysis, glycosylisothiocyanates.

ISCA-ISC-2016-4CS-19-Poster

Peanut Milk Shrikhand Blended with Cow Milk

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Abstract: Shrikhand is one of the popular milk based desert. The peanut milk shrikhand prepared with contribution of peanut milk rich in minerals and fat improving the energy supplement in anemic patient. In the present study the shrikhand was prepared by blending chakka with sugar, cream and other ingredients like nut, flavour, color etc. to achieve the finished product of desired composition, consistency and sensory attributes. Samples A, B and C were formulated in the laboratory with various proportions of peanut chakka in 40%, 50% and 70% and cow milk chakka in 60%, 50% and 30% respectively, along with other ingredients. These were compared with the market sample. Physico-chemical analysis showed that sample 'B' was favorable as compared to the standard specifications of fssai. Also the mean sensory scores of sample 'B' in terms of sweetness, mouth feel, flavor, color, and overall acceptability of sample 'B' were in good agreement with the standard specifications.

Keywords: Chakka, Peanut, Shrikhand, Sensory Attributes', Total Solids.

ISCA-ISC-2016-4CS-20-Poster

Selective Metal Adsorption by Chemically Modified Novel Biopolymer

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Abstract: Starch as a natural biopolymer is extensively used in paper, food, adhesive, medicines, nano films and many other industries. Biopolymers are sustainable, carbon neutrals and are always renewable.Starch is the second most abundant natural biopolymer on the earth. In order to improve the performance of starch, crosslinking is often carried out either in the processes of starch modification or during the application processes. By controlling the degree of crosslinking, the water retention capacity of starch-based hydrogel can be well controlled. In addition, the adsorptivity and binding strength of starch on a substrate can be significantly improved. Chemically modified biopolymers can be used as selective metal chelators. They have applications in waste water management. In the present study chemical crosslinking of starch using Ethanedial (glyoxal) was carried out to judge its adsorptivity towards Copper. The novel crosslinked biopolymer is characterized by IR, NMR, XRD and surface chemistry of metal- biopolymer was studied using SEM.

Keywords: Metel, Adsorption, Biopolymer, Carbon.

ISCA-ISC-2016-4CS-21-Poster

Spectroscopic study for Determining the Interaction between Fish sperm DNA and Hyoscine Butyl Bromide: An antispasmodic drug

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Abstract: The interaction between Hyoscine Butyl Bromide (HBB) and Fish sperm DNA (FsDNA) have been investigated effectively by different spectroscopic and viscosity techniques under physiological buffer, pH 7.4. The number of binding sites and binding constant K_b (2.398 x 10^4 mol^{-1}) was measured by fluorescence quenching method. The thermodynamic parameters ΔG^o (-24.98 $kJmol^{-1}$), ΔH^o (-20.2489 $kJmol^{-1}$) and ΔS^o (15.60 $Jmol^{-1}K^{-1}$) were calculated at different temperatures according to van't Hoff equation. $\Delta G^0 < 0$ from thermodynamic studies indicates that the interaction processes is spontaneous, $\Delta H^0 < 0$ and $\Delta S^0 > 0$ indicates the role of electrostatic interactions in formation of HBB-FsDNA complex. Based on spectroscopic results, the mode of binding of HBB to FsDNA is mainly established through electrostatic interaction with partial intercalation (groove binding).
Keywords: Hyoscine Butyl Bromide, FsDNA, Spectroscopy, Binding constant, Binding mode.

ISCA-ISC-2016-4CS-22-Poster

Synthesis of Multifunctional Dendrimers and Their Structural Studies

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Abstract: Dendrimers act as smart materials therefor synthesis of such architectural and potential molecules is being considered as a new area for multifunctional materials with enhanced activities to catalyze chemical and biochemical processes. The process belongs to sciences of supramolecules which have potential and interesting structural properties. New dendric moleculewas synthesized byreacting acid chlorides with phenolic derivatives in presence of bases. New dendric molecule synthesized in the presence of t-BuOK at room temperature with good yield (~80%>). They were characterized by ^1H NMR, ^{13}C NMR, and IR spectroscopy. An FTIR spectrum confirmed the formation of ester bond at 1741 cm^{-1} and ^1H NMR spectrum confirmed δ 9.05 (s, 3H, ArH) which conform for structure of dendrimers.
Keywords: Dendrimer, Dendric molecule, Supramolecular, Phenolic derivatives.

ISCA-ISC-2016-4CS-23-Poster

Acetic acid in PEG-400: An Efficient System for Synthesis of 1-Cinnamoyl-2-Pyrazoline Derivatives

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Abstract: The five membered nitrogen containing heterocyclic compounds, the pyrazolines, are of the interesting owing to their biological and pharmacological effects. Several pyrazoline derivatives possess important pharmacological activities and therefore they are useful materials in drug research. 2-Pyrazolines are biologically active scaffolds with a variety of biological activities like antimicrobial, antitubercular, anti-inflammatory, anticancer, antitumor, anticonvulsant, and anti-HIV. Some of the pyrazoline derivatives are also reported to possess anti-inflammatory, antidiabetic and antidepressant properties. On the other hand, cinnamic acid derivatives, especially those combining the cinnamoyl moiety with hydroxyl groups, present strong free radical scavenging properties. Acids, esters, amides, hydrazides and related derivatives of cinnamic acid with such activities are reported in the literature for their health benefits. Keeping these biological observations of pyrazolines in mind along with social responsibilities and in continuation of our work on the synthesis of biologically active heterocyclic compounds, it was planned to synthesize some new series of 2-pyrazoline derivatives containing cinnamoyl moiety under mild condition. The cinnamoyl hydrazide (2) intermediate was treated with different

chalcone derivatives 1(a-h) using catalytic amount of acetic acid in polyethylene glycol-400 as reaction solvent to formed corresponding 1-cinnamoyl 2-pyrazolines.

Keywords: Acetic acid, PEG-400, Efficient, System, 1-Cinnamoyl-2-Pyrazoline, Derivatives.

ISCA-ISC-2016-4CS-24-Poster

Design, Synthesis and Characterization of some new Pyrazolo [3,4-e][1,2,4] Triazine compounds

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Abstract: Numbers of heterocyclic compounds bearing Nitrogen, Sulphur and Oxygen have attracted considerable attention from organic and medicinal chemists due to their considerable bioactivity. Literature survey reveals that various thiazolidinones have attracted considerable attention as they exhibits wide range of pharmaceutical activities. 4-Thiazolidinones were known for their versatile pharmacological and industrial importance. All 2-azetidinones contain the b-lactam moiety. Its reactivity is greatly influenced by substituents or fused rings. 2-azetidinones and their derivatives possess a variety of therapeutic activities. Phenothiazines and related tricyclic compounds belong to one of the eldest classes of modulators of multidrug resistance (MDR) in cancer cells. The thiosemicarbazones compounds show significant antimicrobial activity. The benzodiazepine (Bz) classes of drugs are used clinically for their anxiolytic, hypnotic, muscle-relaxant and anticonvulsant actions. They act allosterically to influence central gamma-aminobutyric acid (GABA) mediated neurotransmission. In this present communication a series of some new substituted-3-7-Dimethyl-Pyrazolo [3,4-e][1,2,4] triazine compounds were synthesized using conventional method. An intermediate 3, 7 – Dimethyl pyrazole [4, 3-e] oxadizine was prepared from ethyl acetoacetate and hydrazine hydrate followed by bromination and cyclization using acetic anhydride and hydrazine hydrate. The intermediate finally condensed with p-toluedine, 4-amino benzoic acid, p-nitro aniline and cysteine in ethanol to get 4-substituted–3-7-Dimethyl-Pyrazolo [3,4-e][1,2,4] triazine compounds.

Keywords: Synthesis, Triazine, Oxadizine, Bromination, Cystein.

ISCA-ISC-2016-4CS-25-Poster

Synthesis and Physico-chemical properties of Co(II) Metal Complexes with Substituted Salicyloyl Pyrazole Oximes

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Abstract: Oximes are versatile ligands, they can easily forms complexes with transition metal ions. The coordination chemistry of transition metal ion with 2-hydroxyoximes has shown considerable interest due to large applications in various fields. The metal complexes of oximes have structural features due to formation of intramolecular hydrogen bonds and a packing configuration which gives rise to important applications as biochemical model, and semiconducting materials. Schiff base and their metal complex shows wide range of applications in agriculture, pharmaceutical and industrial chemistry. The wide biological applications of pyrazole oximes and emergence of new fungal pathogens 1-(3, 4 difluorophenyl-4-(2-hydroxybenzoyl)-1-*H*pyrazole), prompted us to work on synthesis of salicyloylpyrazole and its transition metal complexes. The properties of all newly synthesized complexes investigated by physical and spectroscopic methods. In this present report, Co(II) complexes with Schiff base substituted salicyloyl pyrazole oximes were synthesized. They are characterized by analytical and spectral methods. The elemental analysis data reveal that the Schiff base Co(II) complexes have 1:2 (M:L) stoichiometry. The molar conductivity data show them to be non electrolytes. The Schiff bases are bidentate coordinating through the imine nitrogen and phenolic oxygen of salicyloyl pyrazole oximes. Based on analytical and spectral data, four-coordinate geometry is assigned for all complexes. The electronic absorption spectra suggest the square planer geometry for the complex.

Keywords: Synthesis, Conductance, Absorption, Imine, Complex.

ISCA-ISC-2016-4CS-26-Poster

Synthesis of Biologically Active Chromene fused Pyrimidine Derivatives from 4-Amino-Chromene-3-Carbonitrile

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Abstract: Coumarin and pyrimidine bearing heterocyclic system constitutes various bioactive compounds. The coumarins are extremely variable in structure, due to the various types of substitutions in their basic structure, which can influence

their biological behavior. Coumarin and its derivatives have been prominently accepted as a natural pharmaceuticals worldwide, has revealed new biological activities with interesting therapeutic applications, besides their traditional employment as anticoagulants (anti-vitamin K activity), antibiotics (novobiocin and analogues). Some of the natural produts such as Calodinide (+) having coumarin nuclei exhibiting excellent anti HIV activity. Pyrimidine bearing drugs possess has been well known for their good cytotoxic property. Aminopyrimidine exhibited promising antitumor activity, also 2-methylthio-diacetylphenylamino) pyrimidines showed anti HIV activity in Hq cell cultures. Aminopyrimidine play a crucial role in the inhibition of cardiovascular and ceribrovascular disorders. Some aminopyrimidines have been studied for their antimicrobial activity. Pyrimidine also shows various kinds of biological activities such as fungicidal, insecticidal activity.

Keyword: Heterocyclic Synthesis, Coumarin, Pyrimidine.

ISCA-ISC-2016-4CS-27-Poster

Water Droplet Study on Rough Artificial and Natural Surfaces

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Abstract: We have examined the impacts dynamic of water droplets on the artificial polymer hydrophobic surfaces and natural hydrophobic surfaces with different impact velocities. Rebound, splashing, fragmentation and vibrational oscillations were observed due to the roughness of the surfaces. Contact angles were measured on different plastic surfaces and natural surfaces.We found that splash and vibrational oscillations were identified on both Eucalyptus and Wild lettuce surfaces. Furthermore, rebound and vibrational oscillations were observed on Crocosmia and Purple sage surfaces due to the small micro dots and densely covered three-dimensional waxes.

ISCA-ISC-2016-4CS-28-Poster

Synthesis of Carboxamide and Sulfonamide Bearingnovel Pyrazolopyridones

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Abstract: The reaction of various ketene dithioacetals 1a-w with cyanoacetamide 2 was afforded the pyridine 3a-w derivatives with good yields in the presence of base. Sodium isopropoxide was found as an efficient base for the synthesis of pyridones. The pyridones were further reacted with hydrazine hydrate to furnished pyrazolopyridones followed by reaction with PTSA in basic condition affords 5a-w in excellent yields with short reaction time. The reactions were carried out with various range of solvent and found IPA as suitable solvent. We have demonstrated the synthesis highly functionalized pyrazolopyridone derivatives in excellent yields.

Keywords: Synthesis, Carboxamide, Sulfonamide, Bearingnovel, Pyrazolopyridones.

ISCA-ISC-2016-4CS-29-Poster

Preparation of Ionic Liquids and Synthesis of DHPM using ILS

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Abstract: Alkylimidazolium and N-alkylbenzimidazolium based ionic liquids having halide and tetrafluoroborate were synthesized and used to study catalytic efficiency for the Biginelli reaction under solvent-free conditions. Among all the ionic liquids, the1- Butyl-3-Metylimidazolium chloride found as most promising and efficient green solvent for the synthesis of Dihydropyrimidine 4. The process was simple and proceeded in excellent yields.

Keywords: Preparation, Ionic Liquids, Synthesis, DHPM, ILS.

ISCA-ISC-2016-4CS-30-Poster

Optimization of Condition for the Preparation of Low Cost Adsorbent from Bio-diesel Waste and their Applicability for the Removal of Lead from Wastewater

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Abstract: Trace element like Lead is well known heavy metal pollutant which is present in wastewater of various industries. The desirable amount of Lead is 0.05 mg/lit and if this amount exceed over desirable amount will cause severe health problems. This study aimed at investigating the Lead removal efficiencies by using Bio diesel waste, with the aim of achieving the water quality level needed for reuse and recycling. Adsorption of this Lead from wastewater by activated carbon is the most efficient classical way. Research is now focused to prepare activated carbon from Jetropha Husk a biodiesel waste and its application as adsorbent for the removal of Lead from wastewater. Huge amount of jetropha husk is generated as waste product in the preparation of Bio-diesel obtained from jetropha seeds. Preparation of activated carbon from jetropha husk could be easily applied as adsorbent for the removal of heavy metals from wastewater. The effect of activation temperature, Impregnation ratio and activation time were examined for the synthesis of activated carbon. Physico Chemical parameters viz moisture content, Ash content, volatile matter content and carbon content of prepared activated carbon were also examined. The optimum conditions to achieve maximum adsorption capacity for activated carbon prepared from Biodiesel Waste are 700^0C activation temperature, 1h activation time and 1:1 impregnation ratio. This study found that biodiesel waste is efficient raw material for the preparation of activated carbon. Prepared activated carbon can be used as an economic and efficient adsorbent for removal of Lead from wastewater. High adsorption capacity of the tested adsorbents makes it preferable and very attractive alternative adsorption material. This process is suitable even when the Lead ions are present in low concentration.

Keywords: Low cost adsorbent, Optimization, Bio-diesel waste, Wastewater and adsorption capacity.

ISCA-ISC-2016-4CS-31-Poster

Electro catalytic activity of Platinum supported on Nitrogen doped Mesoporous / Microporous Carbon Support for the Methanol oxidation

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Abstract: In the present study high surface area and highly porous nitrogen-based carbon materials were chemically synthesized by applying following strategy. The method involves the conventional sol-gel method involving the polymerisation of Resorcinol, Phenol, Formaldehyde and Urea followed by carbonization temperature from 800p C followed by successive washing with water. The resulting nitrogen-based carbons were characterized by SEM, EDX, IR, XRD and B.E.T. surface area analyser. SEM revealed that highly porous structures were formed. The synthesized nitrogen-based carbons exhibited high apparent B.E.T. surface area up to 702.91 m^2/g. The 5PtPC-N based sample showed enhanced activity for electro-oxidation of methanol in sulphuric acid medium as compared to commercial carbon sample. The total number of acid sites and carboxylic acid sites determined for the synthesized samples using simple acid-base titration are indicative of surface functionalities anchored on carbon surface. Nitrogen doped polymer based carbon exhibited enchancedelectrocatalytic activity towards methanol oxidation at 60^0C. The higher activity if the sample could be attributed to due strong interactions of Nitrogen sites with Pt particles enhancing catalyst support interaction onto

mesoporous carbon. Mesoporosity of carbon support increases facile diffusion of reactant and product there by reducing intermediates generally observed in the mechanism of methanol oxidation

Key words: Nitrogen based carbon, Electrocatalyst, Methanol oxidation, Fuel cell.

ISCA-ISC-2016-4CS-32-Poster

Electrochemical behaviour of Cd II with Amino and Triazole in aqueous at Dropping Mercury Electrode

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Abstract: Amino acids are biologically active compound and essential for human being and their reactions with metal have relevance to bio-system, they have good chelating ability with metal ions and play an important role in biology and pharmacy. The study mixed ligand complesxes of metal like Cd II with amino acids and Triazole play an important role in biological activity of such drugs because Cd II is found in human serum. The reduction of Cd II complexes at d.m.e. in aqueous medium has been studied with some amono acids (Valine serine and aspartic acid) and Triazole. In most cases a single reduction waves was obtained, the plot id Vs squre root h and id Vs concentration were linear passing through the origin indicating diffusion controlled reduction. Where id is diffusion current and h is the height of mercury coloumn. The value of slop of straight line corresponding to Ed.e Vs log i/(id-i) indicate reversible nature of reduction. The E1/2 values is regularly shifted towards shifted towards negative side and id values decreased with increasing concentration of ligands their by showing complex forming. The simple systems were studied by the method of Deford and hume; owever the mixed complexes were studied using scahap and however the mixed complexes were studied using scahap and Mcmaster's method The value of stability constant is determined by polarographic method.

Keywords: Polarography, Amino acids, Stability constant.

5. Computer and Information Technology

ISCA-ISC-2016-5CIT-01-Oral

Probe of Opinion Mining On Social Networking Data Streams Using Hadoop

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Abstract: Twitter is a social networking site in which the data to be processed is in rich amounts and which can be structured, semi-structured and unstructured data streams. Opinion mining over the Twitter offers organizations a fast and effective way to monitor the feelings of public towards their services. It focuses on predicting the polarity of words and then classifies them into positive and negative feelings with the aim of identifying attitude and opinions that are expressed in any form or language. Bian et al.'s method annotated the twitter corpus which was focused on Adverse Drug Reaction (ADR) which includes the broad pharmacological coverage. Bingwei et al.'s method evaluates the scalability of Naive Bayes classifier (NBC) in large datasets instead of using the standard library. Skuza et al.'s method estimated the future stock prices by calculating in distributed environment according to Map Reduce programming model. Mohit et al.'s method explains how the Map – Reduce paradigm can be applied to the existing Naïve Bayes algorithm to handle a large number of tweets. All these approaches say about the real-world data sets at its accuracy level by using Hadoop File System. In this paper, we have probed all the above methods at their accuracy level.
Keywords: Twitter, Social networking sites, Navie Bayes Classifier (NBC), Map-Reduce, Hadoop File System (HDFS).

ISCA-ISC-2016-5CIT-02-Oral

Requirements Engineering Framework for Automated Emergency Departments of Hospitals

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Abstract: In Emergency departments of hospitals, users have to take critical decisions related to patients and resources within short time. The increased demand of quality resources at critical time in emergency department is a major challenge to provide quick medical assistance. To automate and improve emergency healthcare process, autonomic computing framework is used in both intra and inter-organizational services. This framework gives dynamic nature to emergency department processes. Emergency department environment has to deal with sudden changes in workloads due to emergencies like natural disasters, fire or terrorist attacks. Sometimes, in ICU, patients have to be monitored continuously. The emergency department has to ensure care continuity and Quality of Service (QoS) at optimum cost. The framework of autonomic computing is appropriate for emergency department environment since it has self-management capabilities with self-configuring, self-optimizing, self-protecting and context awareness features. Hence, according to current scenario, autonomic computer software adapts its behavior at run-time. This framework proposes dynamic requirements engineering using the self-adaptive software approach with model driven architecture (MDA) to gather functional and non-functional requirements. As the level of autonomy increases, various requirements can be identified at runtime. Autonomy architectures like (MAPE-K) Monitor-Analyze-Perform-Evaluate cycle and (IMD) Intelligent Machine Design can be used to bring requirements engineering autonomy during software development.
Keywords: Autonomic, Computing, Self-adaptive, Software, Requirements, Engineering, Model, Architecture, Emergency.

ISCA-ISC-2016-5CIT-03-Oral

An Image Analysis using statistical features of Brain Tumor and Breast Tumor Digital images

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Abstract: Digitized images for further diagnosis in case of suspected Brain tumor. MRI technique is used to obtain this 2D images of Brain map. In case of Breast tumor diagnosis, the technique used is Mammography. These images are in

digital form and in two dimensional in nature. Image analysis and their statistical feature abstraction is one of the important aspect in process to early detection of tumor existence, their size and type of tumor. This can be helpful in early detection and rapid follow up actions to cure the problem. This study aims to work on aspects of digital image analysis using its statistical features and how they can be used for the purpose of early detection. Datasets of images are obtained for both Brain tumor images using MRI and Breast tumor images using Mammogram. These images are in digital forms and contain noise. Using appropriate noise removal technique, the obtained datasets are used for statistical analysis using SciLab®. The feature extraction technique is used to obtain the area of interest. Statistical measurement matrices is generated for the purpose of area of interest identification. The measured features are used to verify and observe the results using blind datasets. Tumor texture and statistical analysis can be done using this to identify the similarities and difference among the obtained results of both types of tumors. The obtained results show that above 87% of blind dataset images of brain tumor and above 84% of breast tumors falls within the obtained statistical measurement matrices.
Keywords: Brain and breast tumor, Digital Image Statistical features, Image texture analysis, Digital Image analysis, Medical Image Analysis.

ISCA-ISC-2016-5CIT-04-Oral

A New Design and Implementation of Block Cipher Module Using Simple Encryption Technique: A TimeLine Approach

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Abstract: There are many aspects of security and many applications, ranging from secure commerce and payments to private communications and protecting passwords. One essential and important aspect for secure transformation of the information is cryptography, which is the main focus of our work. But it is important to note that while cryptography is necessary for secure transformation of information, it is not by itself sufficient. This works presents an Cryptography (Encryption/Decryption) application that is able to work with any type of file; for example: image files, text data files, audio/video file and pdf files…etc. The method of encryption/decryption is simple enough yet powerful enough to fit the needs of any buddy in a organization. The application uses simple key generation method of random number generation and combination. The final encryption is a binary one performed through simple mathematical operation like matrix and rotation of bits applied on each block of data in any file using a symmetric decimal key. The key generation and Encryption are all done by the system itself after clicking the encryption button with transparency to the user. The same encryption key is also used to decrypt the encrypted binary file.
Keywords: Symmetric decimal key, Encryption, Decryption, Audio/video file.

6. Earth and Geology

ISCA-ISC-2016-6EG-01-Oral

The Lithological sequence of Alkaline rocks field studies Pakkanadu area, Salem District, Tamil Nadu, India

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Abstract: The paper presents of the lithological sequence of field studies of Pakkanadu area. The Pakkanadu pluton is intruded into charnockites, gneisses and granulites. NE-SW striking, southeasterly dipping migmatite, which is thought to be pretectonic, encompasses my study area. Syenite and pyroxenite of the pluton have foliation generally parallel to the migmatite. To this effect, collected rock samples at various lithological rocks from my study area oldest rock formation migmatite gneiss to youngest carbonatite (Sovite and ankeritic types). Field relationships, the sequence of formation is inferred to be Pyroxenite first, Syenite later, and Carbonatite last occurred in Pakkanadu area. In this area occur as small dimensions, concordant, fracture fills and dykelets within pyroxenites body and as discordant bodies within syenite, emplaced along a NE-trending fault (subsidiary of Attur fault). It consists mainly of syenite, associated with dunite, ijolite, pyroxenites and carbonatite. A number of smaller ultramafic-syenite- carbonatite bodies also occur along sub-parallel NNE-SSW trending shear zones of the main zone of alkaline activity. At the contact with the carbonatite, the pyroxenite is fenitized, with the formation of large biotite crystals. Discordant bodies some of these show a curde foliation and most of them are branching of thin, fine grained dykes from the main body is also seen in fresh hand specimens, most of these carbonatites show large shinning brown rhombic dolomite grains. Set of mica in coarse grained greenish to brownish color and highly deformed.
Keywords: Neoprotrozoic, Alkaline-ultra basic, Field characters, Pakkanadu.

ISCA-ISC-2016-6EG-02-Oral

Water Diversion from the Western Slopes of Western Ghats to Godavari Basin, India

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Abstract: The proposed water diversion by NWDA and GoM remains unrealistic and unsustainable due to the absence of physical, hydrological and LULC information of the study area. This diversion, intended to divert west flowing surplus runoff to the east in the deficit Godavari basin of Maharashtra. In view of this, in this attempt sustainable water diversion modelling was proposed from the western slopes of the Western Ghats to the Godavari Basin. For this purpose experts survey was carried out and used the AHP technique for weighting of selected parameters. The sustainable water diversion approach weighted with i. Diversion canal - weight, ii. Reservoir and canal - weight and iii. Reservoir and tunnel - weight 3. Based on the experts' survey and AHP weight, water diversion model was prepared and sustainable water diversion sites are identified from integrated primary, secondary, space based inputs and field survey data using Geospatial techniques and. Finally, prepared parametric model and suggested water diversion sites are validated with the help of GPS field survey and GPS survey in the present study area.
Keyword: Sustainable water diversion, Western Ghat, Godavari Basin, Geospatial techniques.

ISCA-ISC-2016-6EG-03-Oral

Shoreline Change: A Study along South Odisha Coast using Statistical and Geospatial Technique

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Abstract: South Odisha coast is bestowed with sandy beaches and a series of sand dunes. Keeping in view the development activities such as development of an all weather port (Gopalpur port Limited) and extraction of beach sand by Indian

Rare Earth Limited, a long term monitoring of the shoreline was conducted along 13km stretch including the Gopalpur tourist beach and Gopalpur port area. The monitoring programme involves shoreline mapping through Differential Global Positioning System (DGPS) Arc Pad in the pre construction (2008-2010) and post construction (2012-2014) phases of Gopalpur port. The construction at Gopalpur port includes two breakwaters and development of berth on the south and groin field (a series of 11 groins) on the north. Impact of these coastal structures on shoreline are studied and compared with the shoreline in the pre construction phase. Shoreline change analysis involves geospatial technique (Arc View GIS 3.2a software) and statistical technique involving Digital Shoreline Analysis System (DSAS), an extension tool of Arc GIS software. Polylines are extracted and processed using geospatial technique and the statistics such as Net Shoreline Movement (NSM), Shoreline Change Envelope (SCE), End Point Rate (EPR) and Linear Regression Rate (LRR) are computed. The results indicate Gopalpur port north beyond groin field and Haripur creek as high erosion zone while south of southern breakwater observed as accretion zone and the rate of change at port north side is positive after coastal construction. However the rate of change at tourist beach is moderate. The result of the present study has implications on the ongoing integrated coastal zone management programme funded by World Bank.

Keywords: Shoreline change, Geospatial technique, Erosion/accretion, Coastal structure, Gopalpur coast.

7. Engineering, Energy, Architect and Planning

ISCA-ISC-2016-7EEAP-Guest Speaker-01

Study of Stilling Basin Models with Baffle Wall for Pipe Outlet

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Abstract: Stilling basins with appurtenances like baffle wall, intermediate sill, end sill, etc. can be used effectively in dissipating the excessive energy downstream of hydraulic structure like over flow spillway, sluices, pipe outlets, etc. This paper describes about the experimental work leading to the development of new stilling basin model for pipe outlet using baffle wall in the front of issuing jet along with square intermediate sill and end sill. On the basis of present investigations, newly developed stilling basin model has been compared with USBR VI stilling basin model. The main purpose of this paper is to design and develop new model for pipe outlet stilling basin which is more efficient as compared to other model for pipe outlet by developing new physical models of stilling basin in the laboratory by designing appropriate appurtenances. The new models were tested in a rectangular shaped pipe outlet for three Froude numbers (namely Fr = 1.85, 2.85 and 3.85) in comparison to USBR VI stilling basin model recommended for the pipe outlet. The scour pattern was measured for each test run and flow pattern was also observed. The performances of the models were judged by performance index (PI) using the same sand base material and test run time for all models. After experimental investigations, it is found that, for a given Froude number range, by using the baffle wall and hanging impact wall along with end sill, the performance of stilling basin model is improved and also the length of the newly developed basin is reduced from to 18% as compared to USBR VI stilling basin for a given flow conditions.
Keywords: End sill, Froude number, Performance index, Stilling basin.

7. Engineering Sciences-Chemical

ISCA-ISC-2016-7EEAP-Chem-01-Oral

Modeling of Esterification-Pervaporation Integrated System of Acrylic Acid with Ethanol

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Abstract: Kinetic model for esterification of acrylic acid with ethanol using sulphuric acid (H_2SO_4) as a catalyst coupled pervaporation process was established in this work. The major effects of different parameters such as reaction temperature, ratios of initial molar quantity of reactants, membrane area, catalyst concentration and membrane permeability on the esterification reaction and the permeation kinetics of water removed by pervaporation were taken into consideration in this kinetic model. The esterification of acrylic acid with ethanol using H_2SO_4 was carried out at a temperature range of 50–70°C, catalyst concentration of 1-3% of reaction mixture and initial reactant molar ratio of 1:1-1:3. The conversion of acrylic acid or yield of ethyl acrylate was enhanced in a pervaporation reactor as compared to a conventional reactor. The result indicates that the esterification pervaporation integrated system accelerates the rate of ester formation by removing water.
Keywords: Pervaporation, Esterification, Membrane, Modelling, Acrylic acid.

7. Engineering Sciences-Civil

ISCA-ISC-2016-7EEAP-Civil-01-Oral

Assessment and Management of "Plastics Waste" generated by, Use and Throw Pen utilized by Students of Engineering College, Durg –Bhilai, Chhattisgarh, India

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Abstract: The objective of the present paper is an evaluation of "Plastics Waste" generated by use and throw pen, utilized by students of engineering colleges, Durg- Bhilai. For data collection of these project, involves mutual involvement & discussion of students. Total weight of waste was measured by digital weighing balance and was found to be 830 k.g./

college. These values are analyzed by the statistical method and we also found an easy solution for "plastics waste management" at the local level. Different parameters were found to be i.e. Mean deviation - 295.937 k.g., Standard devition-341.04 k.g. and Coefficient of variation -40.75%. At present, our developing country continuously is raising this plastics waste due to millions of pen manufacturing in the plastics industry. Also, the consumptions of this disposable pen are increasing by students because of smooth flow and low price but after use, they are just throwing it and not thinking about consumption and disadvantages of these plastics which is now waste. So we have planned "Plastics waste Management "practices by new ideas on the basis of replacement of used pen by new .We practically applied this practice at a different location by installation of collection centers i.e. Book depot, General store, etc. and appointed collection agent at different areas. After collection of the heavy amount of plastic waste pen, we can reuse by filling ink and recycle by the installation of small scale industry, by heating and moulding process produces reusable plastics goods like soap case, hangers, clips, comb, covers, toys, plastic covers etc. This will also spread awareness about the waste generation of plastics and also gives a message about "Use durable pen and avoid disposable plastic pen.

Keyword: Plastic Waste, Solid waste, Management, Use, Pen.

ISCA-ISC-2016-7EEAP-Civil-03-Oral

Water Harvesting and its Management through Farm pond and Utilization of Conserved water for Vegetable Crops

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Abstract: A trial was conducted during 20007 to 2009 at All India Coordinated Research Project for Dryland Agriculture Phulbani, Orissa, India, with an objective to obtain the water loss and economics of the lined ponds .There were three treatments T1-Lined pond with soil cement plaster (6:1) 8cm thickness, T2-Unlined pond, T-3-No pond.10% of the cropped area was dug for construction of the pond in Lined and Unlined pond treatments. The size of the pond is 7m top widths, 1m-bottom width, 3m heights, and 1:1side slope. The water harvested in pond was reutilized for the pumpkin crop, which was sown only in Lined pond treatment, as there was no water available in unlined pond so the crop was not sown there. The water loss was 17 lit/day/m^2 in lined pond and 831 lit/day m^2 in unlined pond. Provision of dugout pond in 10 % area of the plot at the downstream side with 8 cm thickness soil cement plaster (6:1) gave 41% higher cauliflower equivalent yield compared to no pond. The B:C ratio was found to be 2.25 in lined pond. The payback period for lined pond (soil cement plaster 6:1 of 8 cm thickness) is 5 years and unlined pond was estimated at 2 years. The light textured well-drained upland soils in North Eastern Ghat Zone provide scope for cultivation of vegetables during rainy season. Harvesting of this run-off water in farm pond with proper lining will conserve the run-off water and recycling of this water for life-saving irrigation will protect the crop from drought/dry spell grown in 90% of land area. The ponds will be helpful for sustainability in productivity of dry land crops. Soil structure and organic matter status decide the water holding capacity of the soil. Keeping those points in view, the present experiment involving two water management systems (no pond and pond) has been designed.

Keywords: Water, Harvesting, Management, Farm pond, Utilization, Conserved, Vegetable crops.

7. Engineering Sciences-Computer Science

ISCA-ISC-2016-7EEAP-CS-01-Oral

Intrusion Detection Technique for Medical Cyber Physical Systems using Behavior Rule: A Review

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Abstract: In the intrusion detection technique for medical cyber physical systems using behavior rule, we find the intrusion in medical cyber physical system using the behavior of medical device current value. In the behavior-rule technique for intrusion detection, medical devices are connected in a medical cyber physical system in which the patient's safety is of the most importance factor. In that, all medical device standard value i.e. normal behavior of device is stored. The technique to transform behavior rules to a state machine, so that a device that is observed for its behavior can easily be checked against the transformed state machine for deviation from its behavior specification. If the device behavior is against the behavior rule, in that case intrusion occurs.

Keywords: Intrusion detection system, Medical cyber physical system, Patient controlled analgesia, Network Intrusion Detection System.

7. Engineering Sciences-Electrical and Electonic

ISCA-ISC-2016-7EEAP-EE-01-Oral

A New Technique of Tracking Maximum Power from Solar Energy

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Abstract: The conventional sources of energy, namely, gas, fossil fuels and other alternatives, pose a threat to power plant operators and end users due to the carbon emission problems, cost fluctuation and increasing demand supply ratio. The future global energy crisis has made attention for the technologist to develop and increase the percentage share of renewable energy. The renewable energy comes from natural resources such as sunlight, wind, and geothermal heat are known to be much cleaner and environmental friendly power system. Solar energy is a radiant light emitted from the sun, collected on photovoltaic (PV) panels and converted into electric energy which is subsequently utilised in various sources. Conventional solar panels without maximum power point tracking charger convert 30% to 40% of the solar energy incident on it into electrical energy. In order to utilise solar energy in efficient way i.e. more than 60 %, the maximum power point tracking (MPPT) system is the best solution. Various MPPT systems, namely, fractional open circuit method, fractional short circuit method, incremental order method and perturb and observe method. In the present investigation we have worked on perturb and observe method, which is a simple, user friendly and less complex to track maximum solar energy from PV module. In the present work, a voltage sensor is used to sense the PV array voltage so that the maximum power can be tracked. Finally the said method was compared with other MPPT techniques and observed that no periodic tuning is required, implementation complexity and time consumption is less.
Keywords: New Technique, Tracking, Maximum Power, Solar Energy.

7. Engineering Sciences-Mechanical

ISCA-ISC-2016-7EEAP-Mech-01-Oral

Assessment of "Heat Radiation" on the Employees in Reheating Furnaces of the Rolling Mills

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Abstract: "Heat" is a significant occupational health hazard in steel Industry. The reheating furnace of rolling mill is used for heating of semis such as Billets, Blooms, Slabs, Bars, Plates, Rails e.t.c. During the heating process of the furnace at $1200^0C \pm 50^0C$, the radiative heat is generated by heat transfer process (Conduction, Convection, and Radiation). The evaluation of heat radiation generated by the process of R.H. furnace in Bhilai Steel Plant carried out by means of W.B.G.T. INDEX (I.S.O. 7243). The heat radiation was measured at different locations of reheating furnaces by instrument W.B.G.T. heat stress monitor. The measured value by globe thermometer Instrument in different seasons was analyzed by the statistical method and it was found that the radiative heat is highly significant in summer and also in another season. The mean value of radiative heat found to be 43.95^0C, range of ambient temperature 25^0C to 43^0C were compared with permissible range as per factory act 1948 and O.H.S. (T.L.V. of radiative heat - 45^0C). It was concluded that the radiative heat of R.H. furnaces affects the working efficiency and physical heath of employees. The heat load varies and ambient temperature does not give a favorable working condition for hot work, so workers feel uncomfortable during work and not willing to do more work because the body is not able to balance the internal and external heat. On the basis of this study, some advanced engineering control measures and periodical health checkup have been suggested in the shop floor employees of R.H. furnaces in the hot work area, which is in the process of implementation at management level in the steel industry.
Keywords: R.H. Furnace, Heat Radiation, W.B.G.T., T.L.V, O.H.S., Semis, etc.

ISCA-ISC-2016-7EEAP-Mech-02-Oral

Multi-Objective Optimization of Cold Rolling System with Lubricants Using Grey Relation Method

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Abstract: Cold Rolling may be defined as the reduction of cross- section area of the metal stock or general shaping of the metal product through the use of rotating rolls below recrystallization temperature. During the cold rolling in a rolling mill synthetic lubricants consisting of mineral oils, biodegradable oil with chemical additives are being used for lubrication to obtain quality rolled surface. The quality of rolled product in cold rolling is largely influenced by surface roughness and chemical wear of rolled surface. Several factors contribute to quality of rolled product among those, composition of lubricant, amount of lubricant and operating speed of roller are more significant. In this study the identified factors were analysed using design of experiment approach. Robust design factor values were estimated by grey relation method. The result indicates that the selected process parameters significantly affect the quality of rolled product. The results are further conformed by conducting confirmation experiments.
Keywords: Cold Rolling, Synthetic Lubricants, Design of Experiment, Grey Relational Analysis.

7. Engineering Sciences-Textile

ISCA-ISC-2016-7EEAP-Textile-01-Oral

Effects of Cationic Ions on Herbal Colors Printing of Polyester Fabric

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Abstract: Herbal colors dyeing and printing were popular since the mankind was living in undeveloped state. Unfortunately, with invent of synthetic colorants, having better reproducibility, cost, fastness and others, the production and application of herbal colors decrease tremendously. In the 20th century entire world is suffering from global warming and therefore, the manufacturers and end users of synthetic colorants are shifting towards herbal colors because the formal one suffered certain constrains such as non-biodegradability, disposal problem, toxicity of some dyes, allergenic reactions, increasing price of coal tar etc. Polyester contributes more than 40 % in the world textile fiber out puts due to its specific excellent characteristics. It can be used as alone or in blend for various applications such as apparels, carpets, upholstery, sewing threads, technical textiles and more. Herbal colors, popularly known as natural colors can be dyed on natural fibers and practiced commercially also. Very few literatures pertain to printing of herbal color on polyester fabric are available and all are mainly patented. In the present research, two herbal colors, namely, turmeric and catechu have been printed on polyester fabric using various techniques of mordanting. The optimal process route of mordanting with print compositions for polyester fabric was identified and the effects of cationic charge of mordant on printing of herbal colors are compared. The effects of metallic ions, namely, sodium sulphate, copper sulphate, ferrous sulphate and aluminum sulphate were evaluated in terms of color co-ordination values (L,a,b,C and H) and fastness properties. The results are quite energetic and trial will be conducted at pilot scale in industry.
Keywords: Cationic Ions, Herbal colors, Polyester Fabric, Copper.

ISCA-ISC-2016-7EEAP-Textile-01-Poster

An Innovative Techniques of Textile Wet Processing: Waterless Processing

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Abstract: Textile industry, next to pulp and paper industries use substantial proportional of water (approximately 150 – 200 liter of water for 1 kg of cotton fiber processing). Further, the effluent of textile industries contain high amount of salts, colorants and other impurities which are very difficult to treat. Many attempts, such as, RFT technique, eliminating

water leakages, adoption of process control system, reduced liquor ratio by modification of machines, unconventional processing methods and others, have been made to conserve water quantity in wet processing of textiles. Solvent scouring (SC), super critical carbon dioxide dyeing ($SCCO_2$) and digital printing (DP) do not use water and therefore no effluent, popular as waterless processing or green processing of textiles, will be the future trends of processing. Non-aqueous organic solvents (polar and non-polar) can be used as media, instead of water to either extract the impurities from fiber (desizing and scouring) or dyeing of hydrophobic fibers. Organic solvents dissolve starch can be used in desizing, dissolve oils and waxes can be used in scouring, act as media can be used in dyeing and finishing operations to produce specific treatment. In all these treatments after completion of the process, solvent and extract can be recovered and reused for further processes. A Dutch company, Dye Coo Textile System BV in 2012, has developed completely water free $SCCO_2$ dyeing process for textile fibers. Carbon dioxide at temperature above 31^0C and pressure of about 74 bar becomes supercritical fluid and has a liquid (to dissolve dye particles) as well as gaseous (to penetrate inside the fiber structure) form. In polyester dyeing $SCCO_2$ penetrates and swell the fiber thereby facilitate the accessibility of dye particles. After completion of process residual dye and CO_2 can be recovered and reused. Digital printing consist non-aqueous solvent based ink along with colour and formulated specifically for different types of fibers. The master design computer is transferred through printer on fabric surface in the form of microscopic color droplets. Subsequently, the print is fixed by curing or steaming or by chemical treatment. This print effects gaining popularity because of its flexibility, versatility and environmental benign process.

Keywords: Textile, Wet Processing, Waterless Processing, industry, Environment.

7.Engineering Sciences-General

ISCA-ISC-2016-7EEAP-01-Oral

Rainfall Runoff modeling using SCS CN and GIS Techniques

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Abstract: Rainfall-Runoff computation of any basin plays a vital role for any water resources project to flourish. In the present study, Bina basin, India is chosen for rainfall-runoff modeling by implementing the SCS CN conceptual model along with the GIS tool. The daily rainfall data, gauge-discharge data and meteorological data of Bina river basin were used to perform Rainfall-Runoff modeling. Runoff assessment is carried out using observed discharge at Rahatgarh site. The Arc GIS 10.2 tool was employed for getting better accuracy in achieving the composite curve number for the basin. The model was evaluated on the Nash-Sutcliffe Efficiency criteria and the coefficient of determination (R^2) for the years 1997, 1998, 2003 and 2007. The estimated values were compared with the observed data which showed good reliability. The model showed Nash-Sutcliffe efficiency in the range of 0.70 to 0.90 and R^2 values in the range of 0.84 to 0.96. The Composite Curve Number came out to be 77 for the basin. The study indicates that the SCS CN model when employed with GIS tool becomes more useful for the hydrological study of the Bina basin.

Keywords: Rainfall, Runoff, SCS CN, GIS, Nash Sutcliffe Efficiency, Coefficient of Determination.

ISCA-ISC-2016-7EEAP-02-Oral

Case study of Klann Linkage in an Eight Legged Spider Model

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Abstract: Toady rapidly changing technology demands equally increasing productivity and efficiency. When it is about locomotion, wheels surely have reliable speed and efficiency, but this is only in case of flat, even terrain. In this case, the study of Klann linkage in eight legged spider model, compares and explores the locomotion in places which are not even and rough. Further study have been done on cases of temperature fluctuation, electrical conductivity etc. Moreover mechanical properties have also been tested for the linkage. Results have been recorded for geographically different surfaces and weather conditions. This model surely has wide range of usage where wheels fail to reach. It can even transmit heavy loads at different inclination in rough geographical surfaces. Material and Motor or any other driving element plays an important role in its changing efficiencies. These analyses are done on Virtual platforms and results have been drawn for the above mentioned aspects. In future, there is a wide range of up gradations possible in different parts of the model to suit the requirements. Experimental analyses for the model with simple modifications will definitely yield their improvement scopes and areas of application. These simple modifications have been discussed.

Keywords: Klann Linkage, Efficiency, Locomotion, Modifications, Geographical, surfaces.

ISCA-ISC-2016-7EEAP-03-Oral

Introduction, Classification, Properties, Applications and Scope of smart Material: A Review study

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Abstract: In today's fast changing world, though we have technical advances but we do constantly face challenges to upgrade them. Smart material is a form or a combination of material which is sensible and can be applied widely. They can be desirably changes under controlled conditions by external stimuli. Traditional material are designed specific performance requirement like stress, load etc. it cannot be altered if there is a change in requirement. Whereas , if we talk about smart material it offers alteration with changing needs with equal performance and thus have wide applications. Further studying the material by whether they can induce energy and can alter their geometric or material properties under the application of electric current. Load etc. Hence, they could be active smart material or passive smart material. Smart material find its application variedly ranging from Marine engineering, Aerospace, Mechatronics, civil engineering etc. When it comes to technical applications it involves composite materials embedded with fiber optics, actuators, sensors, Micro-Electro Mechanical Systems (MEMSs), bio-medical applications etc. In present scenario, this technology is most promising, efficient and reliable. This is because by understanding and controlling the micro structure of any materials is the main focus of research fields.

Keywords: Smart Material, Active, Passive, Controlled condition, External stimuli.

ISCA-ISC-2016-7EEAP-04-Oral

Rheological Behavior of Bentonite Mud - A Review

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Abstract: The bentonite clay used is a chief raw material to be added for the preparation of drilling fluids. Water bentonite suspension shows excellent colloidal properties and thixotropic properties. It is added to fresh water to: i. increase the whole cleaning properties; ii. reduce water seepage or filtration into permeable formation; iii. form a thin filter cake of low permeability; iv. promote hole-stability in poorly cemented formations and v. avoid or overcome loss of circulation. From laboratory and field tests, it is cleared that the combination of water-bentonite mud and rheology had a greater effect on the rate of penetration in the rotary drilling process. This study reviews the rheological behaviour of bentonite mud based on the past researches and recent advances made in this field. Also reviews the effects of different additives on water- bentonite suspension.

Keywords: Rheology, Drilling Fluid, Bentonite, Additives, HTHP.

ISCA-ISC-2016-7EEAP-05-Oral

Rheological Properties of Water Based Slurry under Turbulent Flow Condition

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Abstract: In previous researches the testing of additives had been performed under laminar flow condition where as in this paper, results are taken under turbulence flow condition. So the results that are getting from this research may be varying from other that had been performed under laminar flow condition. This paper presents the effect of different additives on rheological properties of water- bentonite suspension. This work present the results to relate the turbulent flow condition of any fluid flow. In the present investigation, 19 different samples have been prepared by varying concentration of additives. The variation of shear stress and shear rate has been plotted and on the basis of this behaviour of fluids has been explained. The value of k and n are calculated by using Power law.

Keywords: Rheological Properties, Drilling Fluid, Turbulence Flow, Additives, Apparent Viscosity.

ISCA-ISC-2016-7EEAP-06-Oral

Gravity: The Effect of Compressed Space-Time Medium

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Abstract: Space-time medium is the combination of time and distance in which all the static and kinetic motions of objects occur, where time and distance show's flexibility i.e. the distance between two points can be compress or expand when it is disturbed by the massive body/planet. A massive body in space occupies the space in space-time medium which in result compresses the space-time medium around it. The compression in space-time is directly proportional to the density of body spread in particular area i.e. (compression α density $\times$ surface area of body); this compression in medium follows the "law of conservation of relative motion" and "space-time medium interaction" which results into mutual attraction between two bodies. Amazingly the final mathematical expression is same as Newton's law of gravitation. Einstein's general theory of relativity explains gravity as a "Distortion of space (or more precisely, space-time) caused by the presence of matter or energy. A massive object generates a gravitational field by warping the geometry of the surrounding space-time". Newton's law of universal gravitation states that "every mass attracts every other mass in the universe, and the gravitational force between two bodies is proportional to the product of their masses and inversely proportional to the square of the distance between them". But both the theories do not describe the reason behind the attraction in between masses. Here, the most suitable theory for attraction between the masses is explained. All the terms and laws are explained here with Mathematical expression.
Keywords: Einstein's general, Theory, Relativity, Newton's law, Universal gravitation, Space-time, Medium.

ISCA-ISC-2016-7EEAP-07-Oral

Application of CFD Software for Planning and Design of Civil Engineering Structures

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Abstract: Computational fluid dynamics (CFD) was used widely by every field of engineering for solving critical problems. Paper discussed the application of CFD software for planning and design of civil engineering structures. In civil engineering, CFD can be used for study of liquid flow in environmental structures, sloshing effect of liquid in tanks, Natural ventilation, Force ventilation, Thermal comfort study, stack effect, planning of building in town and contaminant migration in hospital. With proper planning of windows location, windows size and ventilators, natural flow of air can be maintained in residential and hospital building. CFD simulation results are very sensitive to the large number of modeling parameters set by the user. CFD Parameters like Size of computational domain, grid resolution, boundary layer property, turbulence model selected for output and convergence criteria implemented in software are responsible for proper simulation output. Application of Autodesk CFD simulation was demonstrated for wind simulation in building.
Keywords: Computational Fluid Dynamics (CFD); CFD parameters; air flow; CFD in Civil Engineering; Autodesk CFD.

ISCA-ISC-2016-7EEAP-08-Oral

Study of Ventilation and Standard norms in Energy efficient Building in Indian Context

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Abstract: Ventilation is most important design criteria for residential and industrial building. Ventilation study divided into study of Air ventilation and Light ventilation. Properly ventilated working space increase the efficiency of working peoples. Ventilation depends on the geographical location. Natural ventilation depends climatic condition like temperature, humidity and wind velocity. Solar radiation also plays important role in design of ventilation system. In India research

was done on both the type of ventilation. Papers discuss the research done in India on ventilation study and codal provisions to be implemented for planning of new construction. With availability of advance computing techniques ventilation research can be carried out on computers. Weather data of previous years plays very important role in study of ventilation through simulation. With change in location ventilation rules may change. It is required to study and draft ventilation norms for different geographical location within India and make it compulsory to be implemented in construction through building approval sanctioning authority. With proper implementation of ventilation norms it will defiantly reduce carbon emission in atmosphere and provide economical comfort to user.

Keywords: Building Ventilation, Ventilation Norms, Ventilation Simulation, Thermal comfort, Weather data.

ISCA-ISC-2016-7EEAP-09-Oral

Preparation and Characterization of Micro porous Activated Carbon Prepared from Prosopis Juliflora with Chemical and Thermal activation

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Abstract: Activated carbon was prepared from Prosopis juliflora wood by carbonization, chemical activation followed by thermal activation. The raw material was carbonized at 600^0C, then impregnated with potassium hydroxide (KOH) followed by thermal activation at 800^0C. Physical and Chemical characteristics such as bulk density, moisture content, ash content, volatile content, porosity and surface area have been carried out to determine the suitability of the activated carbon as absorbent. The resulting sample was characterized by nitrogen adsorption measurements at 77 K, obtaining BET surface area 748.914 m^2/g, micro pore volume 0.163 cm^3/g and pore size 1.55 nm which indicate that the activated carbon synthesized was micro porous in nature. The surface functional groups were investigated by Fourier transform infrared spectroscopy techniques. Thermo gravimetric analysis was carried out to determine the thermal stability of activated carbon with respect to temperature. The surface morphology of activated carbon was performed by Scanning Electron Microscopy. X-ray powder diffraction was used for identification of crystalline nature of the prepared activated carbon. The prepared sample can be used to adsorb organic and inorganic pollutants from Industrial waste water.

Keywords: Activated carbon, Carbonization, Prosopis juliflora, Chemical activation, Thermal activation.

ISCA-ISC-2016-7EEAP-10-Oral

Study of hydrogen release from the reaction of Sodium Borohydride with Urea, Sodium Acetate, Potassium Hydroxide and Acetic Acid

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Abstract: Hydrogen combined with fuel cells is considered to be the replacement of fossil fuels and can be used for stationary and mobile applications. The objective of this work is to study the release of hydrogen produced from hydrolysis of Sodium Borohydride. This is accomplished with the use of different solvents. Hydrolysis of Sodium Borohydride is an established reaction, by adding various solvents to water the hydrolysis reaction can be controlled. The setup used for hydrogen release analysis is inverted cylinder method. On each neck of the round bottom flask Teflon taping is done to cover the cotton supported neck hole to make system leak-proof. The compounds chosen are such due to the knowledge that the hydrolysis of Sodium Borohydride has an acid catalysed kinetics. Consequently, acetic acid gave the fastest reaction and potassium hydroxide gave the slowest. Urea and Sodium acetate gave an intermediate rate, where urea is relatively faster than sodium acetate. This study allows the use of sodium borohydride for providing desired hydrogen rate according to the application desired.

Keywords: Sodium borohydride, Hydrolysis, Hydrogen, Controlled release, Acid catalysed mechanism.

ISCA-ISC-2016-7EEAP-11-Oral

Economic Perceptions on Wind-Energy Diffusion in Karnataka state, India

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Abstract: Renewable wind-energy is an inevitable both for developed and developing countries as far as sustainable development is concerned. The present study appraises economic perceptions on wind-energy diffusion in Karnataka,

India, where positive externalities out of renewable diffusion is expected. Using non-probability quota sampling method with fully structured questionnaires, the study finds interesting results on wind-energy diffusion. That is lack of education, lower level of social participation, less adaptability for wind farms, lower economic benefits to local inhabitants, less employment opportunities, negative externalities, inappropriate geographical location, and asymmetric information on wind farms lead for inappropriate coordination among individuals and wind farms. This makes lower diffusion in terms of supply of electricity and hence lower economic development.

Keywords: Wind-energy, Adaptability, Social-participation, Diffusion, Electricity-supply, Sustainable-development.

ISCA-ISC-2016-7EEAP-01-Poster

Diesel from COW Dung

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Abstract: Waste material such as plastic, waste oil and biomass were generated every year around the world. Some of this waste is effectively recovered for use as an energy source or chemical feedstocks, while some are simply discarded in the way that they can pollute the environment. Pyrolysis technique has been developed to convert COW Dung into liquid fuel, particularly diesel like fuel. Along with this liquid fuel, solid and gaseous fuels are also obtained.

Keywords: Pyrolysis, Cow dung, Composition, Fuel, Gasification.

8. Environmental Sciences

ISCA-ISC-2016-8EVS-Guest Speaker-01

Evaluation of *Bacillus polymyxa* as a Potential candidate for Degradation and Decolorization of Reactive Blue MR dye used in Textile Industry

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Abstract: A variety of synthetic dyes released by the textile industry posed a threat to environmental safety. Existing effluent treatment procedures are unable to remove recalcitrant dyes completely from effluents because of their color fastness, stability and resistance to degradation. Pollution due to textile industry effluent has increased during recent years. Several physico-chemical techniques have been proposed for treatment of colored textile effluents. These include adsorption on different materials, oxidation and precipitation by Fenton's reagent, bleaching with chloride or ozone photo degradation or membrane filtration. All these physical or chemical methods are very expensive and result in the production of large amounts of sludge, which creates the secondary level of land pollution .Bacterial decolorization and degradation of dyes under certain environmental conditions has gained momentum as a method of treatment, as these are inexpensive, eco-friendly and can be applied to wide range of such dyes. By considering this, In the present study, an attempt is made to evaluate the potential of isolated bacterium for decolorization of textile dye reactive Blue. Initially effluent samples were collected from textile industry situated in Ichalkaranji. Effluent samples were analyzed for their physicochemical properties. Various bacterial species were isolated , and Decolorization capabilities of these bacterial species were studied for reactive Blue dye (50 %) in minimal medium, under optimum conditions. It was found that *Bacillus polymyxa* showed higher decolonization capabilities after 24 hrs of incubation. The complete Decolorization occurs within 24 hrs. So this bacterial isolate can be used as potential candidate for bioremediation of textile waste.

Keywords: Decolorization, textile dye, Reactive Blue, *Bacillus polymyxa.*

ISCA-ISC-2016-8EVS-01-Oral

Toxicity Evaluation of Cadmium (Cd) in Aquatic System Using Algae (*Chlorella Pyrenoidosa,* Chick)

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Abstract: Indiscriminate disposal of industrial, municipal and agricultural wastes into the aquatic ecosystem are mainly responsible for environmental pollution. Life support systems *viz*, H_2O, air and soil are thus getting exposed to an array of pollutants, especially, heavy metals released by anthropogenic activities. Aquatic plants, particularly algae were more tolerant, are able to survive and withstand the pollution stress and also serve as pollution indicator. Beyond the toxicity level, the xenobiotics are toxic to the entire aquatic ecosystem. Algae serves as a biotool for the toxicity evaluation of different xenobiotics. The present study was focused on morphological toxicity and biochemical responses of *Chlorella pyrenoidosa* to the Cadmium stress. The laboratory experiments were conducted to the assess toxicity level on morphology and biochemical responses of the test plant species at the interval of 3, 6, 9 and 12 days exposure duration at the concentration of 0.01, 0.04, 0.10, 0.15, 0.20 and 0.25ppm. The test plant shows normal growth and chlorophyll, protein and carbohydrate content increases from 0.01ppm to 0.10ppm of cadmium, however, beyond this concentration (0.15ppm to 0.25ppm) test plant shows toxicity symptoms and decline in the content of biochemical parameters. Thus, if the concentration of xenobiotics increased, the aquatic flora shows the declinity. It is the step to conserve the aquatic flora and fauna from the toxic environment. It is an experiment to create awareness about the significance of conserving biodiversity.

Keywords: Algae, Xenobiotics, Heavy metals, Toxicity.

ISCA-ISC-2016-8EVS-03-Oral

Vertical variation of Salinity, Electrical Conductivity, Temperature and pH of Batticaloa lagoon, Sri Lanka

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Abstract: This study was conducted at 21 different locations in the Batticaloa lagoon of Sri Lanka to find out the variations of salinity, EC, water temperature and pH at different depth of the lagoon during the month of May 2013 (early dry period). The locations were grouped into four, based on the distance from bar mouth and geographic locations. Vertical profiles of salinity were tested using Salinity Refractrometer. Temperature, pH and Electrical Conductivity (EC) were measured using portable pH/EC/TDS meter. Results were statistically analysed using the Minitab 14 software. Results revealed that, pH varied from 7.87 to 8.89 and 7.98 and 8.79 at the surface and bottom layer of the lagoon, respectively. Result of pH indicated slightly alkaline in nature. Further, observations indicate that the surface layer of lagoon water had higher temperature (mean 32 ^{o}C) than the bottom layer (mean 31^{o}C) of lagoon. Furthermore, there was a positive correlation (r=0.146, p=0.168) was found between lagoon depth and salinity.
Keywords: Batticaloa lagoon, Salinity, Elctrical conductivity, pH, Water temperature.

ISCA-ISC-2016-8EVS-04-Oral

Development of a Low Cost Effective Fly ash Based Zeolite for Treatment of Waste Water

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Abstract: Fly ash which is a by-product of coal combustion residue is disposed off as a waste material and hence is available in plenty. It is used as a precursor for synthesis of Zeolite. This Zeolitic product was synthesized by three techniques like conventional, fusion, and microwave. Based on the contact period, time of reaction and yield of product, a novel process was used for synthesis of this material i.e. Zeolite. This Zeolite was used for treatment of the domestic waste water as well as synthetic solutions and optimized for dosage. In the present investigation synthesis and characterization of Zeolite and efficiency of wastewater treatment is discussed. This paper presents the development of a low cost effective technique for treatment of waste water.
Keywords: Characterization, Coal combustion residues, Fly ash, Zeolite, Utilization.

ISCA-ISC-2016-8EVS-05-Oral

Biosorption Efficiency of Tea Residue for Pb (II) and Cd (II) using open Circuit Potential for Real time Measurement

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Abstract: The present paper reports the biosorption efficiency of tea residue (TR) for the removal of Pb (II) and Cd (II) from water using potentiometry as an analytical tool. A three electrode system with metal-coated gold wire electrode and platinum wire electrode were used as working electrode for Pb (II) and Cd (II), respectively. At equilibrium, Open Circuit Potential (OCP) values represent metal ion concentration in the solution. OCP values decreased for both heavy metals with the addition of TR. Fourier transform infra-red (FTIR) spectroscopy revealed the presence of OH, C=O and C-O functional groups in the biosorbent. Scanning Electron Microscopy (SEM) analysis was carried out to study morphological features and showed the porous surface associated with biosorbent. The biosorption efficiency was found to be 126 mg/g for Pb (II) and 60.52 mg/g for Cd (II). TR was found to be a potential biosorbent for removal of Pb (II)

and Cd (II) ions from aqueous solution. OCP based method offers an easy and simple approach for real time measurement of biosorption efficiency.

Keywords: Tea residue, Lead, Cadmium, Open Circuit Potential, Biosorption.

ISCA-ISC-2016-8EVS-06-Oral

Impact of Agricultural activites on Nitrate pollution of Groundwater from Sangamner area, Ahmednagar district, Maharashtra, India

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Abstract: Agricultural groundwater pollution from nitrate is a worldwide problem that has economic, ecosystem and human health impacts. The nitrate pollution in groundwater has large seasonal variation mainly caused by agricultural activities. Wide range of natural and human induced factors causing changes in the soil and groundwater quality from Sangamner area. The present study investigates the impacts of agricultural activites on groundwater NO_3- pollution in Sangamner area. 68 groundwater samples from dug and bore wells were collected from irrigated and non irrigated agriculture and an analysis was done periodically for important chemical parameters like pH, EC, TDS and nitrate by standard methods. Results revealed that there was a good correlation between land use pattern and nitrate concentration in groundwater. Higher nitrate were observed in irrigated agriculture land use than in non – irrigated. The groundwater from irrigated areas was not suitable to be used for drinking purpose. On the temporal scale, NO_3 decreases in post monsoon and increases in pre monsoon and also showed lower Cl/NO_3 value in post monsoon. It is worthy to note that the level of nitrate concentration in groundwater in the area is influenced by land use pattern. Introducing the micro irrigation system to reduce the leaching of ions from the soil profile to groundwater aquifer by applying accurate required amount of irrigation water. Awareness programmes to farmers can be arranged to prevent the dangerous situation of quality of finite natural resources.

Keywords: Nitrate pollution, Agricultural activities, Land use pattern, Groundwater quality, Micro irrigation.

ISCA-ISC-2016-8EVS-07-Oral

Study of the Variations in the Physicochemical Properties of Wastewater on and off Sanganer Town, India

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Abstract: In the present scenario due to vast level of industrialisation and rapid growth of industries, there has been tremendous increase in water pollution; especially pollution of water by industrial waste has increased immensely. The waste water from these industries when disposed into the surrounding water bodies percolates into the ground water and poses a major threat to the ground water quality. For this study, effluent samples were collected from different sampling locations of Pre Sanganer, Sanganer and Post Sanganer and a comparative analysis has been studied. The collected samples were analysed for various Physico-chemical parameters. This was to identify major pollutants and their effect on water quality. Some parameters which gave evidence of pollution due to industrial effluent discharge were Temperature, pH, Electrical Conductivity (EC), Dissolved Oxygen (DO), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Hardness, Acidity, Heavy Metals like Lead, Chromium, Arsenic etc. The results indicate that the pollution increases after the Sanganer town and this is mainly because of the industrial effluent discharge.

Keywords: Industrialisation, Industrial Effluents, Water pollution, Sanganer, Physico-chemical parameters.

ISCA-ISC-2016-8EVS-08-Oral

Bioremediation of Crude Oil in Synthetic Mineral Salt Medium Enriched with Bacterial Consortium and *Sapindus Mukorossi*

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Abstract: Soil contamination with oil spill is the major global concern today. It has a serious hazard to human health, causes organic pollution, economic loss, environmental problems and decreases in agricultural productivity of the soil.

To enhance removing crude oil in contaminated soil in laboratory scale several types of assays were performed. Assessed based on remediation by using bacterial consortium improving environmental problems and absorption studies through *Sapindus mukorosi*. Based on the first asses suitable environmental parameters improve the remediation process up to 74%. The second evaluated the absorption of oil with *Sapindus* seeds pericarp also includes the remediation up to 70% compare to remediation through effective bacterial consortium.

Keywords: Crude oil, Optimization, *Sapindus* seeds, Absorption.

ISCA-ISC-2016-8EVS-09-Oral

Effect of Fluoride Stess on Morphology and Enzyme Activity of *Abelmoschus Esculentus* Seedlings

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Abstract: Fluoride toxicity adversely affects germination, growth, mineral nutrition, photosynthesis, respiration, activity of cellular enzymes, reproduction and yield of crops. Accumulation of fluoride in plant parts negatively affects morphological physiological and biochemical parameters of plants. Fluoride is also known as inhibitor of enzyme activity of lipid peroxidation enzyme and antioxidative enzyme (super oxide dismutase, peroxidase). The objective of present study to analyze the effect of fluoride stress on morphological parameters (root length shoot length, root weight shoot weight, germination percentage and vigour index) bio chemical parameters (chlorophyll-a, b , carbohydrate, nitrogen and protein content , fluoride accumulation and translocation factor) and enzyme activity(lipid peroxidase, super oxide dismutase and peroxidase enzyme).

Keywords: Sodium fluoride, Enzyme, Bio chemical.

ISCA-ISC-2016-8EVS-10-Oral

The Brunt of Municipal Solid Waste Dumping on the Soil Quality

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Abstract: Land is a precious resource, sustaining all forms of life on earth. Indiscriminate dumping of non-segregated municipal solid waste on the soil is one of the several reasons leading to degradation of land. The changing lifestyle and consumerism pattern has resulted in increased production of municipal solid waste. Municipal solid waste is dumped on the open land without proper treatment and precautions, especially in the developing countries. The current research paper aims to draw attention on the effect of dumping municipal solid waste on the soil. In many parts of the world, the soil quality around the dumping grounds has changed to a great extent, thus affecting the local flora, fauna and crop production. The study reveals that the soil quality is significantly affected with respect to organic matter, heavy metal content of the soil along with other factors like pH, EC, salinity and available nitrogen.

Keywords: Municipal solid waste, Dumping grounds, Heavy metals, Organic matter.

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An Assessment of Soil C-sequestration: Ecosystem Service in the Mountain Watershed, Kumaun Himalaya, India

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Abstract: Forests store substantial amounts of soil carbon. Mitigating climate change by enhancing forest soil C-sequestration may be a relatively low-cost option and would likely yield other environmental benefits. The present study was conducted in broadleaf Oak (*Quercus leucotrichophora*; Banj Oak) and conifer (*Pinus roxburghii*; Chir Pine) dominated forests ranging from 1750 to 2150m asl altitude in Kosi watershed, district Almora, Kumaun Himalaya and aimed to assessed mitigation of climate change through soil c-sequestration. The goal of our research work is to analyse the promoted options of conservation agriculture and watershed management, in particular the soil conservation practices on the C-sequestration capacity, effect of erosion control through plantation, increasing soil fertility (soil organic matter, macro and micro elements) through better compost application, conservation agriculture, mulching, cover cropping,

complex rotations and effects of rehabilitation activities of degraded lands on soil C-sequestration. Soil samples were collected in Oak and Pine forests at five depths across (0-15 cm, 15-30 cm, 30-50, 50-70 and 70-90 cm) during summer, rainy and winter seasons. C-stock in soil of Oak forests was found more than twice as compared to Pine forests (171.8 vs 73.7 t/ha).

Keywords: C-sequestration, Carbon pool, Climate change, Mountain watershed, Kumaun Himalaya.

ISCA-ISC-2016-8EVS-12-Oral

Combining Analytical Hierarchy process (AHP) with site Suitability Model for Landfill site selection of Rohtak City, Haryana, India

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Abstract: Landfills are the most common method for the disposal of municipal solid waste in India. However, determining the location of landfill sites is a difficult and complex process because it must combine social, environmental and technical parameters. Additionally it depends on several criteria and regulations. The main objective of this study was to select of a landfill site. An analytical hierarchy process (AHP) was combined with a geographic information system (GIS) to examine several criteria, such as Land use and land cover, soil permeability, ground water, distance from roads, distance from centroid of municipal corporation limits, wind direction and sensitive areas. Site suitability was applied which consists of two sub models- Boolean model and Index overlay model. Each criterion and sub criteria was evaluated with the aid of AHP to assign a relative weightage in the index overlay model and mapped by GIS. Rules and criteria's set by CPCB and CPHEEO were applied through Boolean model. The combination of the results of the two models generated several suitable sites which were subjected to minimum size required criteria. At the end two sites were found to fulfill the criteria's taken. Final site selection was done by site survey.

Keywords: GIS, Analytical hierarchy process, Landfill, Solid waste, Model.

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Municipal Solid Waste Management of Rohtak City, India using GIS Technology

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Abstract: Over the past few decades increasing human population and the associated phenomenon of urbanization and economic development has resulted in the generation of huge quantities of municipal solid waste. Management of MSW has become a challenge in most cities in India. It involves several activities, which can be categorized into: collection, transportation and disposal of waste. Out of the various steps in municipal solid waste management each step in the process requires input of multifactor data in spatial as well as non spatial form. The scientific and systemic management of MSW involves processing of the significant amount of the spatial data, acceptable criteria's and regulations with efficient correlation between them. For proper decision all inputs have to be considered together at once and correlated. As the complexity of the management increases there is requirement of computerized software to do the analysis. Geographical Information System (GIS), software's are capable of handling spatial data along with non spatial attributes. The software also has the provision for querying. Use of GIS in MSW management can help in faster more accurate decisions and overall more efficient waste management Presented in the study is the work done using GIS tools in the management of municipal solid waste of Rohtak city. Estimation of waste generation, temporary storage bin placement, waste collection route optimization and dumpsite selection were the waste management steps in which the GIS was used. The city is divided into six waste management zones. From the study the waste generation was accessed at 226 ton/day as against 188T/day projected by the MCR. The existing number of secondary storage bins in each zone was inadequate for the amount of waste generated. The area serviced by the existing bins varied from 7-32% in the various zones. The bin placed through the GIS model ensured collection of all the waste and coverage of 40-73% of the residential area ensuring easy accessibility. Modeling of routes of the waste collection fleet resulted in saving traveling distance of the fleet, reduced time for waste collection and saving in fuel. Landfill site selection was carried out using site suitability model.

Keywords: Municipal, Solid Waste, Management, Rohtak City, India, GIS Technology.

ISCA-ISC-2016-8EVS-14-Oral

Hydraulic Fracturing: A Technological boon or an Environmental bane

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Abstract: With the worldwide use of fossil fuels and the plunge in their availability (along with the politics involved and other economic forces), the future of oil seemed so uncertain that industry began to look up for more widespread oil and gas reserves. The recent technological advancements now allow previously inaccessible and unconventional reservoirs like Shale Gas/Oil, Tight gas and CBM reservoirs, to be processed for both industrial and consumer use through Hydraulic Fracturing, which is controversial, due to its environmental footprints. Hydraulic fracturing is a process in which a viscous fluid which is usually a mixture of water, sand, polymers and other chemical additives likes alcohols, oxidisers etc are pumped at a very high pressure to create fractures in the sub-surface to create a flow path for oil and gas, to flow to the wellbore. One of the most notable concerns being the fracturing fluid injected into a rock formation contains potentially hazardous chemical additives. The downside to increase in natural oil and gas production, that predominantly uses high volume hydraulic fracturing, is the contamination of water wells and surface water. But most importantly, this could be the worst possible thing industry has been doing for climate change, as a huge amount of waste methane is produced, which is 22 times more powerful in entrapping heat in the atmosphere than CO_2. Another major problem is the treatment and safe disposal of waste that is produced during the process. There is a huge concern and ongoing protest by various environmental activists and civilians worldwide, especially in states of the United States of America like Pennsylvania, California, Florida and countries like Ireland in banning this process. There is a small but growing list of cities, states (Newyork, Maryland) and countries (Scotland), including this technique's birthplace i.e. Texas, that have completely banned fracking. Moreover, this technology has become a political agenda in the ongoing US Presidential campaign. This paper discusses the impact of huge water requirement for hydraulic fracturing over environment and human water needs. Also, in this paper, the sources of air contamination like venting and flaring, dehydration units, evaporation pits, Fugitive emissions and heath risk caused due to prolong contact with the chemicals used will be discussed.
Keywords: Hydraulic, Fracturing, Technological boon, Environmental bane.

ISCA-ISC-2016-8EVS-15-Oral

Physico-Chemical Properties of Soils in Relation to Forest types of Kumaun Himalaya, India

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Abstract: Soils are natural dynamic bodies on the earth's surface anddefined by its physical, chemical, and biological propertiescrucial for the growth of vegetation. The western Himalayan Mountains are characterized by a variety of micro climatic, topographic, edaphic and geological features owing to a range of soil types and forest vegetation. The present study was undertaken in four dominant forests i.e. Sal (*Shorea robusta*), Pine (*Pinus roxburghii*), Oak (*Quercus leucotrichophora*) and Tilonj Oak (*Quercus floribunda*) along an altitudinal gradient of 300-2200 m asl in Nainital district of Kumaun Himalayan region to understand the physico-chemical properties of soil, such as soil pH, total nitrogen and soil organic carbon.Among these forests total nitrogen was recorded maximum (0.95%) in Oak forest and minimum (0.23%) in Pine forest. Soil organic carbon as well as soil organic matter was found maximum in Tilonj Oak forest (3.70% and6.4%) and minimum (1.59% and 2.7%) in Pine forests, respectively. Soil pH was found ranging from 4.47-6.67 in Oak and Sal forests, respectively. Results of this study indicate that soil of the Tilonj Oak forests is most fertile and store high organic carbon thus contributes more to mitigation of climate change impacts.
Keywords: Physico-Chemical properties, Forest vegetation, Kumaun Himalaya, Soil carbon, Mitigation.

ISCA-ISC-2016-8EVS-16-Oral

Estimation of Pesticide Content from Water Sample of Agricultural farms of Khed Taluka, Pune Dist., India

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Abstract: Pesticides are synthetic organic compounds that despite of their benefit to decrease crop damage, also pose hazards to the environment. Worldwide use of pesticides has increased tremendously but inspite of this; pesticides are still common and reliable source for farmers to control pests. Their adverse effects on environmental quality and human health have been well documented and constitute a major issue that gives rise to concerns at local, regional, national, and global scales. Residues of pesticides have been reported to contaminate soils and water, persist in the crops, enter the food chain and finally are ingested by humans with foodstuffs and water. Furthermore, pesticides can be held responsible for contributing to biodiversity losses and deterioration of natural habitats. Khed Taluka is part of western ghat region which is very ecosensitive as per recent studies. In this area many organophosphorous, organochlorine pesticides and fungicides are used commonly by farmers. Hence, the present study was undertaken to estimate the different pesticide contents from water sample of agricultural farms of Khed taluka, Pune dist. This will be done by a simple, sensitive and precise spectrophotometeric method. Results will be helpful in determining the excess use of pesticides. This can be used to educate farmers regarding the pesticide usage and also communicating them with concept of Good Agricultural Practices.

Keywords: Pesticides, Environmental quality, Ecosensitive, Organophosphorous, Spectrophotometeric.

ISCA-ISC-2016-8EVS-17-Oral

Treatment of High Strength Wastewater by Anaerobic Hybrid Membrane Bioreactor (An-HMBR)

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Abstract: In this study high strength synthetic wastewater was treated by a 15.7-L anaerobic hybrid membrane bioreactor (An-HMBR).The Hydraulic retention time (HRT) for the reactor was 3 days whereas the solids retention time (SRT) for An-HMBR was kept at 100 days. The organic loading rate (OLR) in the reactor was maintained at 2.13 kg/m^3d. Total COD removal efficiencies higher than 98% were achieved at these operating conditions. The acclimatization and stabilization of reactor was achieved in around two months. At steady state conditions a total reduction in COD of 98.5%, 99% and 99.5% occurred in suspended growth, attached growth, and membrane respectively. During the entire operation the membrane was required to be physically cleaned once after 28 days of operation. Hence Anaerobic Hybrid Membrane Bioreactor can be successfully used to treat high strength wastewater.

Keywords: Anaerobic, Hybrid membrane bioreactor (An-HMBR), growth, Wastewater, OLR, HRT, SRT.

ISCA-ISC-2016-8EVS-18-Oral

Vermicomposting and Environment

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Abstract: Vermicomposting is the process where waste is changed into vermcast (varmicompost) and used as a fertilizer in the soil. Vermi technology is an economic, eco friendly technique in which worms are used to produce compost. Using this technology we can transform the harmful waste into useful compost. Microbes which are ubiquitous (present everywhere in the world) play important role in this cleanup process of the waste material Many groups are working on raising tradition system of resource management and others on inspiring young people in urban and rural areas to work towards protection of the environment thus we can say environmentalism will be continue to be apparent for obvious reason, a type of eco-socialist moment, struggling for sustainable development alongside social justice as well as ecological sustainability. All these are our positive efforts for enviourment conservation. The purpose of this article is to educate people about environmental hazards and provide resources to enviornmental conservation.

Keywords: Environment, Vermicompost, Worms, Microbes, Ecological sustainability, Eco-socialist, Movements.

ISCA-ISC-2016-8EVS-19-Oral

Magnetotactic Bacteria and their Application in Environmental Clean-up: A Review

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Abstract: Magnetotactic bacteria are a diverse group of microorganisms having geomagnetism aided navigation property against applied magnetic field. This oneness is due to presence of intracellular organelles magnetosomes comprising a membrane bound crystals of magnetic iron minerals which is formed due to partial reduction of ferric iron in iron-rich environment. It has the ability to biomineralize magnetic particles into uniform size structure, which has gained much more attention over chemically synthesized magnetic nanoparticles. The advantage of this bacteria over other microorganisms are that they are non-pathogenic, motile and easily isolated from the environment. With implications in various fields, including evolutionary biology, biogeochemistry and nanotechnology, research on MTB and their magnetosomes has steadily increased since they were described by Richard Blakemore in 1975. Regardless of wide acknowledgement, there are still lesser known application of magnetotactic bacteria in remediation of wastewater. This review paper deals with diversity of magnetotactic bacteria and their application in environmental clean-up.
Keywords: Magnetotactic, Bacteria, Magnetosomes, Nanoparticles.

ISCA-ISC-2016-8EVS-20-Oral

Cotton Khadi Fabric Dyed with *Rubia Cordifolia* using Natural Mordants

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Abstract: Natural dyes are eco-friendly, non-toxic, biodegradable, and having no side effect on skin as compared to synthetic dyes. Present paper deals with the application of natural dyes extracted from *R. Cordifolia (madder roots)* on cotton khadi fabric using different natural mordants [i.e. Alum, *Punicagranatum*, *Emblicaofficinalis*, *Terminaliabellirica* and *Acacia catechu*] for fixing the colour on the fabric. The dyed materials were evaluated by measuring the color fastness properties towardslight, wash and rubbing. It was concluded that the color values were found to be influenced by the addition of different mordants, that's why different fashion hues were obtained from the same dye extract using different mordants at different concentrations. It can also be said that *R. Cordifolia* has good potentiality for dyeing of cotton khadi fabric. And evaluate the dyeability and color fastness properties of dyed fabric and also for its color strength in terms of 'L', 'a' and 'b' values.
Keywords: Natural dye, *Rubiacordifolia*, Natural Mordants, Colour Fastness, Color Strength.

ISCA-ISC-2016-8EVS-21-Oral

A Review on Biodegradation of Pharmaceuticals through Microorganisms

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Abstract: The major sources of the pharmaceutical contamination are the waste generated from hospitals, household and pharmaceuticals manufactures. Several physico-chemical and biological methods have been employed in the degradation of pharmaceuticals. As physico-chemical methods are expensive, biological degradation by microorganisms are widely used. A better understanding of the mechanism of biodegradation has a high ecological significance that depends on the indigenous microorganisms to transform or mineralize the organic contaminants. The present review provides a limelight on the role of microorganisms in degradation of pharmaceuticals.
Keywords: Biodegradation, Microorganisms, Pharmaceuticals.

ISCA-ISC-2016-8EVS-22-Oral

Study on Multiple drug Resistance of Bacteria isolated from Dyeing industry effluents of Solapur city, MS, India

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Abstract: Water pollution caused by industrial effluent discharges has become an alarming trend worldwide; water pollution is a major one where effluents from dye based industries serve as principal source. The present study deals with isolation, identification of indigenous bacteria from textile dyes effluents and evaluation of their multiple drug resistance to commercially available antibiotics to study the bacterial pollution of industrial effluents. The main objective of the present work was to study the load of bacterial contaminants in the collected effluents and their multidrug resistance pattern. 40 bacterial colonies were isolated from three different dye effluents. Identification of isolated colonies depending on their morphological and biochemical characterization is in progress. Out of 40 isolated bacterial strains 20% strains showed resistance to tetracycline, 32% to amoxicillin, 50% to ofloxacin, 22% to ampicillin and 15% to neomycin, only 15% strains out of 40 showed susceptible to all five tested antibiotics. The results of current work revealed that the effluents disposed by dyeing industries had significant bacterial load with multidrug resistant genes that causes the water and environmental pollution.

Keywords: Bacteria, Dyeing industry effluents, Environmental pollution, Multiple drug resistance.

ISCA-ISC-2016-8EVS-23-Oral

Determination of divalent Mercury in Environmental samples using 1,5-diphenyl-3-thiocarbazone: with modified, Ultrasensitive, Direct Spectrophotometric method

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Abstract: The present research investigated that, the analytical reagent,1, 5-diphenyl-3-thiocarbazone dissolves in acetone in strongly acidic and 1,4 dioxane media which reacts with mercury (II) to produce orange-red coloured complex at pH 2 (0.2N sulphuric acid). The complex was showing maximum absorbance at 488 nm. Therefore, further analytical parameters were carried out at 488nm. The reaction occurs within a minute and absorbance remains unchanged for 24 hrs. The analytical parameters like, effect of metal concentration, reagent concentration, acidity, interference by other metal ions, were studied. Beer's law was obeyed in range of 0.1-25 $\mu gml^{-1}$of Hg(II). The Stoichiometric composition of complex formed is 1:2 (Mercury:Dithiazone). The molar absorptivity and Sandell's sensitivity was found to be $2.4\times10^{4}lmol^{-1}cm^{-1}$ and 0.015µg of $Hg(II)cm^{-2}$ respectively. The selected method is modified, ultrasensitive and is successfully applied for determination of divalent mercury in environmental samples.

Keywords: Spectrophotometric method, Divalent mercury, Dithizone, Environmental samples.

ISCA-ISC-2016-8EVS-24-Oral

Impact of Water Pollution on Herbs Growing in Ambernath MIDC

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Abstract: The study investigated the impact of water pollution on morphological, anatomical and biochemical parameters in four herbs *viz. Alternanthera, Amaranthus*. *Chenopodium a*nd *Eclipta* growing in Ambernath MIDC. Physicochemical parameters of the effluent and soil revealed higher values of electrical conductivity, total solids, total hardness, chloride, sulphate, nitrate-nitrogen, heavy metals Pb (31and 51) and Zn (1278 and1254) ppm respectively and low DO. Effluent induced detrimental effects on the external morphology, changes in the anatomical structures and biochemical parameters like total chlorophyll, protein, reducing sugar, dry matter and pollen viability in the plants at the site were clearly evident as compared to control from the garden. Concentration of the heavy metals Pb, Zn in the mature leaves of the selected plants indicated a direct correlation to the concentration in the effluent and the soil. Among the four plants, higher values

of heavy metal were recorded in *Alternanthera* Pb (28) and Zn (1246) ppm. All these observations predict the ability of the plants to adapt to the stress in the environment and eventually act as bioindicator of elemental stress.

Keywords: Annual herbs, Morphology, Anatomical, biochemical, *Alternanthera, Amaranthus, Chenopodium, Eclipta.*

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Pollution in India: Causes and Challenges

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Abstract: Pollution in India has increased to alarming proportions. The recent increase in air pollution in Delhi has woken the environmentalists and commons citizens alike. Pollution poses enormous threat to the health of citizens. Problems like allergies, asthma, irritation of the eyes and nasal passages, or other forms of respiratory infections have been rising in metropolitan areas affected by pollution. This paper describes the types of pollution and challenges faced by India in controlling it.

Keywords: Air Pollution, Water Pollution, Pollution Control.

ISCA-ISC-2016-8EVS-26-Oral

Potential of Immobilized PVA-Alginate-Glutaraldehyde in Cr(VI) removal using Sugarcane baggasse (*Saccharum officinarum* L.)

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Abstract: Biosorption seems to be a promising alternative treatment for treating metal contaminated water. The biosorbent is prepared by subjecting Sugarcane baggasse (*Saccharum officinarum* L.) to the process of immobilization, finally resulting in metal entrapped in bead like structure. The intention of this study is to explore the efficacy and feasibility for Cr(VI) biosorption onto green biosorbent immobilized in PVA-Alginate-Glutaraldehyde beads. These beads were later stripped off from the metal ions by desorption which can be recycled and reused for subsequent cycles. Various parameters such as pH, biosorbent dose concentration, initial metal concentration, contact time, temperature and agitation speed were studied to determine the efficiency of metal uptake by biosorbent. Langmuir adsorption isotherm, Frenudlich adsorption isotherm, Dubinin-Kaganer-Radushkevich (DKR) adsorption isotherm and Temkin adsorption isotherm were applied to describe the isotherms and isothermic constants. For kinetics studies, the Pseudo-first-order model, Pseudo-second-order model, Elovich model and Weber and Morris intra-particle diffusion model were applied to the experimental data and followed by thermodynamic study. This technology out performs its predecessors not only due to its cost effectiveness but also in being eco friendly.

Keywords: Sugarcane baggasse (*Saccharum officinarum* L.), Cr(VI), PVA-Alginate-Glutaraldehyde beads.

ISCA-ISC-2016-8EVS-27-Oral

Entrapment of Banana peels (*Musa paradisiaca* L.) in Ca-alginate beads: Equilibrium and Kinetic analysis for Metal sorption

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Abstract: The ability of banana peels (*Musa paradisiaca* L.) immobilized into Ca-alginate beads to remove chromium (VI) ions from aqueous solution was studied. The influence of several operating experimental parameters such as solution pH, biosorbent dose concentration, initial chromium (VI) ions concentration, contact time, temperature and agitation rate determined in the experiment were effective in determining the efficiency of chromium (VI) ions onto banana peels (*Musa paradisiaca* L.). Langmuir adsorption isotherm, Frenudlich adsorption isotherm, Dubinin-Kaganer-Radushkevich (DKR) adsorption isotherm and Temkin adsorption isotherm were tested in batch equilibrium studies. For kinetics studies, Pseudo-first-order model, Pseudo-second-order model, Elovich model and Weber and Morris intra-particle diffusion model were applied to the experimental data and followed by thermodynamic study. The results showed that immobilized waste biosorbent was a low-cost promising sorbent for sequester of chromium (VI) ions from wastewater.

Keywords: Chromium (VI) ions, Banana peels (*Musa paradisiaca* L.), Ca-alginate beads, Adsorption isotherm, Adsorption kinetics, Thermodynamic study.

ISCA-ISC-2016-8EVS-28-Oral

Conservation of Sundarban's Biodiversity: A Case study of World's largest Mangrove Ecosystem in West Bengal, India

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Abstract: The Sundarbans covering 10,000 km^2 of land and water are part of the world's greatest deltas formed by sediments deposited by the three rivers namely the Ganga, Brahmaputra and Meghna. Indian Sundarbans which is around 38% of the whole are located between 21^0 32'-22^0 40' north and between 88^0 85'- 89^0 east, and the rest lies in Bangladesh. This reserve forest accounts for more than 60% of India's total mangrove forests. Few areas exist in the world with such diversities in animal species that live in a complex physical, chemical, mechanical and animate environment. Sundarbans play an important role in the lives of the people in the neighbouring communities who depend on the forest for subsistence and protection from natural calamities. But for the past few decades its biodiversity is continuously threatened by rising pollution, increasing human population which puts a lot of pressure on its biological resources, as well as impacts the freshwater inflows from upstream areas. New emerging threats are from oil exploration in coastal areas and global climate change leading to for e.g. sea level rise. Urgent steps are needed to stop and reverse the present trend of deforestation and loss of biodiversity in the Sundarbans.
Keywords: Mangrove, Hydrology, Climate change, Biodiversity, Sea level rise, Oil spill

ISCA-ISC-2016-8EVS-29-Oral

Isolation, Identification of Microrganisms capable of Cypermethrin degradation and Parameter optimization for Degradation

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Abstract: Pyrethroids are the botanical origin pesticides commonly used in agriculture for fruit and vegetable protection against various pests. Different pesticides like deltamethrin, cypermethrin, cyfluthrin etc. belongs to this group of pesticides. Due to increased toxicity associated with organochlorins, organophosphates, most of these pesticides are banned for use. Pyrethroids being effective at low concentrations against the pests and showing low toxicity are now routinely in use. But still large amount of these pesticides remains in the soil. These residual pesticides enter via rain water to the rivers and shows toxic effects on aquatic life. To overcome the toxicity of these pesticides bioremediation process play an important role. For this, soil samples were obtained from different farmssprayed with cypermethrin for last few years. Microorganisms capable of utilizing pyrethroid insecticide -cypermethrin as sole source of carbon were isolated from this soil. These microorganisms were identified by morphological, biochemical characteristics along with API system of classification. Theisolated microorganisms were tested for degradation of different concentrations of cypermethrin. Parameters such as source of Nitrogen, pH, temperature, incubation time were optimized by single parameter at a time. The organism degraded cypermethrin as evidenced by isolation and identification of metabolite extracts by thin layer chromatography. Thus, the organisms were versatile in detoxification and mineralization of pyrethroid - cypermethrin.
Keywords: Insecticide, Pyrethroid group, Cypermethrin, Bioremediation.

ISCA-ISC-2016-8EVS-30-Oral

Human Health Implications due to Air and Water pollution: Indian context

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Abstract: Man is part of nature, and not separate or independent; at the same time man is unique in the influence he has over nature. In that process, if he does not take care to protect and cherish nature, but depletes or destroys nature, he will find that his own life and that of his children is in jeopardy. Renowned Swedish naturalist K. Curry – Lindahl says: "The human population is in fact the WORST and basic forms of pollution, all major environmental problem that threaten the future of mankind are caused basically by one factor too many people". It is man's sheer number which is the root cause of all pollution problems. And as such the modern ecologists have given to baby-boom a new name 'population'. Human

health is a state of complete physical, mental or social well-being and hot merely absence of disease or infirmity. The global strategy as adopted in 1981 is to achieve "Health for all by 2000 through primary health care." The task is not easy for a county of India's size inhabited by one seventh of the total world population. Pollution; country's environmental problems are affected by the level of its economic development, the availability of natural resources and the life style of its population. In India rapid growth of population, poverty, urbanization, industrialization and several related factors are responsible for the rapid degradation of the environment. Environmental problems have become serious in many part of the country and can no longer be neglected. The main environmental problems in Indian, relate to air and water pollution particularly in the metropolitan and industrial zones, degradation of common property resource which affect the poor adversely due to a degradation of their life support system, threat to biodiversity and inadequate system of solid wastes disposal and sanitation with consequent adverse impact on health, infant mortality and birth rate. A recent two weeks (3rd to 15th Nov. 2016) air polluted Delhi weather condition speaks and represents much more.

Keywords: Implication, Worst, Pollution, Urbanisation, Strategy.

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Challenges in Farmer's seed Network for ensuring availability of Indigenous Pulse Seeds: A case study in Nayagarh District of Odisha, India

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Abstract: India is the largest producer and consumer of pulses in the world, accounting for about 25% of global production, 27% of consumption and 34% of food use with per capita availability of 47g/day as against the RDA of 80g/day. In India, area under pulses declined from 18.2 million tons in 2010-11 to 17.15 million tons in 2014-15 increasing import dependency to the tune of 16-20% of the total consumption. Pulses are good source of protein (21-28%), fibre, minerals and vitamins. Quality seed availability is the major constraint in pulse production. Hence, for understanding role of women in pulse seed production and management, a study was undertaken in two villages of Nayagarh district of Odisha where indigenous varieties covered around 80 percent of the total green gram area. Women participation was crucial in crop and seed management. In absence of formal seed distribution system for these varieties, farmer seed network is the only established channel for distribution of seeds. However, farm women face challenges due to crop replacement, marketing problem, lack of proper processing mechanism and inadequate storage facilities. For ensuring availability of indigenous pulse seeds in participation of women, the strategies identified are mechanization in sowing and weeding, development of common facilitation centre for processing, value addition by seed treatment, skill development for seed testing and labelling, development of seed bank, digitalization and marketing arrangement by systematic seed production and women leadership development.

Keywords: Challenges, Farmer's, Network, Availability, Indigenous, Pulse, Seeds.

ISCA-ISC-2016-8EVS-32-Oral

Metal Accumulation Profile in Cereals and its Impact on Health

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Abstract: Ever increasing population, urbanization and industrialization have led to generation and indiscriminate discharge of large volume of water from domestic, commercial, industrial uses from which natural water sources become unfit for human usage. The use of sewage water for irrigation is a matter of major concern due to the presence of toxic metals and other pollutants, which ultimately contaminate the soil. Unscientific management practices of pollutants lead to ecological imbalance. The use of sewage for irrigation is a common practice in majority of peri-urbans. An investigation made on the impact of sewage irrigation on soil and the potentiality of cereals in the accumulation of the metal pollutants from the soil. The potential of cereals for the accumulation of heavy metals from the sewage irrigated soil cleans up the environment, but the consumption of cereals has positive impact on the health of man.

Keywords: Heavy metals, Sewage, Accumulation, Toxicity, Health.

ISCA-ISC-2016-8EVS-33-Oral

Assessment of Physicochemical Parameters of Sina Kolegoan Dam Osmanabad District, MS, India

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Abstract: The present study designed to demonstrate the seasonal variations in Physico-chemical parameters of Sina kolegoan Dam from June 2010 to May 2011. Water samples were collected monthly basis and analyzed for estimation of water temperature, pH, Dissolved oxygen, free CO_2, total alkalinity, Hardness and Chloride. These parameters were compared with water quality standards to demonstrate their ability to support fish species in selected sites. The overall water quality of the study sites remained within the safe limits throughout the study period. An attempt has been made to explain the effect of seasonal changes on Physico-chemical characteristics revealing that physicochemical parameters in these habitats were permissible for most aquatic species. But, measures should be taken to regulate agricultural and deforstation activities.For existence and conservation of aquatic resources, it is essential to investigate water quality and surrounding environment of dam.The study showed that most of the water quality parameters of the Sina Kolegoan Dam were suitable for aqaculture of aquatic organisms as well as agriculture, drinking, industrial purposes.
Keywords: Physico-chemical characteristics, seasonal variations, Sina kolegoan Dam.

ISCA-ISC-2016-8EVS-01-Poster

Studies on Environment Pollution along the Gove Industrial Belt of Bhiwandi City, Near Mumbai, India

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Abstract: In India, rapid industrialization along with the other human activities has adversely affected the environment resulting in environmental degradation.Considering the existing pollution scenario, we have initiated the study on water pollution arising due to discharge of industrial waste water effluent from the Gove industrial belt of Mumbai, Bhiwandi, near Mumbai, Maharashtra, with special reference to the physico-chemical characteristics and heavy metals. The physico-chemical parameters like temperature, pH, solid content, total hardness, chloride content, dissolved oxygen (DO), biological oxygen demand (BOD) and chemical oxygen demand (COD) and Heavy metals were studied by collecting samples bimonthly for the period of 12 months. It was observed that the the total dissolved solid (TDS) content in waste water effluent lies in the range of 2972ppm to 12,865 ppm, with an average value of 8315.86 ppm thereby making water unsafe even for irrigation purpose. The total hardness of waste water effluent lies between 355ppm to 488ppm, with an average value of 335 ppm, which was above the maximum permissible limit set by ISI. The chloride content in the waste water effluent was found to vary between 726 ppm and 2832ppm, with an average value of 1,221ppm. The results indicate that the chloride content was very much above the acceptable limit of 600 ppm set by WHO. The average DO content was found to vary between 2.1 ppm to 7.5 ppm, with the average value of 3.89 mg/L, which was very much below the minimum DO content of 4.0 to 6.0 ppm according to USPH standard. The average BOD values were observed to vary between minimum of 118 ppm and maximum of 1192 ppm with average value of 755 ppm mg/L. These values were very much higher than the maximum permitted BOD content of < 100 to 300 ppm according to UN Department of Technical Cooperation for Development. The COD value varies between 206 ppm to 1437ppm with average value of 818ppm, which was very much higher than maximum allowed limit of 250ppm according to USPH Standard. The heavy metals content were analyzed it was observed that Mercury content in waste water effluent was found to be the range of 2.49 ppm to 0.12 ppm with an average value of 0.76 ppm which was above the maximum permissible limit set by ISI. , The Arsenic content in waste water effluent was found to be the range of 0.64 ppm to 11.51 ppm with an average value of 2.84 ppm which was above the maximum permissible limit set by ISI.The Zinc content in waste water effluent was found to be the range of zinc1.62 ppm to 26.35 ppm with an average value of 8.92 ppm which was above the maximum permissible limit set by ISI. The lead content in waste water effluent was found to be the range of 0.99 ppm to 6.17 ppm with an average value of 1.80 ppm which was above the maximum permissible limit set by ISI. The Nickel content in waste water effluent was found to be the range of 1.62 ppm to 17.27 ppm with an average value 8.02 ppm which was above the maximum permissible limit set by ISI. The Cadmium content in waste water effluent was found to be the range

of 32 ppm to 39 ppm with an average value of 29 ppm which was above the maximum permissible limit set by ISI. The Chromium content in waste water effluent was found to be the range of 0.29 ppm to 6.90 ppm with an average value of 1.77 ppm which was above the maximum permissible limit set by ISI. The Copper content in waste water effluent was found to be the range of 2.31 ppm to 9.40 ppm with an average value of 3.70 ppm which was above the maximum permissible limit set by ISI. The Iron content in waste water effluent was found to be the range of 1.47 ppm to 3.73 ppm with an average value of 2.56 ppm which was above the maximum permissible limit set by ISI. The Selenium content in waste water effluent was found to be the range of 0.63 ppm to 7.11 ppm with an average value of 1.97 ppm which was above the maximum permissible limit set by ISI .The experimental data suggest a need to implement common objectives, compatible policies and programs for improvement in the industrial wastewater treatment methods.

Keywords: Environmental pollution; Industrial effluent; Physico-chemical parameters; Heavy metal content.

ISCA-ISC-2016-8EVS-02-Poster

Pollution Scenario of Ulhas River Flowing along Dombivali City of Mumbai-Study of Physico-chemical Properties

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Abstract: The Dombivali industrial area located in south of Ulhas River is considered as one of the most polluting industrial belt of Mumbai. There are about 30 highly polluting small/ medium/ large scale chemical industries located in this industrial belt which regularly discharge heavy pollution load in the nearby flowing Ulhas River. The day by day increasing tremendous pollution load has prompted us to carry the systematic and detail study of physico-chemical properties of the Ulhas River water. The study was performed for the period of two years from 2012 to 2013 with an objective to understand the trend in physico-chemical properties of river water over a period of time. The physico-chemical parameters analysed were chloride, phosphate, hardness, suspended solids (SS), Dissolved Oxygen (DO), Chemical Oxygen Demand (COD) and Biochemical Oxygen Demand (BOD). The average concentration of phosphate was 4.06 mg/L in 2012, which increased by 86% to 8.57 mg/L in 2013 which was higher than the tolerable limit of 5.0 mg/L set by Central Pollution Control Board (CPCB) . The average DO level in 2012 was 3.3 mg/L and 3.7 mg/L in 2013. The BOD level was also found to increase by 24 % from 228.2 mg/L in 2012 to 282.1 mg/L in 2013 which was above the maximum limit of 30 mg/L set by CPCB. The low DO and high BOD level indicate extreme stress level resulting in suffocation and death of fish and other biological life of the river. The hardness level of river water in 2012 was 144.9 mg/L, while in 2013 the hardness level was 162.3 mg/L which correspond to 12% increase. The data indicate that the yearly average concentration of SS has increased by 18% from 298.9 mg / L in 2012 to 353.4 mg/L in 2013. It was observed that the average alkalinity has increased by 89% from 494.6 mg/L in 2012 to 934.6 mg/L in 2013, while13 % increase in chloride concentration was observed from 2316.5 mg/L in 2012 to 2605.8 mg/L in 2013. It is important to note that consumption of chlorinated water develops atherosclerosis in wild animals also plants do not survive or grow in chlorinated water. The COD level in 2012 was 628.8 mg/L while in 2013 the level was found to be 821.3 mg/L which correspond to 31 % increase in COD level. The COD level recorded in the study area was above the maximum tolerable limit of 250 mg/L set by CPCB. The pollution data on physico-chemical properties of Ulhas River water points out the need of systematic and regular monitoring of pollution level for further improvement in the waste water treatment methods.

Keywords: Physico-chemical properties, CPCB, Industrial Pollution, Ulhas River, Mumbai.

ISCA-ISC-2016-8EVS-03-Poster

Study on Industrial Pollution from Pharmaceutical Industries of Dombivali Industrial Belt of Mumbai, India

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Abstract: The rapid industrialization of Dombivli city of Mumbai, with improper environmental planning has resulted in discharge of industrial effluents into the Ulhas River. These wastes include various toxic chemicals, acids, alkalis, dyes, detergents, pesticides and agrochemicals which greatly affect the physico-chemical properties of river water. The problem of water pollution has become still intense due to the release of toxic metals. The toxic heavy metal thus release

has begun to cause major concern along the Ulhas River. The present work was therefore carried out to understand the pollution problem arising due to pharmaceutical based industries located along the Dombivali industrial belt of Mumbai, India. It is important to note that the effluents discharged from these pharmaceutical industries further enter the nearby flowing Ulhas River. The study was carried to study the level of toxic heavy metals and the physico-chemical properties of waste water effluents discharged from the above industries. The concentration level of majority of toxic heavy metals like Cu, Cr, Pb, Fe and Zn were found to be maximum of 14.06, 0.57, 0.42, 18.93 and 3.31 ppm respectively in the month of February, while Ni concentration was found to be maximum of 0.43 ppm in the month of June. The pH and BOD values were reported to be maximum of 12.54 and 546 ppm respectively in the month of October. The conductivity and total solid content was found to be maximum of 27400 µmhos/cm and 9401 ppm respectively in the month of June. The cyanide content was maximum of 0.13 ppm in the month of April. The alkalinity, hardness, salinity, chloride, phosphate and COD content was reported maximum of 852, 694, 10.36, 4821, 46.32 and 1271 ppm respectively in the month of February. The DO content was found to be minimum of 3.00 ppm in the month of February. It was observed that the level of many of these toxic heavy metals except Zn and various physico-chemical parameters were above the tolerable limit set for inland surface water. It is expected that the present study will be useful for rational planning of pollution control strategies and their prioritization; to assess nature and extent of pollution control needed; to evaluate effectiveness of pollution control measures already is existence and to evaluate the quality of water effluents and the trend in effluent quality over a period of time.

Keywords: Industrial pollution, Pharmaceutical Industries, Dombivali Industrial belt, heavy metals, physic-chemical properties.

ISCA-ISC-2016-8EVS-04-Poster

Study on Pollution along the Mahul Creek of Mumbai-Analysis of Physico-Chemical Parameters

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Abstract: The Mahul creek (19º1'N and 72º53'E) is one of the major creek on the east cost of Mumbai stretching about 10 km from Trombay and extending up to Sewri. The creek is situated in Chembur suburb along the Arabian Sea in the north eastern corner of Mumbai. The creek receives heavy pollution load due to the industrial waste water effluent and sewage released from the nearby industries and slum areas. The present study was therefore carried out for the period of one year from January to December 2013 to understand the physico-chemical properties of creek water. The pH values of creek water were found to vary in the range of 6.22 to 7.30 with an average value of 6.89. The average temperature and electrical conductivity was found to be 27.3 ºC and 6159 µS/cm respectively. The total solid content was in the range of 3033 to 4927 mg/L with an average value of 4094 mg/L. The average values of phosphate, salinity and cyanide was found to be 51.18, 545.70 and 0.021 mg/L respectively. The values of COD was found to vary in the range of 68.77 to 645.22 mg/L with an average value of 362.09 mg/L. The average values of total hardness and alkalinity was found to be 2363.75 and 164.30 mg/L respectively.

Keywords: Water, Physico-chemical, Properties, Mahul creek, Mumbai.

ISCA-ISC-2016-8EVS-05-Poster

Waste minimization by waste material: Application of Sugarcane Bagasse for the removal of Chemical Oxygen Demand (COD) of Sugar Industry Wastewater

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Abstract: Pure water is scarce and is not easily available to all. The water may be contaminated by natural sources or by industrial effluents. Such contaminants are Organic as well as Inorganic Materials, which causes serious environmental issues. Sugar industry is one of the biggest consumers of water, and can also introduce serious pollutant to the environment. Chemical as well as biological treatments to these waste waters are in practice since long. Among them Adsorption by low cost material has been proved to be an excellent way to treat industrial waste effluents, offering significant advantages

like the low-cost, availability, profitability, easy of operation and efficiency. Present study lighten up the use of sugarcane bagasse which itself is waste material of sugar industry for the treatment of sugar industry waste water. This study proves that the plain and modified bagasse works as and adsorbent and the result of COD removal follow Freundlich and Langmuir adsorption isotherm. Among plain and modified bagasse- modified bagasse removes 50.98% of COD at the dose of 50 gm/L, whereas plain bagasse removes 41.18% of COD at the dose of 50 gm/L and found exhausted for higher dosages.

Keywords: Adsorption isotherm, Adsorption intensity (1/n), Adsorption energy (b x 10^3), Adsorption capacity.

ISCA-ISC-2016-8EVS-06-Poster

CFCs responsible for Ozone layer Depletion and Global Warming

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Abstract: Present study is based on the effect of Chloro-fluoro carbons (CFCs) on ozone destruction and global warming, consequently global climate change has been seen by analyzing the data obtained within 5 yrs and is compared with the data of last 5 yrs. A tremendous enhancement on global warming and rate of ozone layer destruction has been observed. The emission of CO and CFCs from a variety of natural or, anthropogenic sources were analyzed and separated using software based program viz. statistical cyclic variation analysis of time, temperature and concentration of ozone.

Keywords: Ozone, CFCs, Global warming, Statistical analysis.

ISCA-ISC-2016-8EVS-07-Poster

Domestic Waste Management through Vermicomposting – A Study in Mangalagangothri Campus

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Abstract: A major challenging issue, particularly in urban areas is management of municipal solid wastes (MSW). MSW is mainly composed of domestic wastes, generated as a result of the ordinary day-to-day use in the domestic premises. MSW contains a variety of disposed items both degradable (organic) and non-degradable. A commonly employed method of managing MSW is land-filling, which has its own disadvantages. An effective way of MSW management is vermicomposting, by which not only it is possible to manage the wastes, but also recycling to get a valuable product (natural fertilizers). A study has been conducted to assess the role of vermicomposting in managing the MSW at Mangalagangothri campus (Dakshina Kannada district, Karnataka state). The residential waste collected was found to contain ~ 80% degradable wastes, such as food and kitchen wastes, green wastes, paper, and ~ 20% non-degradable wastes, including, plastic bottles, bags, thermocol, tin cans, etc. Wastes were collected from the University residential area and subjected to vermicompsoting under controlled ideal conditions (moisture content: 48-52 %, pH: 7.0-7.2, at an ambient temperature), loaded with an exotic species of earthworm, *Eudrilus eugeniae* (50 gm of worms/kg of MSW). After 60 days, composts were harvested and analyzed for various factors by employing the standard methods. Bioassay was conducted using *Pisum sativum* L. based on six growth parameters, including plant height, weight, internodes, number of pods, leaves height and length of root. The results were subjected to statistical analysis using ANOVA test (one way). The results indicate that compost produced from the wastes was enriched with nutrients, including, N, P, K, Na, Mg, Ca, Cl and humus, when compared to that of the garden soil at a significant level ($p<0.001$). Bioassay results in comparison with that of the garden soil also indicated that vermicompost was found to be highly productive in terms of plant growth and yield. There was a 72% reduction in the volume of the wastes over a period of two months subjected to vermicomposting. Thus, vermicomposting is an eco-friendly approach for MSW management, which can be exploited as both decentralized and large-scale Waste Management Programme.

Keywords: Domestic waste, Vermicomposting, Bioassay, *P.sativum*; *E. eugeniae.*

ISCA-ISC-2016-8EVS-08-Poster

Petroleum Hydrocarbons and Heavy Metals Risk of Consuming Fish from Oguta lake, Imo State Nigeria

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Abstract: Oguta Lake has experienced over 500 oil spills and heavy metals and petroleum hydrocarbons could constitute fish contaminants. 6 g of each fish species from the lake were homogenized and divided into two portions. One was

digested with concentrated H_2SO_4 and HNO_3 acids while the other portion was extracted with hexane using a soxhlet extractor. Extracts was analyzed with AAS and GC instruments. Except for Hg and Ni all other metals were below permissible levels by FAO. Estimated dietary intakes (EDI mg/kg day^{-1}) were high in children (110.157) for C. spectaculurus to (25.212) for H. fossilis while adult (18.885) C. spectaculurus to (7.951) for H. fossilis. EDI varied amongst fish species with children EDI trend Fe > Hg > Zn > Ag > Pb > Ni > Cu > Cd whereas Fe > Zn > Hg > Ag > Pb > Ni > Cu > Cd for adults. Target Harzard Quotient (THQ) was highest for Cd in both adults and children. Total petroleum hydrocarbon (µg/l) revealed outrageous concentrations in O. leucosticus (11113755.94) > H. fossilis (40210.66) > C. spectaculums (35184.44) > M. salmoides (6373.27). This study has shown that consumption of fish species from Oguta Lake could constitute a health risk.

Keywords: Fish, Species, Health, Permissible levels, Pollution.

ISCA-ISC-2016-8EVS-09-Poster

Isolation and Screening of Actinomycetes for the Production of β - Mannanase

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Abstract: Lignocelluloses represent a major source of renewable organic matter. The chemical properties of the components of lignocelluloses make them a substrate of enormous biotechnological value. The *Endo -â-mannanase (EC 3.2.1.78) is an endohydrolase mainly act on* mannan *which is a major hemicelluloses found in the naturally* occurring lignocellulosic biomass, especially in plant cell walls, serves structural and protective roles for plants, and consequently is recalcitrant and resistant to degradation. Large amounts of mannan rich lignocellulosic "waste" are generated through forestry and agricultural practices, paper pulp industries, timber industries and many agro-industries and they pose an environmental pollution problem. However, the huge amounts of residual plant biomass considered as "waste" can potentially be converted into various different value-added products for e.*g. Bio fuels.* In the present investigation the screening of the less explored actinomycetes capable of mannanase production were isolated from 30 different soil samples obtained from different agroresidue rich areas. 45 different actinomycetes were primary screened on minimal media containing guar gum as a sole source of carbon. The organisms were selected on basis of clear zone around the colony. The secondary screening was done on basis of production of mannanase enzyme. The organism showing the maximum activity was selected for the further study.

Keywords: Lignocellulose, Mannanase, Actinomycetes

ISCA-ISC-2016-8EVS-10-Poster

Awareness and Importance of Biodiversity to the People in Navsari District, Gujrat, India

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Abstract: Biodiversity is the variability among living organisms, including genetic and structural difference between individual and within and between individual and within and between species. Biodiversity plays a direct role in climate regulation. Biodiversity conservation will lead to strengthening of ecosystem resilience and will improve the ability of ecosystem to provide important services during increasing climate pressures. This survey basically focuses on the importance of biodiversity and the awareness among the local society people and the awareness among the different age group people.

Keywords: Awareness, Biodiversity, Climate, Ecosystem, Society

ISCA-ISC-2016-8EVS-11-Poster

Assessment of Physico-Chemical Parameters of Garade Water Reservoir of Purandar, Pune District, Maharashtra, India With Respect to Seasonal Variation

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Abstract: The present study of Physico-Chemical Parameters of Garade Water Reservoir of Purandar, Pune District (Maharashtra) India with respect to Seasonal Variation was done between January 2013 and December 2015. During

three seasons samples were collected from three sampling stations using standard methods. The three sampling stations were chosen on the reservoir to reflect the effect of human activities. The Physico-Chemical Parameters studied were Temperature, transparency, pH, conductivity, total dissolved solids, dissolved oxygen, chemical oxygen demand, total alkalinity, total hardness, calcium and magnesium hardness. The collected samples were analysed for these parameters using standard methods and procedures. The water temperature was ranged between 16^0C to 32^0C throughout the study. The pH was ranged between 7.2 to 8.6. The transparency ranged between 37cm to 102 cm. Conductivity observed between 163 to 328 μ mho/cm and were high in summer. Total dissolved solid (TDS) values were higher during summer while low in winter. The DO was low in summer. Total alkalinity values ranged between 85 mg/lit to 156 mg/lit. The total hardness was ranged between 86 to 179 mg/lit, were maximum in summer and lower in winter. Maximum chlorides values in rainy season while lower in summer. All parameters were within permissible limits.

Keywords: Physico-chemical, Garade, Water reservoir, Transparency, Total hardness.

ISCA-ISC-2016-8EVS-12-Poster

Effect of Environmental factors on Lipid Accumulation and Biodiesel Production Potential of Algae

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Abstract: Fossil fuels have provided the energy to thrust development in the modern industrial era. Most of the energy is derived from the conventional energy sources (including coal, petroleum and natural gas) which are limited in quantity as well as expensive to refine. Continued use of fossil fuels has stemmed the problem of depletion of energy resources. Biofuels signify one of the most promising sources of energy generation with the capability to replace the conventional energy sources. Algae are one of the significant biofuel generation sources. These organisms utilize $CO_2$and nutrients present in water for their proliferation. Algae have great potential of lipid accumulation in their cells as structural and storage biomolecules. Accumulation of lipid in algal cells is dependent on environmental conditions (temperature, light, nutrient, salinity etc.) and it could be enhanced by creating certain stress conditions during the cultivation of algae. The lipid content of algae could be extracted and used to generate biodiesel by the process of transesterification; which would help us to break our dependence on conventional energy sources.

Keywords: Fossil Fuels, Algal Biofuels, Lipid, Stress, Transesterification.

ISCA-ISC-2016-8EVS-13-Poster

Phycoremediation of Wastewater: Sustainable approach for Remediation and Biodiesel production

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Abstract: Wastewater has become one of the major sources of water pollution having quantitative and qualitative threats all over the world joining water scarcity. Water pollution varies among many countries; depending on number of factors, including population growth and density, extent of industrialization, quality of non-renewable water resources, economic situation etc. Therefore finding a solution for the treatment and safe discharge of wastewater is a difficult challenge. Various conventional treatment methods are used for waste water treatment which require high amount of chemicals, energy, and man power. The phycoremediation over theconventional treatment methods has significant advantage. The algal remediation is more environmentally sustainable as it does not generate additional pollutants such as sludge byproducts and provides an opportunity for efficient recycling of nutrients; in addition, the algal biomass generated has great potential as feedstock for biodiesel production. Thus integrated use of microalgae cultivation for wastewater treatment coupled with biodieselgeneration will be an attractive option in terms of reducing GHG emissions, costand freshwater resource costs of biodiesel generation from microalgae. Therefore wastewater treatment using microalgae is viable means for biodieselgeneration and is likely to be one of many approaches used for the production of sustainable and renewable energy.

Keywords: Phycoremediation, Wastewater treatment, Biodieselproduction, Microalgae, Sustainable approach.

ISCA-ISC-2016-8EVS-14-Poster

Advances in Bioremediation Approach for Cleanup of Polyaromatic Hydrocarbons

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Abstract: Petroleum refining industries and incomplete combustion of organic matter are the major sources of Polyaromatic hydrocarbons (PAHs). Many PAHs and their epoxides are highly toxic, mutagenic or carcinogenic to biotic ecosystem as well as to human beings. Persistence and low solubility of PAHs in different environmental matrix (soil, waterand sediment) are of major concern. Bioremediation is an ecologically sound and sustainable approach for the treatment of contaminated sites, which depends on microorganisms and its metabolism. Thus, to achieve the desirable rate of degradation microbial behavior and its physiology based on molecular and biochemical mechanism should be focused; which includes membrane toxicity, hydrophobicity and production of stable bio-surfactant. In this study area various culture independent molecular tools contributes significantly inanalyzing the novel catalytic mechanism and enzymatic pathways by DNA fingerprinting, likewise DNA microarrays for tracing functional genes andFluorescence in situ hybridization (FISH) use for species identification. Stable isotope probing (SIP) is used for the isolation of nucleic acids from metabolically active microorganisms in presence of contaminants. Emerging Proteomics based approach can be used for identification and characterization of membrane structure. Bacterial chemotaxis play vital role in bioavailability of contaminant as a nutrient source which is a major step in bioremediation process.

Keywords: Polyaromatic hydrocarbons (PAHs), Bioremediation, Microorganisms, Molecular tools, Enzymatic pathways.

ISCA-ISC-2016-8EVS-15-Poster

Application of Metal Doped Visible Light Photocatalytic Green Synthesized TiO_2 for Hydrogen Production

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Abstract: Nano-sized TiO_2 photocatalytic water-splitting technology has great potential for low-cost, environmental friendly solar-hydrogen production to support the future hydrogen economy. Presently, the solar-to-hydrogen energy conversion efficiency is too low for the technology to be economically sound. One of the main drawbacks of using TiO_2 as a photocatalyst is its band gap of around 3.2 eV for the anatase phase in the near-UV range of the electromagnetic spectrum. As a result, only UV light can create the electron–hole pairs and initiate the photocatalytic process. However, UVlight constitutes only a small fraction (about 3–5%) of the solar spectrum. In order to overcome this problem, our motive was to bring TiO_2 nanoparticles into visible region. Transition metal copper doped TiO_2 nanoparticles give the maximum absorption in visible range with decrease in band gap up to ~2.17- 2.50 eV. For this experiment, TiO_2 nanoparticles were prepared in anatase phase of the size around 15-20 nm by environmental friendly microwave assisted method using plant extract. Doping of thismetal essentially lessens the band gap of TiO_2 for the photo-excitation (red shift) and simultaneously reduces the recombination rate of photogenerated electron–hole pairs. A significant enhancement of photocatalytic activity for hydrogen production is possible when Cu metal is present as a co-catalyst with TiO_2. Thus Cu- doped TiO_2 nanoparticles in general showed higher photocatalytic activities than the pure ones.

Keywords: Photocatalysis, Hydrogen Production, Green Synthesis, Cu-doped Nanoparticles, Visible Range Absorption, Band Gap.

ISCA-ISC-2016-8EVS-16-Poster

Screening and Characterization of L-glutaminase Enzyme producing Marine Bacteria from Karwar coast, Karnataka, India

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Abstract: Marine bacteria are the rich source of diverse enzymes, which know to catalyze wide spectrum biochemical reactions. Thus, marine bacteria are also a rich source of secondary metabolites and therapeutic molecules. In the current study, we isolated 54 marine bacterial strains from sandy soil and seawater from the various beaches and Kali rive restuary around costal city, Karwar, Karnataka. Among isolated diverse gram+ve and gram-ve bacteria, 9 strains have

showed the L-glutmaminse activity. The bacteria *Vibrio fischeri, Pseudomonas panacis, Bacillus thuringiensis, Paneibacillus alvei, Micrococcus mucilaginosus, Micrococcus lylae, Enterococcus hirae, Bacillus lichenformis* and *Vibrio diazotrophicus* showed elevated glutaminase activity. L-glutaminase (L-glutamine amindohydrolase, EC.3.5.1.2) is an enzyme that catalyzes the hydrolysis of L-glutamine into L-glutamic acid and ammonia. This enzyme is getting popular due to its important role and its applications in both pharmaceuticals and food industries. L-glutaminase is proposed as an enzyme therapy for cancer, especially for acute lymphocytic leukemia,It is also taking an important role that controls the delicious taste of fermented foods such as soy sauce and in general food products by increasing the glutamic acid content, therefore, this enzyme has attracted considerable attention in food industries. Therefore, the present study may find useful in the industrial production of L-glutaminase using suitable strain(s).

Keywords: Screening, Characterization, L-glutaminase, Enzyme, Marine, Bacteria, Karwar coast.

ISCA-ISC-2016-8EVS-17-Poster

Effect of Nutrients on Foliar Diseases for Measurements of Growth parameters AGR, CGR and NAR in Blackgram [*Vigna mungo* (L.) Hepper]

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Abstract: Pulses contain atleast two to three times higher proteins compared to cereal grains. India is the largest producer and consumer of pulses in the world.Black gram is the third most important pulse crop in India. It is an ancient and well known leguminous crop of Asia and commonly called as Urdbean. It is popular because of its nutritional quality and suitability for multiple cropping systems. Growth parameters help to understand the pattern of crop growth and development as affected by the cercospora leaf spot and powdery mildew. The absolute growth rate (AGR), crop growth rate (CGR) and net assimilation rate (NAR) are the important growth parameters influencing yield potential which are the dependent on genotype and environment. All the growth parameters differed significantly at both stages and the parameters were significantly higher in treatment with $MnSO_4$, and its combinations, $FeSO_4$ combinations and $MgSO_4$ compared to control.

Keywords: AGR, CGR and NAR $MnSO_4$, $MgSO_4$, $FeSO_4$ and urdbean.

ISCA-ISC-2016-8EVS-18-Poster

Naringenin Attenuates Eryllium induced Hepatorenal Dysfunction and Oxidative stress in Albino Rats

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Abstract: In modern era metal contamination is a big challenge in developing state of India due to competitive industrialization. Among all state Chhattisgarh is more prominent because of 2nd ranked for coal production in India. Combustion of fossil fuel is principal source of beryllium emission in general population of Chhattisgarh. The purpose of present study was to reduce harmful effects of beryllium by using natural compound, naringenin. It is a naturally occurring citrus flavanone, which possess anti-inflammatory and antioxidant potential. Female albino rats were exposed to beryllium (1 mg/kg, ip) for 28 days daily for induction of hepatorenal toxicity. Naringenin was administrated at different doses (12.5, 25 and 50 mg/kg, po) for one week after beryllium exposure. Beryllium administration significant increased aspartate transaminase, alanine transaminase, alkaline phosphatase, triglyceride, cholesterol and bilirubin; decreased glucose and albumin level in serum. Glutathione, superoxide dismutase and catalase was decreased in liver and kidney; whereas lipid peroxidation and tissue lipid profile were significantly increased due to beryllium exposure. Naringenin administration recovered all these variables towards control significantly in dose dependent manner. Histopathological observations also correlated with biochemical findings. Present study concluded that naringenin acts as chelating agent, which adds to detoxify beryllium induced hepatorenal toxic manifestations.

Keywords: Beryllium (Be), Naringenin, Flavonone, Hepato-renal toxicity, Histopathology.

ISCA-ISC-2016-8EVS-19-Poster

Sustainibility in Terms of Water Tfficiency

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Abstract: A study on development of residential area by sustainability of water efficiency and also maintaining an eco-friendly atmosphere. Climate change, water supply limits, and continued population growth have intensified the search

for measures to conserve water in irrigated agriculture world's largest water user. Policy measures that encourage adoption of water conserving technologies have been applied. For the purpose rain water harvesting has been implemented efficiently. Various applications of solenoid valves have been made. Also eco-friendly urinals have been used. Shower heads and hand showers are also skillfully designed to give optical performance. Landscaping being major factor, grey water treatment has been used and also recycling of water has been done.

Keywords: Sustainability, Water conservation, Skilled technologies, Solenoid valves, Eco-friendly, Landscaping.

ISCA-ISC-2016-8EVS-20-Poster

Nutrient Releasing Dynamics Effecting Soil Properties and Crop Plant Quality via Leaf Litter Decomposition of Ten Common Tree Species from West Bengal, India

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Abstract: The impact of leaf litter compost on physico-chemical properties of soil and crop plant quality via nutrient release has been carried out in the present study. Ten common tree species of tropical West Bengal were taken including both native and invasive ones. Leaf litters were collected from ecological neighborhoods of the trees that were allowed to decompose in non-cropfield soil for 60 days. Soil profile has been found to get changed differentially. Likewise some selected crop plants grown in that soil have shown differential enhancement in relation to growth rate, root-shoot ratios, primary productivity, total protein, carbohydrate content, etc. It has been found that *Ficusreligiosa* has much impact on soil as well as seedling quality.

Keywors: Nutrient, Soil, Plant, Leaf Litter, Tree.

ISCA-ISC-2016-8EVS-21-Poster

Comparative Assessment of Heavy Metals in Coal Ash and Groundwater around Ash Pond of Chandrapura Thermal Power Station, Jharkhand, India

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Abstract: Fly ash is an industrial waste generated from the thermal energy sector. The environmental concerns regarding the potential contamination of soil, surface water and groundwater due to the presence of heavy metals in the ash are of serious concern. Open dumping of fly ash from thermal power plants can deteriorate the groundwater quality by runoff. Heavy metals on the fly ash surface have a tendency to leach and contaminate the ground water, which will affect the human by entering the food chain. The present study has been carried out to assess and compare the heavy metals concentration in each form of coal ash (i.e. fly ash, bottom ash and pond ash). In these study heavy metals contamination in groundwater around the ash pond of Chandrapura Thermal Power Station (CTPS) in Jharkhand was also investigated. Fly ash, bottom ash and pond ash samples were taken from electrostatic precipitator, bottom ash collection pump and ash pond of the plant respectively. Groundwater samples from bore wells/hand pumps within 1 Km radius of the plant were collected and analyzed for heavy metals (Cd, Co, Cr, Cu, Fe, Mn, Zn, Ni, Pb etc) using Atomic Absorption Spectrophotometer (AAS) and compared it with the Indian drinking water standard (IS:10500) for the specified maximum contaminant level. Heavy metals Pollution Index (HPI) is also calculated, which is coming under the range of 0-100, but at one location (GW9) it was nearer to100, (i.e. HPI=81.23), which indicates that on GW9 around CTPS ash pond area groundwater was slightly contaminated with heavy metalsand at some locations it was found under the permissible limit. Promotion of increased use of fly ash in construction activities, proper disposal practices with better management need to be undertaken to minimize the adverse impacts of fly ash on the surrounding environment.

Keywords: Fly ash, Bottom, Pond, Heavy metals Pollution Index (HPI), Atomic Absorption Spectrophotometer (AAS).

ISCA-ISC-2016-8EVS-22-Poster

Heavy Metal Contaminants Removal from Environment using Potential Agents

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Abstract: Today environmental pollution is a very big problem because of hazardous waste has led to scarcity of clean water and disturbances of soil thus limiting crop production. Bioremediation uses biological agents mainly microorganisms i.e., bacteria, fungi and yeast to clean up contaminated water and soil. In bioremediation processes, microorganism use the contaminants as nutrient or energy sources. The bioremediation and natural attenuation area has both basic research and field application foci for the environmental sciences as well as green chemistry. The basic research foci are co-metabolism, biotreatability, biotransformation kinetics, and modeling of biogeochemical assessment techniques, and modeling of attenuation and environmental fate. Heavy metals occur in the earth's crust and may get solubilized in ground water through natural processes or by change in soil pH. Heavy metal pollution of wastewater currently becomes a key environmental problem throughout the whole world. Under this experiment conventional methods for the removal of heavy metals from aqueous solutions are not economically and environmental friendly because it has produced massive quantity of toxic chemical compounds. But the removal of heavy metals from wastewater biogeochemical treatments, especially isolated bacterial species have gained an increasing attention for heavy metal removal and recovery due to their upright performances, low cost and huge quantities. Isolated bacterial species have a great potential to produce large amount of biomasses which are widely used for metal adsorption capacities of Pb, Zn, Cd, Cu, Cr, As and Ni. Production of biomass has offered great potential for adopting metal-recovery system. To discuss and further study of heavy metals removal for the utilization of biomass and chemical agents to scrutinize exploiting problem for heavy metal remediation.

Keyword: Bioremediation, Geochemical, Heavy metal, Remediation, Biotransformation.

ISCA-ISC-2016-8EVS-23-Poster

Changes in DNA and RNA Contents of the Freshwater Bivalve, Parreysiacylindrica after Exposure to Indoxacarb

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Abstract The fresh water bivalve, *Parreysia cylindrica* were exposed to chronic concentration of Idoxacarb 0.07811 ppm ($LC_{50}/_{10}$) for 7 and 21 days. Mantle, gill, digestive gland and whole body tissue of fresh water bivalve, *Parreysia cylindrica* on indoxacarb exposure showed significant decrease in DNA and RNA content as compared to control. The DNA and RNA content was decreased more after 21 days as compared to 7 days exposure. The higher depletion of DNA and RNA contents was observed in digestive gland as compared to other tissues. DNA and RNA content was decreased possibly due to stress condition caused by toxicity of indoxacarb.

Keywords: DNA, RNA, Indoxacarb, *Parreysia cylyndrica*.

9. Forensic, Medical, Dental and Nursing

ISCA-ISC-2016-9FMDN-01-Oral

Sensitive and Innovative Technique of Nanodrop Spectrophotometry for the Rapid determination of Phenothiazine Drug – application to Forensic studies

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Abstract: Herein we report a novel, rapid and green technique of nanodrop spectrophotometry for the determination of promethazine drug in pure and forensic biological samples. Promethazine $C_{17}H_{20}N_2S$ is medically used as sedative, antipsychotic and as antiallergic drug. Determination of the optimum level of the drug in samples is important to minimize the adverse effects of endocrinal, reproductive and cardiac alterations. Enhancement of the color intensity of Iron(III)-thiocyanate complex on addition of the drug forms the basis of the present work. Optimization of various analytical parameters was also considered to enhance the selectivity of the method. The assay using promethazine drug is found to obey the Beer"s law over a range of concentration of the drug from 0.5 to 10.0 mg L^{-1}. The calibration curve plotted between the absorbance vs. the concentration of the drug was found to be linear over this concentration range. The present method requires only one drop of the sample for analysis using Nanodrop spectrophotometer (NDS) and helps in solvent minimization and thus, serves as a green technique. The developed method is proved to be suitable for routine work of analysis and also suitable in forensic cases were the samples available are generally scarce.

Keywords: Green chemistry, Pharmaceuticals, Phenothiazine drug, Nanodrop spectrophotometer, Solvent minimization.

ISCA-ISC-2016-9FMDN-02-Oral

Consumption pattern and Dietary practices of pregnant women during Second trimester in Paddipalai divisional Secretariat area of Batticaloa district, Sri Lanka

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Abstract: This study was conducted in antenatal health care clinics at Paddipalai Divisional Secretariat area of Batticaloa District, SriLanka during January 2015 to May 2015 to generate information on the consumption pattern and dietary practices of pregnant women. A total of 55 pregnant women at 12-24 weeks of pregnancy were used for the study. They were selected by random sampling from the seven health centers. A face-to-face interview with each participating mother was conducted privately in the local language (Tamil) with the duration of 20 to 30 minutes. Pre tested questionnaire was used to collect data such as socio economic, age, ethnic group, etc. Data on frequency of consumption of food items were estimated, using the food frequency questionnaire. Weight of pregnant women was measured by using solar digital weighing scale of bathroom beam balance scale developed by SECA (Germany). Height was measured in centimeters using a rod attached to the weighing scale and body mass index (BMI) calculated as weight/height^2 (kg/m^2). Body fat percentage was measured directly by using "Warrior digital Body Mass Caliper" from Sequoia fitness products USA. Processed data was analyzed using Statistical Package for Social Sciences (SPSS) version 16. Descriptive statistics were used to get the percentages and frequencies of variables used in this study. Results indicated that about 58% of the pregnant women were between the age ranges of 20-35. Only 1.8% had tertiary education while 90.9% had secondary education, 49.1% earn income through labour. On food intake, majority (87.2%) got their energy source from rice on a daily basis. For protein intake, 41.8% consumed fish curry 2-4 times a week while 49.1% consumed chicken curry once in a week. Banana (40%) accounted for the mostly consumed fruit on daily basis and Green Leafy vegetable (58.2%) accounted for the mostly consumed vegetable 2-4 times on weekly basis. Of the milk and milk products, milk is the one that has higher percent (52.7%) of daily consumption, while curd and butter were consumed once in a week by 25.5% and 9.1%, respectively. Low BMI in pregnant women was also recorded in the study area that may leads to low birth weight (LBW) of infants. Therefore, it is important to conduct awareness campaign to sensitize the pregnant women on the importance of good nutrition especially fruits, vegetables and dairy products.

Keywords: Antenatal, Health, Care, Clinics, Nutrition, Pregnant women, Body mass index, Low birth weight.

ISCA-ISC-2016-9FMDN-03-Oral

A Critical study of Medicinal plants in the Texts of *Brhattrayî and Mâdhava Cikitsâ treatises of Âyurveda* for the treatment of hair Disorders

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Abstract: Hair growth disorders, as perceived by legendary Ayurvedic trinity i.e. Caraka Samhitâ, Suúruta Samhitâ and Astanga Hrdayam, referred to as *Brhattrayî* are caused mainly due to Vâta imbalance factors. Mâdhava Cikitsâ (a limitedly studied treatise), another Sanskrit medical compilation by Acharya Mâdhava, who is considered to be the epitome of Ayurvedic patho-physiology (*Roga Nidâna*) also had also emphasized treatments to hair problems under Kshudrarog Cikitsâ like in *Brhattrayî*. A critical study was undertaken to find out and assign the correct botanical identification of each medicinal plant described in Sanskrit names in these treatises for the treatments of hair disorders such as *Palita* and *Khalita* along with *Iòdrbidda /Iòdralupta* (alopecia areata, totalis universalis) under Kshudrarog Cikitsâ. This study of the Sanskrit texts of *Brhattrayi* and Mâdhava Cikitsâ as made independently and in comparison, compiled a list that contains a maximum 43 identified plant species belonging to 31 families of ethnomedicinal interest. There are 05 different plants identified from the description of Mâdhava Cikitsâ only, which are not mentioned in the *Brhattrayi.* For *Khalita* treatment*,* there are 11 different plants identified from the verses of *Brhattrayi,* and those are not mentioned in Mâdhava Cikitsâ. A local market survey of hair oils prepared by different Ayurvedic Pharma companies found using a maximum of 84 number of plants in different proportions as listed in the treatises. Effort was also made in assigning the most probable botanical identifications to the plant names, and representing the plant names expressed in Sanskrit with Unicode diacritical marks in this scientific publication for universal understanding and correct pronunciation. The findings and representations in this paper will be of significant use for the Pharma companies to identify and use correct plant species for better efficacies.

Keywords: Hair loss, Alopecia, Palita, Khalita, Medicinal plants, Kshudraroga, Brhattrayi.

ISCA-ISC-2016-9FMDN-04-Oral

Effect of Seasonal variations on the Life cycle of a Calliphorid fly *Chryosomya megacephala* (Fabricius, 1794)

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Abstract: Forensic entomology is defined as knowledge about insect and its relationship with a decomposed body. With this knowledge, post-mortem interval (PMI) can be estimated. PMI can be determined by taking into consideration the insect evidences and the developmental stage of the insects. *Chrysomya megacephala*, is one of the Calliphorid flies with forensic and medical importance has been studied for the effect of seasonal variations on its life cycle duration and morphological parameters. Results shows that in summer season life cycle of the fly is completed in 212 hrs. In rainy and winter season life cycle is completed in 246 hrs. and 305 hrs. respectively. In summer temperature was high so life cycle of the fly was completed within a short duration and size of the maggots was small at each stage as compared to winter and rainy season. Length, width and weight of the maggots recorded more in rainy season and life cycle duration was prolonged. Normally, temperature is the most important factor regarding the rate of development in insects for estimating PMI.Variationsin climatic conditions lead to differences in the decomposition speed, insect development rate and succession pattern in different habitats,seasons and geographic locations. So rate of development as per different seasons is very important for more accurate estimation of PMI in medico legal forensic investigations.

Keywords: *Chrysomya megacephala*, Temperature, Humidity, Entomology, Developmental, Cadavers.

ISCA-ISC-2016-9FMDN-05-Oral

Scientific approach to Panchkarma therapies in Ayurveda

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Abstract: Ayurveda, the indigenous system of medicine is a collection of principles of life applicable to human health and illness. Panchkarma is a specialized theme in Ayurveda which comprises of various treatments like Vamana (emesis), Virechana (purgation), Basti (enema), Nasya (errhines) and Raktamokshana (blood-letting). In today's world, health is

dependably connected to Ayurveda and Panchkarma; but it appears that little is followed based on its principles. Here is an attempt to share the course of action of this invaluable therapy. According to Ayurveda, anatomical and physiological foundation of human body is based on five elements- Akash (ether), Vayu (air), Agni (fire), Jala (aqua) and Prithvi (earth). Different permutations and combinations of these elements form Dosha (functional units), Dhatu (body tissues) and Mala (byproducts entitled to elimination from the body), which are unique to every individual. Qualitative and quantitative imbalance in Shariradoshas occurring due to discrepancies in diet and lifestyle and seasonal variations lead to manifestation of a disease. Panchkarma is the chief procedure for pacification and quantitative elimination of disease causing Dosha. Regular and precise conduction of Panchkarma in health and disease helps to maintain equilibrium in the body. Scientific aspects of Panchkarma therapy would be discussed in the forthcoming paper.

Keywords: Ayurveda, Panchkarma, Panch-Mahabhuta, Dosha, Dhatu, Mala.

ISCA-ISC-2016-9FMDN-06-Oral

Impact of Food Fortification and Nutrition Education in reducing Iron Deficiency Anaemia among Adolescent Girls

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Abstract: Anaemia is a global public health problem with major consequences for human health as well as social and economic development. Food based approach and nutrition education are considered a long term approaches to combat iron deficiency anaemia. Hence the present study was under taken to assess impact of food fortification and nutrition education in reducing iron deficiency anaemia among adolescent girls. A total of 210 school going adolescent girls (13-15 years) were screened for haemoglobin status. The food intervention was carried out for 30 subjects. Iron enriched *Masala roti* were given daily for the intervention for 90 days. Nutrition education intervention programme thrice a week for 3 months was given to group of 138 children. The subjects were assessed for biochemical parameters such as haemoglobin, serum ferritin and total iron binding capacity before and after the interventions. The mean heamoglobin levels before the food and education interventions were8.43 and 10.27 mg/dl respectively. In both the intervention groups there was significant improvement (10.65 and 11.98 mg/dl respectively). The mean score of the subjects before intervention was 14.79, whereas the score found to be 31.38 immediately after the intervention. Ninety four per cent of the subjects scored low (<25), 5.8 percent scored medium (26-37.5) 24.6 percent of subjects scored high (>37.5) where as 51.4 percent scored medium (26-37.5) immediately after the education programme. The research concluded that intervention of iron rich food as well as nutrition education could provide an effective means of raising iron stores in adolescent girls.

Keywords: Anaemia, Adolescents, Haemoglobin, Enrichment, Intervention.

ISCA-ISC-2016-9FMDN-07-Oral

How far Rutin can protect the Body from Lipopolysaccharide and D-galactosamine induced Hepatitis in Rats

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Abstract: Rutin or vitamin P, a bioactive component existing in considerably amount in medicinal herbs, fruits and vegetables. Fulminant hepatic failure induced by co-injection of lipopolysaccharide (LPS) and D-galactosamine (D-GalN) mimics the scenario created by viral hepatitis-C. Pretreatment of rutin (5, 10 and 20 mg/kg p.o.) was given for 6 days followed by LPS (50 µg/kg) and D-GalN (300 mg/kg) for intoxication. Hepatic and renal function tests i.e. aspartate aminotransferase, alanine aminotransferase, urea, uric acid and creatinine were increased significantly whereas albumin and glucose decreased significantly. Activity of superoxide dismutase, catalase and glutathione level were decreased and lipid peroxidation was found increased. Rutin potentially reversed biochemical changes towards control in dose dependent manner and 20 mg/kg dose provided better protection in biochemical endpoints. Histological studies showed improved histoarchitecture and substantiated recovery pattern of biochemical studies. Thus, results of the present study concluded that rutin at 20 mg/kg dose can attenuate complications due to hepatitis.

Keywords: Viral hepatitis, Rutin, Fulminant hepatic failure, Lipopolysaccharide, D-Galactosamine.

ISCA-ISC-2016-9FMDN-01-Poster

Study on Invitro Antiurolithiatic Activity of Bryophyllum Pinnatum and ocimum Gratissimum Leaves

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Abstract: Bryophyllum pinnatum and Ocimum gratissimum has been used to treat various diseases including urinary stone disease since ancient time in India. Calcium oxalate crystallization was induced by the addition of 0.01M sodium oxalate solution in synthetic urine and nucleation method. In nucleation assay, the aim was to evaluate the effectiveness of different concentration of the aqueous extract (100- 1000µg/ml) on calcium oxalate monohydrate crystal from artificial urine at different % concentration of extract (200-1000%) was investigated. Bryophyllum pinnatum and Ocimum gratissimum showed % inhibition for calcium oxalate crystal with maximum inhibition of 65.97% at 600µg/ml and 62.26% at 600 µg/ml respectively while in nucleation assay % inhibition for calcium oxalate formation was directly proportional to be increasing concentration of the plant extract with maximum inhibition was 89.28% and 86.62% at 1000µg/ml respectively. Bryophyllum pinnatum and Ocimum gratissimum was found to be potent and promising antiurolithiatic agent which is in accordance with its use in traditional medicine.

Keywords: Bryophyllum pinnatum, Ocimum gratissimum, Antiurolitiatic activity, Calcium oxalate, Sodium oxalate.

ISCA-ISC-2016-9FMDN-02-Poster

Evalution and in-Vitro Activity of Leaves Alexandrina and *Trigolla Foenum-Graecum* (Fenugreek) on Blood Clotting Time

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Abstract: *Senna alexandrina* Mill is well known plant in Asian countries including ecological activities. The drug have been used as folk remedy in India in the form of decoction and infusion to be an effective against variety of skin condition like psoriasis, acne, wound etc. The plant extract showed antibacterial activity but not showed antifungal active against fungi. The herb of *Senna alexandrina* were subjected for successive extraction using different solvent and extract were subjected to antimicrobial evaluation against gram positive, Gram Negative bacterial and Fungal organism by cup plate technique. The phytochemical analysis carried out presence of Alkaloids, Carbohydrate, protein, saponin. *Trigonella foenum* is believed to have been brought into cultivation in the near East and also in India it is commonly known as Fenugreek seed which include iron, vitamin A, Vitamin B_1 and other alkaloid. The antifungal and antimicrobial properties of Fenugreek are now being of food preservation. The Fenugreek is to control blood sugar in both insulin dependent (Type I) and insulin independent (type II) diabetes mellitus. It potentially effective as a cancer chemo preventive and rising level of Vitamin C, Vitamin E and other antioxidant in blood stream. The Activity of *Senna alexandrina* and *Trigonella foenum* on blood clotting was investigated that the extract can be used to manage bleeding. These were performed using the Duke method, the Lee and White method.

Keywords: *Senna alexandrina*, *trigonella foenum-graecum* (Fenugreek), Clotting time, Methanol, Petroleum Ether.

ISCA-ISC-2016-9FMDN-03-Poster

In vitro study of Aqueous leaf extract of *Raphanus Sativus var*. for inhibition of Calcium oxalate Crystallization

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Abstract: The leaves of *Raphanus Sativus* var. Longipinnatus.are traditionally used for treatment of kidney diseases and urinary stones. The present work investigated the effect of aqueous extract of leaves of *R. Sativus* (RSAE) on in-vitro crystallization of CaOx crystals. Crystallization was studied by using nucleation and aggregation assay of calcium oxalate (CaOx) crystals and growth assay of calcium oxalate monohydrate. The effects of RSAE and cystone on slope of nucleation and aggregation as well as growth of calcium oxalate crystallization was evaluated spectrophotometrically. The densities of the formed crystals were compared under microscope. RSAE significantly inhibited the slope of nucleation and aggregation of CaOx crystallization, and decreased the crystal density. It also inhibited the growth and caused the dissolution of Calcium oxalate crystals. The standard drug cystone also exhibited similar effects. The study reveals that the leaves of *Raphanus Sativus* were found effective in the prevention of theexperimentally induced urinary stones and substantiate

the traditional claim. It is concluded that the leaves of *R.sativus* have beneficial inhibitory effect on in-vitro crystallization of CaOx crystals.

Keywords: *Raphanus Sativus,* Calcium oxalate crystallization, Nucleation, Aggregation Cystone**.**

ISCA-ISC-2016-9FMDN-04-Poster

In Vitro anti- inflammatory activity of *Vitex Negundo* extract by HRBC membrane stabilization

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Abstract: *Vitex Negundo* – Nirgudi is a plant species of *Lamiaceae* family commonly found in India, especially in different areas of Maharashtra. It is a slender, laticiferous, semi-erect endangered shrub; specifically known for its immense medicinal values; for example-anticancerous, antiarthritic, antimicrobial, antiulcer, antivenom, antileprotic, immunomodulatory, hepatoprotective, wound healing activity etc. Its immense medicinal values can bring *Vitex Negundo* as a royal source of herbal medicine in India. Phytochemical constituents Literature indicates the presence of Alkaloids, steroids, terpenoids, flavonoids, saponins, phenolic compounds, tannins and lignins, inulins, cardiac glycosides, protein, carbohydrates etc., in aqueous and ethanolic hemidesmus indicus root extract. Since triterpenoids and flavonoids have remarkable anti inflammatory activity, so our present work aims at evaluating the in vitro anti inflammatory activity of *Vitex Negund* by HRBC membrane stabilization. The inhibition of hypotonicity induced HRBC membrane lysis was taken as a measure of the anti inflammatory activity. The percentage of membrane stabilisation for methanolic extracts and Diclofenac sodium were done at different concentrations. The maximum membrane stabilization of extracts *Vitex Negundo* was found to be 72.59 % at a dose of 50 µg/ml and Standard membrane stabilization was found to be 76.67% at a dose of 500 µg/ml of methanolic extract. Therefore, our studies support the isolation and the use of active constituents from *Vitex Negundo* in treating inflammations.

Keywords: *Vitex Negundo,* Anti-inflammatory, Human Red Blood Cell (HRBC), Membrane Stabilization.

ISCA-ISC-2016-9FMDN-05-Poster

Effect of various extract of *Tagetes* (Marigold) on Blood clotting Time

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Abstract: *Tagetes* (Marigold) is an extremely effective herb for the treatment of skin problems and can be used wherever there is inflammation of skin, whether due to infection or physical damage for example, crural ulceration, varicose veins, hemorrhoids, anal fissures, mastitis, sebaceous cysts, impetigo or other inflamed cutaneous lesions. As an ointment, Marigold (*Tagetes*) is an excellent cosmetic remedy for repairing minor damage to skin such as sub dermal broken capillaries or sunburn. The sap from the stem is reputed to remove warts, corns and calluses. In the 12th century Macer wrote that merely looking at the *Tagetes* species plant would improve the eyesight and lighten the mood. Marigold (*Tagetes*) besides being an ornamental plant, has various medicinal properties it is nematocidal, fungicidal, antibacteriala and insecticidal and aids in wound healing. Our work is focused on the blood clotting activity of its leaf extracts. Coagulation of blood after vascular spasm and platelet aggregation involves formation of prothrombinase and the conversion of prothrombin into thrombin, which helps in conversion of fibrinogen into fibrin (clot). Prothrombin time (PT) test is the most commonly used coagulation test in health care. In the present study, marigold leaf extracts were obtained from three different extraction and comparative analysis of yield percentages, as well as blood coagulation activity (in terms of coagulation time), was performed. The effect of extracts of *Tagetes* (Marigold) on blood clotting time was investigated in order to verify the claim that the said extract can be used to manage bleeding. These were performed using the Duke method, the Lee and white method.

Keywords: *Tagetes,* Marigold, Clotting Time, Ethanol, Petroleum Ether.

ISCA-ISC-2016-9FMDN-06-Poster

Quality Assessment in Water in Delhi Region, India

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Abstract: Water is most important in shaping the land and regulating the climate. It is one of the most important compounds that profoundly influence life. Groundwater is used for domestic and industrial water supply. Access to clean water is a

basic need, which is still not within the grasp of a huge population in the developing country although the water quality problems are mainly due to contamination by bacterial infections, and a number of very serious problems may occurs as a result of water pollution. A study was conducted in the capital city of India. The entire capital city was bifurcated into 5 major districts in order to extend the entire city. The total of 15 samples from different places of 5 districts of Delhi were collected and analyzed for bacterial contamination by Multiple Fermentation Technique and heavy metal toxicity by ICP-OES. The entire procedure for bacterial contamination adopted was according to WHO guidelines. Most of the water samples were found contaminated with enteric bacteria and other water poisoning organisms with significant bacterial counts and heavy metals concentration analyzed were higher than the accepted levels.

Keywords: ICP-OES (Inductively Coupled Plasma Optical Emission Spectroscopy), Multiple Fermentation Technique, WHO (World Health Organization), Heavy Metals (As, Cd, Zn etc).

10. Family, Community and Consumer

ISCA-ISC-2016-10FCC-01-Oral

Influence of Good Health for Better Adjustment among Elderly

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Abstract: Five hundred and forty Rural and Urban male and female elderly under the age group of 60-74, 75-84 and 85 & above were randomly selected from Dharwad Taluka. Data was collected through exploratory and personal interview methods. Personal information schedule was used to elicit auxiliary information of the subjects regarding demographic variables. Old-age Adjustment Inventory Scale by Hussain and Kaur was employed to assess the adjustment pattern of rural and urban elderly. To explore the health status of elderly, ageing schedule developed by Badiger and Kamat was used. Socio Economic Status Scale by Aggarwal et al. was employed to assess the SES of the family. On the basis of the results that indicated a large number of elderly with physical health problems and adjustment problems, an intervention programme was conducted on a non experimental group with a designed educational training program. The impact was assessed through a single pre and post test design. Results showed that 58.50 percent of rural elderly belonged to lower middle SES and 47.40 percent of the urban elderly belonged to upper middle SES. With respect to physical health problems few of the health diseases and health disorders such as Arthritis, Hypertension, Diabetes, Numbness, Asthma, Tremors and Cardiovascular diseases, Joint pain, Knee pain, Poor hearing and Poor vision were present to a greater extent in some of the elderly. Majority of the elderly showed average category of adjustment in the areas of marital, financial and health respectively. Intervention programme had significant positive impact on the health status and adjustment pattern of the rural male and female elderly who fell in lowest level of physical health and adjustment pattern, which lead to the better health and better adjustment in different areas.

Keywords: Ageing, Elderly, Adjustment pattern, Old age adjustment, Health status, Diseases, Intervention.

ISCA-ISC-2016-10FCC-02-Oral

Knowledge, Attitude and Practice of Health care Workers about Probiotic use in Ahmedabad, India

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Abstract: The present study was conducted to assess the knowledge, attitude and practice about probiotic use among health professionals. Participants including doctors (DT) and medical students (MS), nutritionists (NT) and nutrition students (NS), pharmacists (PT) and pharmacy students (PS) were randomly selected from major health care institutions of Ahmedabad city. A structured questionnaire was prepared and evaluated for its reliability and validity**.** The questionnaire consisted of 16 questions, 12 close ended questions related to definition, mechanism of action, safety consideration, health benefits, sources, availability and 4 questions to assess their attitude and practice about probiotics.A total of 267 (7.49% DT, 26.21% MS, 14.98% NT, 19.4% NS, 22.09%PT and 9.73% PS) healthcare professionals were requested to fill the questionnaire.Results of the survey revealed that most of the participants (93.25%) were aware of the term probiotic, 66.66% professionals were able to answer the right mechanism of action of probiotics. Only 54.68% health professionals knew the health benefits correctly. There was a significant difference between the knowledge of professionals from different fields ($p<0.05$). Medical students had highest knowledge scores whereas nutrition students had lowest knowledge scores. Knowledge of professionals was significantly better than the knowledge of students ($p<0.05$). Majority of the respondents (85.76%) felt that probiotics are useful for patients. Nearly 50% preferred probiotic food as better choice than probiotic drugs. Almost half of them (48.68%) agreed that probiotics can significantly affect the outcome of any therapy. Approximately half of professionals were prescribing probiotics more than five times a week. A positive and significant correlation was found between knowledge and attitude of health care providers [$r=0.913$, Sig. = 0.00].

Keywords: Knowledge, Attitude, Practice, Probiotics.

ISCA-ISC-2016-10FCC-03-Oral

Sourdough Fermentation Technology to Improve the Physical and Nutritional Quality of Bread

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Abstract: Increasing consumer demand for natural ready to eat health products is raising the need for functional breads. Sourdough fermentation technology is used as natural additive in bakery industry which further provides additional health benefits by enriching nutritional quality. Effect of sourdough addition on quality of wheat and millet composite bread was analyzed. Mixed culture of three lactic acid bacterial strains was used to prepare wheat flour and millet composite flour sourdough. Breads were then analyzed for pH, total titratable acidity (TTA), specific volume, textural, sensory, storage and nutritional quality and bioactive compounds.Bread supplemented with sourdough had significantly low pH and high TTA. Specific volume and sensory quality of sourdough incorporated breads was improved significantly than their respective control breads. Texture of sourdough breads improved significantly with decreased hardness, gumminess and chewiness. Nutrients and health promoting components like dietary fibre, resistant starch, polyphenols, antioxidant activity and micronutrients increased markedly with sourdough fermentation. Shelf life of breads was extended by two days with addition of sourdough. Sourdough fermentation improved the texture, palatability of breads and extended shelf life. It enhanced the micronutrient profile and also bioactive compounds which may contributes health benefits to the several diseases.

Keywords: Bread, Sourdough Fermentation, Textural quality, Nutritional composition, Shelf life.

ISCA-ISC-2016-10FCC-04-Oral

Historical Process of Gabit Community a Sociological Study in Uttar Kannada District, India

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Abstract: In India many communities, sub groups, culture people are living in different area by sharing peace andharmony with their own culture and life style. Among the different communities, fishing community is one which is not homogenous as they belong to different castes. Fishing communities have their distinct social, cultural, governance structures and traditional practices depending on the coast where they may be settled.Gabit caste is one of the community in coastal regions of Maharashtra, Goa and Karnataka. Fishing is their traditional occupation and they settled in coastal regions of Uttar Kannada like Karwar, Ankola, Kumta, Honnavar, etc they have their own origin, culture, custom, practices, languages, occupation which makes them different from others. The main objectives of the study are as follows: i. To trace the historical background of Gabit caste, ii. To know the recent trends in Gabit caste. The present study has been conducted with the help of primary and secondary sources of data. To collect the information from the respondent, researcher used interview schedule and observation method. Apart from this, library books have been referred to complete this article.

Keywords: Origin, Historical, Development.

ISCA-ISC-2016-10FCC-05-Oral

Impact of Microfinance on Empowerment of Women in India: A Review

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Abstract: Access to microfinance has demonstrated an important role in achieving many of the Millennium Development Goals, which have a central place in the Government of India's Policies. This has also brought gender equality into the centre of the mission to promote and create conditions for poverty reduction. Given that a majority of microfinance programmes target women with the explicit goal of empowering them, this paper investigates the impact of microfinance on women's empowerment. Empowerment of women is defined as the process in which women challenge the existing norms and culture to effectively improve their well-being. A distinction is therefore made between outcomes that lead to greater efficiency within existing norms, community-driven development and outcomes that can be directly interpreted as women's empowerment. The present paper aims to review the existing literature on impact of microfinance on women's

empowerment and develop a deeper understanding of the impact on households, income and vulnerability of women along with other factors such as control, management ability, self-confidence, change in behaviour and decision-making and suggests areas of inquiry for informed policymaking.

Keywords: Microfinance, SHGs, Women, Development, Empowerment.

ISCA-ISC-2016-10FCC-06-Oral

Health Impact of Nutrition and Physical activity on Obesity

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Abstract: The impact of diet and physical activity on health is complex and multi-faceted. Physical activity is described as body movement that expends energy and raises the heart rate. Inactivity is classed as less than 30 minutes of physical activity a week, and sedentary time means time spent in low-energy postures, e.g. sitting or lying. Regular physical activity helps prevent and manage over 20 chronic conditions including coronary heart disease, stroke, type 2 diabetes, cancer, obesity, mental health problems and musculoskeletal conditions. Poor nutrition-including over-consumption of high calorie, low nutrition foods and beverages, and foods high in sodium-and low levels of physical activity are leading contributors to some of the most urgent health challenges facing our country today, including obesity, high blood pressure, heart disease, cancer and diabetes. Current intakes of sugar and fat for all population groups exceed recommendations which lead to overweight and obesity. Diet, obesity, and physical activity all have important impacts on health. However, it is vital that the importance of physical activity for all the population-regardless of their weight, age, gender, health, or other factors-is clearly articulated and understood.

Keywords: Physical activity, Nutrition, Overweight, Diet.

ISCA-ISC-2016-10FCC-07-Oral

A Cross-Sectional Study on Child Rearing Practices in Tharu Tribeof Uttar Pradesh, India

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Abstract: The process of Child rearing is to promoteand support the physical, emotional, social and intellectual development of a child from infancy to adulthood. The rearing of a child or children is especially the care, love and guidance given by the parents. Child rearing is the work of taking care of children until they are matured enough to look after themselves. The method of child care practices itself starts before, during and soon after the birth of a child into a family. The child rearing practices vary enormously from culture to culture, community to community, from region to region. The Tharu tribe, one of the indigenous scheduled tribe of Uttar Pradesh.They have also establishes certain conventional ways of rearing a child.A cross sectional study was done among 169 Tharu mothers with their children < 2 years in three district of Uttar Pradesh namely Lakhimpurkheri, Bahraich, Balrampur. Analysis of collected data was done using Microsoft Excel and SPSS version.The main finding of study is that maximum delivery i.e. 52.6% took place at home. The initiation of breastfeeding within one hour after birth was 52.6%. As for the administration of colostrum, it was found that 52.6% mothers gave colostrum to their babies while 47.3% mothers did not. Only 33.6% children received exclusive breast feed up to the age of six months.Supplementary feeding practices showed that in 66.3% children the age of initiation of first solid feed was between 3-6 months.Unhealthy practices such as discarding colostrum delayed initiation of breastfeeding and early initiation of complementary feeds can be reduce through awareness programs.

Keywords: Breastfeeding, Child Rearing, Colustrum, Traditional, Tribe.

ISCA-ISC-2016-10FCC-01-Poster

Nutritional assessment through Diet history and Health status of Elderly subjects Residing in Slum area of Dharwad city, India

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Abstract: Ageing is a physiological process that starts from birth, continues throughout life, and ends with death. Among numerous environmental factors that modulate ageing, nutrition plays a significant role. While poor nutrition is not a

natural concomitant of ageing, older adults are at risk of malnutrition due to physiological, psychological, social, dietary, and envi-ronmental risk factors. Samples of 30 elderly subjects were randomly selected including female (17) and male (13). Questionnaire was designed and includes questions regarding general information, diet history (food frequency table, foods like and dislike, food restricted and avoided), health. Half of the population was vegetarian and half were non vegetarian. Foods which were consumed at higher amounts were cereals, pulses and vegetables. They were following regular meal timing, 26.67 per cent were consuming meals thrice and 26.67 per cent four times a day, 23.33 per cent were consuming twice and five times a day. All males and 82% of females were involved in pan chewing. Nutritional status declines further as the age advances. A multidimensional approach is required to deal with the issues. Efforts should be initiated to help the elderly to adopt healthy life style practices to maintain or improve their functional status.
Keywords: Elderly, Diet history, Health, Nutrition, Slum.

11. Material Sciences

ISCA-ISC-2016-11MatS-Guest Speaker-01

DC conductivity and F Centres in KCl Crystals with Different Concentrations of TI Doping

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Abstract: Measurement of electrical conductivity and absorption of KCl crystals doped with different concentrations of thallium have been taken before and after X- ray irradiation. The absorption spectra of the crystalsexhibit an absorption band at 250 nm which is due to TI+ ions occupying lattice sites. The dc conductivity of the pure and doped crystals has been measured in the temperature range from 100 to 620°C. The electrical conductivity and the absorption coefficient at 250 nm increase with increase of doping up to a certain concentration , beyond which these were found to be decreased. On X-ray irradiation at room temperature TI^+ ion band decreases and produces the F band. F centre concentration was found to be higher in lightly doped crystal compared to pure or heavily doped KCl. Results are interpreted as interstitial potassium ions and positive ion vacancies are formed in the TI –doped KCl lattice due to large ionic radius of TI^+ ions. Impurity ions precipitate into TICI phase in heavily doped crystal.

Keywords: Electrical conductivity, Absorption coefficient, X-ray irradiation, Interstitial potassium ion, Positive ion vacancies, TICI phase.

ISCA-ISC-2016-11MatS-01-Oral

Rapid and Sensitive Nanodrop Spectrophotometric Quantitative Determination of Bovine Serum Albumin using Silver Nanoparticle as Reporter Probe

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Abstract: Present work described the Nanodrop spectrophotometric (NDS) determination of thiol containing biomolecules using silver nanoparticles (Ag NPs). The method was based on an extensive interaction between Ag NPs and thiol (-SH) containing biomolecules Bovine serum albumin (BSA). The thiol (-SH) group show strong affinity towards noble metal NPs. Cross linking of thiolated amino acids and Ag NPs interaction avoid the other functional groups for interaction, thus the interaction provides the intense results. Ag NPs-SH cross linking is completely pH dependent. The electrostatic force arose between the deprotonated carboxylate (COO-) ion and protonated amino acid resulting in cross linking network of the Ag NPs. Thiol groups also interact with Ag NPs via sulphur donor which results in the formation of Ag-S bond. By applying optimum experimental conditions, the maximum molar absorptivity of BSA at λ_{max} 424 nm was 3.9 x108 L mol-1cm-1 respectively. The system follows Beer's Law in the range of 0.2-1.6 mgL-1, for BSA. The detection limits (3s) and % RSD for BSA was occurred to be 5.3ppb, ±0.26%, respectively. Proposed work has been successfully applied for the determination of thiol containing biomolecules. This scheme was checked for real samples such as blood and urine sample.

Keywords: Cross linking, Interaction, Nano drop spectrophotometer, Silver nanoparticles, Thiol containing biomolecules.

ISCA-ISC-2016-11MatS-02-Oral

Synthesis and Charecterization of Copper oxide –Water Based Nanofluid for Heat Transfer Applications

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Abstract: The aim of the current research is to manufacture copper oxide– water based nanofluids and to study its various properties. In the present work, nanocrystalline copper oxide powder was synthesized using surfactant assisted wet chemical method. The structural and optical characterization of synthesized powder was carried out using XRD, SEM and UV-Vis. spectroscopy. The average crystallite size of the particle was found to be 14 nm. The UV-Vis spectrograph shows absorption peak at 314 nm from which direct band gap was calculated as 3.9 eV which is higher than indirect band gap of 1.2 eV. This supports the nanosized crystalline nature of the copper oxide powder. Synthesized nano powder is used for making nanofluid of Copper Oxide (CuO) by sonification method 1. The nanofluid of CuO is prepared

using water as a base fluid for potential use as a coolant for heat transfer applications. The structural characterization of nanofliud was carried out using SEM and EDS. The heat exchange characteristics (thermal conductivity, specific heat and viscosity) of copper oxide nanofluid were determined using experimental set up designed in laboratory. These results are compared with the results of this application by using plain water. An increase in thermal conductivity of the prepared copper oxide nanofluid was found to be 21.64 % compared to deionised water which is 9 % higher than the earlier reported values. This is an achievement of the present work. The synthesized nanofluid of CuO may used as a coolant in radiator of vehicles for better performance. It has demonstrated great potential applications in many fields such as microelectronics, transportation, manufacturing, heating, and cooling.

Keywords: Copper oxide, Nanofluid, Thermal conductivity, Heat transfer.

ISCA-ISC-2016-11MatS-03-Oral

Ultrasonic Velocity Enhancement of CuO - PVA Nanofluids

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Abstract: The molecular properties like transmission of sound in nanofluids undergo changes in highly associated systems and dependent on the cohesive properties of liquids. In the present investigation an attempt is made to calculate the ultrasonic velocity and density of the prepared nanoparticles at different weight percentage with the basefluid PolyVinyl Alcohol (PVA). Copper oxide (CuO) nanofluid was synthesized and prepared by one-step chemical method. The results are interpreted for CuO-PVA nanofluid of five different weight percentage. The obtained dried precursor of two different (S1, S2) ageing period were ultrasonicated with an aqueous solution of PVA having concentration 4wt%. For comparison, the synthesized nanoparticles are characterized by X-Ray powder Diffractometry (XRD), Fourier Transform InfraRed Spectroscopy (FTIR), Diffuse Reflectance Spectroscopy (DRS) and analyzed. After ultrasonication UV-Visible Spectroscopy (UV-Vis), Ultrasonic velocity, density and adiabatic compressibility were analyzed and the results were discussed. There is a good agreement between data produced by ultrasonic spectroscopy and other measurements.

Keywords: Nanofluid, Ultrasonication, Ultrasonic velocity, Density, Adiabatic compressibility.

ISCA-ISC-2016-11MatS-04-Oral

Copolymerization of methyl acrylate and styrene, in presence of fullerene: A Kinetic Study

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Abstract: Copolymerization of methyl acrylate and styrene, in presence of fullerene, was studied for its kinetic parameters using triphenylstibonium 1,2,.3,4-tetraphenylcylopentadien ylide under nitrogen atmosphere at 80 ± 0.2°C for 3 hrs. The expression for Rp was evaluated and it was found to be as Rp ∝ [Ylide] 0.4 [MA] 0.8 [Sty] 1.2[Full]-. 06 suggesting non-ideal kinetics for the copolymerization due to the primary radical termination by the fullerene and degradative chain transfer effect of ylide. The copolymer(s) were treated with cyclohexane and acetonitrile to remove the traces of homopolymers, if any, and finally percent conversion was determined. Negligible weight loss was observed. The synthesized copolymer(s) were characterized by FTIR, 1H-NMR and 13C-NMR spectroscopic analysis. Fullerene acts as radical inhibitor in early steps, by reacting the free radicals produced by initiator, and finally inserted into the copolymer(s).

Keywords: Methyl methacrylate, styrene, fullerene, ylide, copolymerization.

ISCA-ISC-2016-11MatS-05-Oral

Influence of Binary Mixture of Polyvinyl alcohol/Vanillin on the Mechanical Properties of Chitosan films

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Abstract: Novel active packaging materials of equal amount PVA/vanillin blended chitosan films was made using solvent casting method. The objective of this study was to investigate the influence of equal amount PVA/vanillin on the

mechanical and morphological properties pure chitosan film. The mechanical properties of chitosan/PVA/vanillin blend films made from different weight ratios were investigated by measuring tensile strength, young's modulus and elongation at break. Results of the mechanical study suggest that a considerable amount of interactions may exist between components in each blend films, which most probably come from hydrogen bonds. On the basis of obtained results, chitosan/PVA/vanillin blend films have the potential to be used in the food industry as active packaging materials and in the pharmaceutical industry for controlled release of active components.

Keywords: Chitosan, PVA, Vanillin, Mechanical properties.

ISCA-ISC-2016-11MatS-06-Oral

Production of Novel carbon Materials with simple Techniques for Microbial fuel cell application: An Environmentally sustainable approach towards Energy production and Waste treatment

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Abstract: To solve the exiting energy problem with the environmental issues, there is urgent need of the clean energy source and its storage system, which is also reflecting through the major progress in the theoretical and practical research and development in the field of clean energy production. Microbial fuel cell (MFC) is the bio-electrochemical system which produces electricity using catalytic activity of microorganisms and also possesses an advantage of simultaneous waste-treatment. Carbon structures, have received considered attention as electrode material for MFC owing to its interconnected pore structure, large surface area, good electrical conductivity relatively low cost and ORR activity. The present work is focused on the broad review on the recent development in the electrode fabrication for MFCs application. We have also demonstrated the synthesis of three dimensional and heteroatom doped carbon structures for enhancement in the power production using MFCs. We have also discussed about "how to produce novel carbon materials with utilization of simple techniques?" which is useful to facilitate the research with low cost and less instrument facilities.

Keywords: MFCs, Oxygen reduction reaction, Bio-electrochemical system; Carbon foam; N-doped carbon.

ISCA-ISC-2016-11MatS-07-Oral

Synthesis, Characterization and Catalytic Application of Mgo Supported Metal Catalysts in Synthesis of Dihydropyrimidinone

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Abstract: Heterogeneous catalysts are typically "supported" which means that the catalyst is dispersed on a second material that enhances the effectiveness. The important characteristics features of the support are surface area, thermal stability and prevention of agglomeration. In the present investigation, syntheses of different metal supported MgO catalysts have been envisaged. Samples have been prepared by two different ways viz., i. Sol-gel self propagating low temperature combustion method for synthesis of Ni/MgO, Co/MgO and Ru/MgO catalysts and ii. Impregnation method for synthesis of 20% Ni/MgO and 20% Co/MgO catalysts samples were characterized using instrumental techniques such as XRD, SEM, FT-IR, BET analysis. XRD data reveals that samples possess particle size of 8.420 nm and 17.439 nm at 2 Θ values of 43.137 and 49.955 respectively. The SEM micrographs shows that the particles possesses irregular shape and are generally random, non-uniform manner with particle size approximately <100 nm. All the catalysts supported on MgO are found as amorphous in nature. The IR spectra gives fundamental band for Mg-O at 1384 cm-1 and for Mg –O stretching at 911 cm-1 confirms the formation of MgO support. The BET analysis depicts the surface area of 91.1m2/gm with pore radius of 2.12 nm. The adsorption isotherm follows the micro porous structure of the prepared samples. The catalytic activity of the Ni/Mgo and Co/MgO has been investigated for the Biginelli reaction for synthesis of dihydropyrimidinone. The supported catalysts were found to be active for synthesis of dihydropyrimidinone. Co/MgO supported catalyst gave better yield (> 60 %) as compared to Ni /MgO support.

Keywords: Supported catalyst, Dihydropyrimidinone, Catalytic activity.

ISCA-ISC-2016-11MatS-08-Oral

Synthesis of Nanocrystalline $BaTiO_3$ by Hydrothermal Process for H_2S Gas sensor

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Abstract: Nanocrystalline Barium titanate ($BaTiO_3$) is synthesized by hydrothermal route. The formation of nano crystalline Barium titanate is confirm by X-ray diffraction studies (XRD), Transmission Electron Microscopy (TEM), Selected area electron diffraction (SAED) and UV-Visible Reflection Spectra. XRD analysis confirms material Barium titanate with perovskite structure with crystallite size ranging from 27 to 37 nm and TEM images confirms that the grain were nearly hexagonal type in nature with sizes from 11.88 to 24.52 nm (Average: 17.60nm). The lattice constant of hexagonal BT exactly matches with JCPDS value (4.016). The band gap energy obtained from UV-Visible Reflection Spectra is 3.35ev matches with reported value. The thick films of nano $BaTiO_3$ were prepared by screen - printing technique in desired pattern. The gas sensing performance of the materials have been investigated for various interfering gases such as CO, NH_3, H_2S, LPG, CO_2, H_2, SO_2 etc. At operating temperature varying from 50°C to 450°C. The result indicate that the nano $BaTiO_3$ material thick film showed much better response to H_2S (500 ppm) gas at 250°C. The $BaTiO_3$ nanomaterial is excellent potential candidate for H_2S gas sensors.
Keywords: Hydrothermal, Crystallite size, Perovskite, Nanocrystalline $BaTiO_3$ (BT), H_2S.

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Electrochemical Synthesis and Characterization of ã-Alumina Nanoparticles

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Abstract: In the present work broad rod like nanostructure of ã-alumina (ã-Al_2O_3) were successfully synthesized by electrochemical reduction method using tetraethylammonium bromide (TEAB) as stabilizer cum electrolyte in aqueous medium applying constant current 10mA/cm^2. The electrolysis process takes place over a period of 2 h under atmospheric condition. Such nanoparticles were synthesized using simple electrolysis cell in which the sacrificial anode was a aluminium metal sheet and platinum (inert) foil acted as a cathode. The agglomerated solid was separated from the solution by decantation and dried under vacuum. The sample was annealed at 900°C. The stabilizers were used to control the size of nanoparticles. The synthesized ã-Al_2O_3 nanoparticles were characterized by sophisticated analytical techniques including TGA, XRD, SEM and EDS.
Keywords: Electrochemical method, Tetraethylammonium bromide, ã-Al_2O_3 nanoparticles, TGA, XRD, SEM, EDX.

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A Quantum Confinement effect of CTAB capped Silver nanoparticles at High Concentration

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Abstract: The development of capped nanoparticles (NPs) is thrust area of research in nanoscience for the control particle size to enhance remarkable properties through chemical co-precipitation method. Hydrophilic silver NPs (5-30 nm) were prepared in the presence of a cationic surfactant, CTAB (Cetyl trimethyl ammonium bromide), at relatively high Ag+ concentration with ~90% yield. FTIR spectrum gives conformation of CTAB capping on silver NPs surface with symmetric and asymmetric bond stretching. Synthesized NPs further characterized by Uv-Visible spectroscopy with quantum confinement effect via absorbed wavelength at 390nm for uncapped silver NPs and 400nm for CTAB capped silver NPs, with respect to NPs scattering in medium and band-gap. Morphological and crystal structure analysed by scanning electron microscopy (SEM) and X-ray diffraction (XRD), respectively.
Keywords: Silver nanoparticles, Quantum confinement effect, Hydrophilic, Particle scattering, Band-gap.

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Structural and Dynamic Study of Polymers using Time Domain Spectroscopy Technique

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Abstract: Dielectric relaxation study on liquids provides information regarding their molecular behavior and dynamics of the molecules involved at dipolar level. Time Domain Reflectometry (TDR) technique is important tool to obtain dielectric parameters over a wide frequency range. By measuring dielectric parameters like static dielectric constant (ε_0), relaxation time (τ), we can obtain significant information about chemical and physical properties of liquids in their pure as well as in binary mixture. These properties are very much affected by hydrogen bonding in the mixture. The basic TDR system consists of fast rising pulse generator, sampling unit and a wide band sampling oscilloscope. A step voltage pulse propagated in a coaxial line until it reaches the air dielectric interface, where a part of pulse is reflected and the rest is transmitted through the dielectric sample. It is possible to determine the dielectric properties of the substances by analyzing reflection coefficient. Time Domain Reflectometry (TDR) method has been used in the frequency range of 10 MHz to 30 GHz to determine dielectric properties of polymers. The complex permittivity spectra of aqueous solution of polymers were fitted in Havriliak-Negami equation. The dielectric parameters i.e. static dielectric constant (ε_0) and relaxation time (τ) were obtained from the complex permittivity spectra using non linear least squares fit method.
Keywords: Time Domain Reflectometry, Complex permittivity, Static dielectric constant (ε_0), Relaxation time (τ).

ISCA-ISC-2016-11MatS-12-Oral

A Novel Band Gap Material for Plastic Electronics

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Abstract: Application of Poly Methyl Methacrylate (PMMA) can be extended to organic electronics by properly tuning its band gap. Band gap of non conducting PMMA is drastically reduced and made conducting by doping it with the Light Emitting Polymer, Poly [2-methoxy-5(2-ethylhexyloxy)-1,4-phenylenevinylene] (MEH-PPV). PMMA films doped with MEH-PPV at 0.5%, 1%, 1.5%, 2%, 2.5%, 3.0 % by weight of PMMA are prepared in chlorobenzene and are characterized by UV-VISIBLE spectroscopy, Fluorescence Spectroscopy, LCR impedance analyzer and XRD. The band gap determined by Tauc's method indicated that, there is drastic reduction in the band gap of LEP doped PMMA films by more than 2 eV. All the doped films exhibit fluorescence emitting red light at 600nm when excited by 340 nm. Impedance analyzer confirmed the increase in dielectric constant and also dielectric loss with doping level of Light Emitting Polymer. XRD confirmed semi-crystalline nature of the samples. These Novel band gap polymer films are promising materials for electro-optics & nano electronic devices like LEDs, OPVs, OFETs etc.
Keywords: MEH-PPV, PMMA, Band Gap, LEP.

ISCA-ISC-2016-11MatS-13-Oral

Synthesis of Dye-sensitized Solar cells using Polyaniline and Natural dye extracted from Beetroot

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Abstract: In today's world where fossil fuels are on the verge of depletion, solar energy offers a much valuable path to harness its abundance, which led to the discovery of third gen organic solar cells. In this paper, methodology to prepare a polymer based dye sensitized solar cell (DSSC) is provided using the polymer Polyaniline (PANI). The cells are made using natural dye extracted from beetroot and indium tin oxide (ITO) coated glass. Three different solar cells has been prepared using different electrolytes and their efficiencies are determined. A mixture of conventional electrolyte (iodide and triiodide mixture) and HCl doped PANI has also been used and the results obtained from all the three cells are observed, compared and discussed. Ultraviolet spectroscopic results confirm the presence of dye extracted from beetroot

and by the I-V curves, efficiencies of the cells calculated are 0.04694% (conventional electrolyte), 0.03170% (HCl doped PANI as electrolyte), 0.02699% (conventional and PANI mixture as electrolyte).

Keywords: Natural Dyes, Organic Solar Cells, Polymer Solar Cells, Polyaniline

ISCA-ISC-2016-11MatS-14-Oral

Synthesis and Studies of Sputter Deposited ZnO Films

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Abstract: The aim of this paper is to synthesize ZnO thin films by magnetron sputtering at various RF powers of 50W, 75W, 100W and 125W and study it's structural, optical and wettability properties. X-ray Diffraction (XRD) technique was used to characterize ZnO thin films. The XRD graphs indicate the evolution of (002) peak and (100) peak for ZnO thin films with the increase in RF power from 50W to 125W. ZnO thin films become well crystalline with increase in RF power and preferred orientation of ZnO along (002) texture is observed. Contact angle and surface energy of Nano-structured ZnO thin films were determined by contact angle goniometer. UV-Vis-NIR spectrophotometer was used to characterize optical properties of ZnO thin films. The AMF image shows the surface roughness according to the variation in RF power.

Keywords: ZnO, Sputtering, XRD, Wettability.

ISCA-ISC-2016-11MatS-15-Oral

Studies on Flame Retardant Vinyl Ester Resin

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Abstract: Vinyl ester resins are widely used for coating purpose and well known for their excellent anti-corrosive, anti-oxidative properties. Traditional vinyl-esters are generally prepared by reacting epoxy resin with unsaturated monocarboxylic acid in the presence of tertiary amines. In the present work a flame-retardant vinyl ester resin has been prepared by reacting epoxy resin based on Tris m-hydroxy phenyl phosphate (THPP) with methacrylic acid in presence of triethyl amine as catalyst and hydroquinone as an inhibitor. This polymer was characterized by chemical analysis, elemental analysis, FTIR, and NMR Spectroscopy (1H, 13C and 31P). This vinyl ester was further reacted with styrene in presence of an initiator for certain time period. The resultant polymer was used for coating purpose in neat form as well as in the form of blend with epoxy resin. Various coating properties like hardness, adhesion, flexibility, chemical resistancy of the coated panels have been found out. The polymer shows flame-retardancy as well as good scratch hardness and chemical resistance properties.

Keywords: Flame-Retardant, Vinyl ester, Analysis, Coating, Properties.

ISCA-ISC-2016-11MatS-16-Oral

Microstructure and Thermal Behaviour of Isotropic Petroleum Pitch Based Matrix Material for Carbon Carbon Composites

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Abstract: Present work deals with the utilization of petroleum waste in production of engineering material. The microstructure and thermal studies were performed for a new isotropic petroleum pitch based matrix material for carbon fiber reinforced carbon (C/C) composites. This paper is an approach towards exploring an idea to fabricate C/C composite exclusively from petroleum pitch avoiding multiple impregnation steps. Since there is a need of replacing toxic polymers for the same. The idea of using petroleum refinery waste i.e. pitch brightens up. Pitch used was primarily characterized by elemental analysis and Quinoline insoluble content. Work includes stabilization of pitch and a process to convert it into a carbonaceous bulk along with its microstructure and thermal analysis. Advanced characterization techniques like SEM and polarized light microscopy for microstructure analysis and TMA, TGA and DSC for understanding thermal behavior have been carried out. Porosity and density were estimated as well. Bonding between the phases was also observed under SEM for reference sample.This work will be useful for fabrication of C/C composites solely from petroleum pitch in single step carbonization and will give high density without any re-impregnating processes. Hence it is a cost effective approach to fabricate C/C composites.

Keywords: Pitch, composites, Matrix, Microstructure, Thermal behavior.

ISCA-ISC-2016-11MatS-17-Oral

Effect of Temperature on the Structural, Morphological and Magnetic Properties of Magnesium Ferrite Nanoparticles

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Abstract: In the present paper, magnesium ferrite nanoparticles were synthesized by conventional sol–gel method. The as-synthesized material was calcined at different temperatures and their structural, magnetic, FTIR, morphological and compositional analyses were studied. XRD patterns revealed formation of cubic structured magnesium ferrite nanoparticles. With the increase in calcination temperature, the crystallite size increased and crystallinity improved. No peaks corresponding to any impurity or additional phases were detected; this was also confirmed by the FTIR spectra. With increase in the temperature, a gradual disappearance of C-H, hydroxylate and carboxylate groups occurred, while Fe-O bond became prominent. The magnetic analysis done by VSM revealed superparamagnetic behavior of the calcined nanoparticles. With increase in temperature, magnetic saturation, coercivity, remanent magnetization and magnetic squareness value increased, owing to improved crystallization and bigger particle size. Considering biomedical application, this is an undesired feature as more the squareness value, lesser is the superparamagnetic character. The sample calcined at 500°C was found to be the most suitable for carrying out further investigations. Its morphological and compositional analysis revealed its spherical agglomerated formation with the desired elemental composition. The spherical formation and superparamagnetism allows its successful application for drug delivery applications.
Keywords: Magnesium ferrite Nanoparticles, Superparamagnetic, Spherical nanoparticles, Biomedical applications, Spinel ferrites.

ISCA-ISC-2016-11MatS-18-Oral

Photoluminescence Spectroscopy of Monoclinic $SrAl_2O_4$ Phosphor

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Abstract: Photoluminescence behaviour of monoclinic $SrAl_2O_4$ was studied for nano size strontium aluminate $SrAl_2O_4$, which was synthesized via solution combustion synthesis method. Structural and morphological properties were confirmed by X-ray diffraction and electron microscopic analysis including scanning electron microscopic method. The crystal size was obtained between 12-19 nm. The emission spectrum was recorded under 254 nm excitation and consist peaks in UV and visible region. The peak in UV region is intense then visible emissions.
Keywords: Combustion Synthesis, $SrAl_2O_4$, XRD, TEM.

ISCA-ISC-2016-11MatS-01-Poster

To study the Uni-univalent ion Selectivity behaviour of Nuclear grade weakly basic Anion exchange resin Duolite A – 368 and Strongly Basic anion exchange resin Indion – 810

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Abstract: Ion exchange materials are widely used for water treatment in nuclear power plants because of their ability to remove impurities from reactor water. The main advantages of synthetic organic ion exchange resins are their high capacity, wide applicability, wide versatility and low cost relative to some synthetic inorganic media. Generally the selected ion exchange materials must be compatible with the chemical nature of the liquid waste such as pH, type of ionic species present and also compatible with the operating conditions mainly temperature. Therefore in our study attempts were made to study the thermodynamics of ion exchange reactions for predicting the selectivity behaviour of ion exchange material Duolite A – 368 and Indion 810 towards the different concentrations of iodide ions and bromide ions in the solution.The resins in Cl^- form were equilibrated separately with 0.01 M to 0.05 M of I^- ions solution for 4h in the temperature range of 30.0 to 45.0 °C. Similar conditions was followed with 0.01M to 0.05M of Br^- ions in the solution.

The equilibrium constant *K* calculated for the two resins were observed to decrease with rise in temperature from 0.1440 to 0.1245 with I^- ions and 0.1204 to 0.1109 with Br^- ions for Duolite A– 368 resin with enthalpy values 7.722 kJ and 4.554 kJ. Similarly the K values decrease from 1.7874 to 1.5017 with I^- ions and 0.4260 to 0.3969 with Br^- ions for Indion 810 resin with enthalpy values 9.227 kJ and 3.852 kJ. The experimental method of the present study if extended further for different ion exchange materials will be useful in understanding their selectivity behaviour towards different ionic species present in the solution so as to bring efficient separation of the desired ionic species in different concentrations.

Keywords: Thermodynamics, Uni-univalent, Ion exchange, Nuclear grade, Anion exchange, Duolite A – 368, Indion-810.

ISCA-ISC-2016-11MatS-02-Poster

High Temperature Degradation Study of Polystyrene Sulfonic and Polyacrylic Carboxylic Cationites

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Abstract: The study was performed to understand the thermal degradation of Polystyrene Sulfonic (Tulsion T-46) and Polyacrylic Carboxylic (Indion-236) cationites. The degradation behavior was studied by using thermal analysis (TG) combined with Scanning Electron Microscopy (SEM), while the degradation steps were studied by using Fourier Transform Infrared Spectroscopy (FTIR) technique. The morphology of Indion- 236 resin polymer exhibits dent on the surface at 400°C. SEM photographs of resin at 400°C show complete cracking of the spherical structure and because of difference in size, smaller resin species got inserted into the larger broken spheres. It was observed that the major weight loss of 78% for low-acidity carboxylic cationite was observed in the temperature range of 200 to 530°C due to polyanhydrides decomposition processes through decarboxylation, finally due to total degradation of the polymeric matrix and of the de-polymerization fragments. The thermal degradation study of strong acid ($–SO_3H^+$) cationite shows small mass loss of 55%, as against 88% mass loss shown by low-acidity carboxylic cationite up to 530°C. The small weight loss of strong acid cationite was attributed to the formation of sulfonyl and sulfur bridges between base polymers after dehydration reaction. These bridges made the base polymer thermally stable. On the other hand, low-acidity carboxylic cationite was easily decomposed as it contained no sulfonic acid group.

Keywords: Thermal degradation, Cation exchange resins, Tulsion T-46, Indion-236, Thermal analysis.

ISCA-ISC-2016-11MatS-03-Poster

UV Radiation degradation study of Industrial Grade Anion Exchange Resins Duolite A-378

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Abstract: The present study deals with performance evaluation of industrial grade weak base anion exchange resins Duolite A-378 degraded using UV Radiation of wavelength λ=254nm and λ=384nm in a UV chamber. The resins in chloride form were degraded by exposing UV radiations of wavelength λ=254nm and λ=384nm for 24 h in a UV Chamber. The UV radiation degraded resins in chloride form were equilibrated separately with bromide and iodide ion solutions of different concentrations in the temperature range of 30.0 - 45.0 ºC for 3 h. The equilibrium constants (K) values for the two ion exchange reactions were calculated. Scanning Electron Microscopy (SEM) and Fourier Transform Infrared Spectroscopy (FTIR) was used to characterize the resins degradation steps. The results indicate that during Cl^-/Br^- ion exchange reaction with rise in temperature the K values decreases from 5.61×10^{-2} to 4.21×10^{-2} for resin degraded using UV radiation of wavelength λ=384nm was lower than the decrease in K values from 7.14×10^{-2} to 5.60×10^{-2} observed for the resin degraded using UV radiation of wavelength λ=254nm. Similarly for Cl^-/I^- ion exchange reaction with rise in temperature the K values decreases from 14.03×10^{-2} to 12.27×10^{-2} for resin degraded using UV radiation of wavelength λ=384nm was lower than the decrease in K values from 19.99×10^{-2} to 17.58×10^{-2} observed for the resin degraded using UV radiation of wavelength λ=254nm. The decrease in K values with rise in temperature indicates exothermic ion exchange reactions which was supported by negative enthalpy values -14.14 $kJ.mol^{-1}$ and -6.49 $kJ.mol^{-1}$ Cl^-/Br^- and Cl^-/I^- at λ=254nm obtained during the two ion exchange reactions carried out by using the resins. Similarly the enthalpy for Cl^-/Br^- and Cl^-/I^- ion exchange reaction at λ=384nm will found to be -22.34 $kJ.mol^{-1}$ and -19.80 $kJ.mol^{-1}$ respectively. On comparing the equilibrium constant (K) and enthalpy values for Cl^-/Br^- and Cl^-/I^- ion exchange reactions indicates that the Resin Duolite A-378 degraded more effectively when exposed to UV radiation of wavelength

at λ=254nm than UV radiation of wavelength at λ=384nm. The degradation of also supported by FTIR spectrum and SEM micrographs of the Resin Duolite A-378. The thermodynamic data obtained here was used to predict the performance suitability of the UV radiation degraded Industrial grade weak base resin. The present experimental technique can be extended further to understand the performance behaviour of various nuclear as well as industrial grade ion exchange materials which might get exposed to stringent degradation conditions during separation of different ionic species present in industrial waste water effluents.

Keywords: Industrial grade weak base anion exchange resin, Duolite A-378; UV radiation degradation, Enthalpy, Scanning Electron Microscopy (SEM), Fourier Transform Infrared Spectroscopy (FTIR).

ISCA-ISC-2016-11MatS-04-Poster

Study on ion Exchange Behaviour of Thermally Degraded resin Auchlite ARA-9366 based on Thermodynamic Concept

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Abstract: In order to understand the performance of thermally degraded resins Auchlite ARA-9366 resin in chloride form are taken in watch glass and kept in oven separately at 70.0ºC, 100.0ºC and 120.0ºC temperature for 24 h. The present study deals with the ion exchange behaviour of thermally degraded anion exchange resin Auchlite ARA-9366 during chloride/iodide ion exchange reactions. The fresh as well as the degraded resins in Cl^- form were equilibrated with I^- ion solution of known initial concentrations for 3h. After 3 h the solution in contact with the resin was titrated for the un-exchanged iodide and exchanged chloride ions. From the knowledge of chloride ions exchanged in the solution the amount of iodide ions exchanged on the resin was calculated. Based on the above information the equilibrium constant (K) value for the above ion exchange reaction was calculated. Similar K values were calculated by performing the above reaction in the temperature range of 30.0ºC to 45.0ºC. The K value for the above reaction at 30.0ºC was calculated to be 59.77 $x10^{-2}$ which decreases to 23.77$x10^{-2}$ at 45.0ºC, indicating exothermic ion exchange reaction having enthalpy value of -47.87 kJ/mole. The resins were thermally degraded at different degradation temperatures of 70.0ºC, 100.0ºC and 120.0ºC. The experiment was extended further by performing the above ion exchange reaction using thermally degraded ion exchange resins. The enthalpy values of the above ion exchange reaction performed by using fresh resins and by using resins degraded at 70.0ºC, 100.0ºC and 120.0ºC were calculated as -47.87, -18.79, -9.50 and -15.63 kJ/mole respectively. The decrease in enthalpy values from 70.0ºC to 100.0ºC suggests that the above ion exchange reaction become thermodynamically less feasible with rise in degradation temperature from 70.0ºC to 100.0ºC. Also based on the sudden change in enthalpy value from -18.79 kJ/ mole to -9.50 kJ/mole, it can be concluded that degradation become more prominent when the degradation temperature was raised from 100.0ºC and 120.0ºC. Scanning Electron Microscopy (SEM) and Fourier Transform Infrared Spectroscopy (FTIR) was used to characterize the resins degradation steps. The thermal degradation of resin was also supported by FTIR spectrum and SEM micrographs of the Resin Auchlite A-9366. Similar results were obtained for Cl^-/Br^- ion exchange reactions. It is expected that such thermodynamic concept can be applied to understand the impact of degradation conditions on ion exchange behaviour of different industrial grade resins. The results of such studies will help to evaluate the performance of such resins under stringent degradation conditions.

Keywords: Nuclear grade strong base anion exchange resin, Auchlite ARA-9366, Thermal degradation. Enthalpy, Scanning Electron Microscopy (SEM) and Fourier Transform Infrared Spectroscopy (FTIR).

ISCA-ISC-2016-11MatS-05-Poster

Thermodynamics of Uni-Univalent Ion Exchange Reactions using Chemically Degraded Resins Indion GS-300 and Indion FFIP

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Abstract: Ion exchange processes are widely used in various industries for purification, separation and decontamination of ion containing solutions. They are also used for processing radioactive liquid waste. However, research studies have revealed that the selection of suitable ion exchange material becomes more difficult in presence of large concentrations of chemically similar ions in the liquid waste. In this investigation, attempts have been made to understand the thermo

dynamical relationship of the degraded resins-Indion GS-300 and Indion FFIP along with the ionic selectivity of Cl^-/Br^- in 2% percholoric acid. From the experimental data, it was observed that when the resins were equilibrated separately in chloride form with bromide ions in the solution, at the temperature range of 30^0c to 45^0C. When the following ion exchange reaction takes place R-Cl+ $Br^-_{(aq.)}$ R-Br^-+ $Cl^-_{(aq.)}$, where: R represents the resin phase $Br^-_{(aq.)}$ and $Cl^-_{(aq.)}$ represents the bromide and chloride ions in the exchanging aqueous medium, it was observed that with rise in temperature the equilibrium constant (K) values increases from $3.361x10^{-2}$ to $9.596x10^{-2}$ for Indion GS 300 nuclear grade resin and from $3.152x10^{-2}$ to $24.885x10^{-2}$ for Indion FFIP non nuclear grade resin. Furthermore, the enthalpy values of the resins were -57.303 and -116.324 kJ/mol respectively, indicating exothermic reaction. So, having observed high values of K and enthalpy value for Indion FFIP, it can be presumed that the resin exhibits high selectivity towards bromide ions in the solution when compared to Indion GS-300, under the same experimental conditions.

Keywords: Thermodynamics, Degraded resin, Equilibrium constant, IndionGS-300, Indion FFIP, Enthalpy.

ISCA-ISC-2016-11MatS-06-Poster

Ion Exchange Equilibrium Studies of some Nuclear and Non-nuclear grade Resins

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Abstract: The enthalpy of the thermodynamic system of degraded resins named Indion GS-300 and Indion FFIP were studied in detail and also attempts were made to understand the ionic selectivity of iodide ions. The anion exchange resins, in chloride form selectivity difference was predicted based on the thermodynamic equilibrium constant and total energy values of Cl^-/I^- ion exchange reactions was performed using these two resins. The Indion GS-300 is an effective resin in removing weak acids like carbonic and silicic acids along with strong acids, whereas Indion FFIP is a type 1 strong base, unifunctional anion exchange resin in bead form, containing tri methyl benzyl ammonium groups. During the experiments, it was observed that with the rise in temperature from 30^0c to 45^0C the equilibrium constant (K) decreased from $1.14x10^{-2}$ to $0.317x10^{-2}$ for Indion GS-300 resin and from $2.97x10^{-2}$ to $0.01x10^{-2}$ for Indion FFIP resin. The decrease in K values with rise in temperature indicates endothermic ion exchange reactions having positive enthalpy values of 76.51 and 246.96 kJ/mol respectively. The low K value and high enthalpy obtained for Indion FFIP resin indicated their greater selectivity for the iodide ions in the solution as compared to Indion GS-300 resins.

Keywords: Thermodynamic equilibrium constant, Degraded resin, Anion exchange, Ionic species, IndionGS-300, Indion FFIP, Enthalpy.

ISCA-ISC-2016-11MatS-07-Poster

Selectivity behaviour of Nuclear grade Resin Indion-223 towards some univalent ions-A Thermodynamic Study

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Abstract: Efforts to develop new organic ion exchangers for specific applications are continuing and various aspects of ion exchange technologies have been continuously studied to improve the efficiency and economy of their application in various technological applications. However, since the selection of the appropriate ion-exchange material depends on the needs of the system, it is expected that the data obtained from the actual experimental trials will prove to be more helpful. Hence in the present study attempt was made to understand the selectivity behaviour of nuclear grade cation exchange resin Indion 223. The ion exchange resins in H^+ form are equilibrated separately with Na^+ and K^+ univalent ion solution of different but known concentrations in the temperature range of 35.0-45.0 ºC for 3 h. After 3 h the concentration of H^+ ions exchanged in the solution is determined experimentally by potentiometric titration against standard 0.1N NaOH solution. From the knowledge of amount of H^+ ions exchanged in the solution and Na^+ and K^+ ions exchanged on the resin; equilibrium constant (*K*) for the ion exchange reactions were calculated. From the *K* values calculated for the above reactions at different temperatures the enthalpies of the ion exchange reactions were calculated. The equilibrium constant *K* values for the reactions are found to increase with rise in temperature indicating endothermic ion exchange reactions having the enthalpy values of 25.55 and 22.72 kJ/ mol respectively. The high *K* and low enthalpy value obtained for H^+/K^+ ion exchange reaction as compared to that obtained for H^+/Na^+ reaction indicate higher selectivity of Indion 223 resins in H^+ form towards K^+ ion than that towards Na^+ ion when both the ions are present in the same solution.

Keywords: Organic ion exchangers, Thermodynamics, Cation exchange, Selectivity, Indion 223.

ISCA-ISC-2016-11MatS-08-Poster

Biomass-based Polymer Blend: A Study on Physio-chemical Properties

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Abstract: The paper describes the coating performance of biomass – based epoxy resin blend system. The blends of epoxy and resole offer good solvent and chemical resistance, high heat and thermal resistance, etc. and most widely used in protective coatings and many hi-tech applications such as aerospace, marine and satellite communications. Each of these improvements would lead to the development of number of new application areas. Also, such resins can be converted into a highly cross-linked network by the use of proper curing agent, through various chemical reactions, which ultimately affects the thermal stability of the blends. In this paper the studies on the synthesis of biomass-based resoles and it's blends with epoxy resin were made along with the studies of their physico-chemical properties for application in surface coatings.

Keywords: Biomass-based resole, Epoxy, Blend, Chemical, Thermal properties.

ISCA-ISC-2016-11MatS-09-Poster

Study of a New Test Paper for Approximate Estimation of Phenolic Substances

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Abstract: Phenolic substances are one of the major pollutants present in liquid wastes. Gas –liquid Chromatography and Ultra-Violet Spectroscopy, widely used for there detection and estimation, both require costly and sophisticated instrument and expertise. A simple sensitive and inexpensive Test paper for estimating phinolic substances is hence propounded. 2,6 dichloroquinone, 4- chloroimine in benzene is used as a chromogenic reagent to yield a coloured indophenol dye. The sensitivity of the estimation at ppm level.

Keywords: Phenolic substances, Test paper, Method reliability.

ISCA-ISC-2016-11MatS-10-Poster

Study of Morphology and Tensile Properties of Guar Gum and Pepper Leaves Extract Doped Polyvinyl Alcohol Films

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Abstract: In this study, we have prepared poly (vinyl alcohol)/guar gum/pepper leaves extract (PVA/GG/PE) ternary blend films by solution casting technique and characterized the blend films. The effect of equal weight percent of GG and PE on PVA films were evaluated by using universal testing machine (UTM) and scanning electron microscopy (SEM). The result of tensile properties confirms that the PVA/GG/PE blend films exhibits lower tensile strength, young's modulus and elongation at break compared to pure PVA film. SEM confirms blend exhibits smooth homogeneous phase morphology but not continuous, exhibiting cracks in blend film that caused the reduction in mechanical strength. The overall result suggests that the equal weight percent of GG and PE has not shown any significant effect on PVA film. A very less interaction can be noticed among the components, which most probably comes from weak hydrogen bonding.

Key words: Tensile properties, Thermal properties, Morphology, Pepper leaf extract and Guar gum.

ISCA-ISC-2016-11MatS-11-Poster

Study of Mechanical and Morphological Properties of Chitosan/PVA/Vanillin Blend Films

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Abstract: Novel active packaging material of chitosan/PVA/vanillin blend films was fabricated by using solvent casting method. The objective of this study was to investigate the correlation between mechanical and morphological properties of different weight ratio of chitosan / PVA / vanillin blend films. The mechanical properties like tensile strength, young's modulus and elongation at break were evaluated by universal testing machine UTM) and influence of morphology on mechanical properties were explained by using scanning electron microscopy (SEM). The mechanical properties of the chitosan / PVA / vanillin blend films shown significantly increased value (from 100/0/0 to 50/50/0 in 10% increments). Addition of vanillin has significant effect on chitosan / PVA films, contributing to increase in tensile strength, young's modulus of the films and complete miscibility of the blend films was confirmed by the Scanning electron microscopy. On the basis of obtained results, chitosan / PVA / vanillin blend films can find potential applications in food industry as well as in the pharmaceutical applications.
Keywords: Chitosan, PVA, vanillin, Mechanical Properties, SEM.

ISCA-ISC-2016-11MatS-12-Poster

Scanning Electron Microscopy (SEM) Study of Chitosan Doped PVA/PVP Ternary Polymer Blend Films

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Abstract: In this study, equal weight percent of poly(vinyl alcohol) / poly(vinyl pyrrolidone) (PVA/PVP) blend solutions filled with different weight percent of chitosan (CS) up to 12 wt % were prepared by solution blending followed by solvent evaporation technique in the form of film. The prepared poly(vinyl alcohol) / poly(vinyl pyrrolidone) / chitosan ternary blend films of different weight percentage compositions were characterized by differential scanning calorimetry. The SEM micrographs shows that the top surface of the pure PVA, PVA / PVP blend and PVA / PVP / Chitosan ternary blended films exhibits smooth and homogenous surface and PVA/PVP blend film showed little rougher surface indication due to more hydrophilic top surfaces than the ternary blended films
Keywords: PVA, PVP, CS, Ternary Blend, SEM.

ISCA-ISC-2016-11MatS-13-Poster

Synthesis of Surfactant free SnO_2-TiO_2-SiO_2 Composite Nanoparticles and their Properties Study

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Abstract: Now, a day's semiconducting nanoparticles give eye catching properties for photocatalytic activity and biosensing devices. An efficient synthesis of SnO_2-TiO_2-SiO_2 semiconducting nanoparticles was achieved by simple sol-gel route of a solution of MCl_4 in ethanol under ambient air without any surfactant. Resultant SnO_2-TiO_2-SiO_2 nanocomposite out with ~95% yield in narrow size distribution (PDI~0.324), as observed by DLS. The composite nanoparticles have been examined by their optical, Opto-electronics properties and thermal stability. An FTIR spectrum confirmed the formation of SnO_2-TiO_2-SiO_2 nanocomposite and Thermal gravimetric analysis (TGA) shows a thermal

stability of composite particles with respect to temperature. The SnO_2-TiO_2-SiO_2 nanoparticles were also characterized by Scanning electron microscopy (SEM) to examine the morphology and microstructure to find out the cause.
Keywords: SnO_2-TiO_2-SiO_2, Thermal stability, sol-gel, Nanoparticles, Nanocomposite.

ISCA-ISC-2016-11MatS-14-Poster

Investigation of Effect of Betel Extract on Mechanical Properties of Binary Blend Films Containing Chitosan/Vanillin

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Abstract: This paper investigates the effect of *betel* leaf extract (BE) on binary blend films containing chitosan and vanillin. Blend films of chitosan/vanillin were prepared by doping different weight percent of betel leaf extract (2ml, 4ml, 6ml, 8ml). The mechanical properties of the blend films were determined by using Universal testing machine (UTM) and morphology were studied by using Scanning electron microscopy (SEM). Meanwhile, interaction among the each component was evaluated by using Fourier transform infrared spectroscopy (FTIR). The result of mechanical properties of blend films revealed that, BE extract doped chitosan/vanillin blend films has presented higher tensile strength, young's modulus and slightly increased elongation at break respectively. Further, SEM and FTIR studies indicated that, combination of BE can be a easy method for improving the physicochemical properties of CH/Vn blend films. These findings are of practical value in the production of packaging materials in food industry.
Keywords: Chitosan, Vanillin, Betel leaf extract, Mechanical, Morphological properties.

ISCA-ISC-2016-11MatS-15-Poster

Structural and Magnetic Properties of Co-Cd Nanoferrite by Autocombustion Technique

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Abstract: Nano-crystalline $Co_{(1-x)}Cd_{(x)}Fe_2O_4$for X=0.0, 0.2, 0.4,0.6, 0.8) were synthesized by sol-gel autocombustion process. The X-ray diffraction patterns provide information about the existence of single phase spinel nano structure. High purity of the sample is confirmed by energy dispersive X-ray analysis, the hkl plane and lattice constant were studied. The magnetic properties of the synthesized material were investigated by using vibrating sample magnetometer at room temperature. VSM reports that magnetic parameters like Saturation magnetization (Ms), Coercivity(Hc) were decrease with increasing the Cd content. The result proves, it is the hard ferrite material.
Keywords: Co-Cd nanoferrite, X-ray, hkl, lattice constant VSM.

ISCA-ISC-2016-11MatS-16-Poster

DC resistivity and Optical Properties of Mg-Ni –Cu Nanoferrite, Synthesized by Sol-gel Method

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Abstract: In present study Nano-sized ferrite of composition ($Mg_{(0.8-x)}Ni_{(x)}Cu_{(0.2)}Fe_2O_4$ for X=0.0, 0.2, 0.4,0.6) were synthesized by sol-gel autocombustion process. The prepared material were sintered at 400 ^{0}C for four hours. The grain size and structural morphology of formation of ferrite powder were determined by using X-ray powder diffractometry. The XRD patterns prove the formation of nano sized ferrite particles with cubic spinel structure and the cubic phase in ferrite matrix. The average particle size of the sample is observed between 40 and 70 nanometer. The lattice parameters, x-ray density and bond length are calculated from XRD pattern. The optical properties of the material are studied with UV-visible spectrometer. The band gap energy obtained is in the range of semiconductor material. The DC resistivity of the prepared material is studied.
Keywords: Mg-Ni-Cu Nanocrystalline ferrite, Spinel structure, XRD, UV-visble, DC resistivity.

ISCA-ISC-2016-11MatS-17-Poster

Structural, Morphological and Magnetic properties of La^{3+} Doped Ni-Co-Zn Nanoferrite by Sol-gel Auto Combustion Method

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Abstract: The Study of Structural, Morphological and Magnetic properties of rare earth La^{3+} material doped in Nickel-Cobalt-Zinc nanocrystalline ferrites were synthesized by sol-gel auto combustion method with analytical grade metal nitrate. The prepared samples were sintered at 400°C. The particle size was calculated from XRD by Scherrer's formula. The effect of La^{3+} doped, structural, morphological and magnetic properties is investigated. The XRD graph confirms the size of $Ni_{0.5}Co_{0.5}Zn_{0.5}La_xFe_{2-x}O_4$ (where x=0.025, 0.050, 0.075, 0.100, 0.125) nanoparticles. From XRD graphs, it is found to be the size of nanoparticles decreases with the increase in $La3^{+}$content.It is found that formation of nanopartocles from SEM. The different magnetic parameters of prepared samples are studied from Hysteresis loop terser.
Keywords: Structural property, Sol-gel method, Ni-Co-Zn nanoferrite, Magnetic property, SEM.

ISCA-ISC-2016-11MatS-18-Poster

Synthesis and Characterization of Dy^{3+} Doped Ni-Co Nanoferrite

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Abstract: A simple and low cost effective method is used to synthesis the $Ni_x - Co_{1-x}\ Dy_y\ fe_{2-y}\ O_4$ for X=0.0, 0.1, 0.2, 0.3, 0.4, and y = 0.025) nanoferrite by sol-gel autocombustion technique. The prepared material were sintered at 560^0C for four hours. The synthesized samples were investigated; structural, magnetic properties and the effect of Dy^{3+} content were studied. The formation of crystal phase are studied by X-ray diffraction method it confirm that the the formation of single phase cubic spinel structural. The average particle size were calculated using Scherer's formula and is observed between 24.22 and 38.12 nanometer. The magnetic properties of the synthesized material were investigated by using vibrating sample magnetometer at room temperature. VSM reports that magnetic parameters like Saturation magnetization (Ms), Coercivity (Hc) were found it is hard ferrite materials.
Keywords: Ni-Co, Dy^{3+} Nanocrystalline ferrite, Spinel structure, XRD, VSM.

ISCA-ISC-2016-11MatS-19-Poster

Characterization and Electrochemical Investigation of Screen Printed 3-Electrode Electrochemical Cell Fabricated using Polymeric Conductive Inks Blended with Synthesized Nanoparticles

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Abstract: A screen printed 3-electrode electrochemical cell (SPE cell) was fabricated using polymer based conductive inks blended with in-house synthesized nanoparticles and investigated for its application in electrochemical analysis. Silver nanoparticles (~59 nm) were synthesized by chemically reducing $AgNO_3$ by sodium citrate, while carbon nanoparticles (~76 nm) from wooden coal by physical technique. The particle size distribution (5-200 nm), colloidal stability (less than ±60 mV) and particle morphology were investigated for both the nanoparticles. These nanoparticles were blended with a thermoset epoxy resin to formulate different conductive inks *viz.* silver (Ag) ink, carbon (C) ink and silver/silver chloride (Ag/AgCl) ink. The formulated inks were characterized for their viscosity, which ranged from 1500-4500 cP making them ideal for screen printing. Post printing and thermal curing, the sensing area of the SPE cell was characterized for its elemental content as Counter Electrode (CE) (Ag=99.97%), Working Electrode (WE) (C=99.45%) and Reference Electrode (RE) (Ag=81.25% & Cl=18.75%); thickness (0.3-0.8 µm) and bulk resistance (ñ) (4.7 x 10^{-4}-

13.4 x 10^{-4} Ù-cm). The cyclic-voltammetry of ferricyanide/ferrocyanide couple showed red-ox behavior and the reaction was quassi-reversible at the SPE cell making it ideal for its use in electrochemical analysis.

Keywords: Nanoparticles, Conductive Inks, Screen Printed Electrodes, Cyclic-Voltammetry.

ISCA-ISC-2016-11MatS-20-Poster

Structural, Electrical and Optical Properties of Yttrium Doped Ni-Cd Nanoferrite

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Abstract: This paper report on the rare earth Y^{3+} material doped in Nickel-Cadmium nanocrystalline ferrites were obtained by sol-gel auto combustion method. $Ni_{1-x}Cd_xY_yFe_{2-y}O_4$ (where x=0, 0.2, 0.4, 0.6 and y=0, 0.075) nanoparticles was carried out a simple and low cost effective method with analytical grade metal nitrate. Citric acid was used as a fuel. The prepared samples were sintered at 400ºC and characterized by X-ray diffraction (XRD) for structural property, scanning electron microscopy (SEM), Transmission electron microscopy (TEM) for Morphologycal studies. The particle size was determined using Scherrer's formula. The size of prepared nanoparticles decreases with the increase in Y^{3+} content. The Optical and Electrical properties are also studied. The Absorption spectra are also studied using Infrared (FT-IR) charcterization.

Keywords: Sol-gel method, Ni-Cd-Y Nanoferrite, XRD, SEM-TEM, Electrical properties.

ISCA-ISC-2016-11MatS-21-Poster

To study metal tolerance of yeast strains from Industrial Waste Water

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Abstract: We have attempted to highlight heavy metal pollution by major Reyon and Dye industries in the different region of industries, and have used indigenously isolated strains to study heavy metal tolerance. Isolated cultures have shown a very high tolerance especially of Mg, Zn, Pb, Ni, Ca and Cd. A very fruitful role of yeasts in the prevention of heavy metal pollution that may give a new dimension in biotechnology based industrial waste treatment is envisaged.

Keywords: Heavy metal pollution, Tolerant yeast strains.

ISCA-ISC-2016-11MatS-22-Poster

Thermal Studies of Palm Fiber Reinforced Hybrid Composites

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Abstract: Thermal properties of the hybrid composites have been explored by differential Scanning Calorimeter and Transient Plane Source Technique. Hybrid composites have been prepared by reinforcing oil palm fiber and glass fibers in phenol formaldehyde resin matrix. Non-isothermal crystallization kinetics has been studied by Differential Scanning Calorimeter (DSC). Parameters like heat absorbed, enthalpy released and thermal stability of the composites have been evaluated using the DSC data. Activation energy of the composites has been evaluated by two different methods and compared. (TPS) has been employed to measure the effective thermal conductivity, thermal diffusivity and specific heat of the composites. Thermal conductivity of the fibers has been evaluated by a theoretical model and compared.

Key words: Hybrid composites, Phenol-formaldehyde resin, Palm fiber, DSC, TPS.

12. Mathematical and Statistical Sciences

ISCA-ISC-2016-12MSS-Guest Speaker-01

Non-regular (Truncation parameter) Family of Distributions

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Abstract: Non-regular (Truncation parameter) family of distributions notably include one and two truncated negative exponential distribution, Pareto distribution, power function distribution, uniform distribution and generalized uniform distribution as special case. Therefore researchers have been attracted since middle nineteenth century. This research thread is consist of problem of estimation for uncensored, type-II censored and doubly type-II censored sample.
Keywords: Truncation, Parameter, Pareto distribution, Power function.

ISCA-ISC-2016-12MSS-01-Oral

Rotational Speed modulation Effect on weakly Nonlinear Oscillatory Convection

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Abstract: Using perturbation analysis a nonlinear physical model is simplified to determine convective amplitude for oscillatory convection. A weakly nonlinear thermal instability under rotation speed modulation is discussed. A non-autonomous complex Ginzburg-Landau equation for the finite amplitude of convection is derived based on small perturbed parameter. The effect of rotation is found either to stabilize or destabilize the system. The Nusselt number is obtained numerically to present the results of heat transfer. It is found that, modulation has a significant effect on heat transport for lower values of Ω while no effect for higher values. It is also found that, modulation can be used alternately to control heat transfer in the system. Further, oscillatory flow rather than stationary flow, enhances heat transfer. Finally the bifurcation analysis of Landau equation is presented.
Keywords: Weakly nonlinear theory, Complex Ginzburg-Landau equation, Rotational speed modulation, Oscillatory convection.

ISCA-ISC-2016-12MSS-02-Oral

Study of Properties of Certain Family of Univalent Functions Associated with Subordination

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Abstract: There are many subclasses of univalent functions. The objectives of this paper is to introduce new classes and we have attempted to obtain Partial sums, Weighted mean, Arithmetic mean and Linear combination for the classes $\mathcal{H}(A, B, \alpha)$ and $K\mathcal{H}(A, B, \alpha)$.
Keywords: Multivalent function, Coefficient estimate, Distortion theorem, Radius of star likeness, Subordinate.
Classification Code: 2000 Mathematics Subject Classification. Primary 26A33; Secondary 30C45.

ISCA-ISC-2016-12MSS-03-Oral

A study of a Blood bank Management system using Reliability Techniques

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Abstract: Reliability modelling has been an area of research activity in the last ten years. In this study we investigated the probabilistic analysis of blood bank system which is a complex type repairable engineering system. A blood bank

system plays a significant role in saving lives of people. The aim of the present paper is to study the probabilistic analysis of the blood bank system model. Where the blood is maintained within the limit of temperature. we analyses this system steady state transition probabilities, mean sojourn time, Reliability and mean time to system failure, point wise and steady state availability of the system and cost benefit analysis of the system.

Keywords*:* Reliability, Cost benefit analysis, Blood bank, Mean sojourn time, Probability, Availability analysis.

ISCA-ISC-2016-12MSS-04-Oral

Formation of Pythagoras Triplet

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Abstract: The Pythagorean trigonometric identity expressing the Pythagorean Theorem in terms of trigonometric functions. Along with the sum of angles formulae, it is one of the basic relations between sine and cosine functions. It is interesting to note that a technique may be developed to form many 'Pythagoras triplets' where member of each triplet are all positive integers having no common factor. The aim of this paper is to describe a technique of finding 'Pythagoras triplets'.

Keywords: Pythagoras triplets.

ISCA-ISC-2016-12MSS-05-Oral

Magnetized Dark Energy Universe in $f(R)$ Theory of Gravitation

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Abstract: In this paper, Kaluza Klein universe with magnetized anisotropic dark energy in $f(R)$ theory of gravitation have been investigated. The exact solutions to the corresponding field equations are obtained for power-law and exponential volumetric expansion. The function of Ricci scalar proportional to the scale factor is also assumed. It has been observed that the universe approaches to isotropy at large time and the universe is dominated by phantom fluid.

Keywords: gravity, Dark energy, Magnetism, Kaluza- Klein universe.

ISCA-ISC-2016-12MSS-06-Oral

An Application of Rectangular Fuzzy game to Industrial Decision making

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Abstract: In this paper, an application of the rectangular fuzzy game is discussed for the best optimal strategy of sugar industries under the uncertain choice of action. Epsilon triangular fuzzy numbers are used as cell entries in fuzzy payoff matrix. Using 'Fuzzy Minimax-Maximin criterion' best optimal strategy is obtained.

Keywords: Epsilon triangular fuzzy number, Fuzzy payoff matrix, Fuzzy two person zero sum game.

ISCA-ISC-2016-12MSS-07-Oral

A note on the Merging of Regular Graphs

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Abstract: The merging is a technique, which is used for converting of two or more than two regular graphs into a single regular graph. Where given regular graphs are having same number of degree or similar regular graphs (for the both graphs, every vertex has same degree). When we are merge two or more than two regular graphs then we use some operators, which are called merging operators. First, we shall find out the possibility of the merging of regular graphs. If merging is possible, then we try to understand how long merging of regular graphs is possible. That is the merging is continuous for regular graphs. In such case, if merging is not possible for regular graphs then we do not merge it.

Basically, we work on k-regular graph. Where, k is any nonnegative integer. In this research paper we are study about the merging of regular graphs and we are proving some important results based on the merging of regular graphs.

Keywords: Regular graph, Merge, Operator, Technique, Degree, Edge, Continuous, Vertex.

ISCA-ISC-2016-12MSS-08-Oral

Mathematical Models of Innovation Diffusion with Substation Effects

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Abstract: A new generation usually appears before it's predecessor has been fully diffused among its potential adopters. This study is the development of a dynamic diffusion model, capable of describing the diffusion process of a multigeneration high technology products, by incorporating the generation substitution effect.

Keywods: Mathematical, Models, Innovation, Diffusion, Substation, Effects.

ISCA-ISC-2016-12MSS-09-Oral

Job Sequencing Problem Using New Technique Mean Time Method

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Abstract: The job sequencing technique is used to determine the optimal sequence of jobs and to find total elapsed time. Job sequencing has wide applications in the field of computers and real world. In this paper we have proposed new mean time method to solve sequencing problem. We have illustrated it with examples for n jobs two machines, n jobs three machines and n jobs m machines.

Keywords: Job sequencing problem, Processing time, Johnson's Algorithm, Mean time method, Total elapsed time, idle time.

ISCA-ISC-2016-12MSS-10-Oral

Six Dimensional Bianchi Type- III Cosmic Strings and Domain Walls in Bimetric Theory of Gravitation

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Abstract: Six dimensional Bianchi Type- IIIcosmic strings and thick domain walls are considered in bimetric theory of gravitation. It is observed that, in this theory, cosmic strings and thick domain walls do not exist. Hence, only a vacuum model can be obtained.

Keywords: Bianchi type–III, Cosmic strings, Domain walls, singularity and Vacuum model.

ISCA-ISC-2016-12MSS-01-Poster

The Study of Flow Rate, Resistive Impedance of Blood Flowing through Stenosed Artery

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Abstract: The objective of present paper is to compute flow rate, resistive impedance of blood flowing through stenosed artery. The blood flow in constricted artery is studied. The blood is treated as Newtonian fluid. The equations involved in the mathematical model are solved numerically using finite difference approximations. The flow rate is calculated at the beginning and end of arterial segment. It is also calculated in the region of stenosis. Flow rate and resistive impedance are plotted axially for different values of time.

Keywords: Impedance, Flow rate, Finite Difference scheme.

ISCA-ISC-2016-12MSS-02-Poster

Generalized Fuzzy Demand and Supply Transportation Problem

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Abstract: The present paper deals with the transportation problem with uncertainty in demand and supply of items. In the previous years these types of problem have been discussed and presented a lot of algorithm to solve such type of problem in deterministic and stochastic environment. Only a limited number of authors have discussed the uncertainty in demand and supply. Practically we see that if there is variation in demand and supply of the cost of the item and transportation cost can vary with the transported vehicle capacity. If there is a variation in the capacity and supply of a vehicle then the cost of the transportation can be affected. Here we have discussed such type of problem and made an algorithm to solve such situation. The LR-type fuzzy numbers have been used to represent uncertainty in demand, supply and capacity of vehicle.

Keywords: Fuzzy numbers, Transportation problem, Algorithm.

13. Pharmaceutical Sciences

ISCA-ISC-2016-13PCS-Guest Speaker-01

Fundamentals and Pharmaceutical Applications of Nanotechnology

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Abstract: According to the NNI, Nanotechnology is the understanding and control of matter at dimensions between approximately 1 and 100 nanometers (nm), where unique phenomena enable novel applications not feasible when working with bulk materials or even with single atoms or molecules. Nanotechnology is ideally suited for drugs with solubility problems. One of the key factors affecting bioavailability of drugs is solubility. Many bioactive natural products have poor water solubility .Nanotechnology has the potential to give new breath of life to those bioactive natural products which were rejected due to their poor solubility. Poorly soluble drugs can also be solubilized by other conventional methods. But those methods have various limitations. The nanocrystal technology enables formulations to be developed without the need of toxic surfactants (eg, Cremophor EL) which may cause enhanced side effects or adverse reactions. Taxol formulation was very difficult because of hydrophobicity. It is made into liquid formula by dissolving it in a solvent called Cremophor. Many people react badly to this solvent and when administered intravenously experienced neurotoxicity. Abraxis, developed a form of Paclitaxel using nanoparticles of protein called Albumin. This protein can bind bind to receptors in blood vessels. Tumor response rate was twice as good for the nano formulated drug. Only 30 minutes are needed for a complete IV dose of the drug instead of three hours. Thus reduced side effects improved quality of life.
Keywords: Pharmaceutical, Nanotechnology, Protein.

ISCA-ISC-2016-13PCS-01-Oral

Estimation of In-vitro Antioxidant Activity, Total Phenolics, Total Flavonoidsand Antifungal activity of *Tephrosia purpurea* Linn. (Leguminosae)

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Abstract: Leaves of *Tephrosia purpurea* Linn, belonging to the family Leguminosae is being used for the treatment of jaundice and claimed to be effective in many other diseases. The medicinal properties of the plant are due to the anti-oxidants present in the plant. The aim of this study was to screen various solvent extracts of *Tephrosia purpurea* to display potent total phenolic and flavonoid contents in order to find possible sources for future novel antioxidants in pharmaceutical formulations. To assess theIn-vitro antioxidant activity assay of *Tephrosia purpurea* Linnby calculating its % inhibition by means of IC50 values and standards like Tannic acid, Gallic acid, Quercetin, Ascorbic acid have been taken for the method suitability. Total phenolic content were evaluated using Folin-Ciocalteau method.Antifungal activity of crude plant extract showed that these plants extracts have potential activity against fungi.In conclusionthe presence of antioxidant activity showed that *Tephrosiapurpurea* Linn. have the potential to be an alternative source of natural antioxidants.
Keywords: *Tephrosia purpurea,* Anti-oxidants, Total phenolic, Flavonoid contents

ISCA-ISC-2016-13PCS-02-Oral

Magnetic Nanoparticles and Their Functionalization for Developing Efficient Silibinin Drug Carrier

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Abstract: The remarkable structural features of surface engineered magnetic nanoparticles (MNPs) have developed potential applications in drug delivery systems. However, the surface engineering of MNPs with dendrimer opened up new material having multiple properties in single molecularmaterial. The Metallo dendrimers are one of the nanomaterials, where metal, metal complexes and metal nanoparticles have been incorporated either in core, periphery or in the internal cavities. In this context, the MNPs have been prepared and further aggregated in the internal cavities of Trimesyol 1,3,5 dimethyl malonate ester (TTDMM) 1st tier dendrimers. Both the MNPs and MNPs aggregated dendrimer (MAD) were

characterized by using XRD, FTIR, SEM and DLS techniques. The MNPs show superparamagnetic nature which moderates the structural abilities of TTDMM to bind the silibinin (SB) anticancer drug for their potential use in drug delivery systems. The MAD has shown high silibinin binding activities which are verified with FTIR, DLS and SEM studies. UV-Vis spectrophotometry has depicted 65% in vitro release of SB per 10th hour, in PBS with 10 % DMSO (PD) medium at 37 ^{0}C. The results of our study could explore new insights of developing MAD as a potential carrier for anticancer drug binding with a controlled and sustained release tendency. Further their chemosensitivity test showed that the newly developed drug delivery system for SB inhibits the growth of A549 human lung cancer cells by 86.1% control growth at 80µg/ml respectively.

Keywords: Magnetic nanoparticles, Dendrimers, In vitro drug release, Silibinin, Chemosensitivity test.

ISCA-ISC-2016-13PCS-03-Oral

Studies on Production of Carotenoid by Halo-alkalotolerent bacterium SL_2* using Natural resources and Characterization of pigment produced

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Abstract: Carotenoids are yellow, orange and red pigments which are currently produced as constituents in the vitamins and dietary supplements for human and animal consumption. Out of 40red, yellow and orange pigmented bacteria isolated from Lonar Crater, the isolate SL2* was selected giving absorption maxima at 473nm which is near toabsorption maxima for standard Astaxanthin (472nm). Selected strain was further characterized by its pigmentation on media with pH range 6-12, salt tolerance upto 6%, 2.06/0.94 g wet weight of degree of pigmentation and 36% free radical scavenging activity by DPPH (1,1-Diphenly-2 Picryl Hydrazil) method. Impact of natural resources was studied by using 22 different natural pigment source viz. beet root, orange skin, tomato, papaya etc. as a precursor for pigment production. Highest degree of pigmentation was found with nutrient broth supplemented with 1% tomato juice i.e. 2.8/g wet weight of pellet. The confirmation of pigment was done by studying absorption maxima in different organic solvents. Partial purification was done by using solvent system petroleum methanol: benzene: ethyl acetate (5:70:25) in separating funnel and separated hypo-phase and epi-phase was used for TLC on Silica gel coated aluminum sheet and Rf was calculated and compared with known Rf of carotenoid, which shows Rf value similar with Xanthophyll. Further optimisation will be carried out to enhanced production of Astaxanthin using various carbon, nitrogen sources and other resources. Astaxanthin can be used as a bioactive molecule in food and feed and pharmaceuticals as source of pro- vitamin A and antioxidant.

Keywords: Halo-alkalotolerent, TLC, DPPH, Astaxanthin.

ISCA-ISC-2016-13PCS-04-Oral

Identification of Process Related Unknown Impurities from Hydralazine Bulk Drug

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Abstract: The process related unknown impurity associated with the synthesis of Hydralazine hydrochloride bulk drug was detected by HPLC and was subjected to high resolution accurate liquid chromatography mass spectroscopy (HR/AM-LCMS) for identification. The proposed impurity was isolated from Hydralazine hydrochloride active pharmaceutical ingredient (API) by preparative chromatographic method and was injected on HPLC for comparison of retention time decreases with that of the unknown process related impurity in Hydralazine hydrochloride. The molecular ion peak of preoperatively isolated impurity and that of unknown process related impurity in Hydralazine hydrochloride were compared for confirmation. The postulated structure was unambiguously confirmed with the help of HR/AM- LC MS/MS, NMR and FTIR data proposed to be 1-(2-phthalazin-1-ylhydrazino) phthalazine (Hazh Dimer). This impurity of Hydralazine hydrochloride is not been previously reported. A rapid Acquity H-class gradient method with runtime of 15.0min was developed for Quantization on Unisphere Cyno column and validated for parameters such as accuracy, precision, linearity and range, robustness. The LOD and LOQ of method were 008% and 0.0245% respectively.

Keywords: Identification, Process, Related, Unknown, Impurities, Hydralazine, Bulk Drug.

ISCA-ISC-2016-13PCS-05-Oral

Application of Statistical Designs to formulate medium for Production of Bacteriocin by Lactobacillus *pentosus* B25

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Abstract: The objective was to develop an optimal, albeit low-cost medium to enhance production of bacteriocin by *Lactobacillus pentosus*. The Placket Burman experimental design was set for carbon, nitrogen and trace element sources in searching for the significant variables that influence bacteriocin production. Using Minitab 14 the experimental data was statistically analysed and Regression equation was derived. From PB design based on low p value run no. 11 was selected for carbon source (1720AU/ml), run no. 6 for nitrogen source (1680AU/ml) and run no. 7 for trace elements (1440AU/ml). Significant components were found to be lactose (24g/l) and glucose (24g/l) as carbon source, peptone (10.9g/l) and yeast extract (6.5g/l) as nitrogen source and trace elements as KH_2PO_4 (4g/l)and $MnSO_4$(0.07g/l) which are giving higher antimicrobial activity against Klebsiella pneumoniae. Using regression equation steepest ascent path design was determined for nearest concentration of significant components. CCD design prepared under Response Surface Methodology was used to determine Variance, Regression coefficient (R^2). CCD equationobtained was used for determination of yield of bacteriocin in terms of Arbitrary Unit/ml for carbon, nitrogen and trace element sources. Finally data validation report was obtained comprising expected optimal concentrations of required components of Formulation medium for high yield of bacteriocin. The components and their concentrations were found to be (gm/lit) glucose-24.54, lactose-25.07, peptone-10.77, yeast extract-6.84, KH_2PO_4-4.54, $MnSO_4$- 0.067and an initial pH of 7.0.The rise in yield of bacteriocin using newly formulated medium was found to be 14.28%.

Keywords: *Lactobacillus pentosus*, Placket Burman design, CCD, Minitab 14, RSM.

ISCA-ISC-2016-13PCS-06-Oral

Screening of exopolysaccharide (EPS) Producing marine Bacteria for their Bioactive Potential

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Abstract: Exopolysaccharides (EPS) are high molecular weight polymers which are long chain composed of sugar residues and secreted by microorganisms. They have bioactive function and extensive range of potential application in industry like-pharmacy, agriculture and various other areas. Marine water sample and their sediment were collected from nine different location of India. A total 160 bacteria were isolated on zubell marine agar. Out of 160 isolates, 40% were screened on the basis of mucoidal colonies releasing gummy substances while growing on marine agar supplemented with glucose (3%). The exopolysaccharide was extracted from screened bacteria by ethanol precipitation method. Among them three isolates AB4, MZ10 and N8 gave more exopolysaccharide (9.2, 7.7, and 9.4mg/ml) was selected. The bioactive potential of exopolysaccharide produced from AB4, MZ10 and N8 was studied against *S. aureus, P. vulgarius, Ps. aeuroginosa, B. subtilis, E. coli. E. fecalies, S. typhi.* Among them EPS of AB4 and Mz10 has shown highest effectivity i.e. 85.71% inhibition towards potential tested organism. More lethality was observed in AB4 over Mz 10 and further study has been carried out by observing antimicrobial activity of bioactive EPS against multidrug resistance (MDR)UTI pathogens.

Keywords: exopolysaccharide (EPS), zubell marine, MDR, UTI pathogen, Bioactive.

ISCA-ISC-2016-13PCS-07-Oral

Characterization of *Tephrosia purpurea* Linn. to unravel its Hepatoprotective Potential against anti-tubercular drugs induced Hepatotoxicity

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Abstract: Liverailments are one of the utmost serious human health problems in today's world. Present study was aimed to characterize *Tephrosia purpurea* extract for itshepatoprotective potential against ATDs. Tephrosia whole plant extract

was characterized by qualitative, quantitative and mass spectrometric analysis and it was estimated that it is rich in flavonoids, phenolics, terpenoids, glycosides and similar vital bioactive components. Hepatoprotective potential of *Tephrosia* extract was evaluated against ATDs induced toxic manifestations in hematological, serological, tissue biochemical and histolopathological studies. Eight week administration of ATDs declined haematological variables like hemoglobin, hematocrit, mean cell volume, platelets and platelet distribution width; whereas lymphocytes, leucocytes and polymorphs were increased. Serum markers like aspartate aminotransferases, alanine aminotransferases, alkaline phosphatases, albumin, bilirubin, cholesterol, urea, uric acid and creatinine were significantly altered by ATDs. Lipid peroxidation (hepatic and microsomal), triglycerides and cholesterol increased while glutathione, superoxide dismutase, catalase, glycogen, total and microsomal protein decreased by ATDs. Co-treatment with *Tephrosia* regained all hematological, serological and tissue biochemical changes significantly. ATD administration declined CYP2E1 activity in terms of aniline hydroxylase that was returned towards control with *Tephrosia* extract. Biochemical determinations were corroborated by histological studies and concluded that hepatoprotective efficacy may be due the presence of active phytoconstituents.

Keywords: Mass spectrometry, antioxidants, anti-tubercular drugs, Hepatotoxicity, Tephrosia purpurea.

ISCA-ISC-2016-13PCS-08-Oral

Fragmentation Pattern of Ofloxacin and its Metabolites in Silkworm, an Invertebrate Animal Model by LC-MS

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Abstract: In the drug development process it is mandatory to screen the drug in animal model. Use of vertebrate models for screening is complex due to ethical issues and cost of maintenance. Recently silkworm as an invertebrate model is used for screening potential drug candidates. In the present study silkworm was injected with ofloxacin and the concentration of the ofloxacin and mass fragmentation pattern was analysed at different time intervals by LC/ESI-MS/TOF. The molecular mass of ofloxacin (362 m/z$C_{11}H_8NO_3$) was found to be same in silkworm haemolymph at zero, 120 and 300 mins respectively. Structures of these products were elucidated through comparison of their mass fragmentation patterns with the drug, samples and the control haemolymph, which were proposed on the basis of accurate mass by chem draw. The possible fragments of ofloxacin in silkworm haemolymph at zero, 120, 360 minutes obtained were m/z 342, 301, 245, 229.07, 186.05, 273, 217, 186.05. The results of the study reveal the presence of the drug in silkworm. Hence, the silkworm can be used as an alternative model as it is inexpensive, faster, easy to rear, reliable to study drug metabolism and more importantly share similar pharmacokinetics of antibiotics as that of vertebrates

Keywords: Vertebrate models, Silkworm, Invertebrate model, LC/ESI-MS/TOF, Fragmentation.

ISCA-ISC-2016-13PCS-09-Oral

Study on Heavy metals Concentration in 8 Herbal extracts, 4 Single Herb choornam, 7 Herbal compounds and their Intake through the recommended dose

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Abstract: Herbal medicines which contains herbal extracts like Tagar, Arjuna, gugglu, Pushkarmool, neem, shilajeet, Shallaki, Haritaki; Choornam like bahera, trikatu, sitopladi, Hingwashtak and Herbal formulations like gandhak rasayan, kutajghan vati, cap shwashantak, ekangveer Ras, Sarivadi Vati, chanderprabha vati, and shankh were tested for levels of heavy metals (Lead, copper, cadmium, iron, chromium, manganese, nickel and zinc). Herbal extracts, choornam and herbal formulations showed presence varying quantities of heavy metals. However concentrations of heavy metals were greater in the herbal formulations as compared to herbal extracts. The paper discusses the significance of these quantities in terms of Calculated Daily Limit given by various international food and drug administration agencies. The intake of the heavy metals has been calculated by taking into account the recommended daily dose of the given Ayurvedic medicines. Intake of heavy metals through medication is compared with the daily maximum dose given by the various agencies.

Keywords: Heavy metals, Herbal medicines, Daily maximum dose.

ISCA-ISC-2016-13PCS-10-Oral

Synthesis, Spectral Studies and Medicinal Aspects of 5h-Dibenzo[b,f]Azepine-5-Caboxamide Mannich Bases

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Abstract: The present invention deals with the synthesis of Mannich bases of 5h-Dibenzo [b,f] Azepine-5-Caboxamide methylamines. A series of Mannich bases of 5h-Dibenzo [b,f]Azepine-5-Caboxamide were synthesized via Mannich reaction of 5h-Dibenzo[b,f]Azepine-5-Caboxamide with primary amines. Their chemical structures were established on the basis of elemental analysis, UV, IR, ^{1}HNMR and ^{13}CNMR Spectral data. All the compounds have been tested for their antimicrobial activity against a representative panel of bacteria i.e. *E-coli* and *B.subtilis*. Synthesized compounds were found to exhibit profound antibacterial activity.
Keywords: 5h-Dibenzo[b,f]Azepine-5-Caboxamide, Methylamines, Mannich reaction, Mannich bases, Antibacterial activity.

ISCA-ISC-2016-13PCS-01-Poster

Using DMAIC approach to develop quantitative high performance liquid chromatography method for determination of Levothyroxine sodium in tablet dosage form

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Abstract: A simple and improved reverse phase liquid chromatographic method has been developed for the estimation of Levothyroxine Sodium in tablet formulation. Levothyroxine Sodium is official in Indian Pharmacopeia, United States Pharmacopeia, and British Pharmacopoeia. Define; Measure, Analysis, Improve and Control (DMAIC) principles were used for problem solving, root cause investigation, risk management to improve method performance. The separation was carried out using Nucleosil CN, 250*4.6mm, 5µ column and the mobile phase consisting of water, acetonitrile (ACN) and o-phosphoric acid in the ratio of 650 : 350 : 10 (v/v) in isocratic mode using flow rate 1.00 mL/min and effluent was monitored at 225 nm. The new method for the assay of Levothyroxine Sodium tablet was found statistically superior compared to IP 2010 monograph method. Statistical process control evaluation of the method before and after modification revealed that modified method is under statistical process control. Levothyroxine sodium in tablets formulation under acidic condition was found stable up to 42h; whereas the drug was found stable only up to 8h under alkaline condition. The methods were found statistical different. The advantage of modified method is better extraction capability and solution stability of Levothyroxine Sodium in tablet formulation. This study was applied in analytical quality control laboratory to improve the quality of the method, reduce method defects and increase right first time of assay test method by applying the Lean Six Sigma (LSS) methodology. The present method was successfully used for quantitative determination of Levothyroxine sodium in tablet dosage form. The investigations showed that it was feasible to define an HPLC method with an improved quality compared to IP2010 assay method. Levothyroxine sodium assay method was improved in such a way that better assay values are obtained by changing diluent composition for sample preparation keeping all other method parameters constant. It is evident from the study that the diluent plays an important role for extraction capability and solution stability of Levothyroxine sodium from the tablets matrix. The proposed method doesn't negatively impact the product quality and hence the modified method can be considered as alternative quantitative determination of Levothyroxine sodium from the tablets dosage form.
Keywords: Levothyroxine Sodium, HPLC, Lean Six Sigma, DMAIC, Extraction capability, Solution stability, Indian. Pharmacopeia.

ISCA-ISC-2016-13PCS-02-Poster

In Vitro Anti-Arthritic activity of *Vitex Negundo* and *Punica Granatum*

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Abstract: The present study is aimed to evaluate the in vitro anti arthritic activity of aqueous and ethanolic extract of *Vitex negundo* and *Punica granatum* by Bovine serum albumin and egg albumin denaturation method. The activity of

aqueous and ethanolic extract of *Vitex negundo* and *Punica granatum* was compared with standard Anti-arthritic drug Diclofenac Sodium. Results revealed that the ethanolic extract of *Punica granatum* at a different concentration possessed significant anti-arthritis activity as compare to std. drug. The present finding exhibited a concentration dependent inhibition of protein (egg albumin and BSA) denaturation by aqueous and Ethanolic extract of *Vitex negundo* and *Punica granatum.* The effect of Diclofenac Sodium was found to be approximate when compared with the *Punica granatum* at 800µg/ml. In Egg Albumin denaturation method, at concentration of 100, 200, 400 and 800 µg/ml. In ethanolic extraction *Vitex negundo* showed 40.11%, 58.05%, 63.43%, and 87.52% respectively. Whereas, ethanolic extraction of *Punica granatum* showed 50.28%, 101.71%, 187.75%, 261.08%. In Bovine Serum albumin denaturation method at concentration of 100, 200, 400 and 800µg/ml, ethanolic extraction of *Vitex negundo* showed 20.03%, 42.72%, 59.06%, 72.08% respectively. Whereas, Ethanolic extraction of *Punica granatum* showed 28.54%, 42.88%, 81.39%, 99.18% of inhibition. From the present finding it can be concluded that *Punica granatum* possessed maximum anti-arthritic effect against denaturation of protein invitro. The effect was possibly due to flavonoids, Alkaloids, terpenoids contain of *Punica granatum*.

Keyword: *Vitex negundo*, *Punica granatum*, Anti-Arthritic Activity, Denaturation of Protein.

ISCA-ISC-2016-13PCS-03-Poster

In Vitro Antidiabetic activity of Methanolic Extract of Citrus Limon, Punica Granatum, Musa Acuminata Peel

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Abstract: Diabetes is a clinical syndrome characterized due to absolute or relative deficiency of insulin. The intestinal digestive enzymes play a vital role in the carbohydrate digestion. Recent decades have experienced a sharp increased in the incidence and prevalence of diabetes mellitus. One antidiabetic therapeutic approach is to reduce gastrointestinal glucose production and absorbance through the inhibition of carbohydrate digestive enzyme such as alpha-amylase. Medicinal plants have been reported to play an important role in modulating glycemic responses and have preventive and therapeutic implications. The aim of the current study was to evaluate the methanolic extracts of three kinds of fruit peels (Lemon, pomegranate and Banana) for its in vitro antidiabetic activity. Our result suggests that methanol extracts of all three extract exhibildose-dependent increase in percentage inhibitory activity on alpha amylase enzyme. Acarbose was used as a standard drug. Maximum alpha amylase inhibitory activity from banana peel was found to be 80.87% at 1000 µg/ml. The Ic50 values of alpha amylase inhibitory activity of Lemon, Pomegranate, and banana were found to be 135.354%, 157.928% and 185.384% respectively. The findings indicate banana peel was found to be more potent and posses hypoglycemic effect and hence can be utilized as an adjunct in the management of diabetes mellitus.

Keywords: Lemon peel, Pomegranate peel, Banana peel, alpha amylase.

ISCA-ISC-2016-13PCS-04-Poster

In Vitro Evaluation of Antacid Potential of *Punica Granatum* and *Musa Peels*

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Abstract: First report on antacid effects of peeled crude extract of the *Punica Granatum* and *Musa Peels*. The authenticated fruit was taken, dried, powdered and finally weighed. The activity of the extract was quantitavely detrmined by carbondioxide evalution method. The antacid behaviour was studied employing Rossett-Rice test. The *Punica Granatum* and *Musa Pills* extract showed a significant results for antacid effect ($P < 0.05$) at different doses and the results obtained were comparable to that of standard $NaHCO_3$.The results of the present study suggest that extract of *Punica Granatum* and *Musa peels* significantly neutralized acid and showed resistance against change in pH and also illustrate good antacid property The extract of *Punica Granatum* and *Musa Peels*, has shown to possess significant antacid property.

Keywords: *Punica Granatum, Musa Peels*, Antacid, Rossette-Rice.

ISCA-ISC-2016-13PCS-05-Poster

Synthesis of Silver Nanoparticles Mediated by Alpha Amylase and their Application in the Photocatalytic Degradation of Organic Dyes

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Abstract: Silver nanoparticles are nanoparticles of silver between 1 nm and 100 nm in size. Silver nanoparticles have a wide range of applications in a variety of fields including biological research, medicine, chemical catalysis, textile

industry etc. They are also used in the comprehensive treatment of environments containing infectious pathogens owing to its unique properties of high antimicrobial activity. Synthesis of silver nanoparticles is carried out by many methods including chemical, physical, photochemical and biological methods. Conventionally, chemical methods are used but due to their hazardous nature other approaches are being investigated. Recently, green biosynthesis methods have garnered wide attention due to its relative simplicity and eco-friendliness. The present research work summarizes a green approach towards the synthesis of silver nanoparticles using alpha amylase. The color of the solution turned from colorless to light brown within 12 hours indicating silver nanoparticle formation. The preliminary characterization was done by using UV-Visible spectrophotometer. Photo catalytic degradation of organic dyes methylene blue and methyl orange was measured spectrophotometrically by using silver as nanocatalyst under visible light illumination.The results revealed that biosynthesized silver nanoparticlesusing alpha amylase was found to be impressive in degrading the dyes.

Keywords: Silver nanoparticles, Alpha amylase, UV-Visible spectrophotometry, methylene blue, methyl orange

ISCA-ISC-2016-13PCS-06-Poster

Screening of two Medicinal plants for their Anti-Tyrosinase activity

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Abstract: The present study was designed to appraise the depigmenting ability of two medicinal plants i.e *Asparagus racemosa* and *Holarrhena antidysentrica*. The various solvent extract of medicinal plants were prepared by using decoction method. Tyrosinase enzyme was used as the model system for evaluating the anti-tyrosinase activity of plant extract. The results of the study show that the aqueous extract of *Asparagus racemosa* (57%) exhibited the maximum inhibiting potential of the tyrosinase enzyme. The ethanolic extract of *Holarrehna antidysentrica* (31%) exhibited the minimum inhibiting potential of the tyrosinase enzyme. Tyrosinase, also known as polyphenol oxidase, is a key enzyme that catalyse synthesis of melanin in plants, microorganism and melanin cell. Melanin biosynthesis inhibitory compound are useful for skin whitening agents used in cosmetics and also remedy for disturbances in hyperpigmentation. Contributing to their roles in tissue remodeling in health and disease.

Keywords: Melanin, Hyperpigmentation, Depigmentation, *Asparagus racemosa, Holrrhena antidysentrica,* Anti tyrosinase.

ISCA-ISC-2016-13PCS-07-Poster

Reversed Phase Ultra Performance Liquid Chromatography Method for Determination of Bimatoprost from Active Pharmaceutical dosage form

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Abstract: A simple, rapid and accurate ultra performance liquid chromatography method is described for determination of bimatoprost from active pharmaceutical ingredients. The separation of drug was achieved on Acquity BEH C18 (50 X 2.1 mm) 1.7µ column. The mobile phase consisted of a mixture of buffer and acetonitrile (60:40 % v/v). The buffer was mixtures of 0.002 M pentane sulphonic acid sodium salt monohydrate. The detection was carried out at wavelength 210 nm. The mixture of water and methanol (50:50% v/v) was used as a diluent. The method was validated for system suitability, linearity, accuracy, precision, robustness, stability of sample solution. The method has been successfully used to analyze bimatoprost from active pharmaceutical ingredients and pharmaceutical dosage form.

Keywords: Bimatoprost, RPUPLC, Pentane sulphonic acid Sodium salt monohydrate, Acetonitrile, Methanol

ISCA-ISC-2016-13PCS-08-Poster

Dissolution Study and Method Validation of Alprazolam by High Performance Liquid Chromatography Method in Pharmaceutical Dosage Form

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Abstract: Dissolution study was carried for alprazolam tablets containing 0.25 mg of active pharmaceutical ingredient. After the determination of solubility, the conditions selected were paddle at 100 rpm, with 500 ml phosphate buffer pH 6.8 at 37°C ± 0.5°C. Under these conditions, the in vitro release profiles of alprazolam coated 0.25 mg tablets shown

good results. The validation of dissolution of alprazolam was achieved on symmetyshield RP8 (150 x 3.9 mm i.d.) with 5 µ particle size, column showed most favorable chromatographic pattern over the other columns. The mobile phase consisted of a mixture of buffer and acetonitrile (60:40 % v/v). The buffer was mixtures of 0.1 % orthophosphoric acid adjusted the pH 3.0 with tri-ethylamine. The phosphate buffer pH 6.8 was used as a diluent. The detection was carried out at wavelength 225 nm.Flow rate was adjusted at 0.8 ml/min. The method was validated for system suitability, linearity, accuracy, precision, robustness, stability of sample solution. The method has been successfully used to analyze dissolution study of alprazolam from pharmaceutical formulation. The linearity was found between 50- 150% with coefficient of co-relation was 0.996. The relative standard deviation of precision was 0.66%. The dissolution test developed and validated for alprazolam tablets was considered satisfactory.

Keywords: Alprazolam, High performance liquid chromatography, Dissolution apparatus, Phosphate buffer pH 6.8.

14. Physical Science

ISCA-ISC-2016-14PhyS-01-Oral

Preparation and Characterisation of Semiconductor films by Spray pyrolysis Technique

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Abstract: New and innovative spray pyrolysis method was used for preparation of ZnO semiconducting films. Measurement of Electrical resistance of pure ZnO films fired at different temperatures using half bridge method at different temperatures in Static measurement system. Different cycles of measurement were taken for same ZnO sample for repeatability and reliability of the sample. From the resistance measurement data parameters viz. Resistivity, TCR, were calculated.
Keywords: Spray pyrolysis, ZnO semiconducting films, TCR.

ISCA-ISC-2016-14PhyS-02-Oral

Structural Property of some Liquid alkali Metals and Effect of Correction Functions

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Abstract: In the present work, structural property of five liquid alkali elements Li, Na, K, Rb and Cs are studied. The correction in Pecus Yevick theory in the liquid range in hard sphere reference system is applied. For the screening effect to be taken into account, four local field correction functions proposed by Nagy (N), Hartree (H), Hubbard Sham (HS) and Taylor (T) also are used. A hard sphere reference system with Percus-Yewick (PY) approximation is used to calculate the structure factor. The potential given by Folhias et al. is used for electron and core interaction. Well agreement between current theoretical result and experimental result is obtained. Direct adoption of the structure factor calculated in this work will be useful to the study of verity of other properties for the other researchers working in this field.
Keywords: Structural property, Liquid alkali metals, Hartree, Hubbard sham.

ISCA-ISC-2016-14PhyS-03-Oral

A study of Indoor Radon, Thoron and their Progeny Measurement for the Assessment of Radiological dose in Shivamogga District, Karnataka, India

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Abstract: Radon (^{222}Rn) and its progenies are the main source of the inhalation dose received by humans due to natural radioactivity. In this study, measurements of indoor radon (^{222}Rn), thoron (^{220}Rn) and their equilibrium equivalent concentration (EEC) were carried out in 17 different villages situated in Shivamogga district, Karnataka, India, by using LR-115 type II-based pinhole twin cup dosimeters and deposition-based progeny sensors (DRPS/DTPS). The average indoor ^{222}Rn and ^{220}Rn concentrations observed in these dwellings ranges from 9.81±0.4 to 237.68±10.3 with an average value of 96.49±5.56 Bq.m^{-3} and 2.58±0.21 to 222.96±12.34 with an average value of 89.59±4.85 Bq.m^{-3}, respectively, while the average EEC for ^{222}Rn and ^{220}Rn was 10.72 and 4.06 Bq.m^{-3}. The equilibrium factors for radon (F_{Rn}) and thoron (F_{Tn}) varied from 0.02 to 0.24 with an average of 0.12, and from 0.03 to 0.19 with an average of 0.07, respectively. The average inhalation dose observed in dwellings of different villages varies from 0.34 to 3.99 mSv.y^{-1} respectively. The annual effective doses obtained in the present study are within the safe limits as recommended by the ICRP for indoor dwelling exposure conditions.
Keywords: Radon, Equilibrium equivalent concentration, DTPS, DRPS, Inhalation dose, Equilibrium factor.

ISCA-ISC-2016-14PhyS-01-Poster

Effect of $BaCl_2$ doping on Structural and Electrical properties of PEO based Solid Polymer Electrolyte films

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Abstract. In the present work $BaCl_2$ doped polyethylene oxide (PEO) films were prepared by solution casting method. The structural and chemical properties were examined by X-Ray Diffraction and FTIR, the XRD peaks confirms decrease in crystallinity by increase in dopant concentration. In DC conductivity studies the conductivity increases by increase in $BaCl_2$ salt concentration, the highest conductivity achieved at 25 wt% (~10^{-6}), on further addition of salt to PEO polymer electrolyte, the sample loses its stability and also conductivity decreases.
Keywords: Polymer Electrolyte, DC- Conductivity, XRD and FTIR.

ISCA-ISC-2016-14PhyS-02-Poster

Effective Atomic Numbers and Effective Electron Densities of Inorganic Nonlinear Optical Materials in the Energy Range 356 keV to 1330 keV

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Abstract: Effective atomic numbers (Z_{eff}) and effective electron density (N_{eff}) of inorganic NLO materials such as Bab_2O_4 and $LiNbO_3$ has been studied. The obtained values of Z_{eff} and N_{eff} have measured using narrow beam good geometry setup in the energy range 356 keV to 1330 keV. In the present study the samples were irradiated with ^{133}Ba, ^{22}Na, ^{137}Cs, ^{54}Mn, and ^{60}Co radioactive sources. In the present work, the variations of obtained values are decreases with increasing photon energy. It has been observed that the sample of Bab_2O_4 is better than $LiNbO_3$ sample, since Bab_2O_4 sample having high Z_{eff} and N_{eff} on compare to $LiNbO_3$ sample, it can be used in radiation dosimetry and $LiNbO_3$ sample undergo radiation damage. The experimental values are compared with theoretical values and are found to be in good agreement.
Keywords: Effective Atomic Numbers (Z_{eff}), Effective Electron Densities (N_{eff}).

ISCA-ISC-2016-14PhyS-03-Poster

Investigation of Corrosion Resistant Behaviour of Nano-composite Ni-P-ZrO_2 Coating

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Abstract: In the present investigation, Ni-P-ZrO_2 nano-composite coating was developed by electroless coating technique on mild steel substrate in an acidic bath and sodium hypophosphite used as reducing agent. The second phase, ZrO_2 nano-particles (5 g/l) were add to the bath for co-deposition along with Ni-P matrix. The heat treatment of as-prepared Ni-P/Ni-P-ZrO_2 coating was carried out at 380°C in Argon atmosphere for 1h. These coatings were analysed for surface morphology, elemental composition and phase analysis by FESEM, EDAX, and XRD analysis. Corrosion resistance behaviour of coatings deposited was studied in 5 % NaCl solution by long term immersion experiment. From FESEM and EDAX data it has been observed that ZrO_2 nano particles are allocated uniformly in the as-coated and heat treated coatings. From the long term immersion test it has been observed that the corrosion resistant behaviour of as-coated and heat treated Ni-P-ZrO_2 coatings is better as compared to plain Ni-P coatings.
Keywords: Electroless, Ni-P-ZrO_2, Nano-coatings, Corrosion, Hardness.

ISCA-ISC-2016-14PhyS-04-Poster

Analysis of Pressure Derivatives of Bulk Modulus at High Compressions using Interatomic Potential Functions

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Abstract: We present an analysis for the pressure derivatives of bulk modulus of six solids viz. Ne, Ar, Al, Cu, LiH, and MgO using interatomic potential functions due to Morse, Rydberg, and Davydov. The formulations are obtained using these potential functions. The results for pressure derivatives of bulk modulus are determined as a function of pressure up to a compression of V/V_0 equal to 0.5 for each solid. The results are compared with the corresponding values obtained from the Shanker equation and the Hama-Suito equation of state.

Keywords: Equation, State, Interatomic, Potential, Functions, Pressure, Derivatives, Bulk, Modulus, Metals, Non-metals.

15. Physical Education, Sports and Yoga

ISCA-ISC-2016-15PESY-01-Oral

Analysis of Emotional Control Levels of Blind Futsal Players

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Abstract: The purpose of this study is to examine the emotional control levels of blind players in futsal team in terms of various variables. 69 male athletes (27.78±4.84 years of age) from different countries national futsal teams at International Blind Sports European Futsal Championship participated in the study voluntarily. Courtauld Emotional Control Scale was used in the study. The scale aims to measure to what extent participants consciously control their reactions in specific areas. No significant difference was found in the total scores of emotional control scale and all subscalesin comparisons of the athletes' visual acuity levels (B2-B3), marital status (married-single), educational level (high school-university), position (forward-defense-midfielder) and futsal history (1-3 years, 4-6 years, more than 7 years) ($p>0.05$). In comparisons of emotional control scale scores in terms of the time of visual loss (from birth-late) no significant difference was found between *"when I am angry"* and *"when I am anxious"* subscale scores and total scores ($p>0.05$). However, *"when I am depressed"* subscale scores of the athletes blind from birth were found to be higher than those of late blind ($p<0.05$). Significant difference was found between the emotional control scale total scores of countries in terms of the championship rankings ($p<0.0071$).
Keywords: Blind, Athletes, Emotional control, Futsal.

ISCA-ISC-2016-15PESY-02-Oral

Analysis of Athletes Imaging Forms in Terms of Sports Age and Gender

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Abstract: The aim of this study was to investigate the effect of sports age and gender on imaging forms. Totally 962 athletes including 556 males and 406 females aged between 18-24 years have participated in the study. Sports ages of the participants doing sports have been divided into 3 categories as; "3 years and less", "4-7 years", and "more than 7 years". Imaging Inventory for Sports has been used in the study. Sub-scales of this inventory have been determined as Cognitive Imagery, Motivational Specific Imagery, Motivational General-Arousal, and General-Mastery. It has been found that motivational specific imagery and motivational general-arousal levels of males and females have reflected significant difference statistically ($p<0.01$). As to other sub-scales, no significant difference has been observed between males and females ($p>0.05$). It has been determined that cognitive imagery and motivational general-mastery levels of the ones doing sports more than 7 years are higher than the ones doing sports for "3 years of less" or "4-7 years" ($p<0.01$ and $p<0.05$). It has also been seen that motivational general-arousal levels of the ones doing sports for "3 years or less" is lower than the ones doing sports for longer periods included in other two categories ($p<0.01$ and $p<0.05$).
Keywords: Field, Track, Imagery, Age, Gender.

ISCA-ISC-2016-15PESY-03-Oral

Importance of Yoga for Women

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Abstract: Yoga for Women is the natural solution to the physical and mental difficulties faced by women. All Yogic asanas are not recommended for women as they have certain limitations, owing to the diverse physiological structure between men and women. Stress, hormonal changes and self-development are some reasons for which women practice Yoga. 'Yoga' is an ancient science that has helped women to cope with their health issues and help them develop the perfect state of their body and mind. Yoga can help ease the pain that goes with Menstruation, stress, fatigue and ensure an easier child delivery among other benefits.
Keywords: Importance, Yoga, Women.

ISCA-ISC-2016-15PESY-04-Oral

Yoga Therapy for Breahlessness among Women

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Abstract: Aim of the current study is to assess the effect of yogic practices on Breathlessness. Yoga therapy sessions were conducted at Hostel's hall in Women's university hostel, Mangalore University, Mangalagangothri. Known cases of breathlessness females aged between 20 years to 25 years were selected for the study. The subjects were randomly divided into an Experimental group (10) and a Control group (10). Yogic practices were progressively introduced to the experimental group everyday in the morning from 6.00a.m to 7.00am, for period of 30 days. The result revealed that the practice of Yoga significantly helped to reduce the breathlessness.

Keywords: Yoga therapy, Breathlessness.

ISCA-ISC-2016-15PESY-05-Oral

Comparison of Personality traits of Volleyball players at different Level of Participation

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Abstract: The purpose of the study was to compare the personality traits of volleyball players at different level of participation. To serve the purpose of study, total of 70 male volleyball players were selected 35 each from University and National level. Subjects were randomly selected at Senior National and All India inter university volleyball tournament at Mumbai and Chennai respectively. B.F.I Questionnaire developed by Goldberg was used an instrument for measuring five personality factors. The statistical technique applied in order to examine the hypothesis of the study was, "independent t-test", SPSS 20 version was also used and level of significance was set at 0.05. The results indicated that there was no significant difference at both university and national level squash players. It could be attributed that mastery over the skill at both level (University and National) could have been of same level to draw any conclusion. However results indicate that there was no significant difference at National and University level.

Keywords: Personality, Trait.

ISCA-ISC-2016-15PESY-06-Oral

Assessment of Nutritional status and Physical fitness of College going Girls, Udaipur, Raj. India

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Abstract: The present study was undertaken to find out nutritional status and physical fitness of college going girl's .The study was conducted on the 100 female students of College of Home Science, Udaipur. A pre-tested interview schedule was developed to collect information regarding Socio-economic status, nutritional status by Anthropometrics measurements were estimated to assess nutritional status of the girls, physical fitness parameters assessed through step up, body compositions and health profile was assessed by measuring heart rate and blood pressure. The fitness status indicated that 20% girl were under chronic energy I (mild) grade of body mass index and 10 % were found under moderate grade of energy deficiency and 40 percent were under normal range and 30 percent were under obese grade category of BMI. The average waist to hip ratio of girls was found to be normal. Blood pressure of girls was found to be low. It can conclude that their physical fitness level was low and not appropriate.

Keywords: Nutritional status, Physical fitness, Health profile.

ISCA-ISC-2016-15PESY-07-Oral

Yoga for Good Health

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Abstract: However, very often, yoga is only partially understood as being limited to asanas (yoga poses). As such, its benefits are only perceived to be at the body level and we fail to realise the immense benefits yoga offers in uniting the body, mind and soul. When you are in harmony, the journey through life is calmer, happier and more fulfilling. With all this and much more to offer, the benefitsof yoga is felt in a profound yet subtle manner. You are truly healthy when you are not just physically fit but also mentally and emotionally balance. "Health is not a mere absence of disease. It is a dynamic expression of life - in terms of how joyful, loving and enthusiastic you are."Good Health is important because a man of health can enjoy great happiness during his life time. Without health we cannot do anything in this world. A man suffering from fever remains confined to bed. He cannot get out of doors. He cannot do anything for anybody. Health is more valuable than wealth. Even a poor peasant with good health is happier than the rich person with poor health.
Keywords: Yoga, Health.

ISCA-ISC-2016-15PESY-08-Oral

The Relationship between Physical Exercise and HIV AIDS, A Systematic Review and Meta Analysis

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Abstract: There are different factors which escalates HIV related deaths. Most of them could be expressed by hypokinetic conditions. It is difficult to get a single research which does not support physical exercise for HIV patients. There are lots of researches published on the relationship between Physical exercise and HIV AIDS. However there is a gap in indicating the specific benefits of exercise as well as the specific training to be used to better manage HIV related complications. Studies which are under the PubMed search engine and organizational reports, published from the year 1998 to 2014 were used. 37 papers which are more related with the issue reviewed. The effect of physical exercise in the management of hypokinetic disease, immunity, body weight, fatigue and Psychological status is thoroughly discussed. The Exercise tolerance of People living with HIV AIDS is determined. The role and intensity of Resistance, Aerobic and Resistive aerobic exercise for HIV management is decidedly addressed. Data based comparison focused on the association between aerobic exercise and HIV AIDS is made. The constellation of studies on the area approved that physical exercise plays a vital role for the management of HIV related complications. Nevertheless, the specific mode and dose of physical exercise is yet to be determined.
Keywords: Physical Exercise, HIV AIDS, HIV management.

ISCA-ISC-2016-15PESY-09-Oral

Role of Yoga in Sports

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Abstract: The aim of this paper highlights daily practice of yoga improves the physiological functions of the human body practice of yoga helps to improve to our come psychological problems practice of yoga helps to improve in the enhancement of performance of the athlete. Yoga originated thousands of years ago in India as a technique to help people achieve Spiritual enlightenment. Based on the idea that the mind and body are one, students believe that Yoga improves health by improving how you see the world, which calms the spirit and decreases stress. Today, people practice Yoga to improve their physical, mental and/or Spiritual well being. In the Bhagavad-Gita yoga is defined as "skill in action" and "moderation in everything". A Hindu theistic philosophy teaching the suppression of all activity of body, minds, and will in order that the self may realize its distinction from them and attain liberation. a system of exercises for attaining bodily or mental control and well-being.
Keywords: Yoga, Sports, Role, Health.

ISCA-ISC-2016-15PESY-10-Oral

Impact of Meditation on Women Health

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Abstract: Past four decades has witnessed substantial scientific research on meditation as an alternative mind-body therapy. This paper is an attempt to provide a comprehensive view of the present state of the research in meditation and health. It reviews major findings related to meditation and its effects on various disorders. Two major types of meditation practices dominating presently (concentration and mindfulness) are introduced. Effects of meditation on human physiology such as heart beat, blood pressure, cortical activity, metabolism, respiration, and skin resistance are discussed. Impact of meditation on human perception and cognition is also addressed. Possible pathways or mechanisms through which meditation impacts health such as, relaxation, systematic desensitization, release of repressed memories, un-stressing and so on are also discussed. Finally, major conceptual and methodological issues that need serious attention from researchers in this area for future research is addressed. Key words: Meditation, health, concentration, mindfulness.
Keywords: Meditation, Health, Women, Stress.

ISCA-ISC-2016-15PESY-11-Oral

Effectiveness of Interventions to Promote Physical Education Activity in Children and Adolescents: Systematic Review of Controlled Trials

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Abstract: The prevalence of childhood obesity and related health problems is increasing in many Western countries and is anticipated to continue to increase. Evidence of an association between physical activity and weight gain remains sparse. Nevertheless, in an effort to halt or reverse trends in obesity, promotion of physical activity in children and adolescents has been identified as a key focus of efforts to promote health. Physical activity among children and adolescents is believed to be insufficient,6-8 and low levels of activity seem to persist into adulthood.9 10 This makes physical inactivity among young people a risk factor for cardiovascular disease, cancer, and osteoporosis in later life.11 The development and evaluation of inter- ventions to promote physical activity in young people is therefore a priority. It is unclear how successful efforts have been to increase the activity levels of young people. Recently published reviews have mostly dealt with the prevention of obesity 2 12-14 or included only adult populations.15-17 Previous attempts to summarise the evidence in young people were mostly narrative,18-20 did not assess the effects on children and adolescents separately,19-21 and did not assess the methodological quality of the studies.18-22In addition these reviews have included studies without a no intervention control group18-21 and studies in which the promotion of physical activity was only a small part of an overall health promotion programme.18-22 We systematically reviewed the evidence on promotion of physical activity in children and adolescents.
Keywords: Physical Education, Activity in Children, Childhood.

ISCA-ISC-2016-15PESY-12-Oral

Anxiety on Sports Performance

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Abstract: This paper examines the relationship between anxiety and performance from a cognitive behavioral perspective. Previous research in the field has suggested that the majority of consultations conducted by sport psychologists are related to anxiety. Included is a discussion on the theoretical underpinnings of anxiety and how it relates to performance. Environments and could also be termed competitive stress. A second form of anxiety is related to the state, which is situational specific. For example, a performer may feel anxious when free-throwing in basketball. Related to these aspects there are also two mechanisms that are identified as somatic (physical feelings) and cognitive (mental) anxiety. Performers can suffer with both types of mechanisms or predominately from one over the other.
Keywords: Anxiety, Sports, Performance.

ISCA-ISC-2016-15PESY-13-Oral

Health Benefits of Yoga in Daily Life

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Abstract: People today have a greater knowledge of the many positive ways physical fitness can impact their health. Most people try to exercise their bodies with programs that appeal to them, but there are also a lot of fad programs that seem to disappear almost as quickly as they appeared to become part of mainstream fitness. The health benefits that one can achieve through yoga are enormous and affect everything from the muscles and joints to the blood circulatory system. The yoga postures called asanas improve respiration through focused breathing techniques while the body maintains the specific poses. Meditation clears the mind and allows one to focus on the important things in life and channel out negativity. Yoga teaches people to be aware of their mind and body as well as the needs of both. Asanas are most effective when the mind and body work in unison. A person should only perform the asanas to the best of their ability. Not one yoga instructor or fellow yogi will ever ask a yoga student to cause distress to their body.

Keywords: Health, Benefits, Yoga, Daily Life.

ISCA-ISC-2016-15PESY-14-Oral

Health Benefits of Aerobic Exercise

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Abstract: Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity. A well-balanced aerobics class will have five components: warm-up (5-10 minutes), cardio vascular conditioning (25-30 minutes), muscular strength and conditioning (10-15 minutes), cool-down (5-8 minutes) and stretching and flexibility (5-8 minutes).Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class.

Keywords: Health, Benefits, Aerobic, Exercise.

ISCA-ISC-2016-15PESY-15-Oral

Flixiblity in Sports

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Abstract: Warm-up and stretching are suggested to increase hamstring flexibility and reduce the risk of injury. This study examined the short-term effects of warm-up, static stretching and dynamic stretching on hamstring flexibility in individual warm-up and stretching are suggested to increase hamstring flexibility and reduce the risk of injury. This study examined the short-term effects of warm-up, static stretching and dynamic stretching on hamstring flexibility in individuals with previous hamstring injury and uninjured controls. Duals with previous hamstring injury and uninjured controls.

Keyword: Flexibility, Sports.

ISCA-ISC-2016-15PESY-16-Oral

Benefits of Endurance Training

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Abstract: Exercise increases the quality and quantity of life. You reduce the risk of systemic disease and increase life expectancy when you begin endurance training. You enjoy better health, improved self image, clearer thinking, increased

energy, mental toughness, better relationships, and better sleep, stay younger longer, are happier, and enjoy amazing relationships. That began my love affair with endurance racing. I am now in training for my first Ironman triathlon, so the relationship has grown stronger over the years. So what are the benefits of endurance training why the appeal what would make a presumably sane person want to spend hours running, swimming, or biking? While this list is not all-inclusive, here are the top ten benefits I enjoy as an endurance athlete. You become raw and real, and that forms the best foundation for strong relationships. Also, no matter where you travel, when fellow athletes meet you, you often find yourself joining them in a workout. It's a passionate commonality that connects us.

Keywords: Benefits, Endurance, Training.

ISCA-ISC-2016-15PESY-17-Oral

Benefits of Agility Training

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Abstract: Agility training increases an individual's agility endurance. When the skeletal system is trained to handle longer durations of these types of activities, it allows athletes to perform at high levels for longer periods, both in single games or matches and throughout their athletic season. Increases in endurance from agility training also lessen the amount of time an individual needs to recover. The body is better equipped to handle the impact from such movements and isn't as physically taxed or fatigued. The decrease in recovery time allows athletes to reenter their game or match more quickly, as well as return the next day after a sporting event better recovered to perform their activity again at the same high level. In sports, athletes are required to change directions, accelerate, decelerate and be able to react at all times to different situations in their sporting event. Training teaches them to do these things more efficiently, which decreases the amount of time it takes to perform such activities. As a result, they are able to maneuver around their playfield at a higher level and perform better in their sport.

Keywords: Agility Training, Body.

ISCA-ISC-2016-15PESY-18-Oral

Socio- Psychological factors and Benefits of Physical Education

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Abstract: The word physical education is derived from two separate words 'physical 'and 'education; the simple Psychology is an academic and applied field involving the study of behavior, mind and thought and the subconscious neurological bases of behavior. Psychology also refers to the application of such knowledge to various spheres of human activity, including problems of individuals' daily lives and the treatment of mental illness. It is largely concerned with humans, although the behavior and mental processes of animals can also be part of psychology research, either as a subject in its own right (e.g. animal cognition and ethnology) or somewhat more controversially, as a way of gaining an insight into human psychology by means of comparison Psychology is commonly defined as the science of behavior and mental processes. Psychology does not necessarily refer to the brain or nervous system and can be framed purely in terms of phenomenological or information processing theories of mind.

Keyword: Socio- Psychological factors, Benefits, Physical education.

ISCA-ISC-2016-15PESY-19-Oral

Importance and Benefits of Yogasanas

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Abstract: Physical Education is sum of those experiences which come to the individual through movement. Physical Education, an integral part of the total education process, is a field of Endeavour that as its aim the improvement of human performance through the medium of physical activities that have been selected with a view to realizing this outcome. The word Yoga derived from Sanskrit word ''YUJ'' meaning to yoke, join or unite. This implies joining or integrating all aspects of the individual body with mind with soul- to achieve a happy, balanced and useful life, and spiritually, uniting the individual with the supreme. In India, Yoga is considered one of the six branches of classical philosophy and is referred to throughout the Vedas-ancient Indian scriptures and amongst the oldest texts in existence. The Upanishads are also broadly philosophical treatises which postdate the Vedas and deal with the nature of the ''soul''

and universe. However, the origins of yoga are believed to be much older than that, stemming from the oral traditions of yogis, where knowledge of yoga was handed down from Guru(spiritual teacher) to Sisya (spiritual student) all the way back to the originators of yoga, the 'Rishis', who first began investigation into the nature of reality and man's inner world. Legend has it that knowledge of yoga was first passed by Lord Shiva to his wife Parvati and from there into the lives of men.

Keywords: Important, Yogasanas, Benefits.

ISCA-ISC-2016-15PESY-20-Oral

Effects of Yoga on Mental and Physical Health

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Abstract: This report summarizes the current evidence on the effects of yoga interventions on various components of mental and physical health, by focussing on the evidence described in review articles. Collectively, these reviews suggest a number of areas where yoga may well be beneficial, but more research is required for virtually all of them to firmly establish such benefits. The heterogeneity among interventions and conditions studied has hampered the use of meta-analysis as an appropriate tool for summarizing the current literature. Nevertheless, there are some meta-analyses which indicate beneficial effects of yoga interventions, and there are several randomized clinical trials (RCT's) of relatively high quality indicating beneficial effects of yoga for pain-associated disability and mental health. Yoga may well be effective as a supportive adjunct to mitigate some medical conditions, but not yet a proven stand-alone, curative treatment. Larger-scale and more rigorous research with higher methodological quality and adequate control interventions is highly encouraged because yoga may have potential to be implemented as a beneficial supportive/adjunct treatment that is relatively cost-effective, may be practiced at least in part as a self-care behavioural treatment, provides a life-long behavioural skill, enhances self-efficacy and self-confidence and is often associated with additional positive side effects.

Keywords: Yoga, Mental Health, Anxiety, Anxiety Disorders, Physical Fitness, Cardiopulmonary Conditions.

ISCA-ISC-2016-15PESY-21-Oral

Sports Psychology and Performance Enhancement

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Abstract: The most common role for a sports psychologist is to teach mental skills for enhanced performance. A mental game expert can help you improve confidence, focus, composure, intensity, and trust in athletic performance. These mental skills help athletes improve performance and can help in other areas of an athlete's life. Mental Game Coaching is that the segment of sports psychology that concentrates specifically on helping athletes break through the mental barriers that are keeping them from performing up to their peak potential. By focusing on the mental skills needed to be successful in any sporting competition, mental game coaching seeks to achieve the overall goal of performance improvement.

Keyword: Sports, Psychology, Performance, Enhancement.

ISCA-ISC-2016-15PESY-22-Oral

Benefits of Attitude in Youth Sports

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Abstract: The participants' future level of aspiration is effected somewhat his previous performances and tends to very his prior success or failure. As a social self he is impelled by the standards of society to compare himself with other's in the realism of achievement and it is the nature of every health organism to reach out beyond the limits of his current attainment. There are so many reasons for the downfalls of Indian sports students, may be lack of self confidence in players, lack of incentive to players, specific criteria for selection of players, Interference of politics in sports or some psychological factor like level of aspiration and attitude towards games and sports of students especially at school age. The students who are players have more favorable attitude towards games and sports as compared with the non players. The level of aspiration and attitude towards games and sports have shown the inter relationship in sports benefits.

Keyword: Attitude, Benefits.

ISCA-ISC-2016-15PESY-23-Oral

Importance of Self Confindence in Volleyball Players

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Abstract: Self-confidence is commonly defined as the sureness of feeling that you are equal to the task at hand. This sureness is characterised by absolute belief in ability. You may well know someone whose self-belief has this unshakeable quality, whose ego resists even the biggest setbacks. In such people, confidence is as resilient as a squash ball: the harder the blow, the quicker they bounce back. Nonetheless, although confidence is a desirable characteristic, arrogance – or a sureness of feeling not well founded in one's ability – is undesirable. If self-confidence is perhaps the 'guardian angel of sports performers' then arrogance is their nemesis. Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. It has been a part of the official program of the Summer Olympic Games since 1964. Confidence is related to personality and those who exude self-confidence across a range of contexts, say at work, socially and in their sport, are said to be high in trait confidence. However, confidence can also be very specific – to a particular situation or with reference to a set of circumstances – in which case it is known as state *confidence*.

Keywords: Self confindence, Volleyball players.

ISCA-ISC-2016-15PESY-24-Oral

Benefits of Meditation and Stress

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Abstract: Meditation has become hugely poplar and excites a daily growing fan base. It's the art of sitting still while focusing on your conscious experience. But meditation can actually be quite pleasurable and now research has uncovered the many benefits that are related to simply doing this: sit still and focus on your conscious experience. Just like bodybuilders train their bodies, mediators train their mind. Their gym is a seat cushion, their weights are their thoughts, and unlike most body builders, they work out daily. The results that are gained by this are staggering. Studies have shown that people who meditate on a regular basis have an increased attention span, experience less stress, more positive emotions, and even show higher overall willpower. Meditation is even linked to more empathy and altruistic behavior. In one study, schoolchildren were instructed to meditate daily for 20 minutes at a time. After only two weeks, these children were already more willing to share their toys with kids unbeknownst to them. The Dalai Lama once suggested that world peace may be possible if we teach every child to meditate. Although a crazy statement of itself, in light of these results, it doesn't seem that crazy any longer.

Keyword: Benefits, Meditation, Stress.

ISCA-ISC-2016-16EduS-Guest Speaker-01

Effect of Guided Discovery Teaching Strategy on Grade Nine Students Self-Efficacy and Performance in Science

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Abstract: This study sought to investigate the effect of teaching strategies on self efficacy and science achievement of students. One hundred and forty seven students who were in grade nine in Tamil medium schools located in the Colombo South Educational Zone Sri Lanka took part in this study. A quasi-experimental non-equivalent group, pretest-posttest design was used to examine the effect of guided discovery and 5E regular teaching strategies on self efficacy and science achievement which were measured using standardized tests followed by simple regression analysis to examine the relationship between self efficacy and science achievement. The findings revealed that level of self efficacy and science achievement of students were improved as a result of the introduction of guided discovery teaching method. The enhanced level of self efficacy contributed to the improvement in science achievement. Self efficacy was found to be a significant predictor on science achievement in a guided discovery teaching environment. Therefore, it is recommended that the teachers and the teacher educators should initiate programs by emphasizing the importance of developing self efficacy of children to improve science achievement in a guided instructional environment.
Keywords: Guided, Discovery, Teaching, Strategy, Regular, 5E teaching method, Self efficacy, Science, Achievement.

ISCA-ISC-2016-16EduS-01-Oral

The Case of Multi-Level Feminist Pedagogy-Based Bridge Course for Rural Primary Girls of Rajasthan, India

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Abstract: The multi-level feminist pedagogy-based Pehchan Project course which won acclaim was studied to make a case for it. The qualitative mixed methodology consisting of content analysis of in-house documents; interaction with key functionaries (N=2; time: 2 hours) and desk study was used for the present research. The analysis of the information collected led to identification of three main factors for the success of intervention, such as (1) support of curriculum expert; (2) 40-day residential training of female teachers for the course transaction strategy of three-stage learning for identified levels of learning; (3) development of context appropriate material with emphasis on group learning element of feminist pedagogy. A study plan of one-month was developed to complete the research report. The implication of the study is to incorporate multi-grade and multi-level learning strategy as a part of elementary school teachers both at the pre-service and in-service levels. Furthermore, well-planned and project-mode executed bridge courses for drop-out and non-starter girls can be a viable strategy to mainstream them.
Keywords: Bridge, Course, Elementary Education, Feminist, Pedagogy, Group Learning, Multi-level, Multi-grade teaching.

ISCA-ISC-2016-16EduS-02-Oral

Basic Parameters in Teaching Profession: Teaching Aptitude and Attitude towards Teaching

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Abstract: Teaching profession is always considered as one of the most pious, ideal, noble and socially dignified profession among all others but its basic parameters are many in number used to ascertain that any individual is suitable for it or not .Out of all others, two important parameters are well known as teaching aptitude and attitude towards teaching profession which are supposed to be of higher degree among would be or prospective teachers and positive enough, in nature. An attempt was made through this research investigation to find out the levels of teaching aptitude and attitude of prospective teachers along with relationship in between. Following the descriptive survey research design, it was attempted to select randomly 60 prospective teachers of Faculty of Education of B.H.U. having 30 male and remaining females and 30 with science and remaining with arts background. To collect data, two standardized tools were selected, one titled as Teaching

Aptitude test developed by Jaiprakash, Srivastava and Kapoor and the other as Teaching Attitude Inventory developed by Ahluwalia. As a result of this study it was found that a significant positive correlation was existing between teaching aptitude and attitude towards teaching among prospective teachers. Similarly, it was also found that though sex difference was existing in case of both of the parameters but academic stream based variation was not found significant at any level of confidence. It was also observed that the prospective teachers who possesed higher level of teaching aptitude also obtained higher grades and subsequently placed in better job position, through a follow up study and those had positive attitude also indicated about similar attainments but it was not true in cases of those prospective teachers who were not indicated high level of teaching aptitude. It helps us to conclude that without having higher level of aptitude and positive attitude towards the profession to be accepted in life, better performance and output may not be resulted. So, through teacher education programmes it is supposed to be ensured that if enhancement in aptitude is not possible at least development of positive attitude should be tried for producing better teachers to serve the society and nation well as per need of present democratic set up.

Keywords: Teaching, Aptitud, Attitude, Prospective Teachers, Teacher Education

ISCA-ISC-2016-16EduS-03-Oral

Challenges for Privitisation of Higher Education

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Abstract: The true aim of education is aropusal of human values in life. With the socialization and globalization / universalisation government can take measures to improve the quality of higher education on the one hand and the proper utilisatoion of the said education given to individual.

Keywords: Socialization, Globalization, Education.

ISCA-ISC-2016-16EduS-04-Oral

A systematic approach in Interactive and Continuous Learning Environment (ICLE) for teaching School Subjects

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Abstract: It is now well known that in order to ensure an effective professional service a teacher must not only know how to use new educational technologies, but also integrate them with the content and overall teaching approach in order to make the most of their potential. However, despite the increasing availability of ICT-based teaching tools and the widespread awareness of teachers of the importance of using ICT-based teaching methods relatively few teachers are using such methods in their actual teaching. Among the educational technologies applied to classroom settings, game-based learning technologies have aroused increasing interest in the last few years. An innovative system dynamics social-based ILE built with a socialconstructivist approach is presented in this paper. A field research has been done as what the students feel about this technology and feedback questionnaire has been prepared.The pedagogical futures of this ICLE are then analysed. The effective impact of differentinstructional approaches inspired by social-based ICLEs on student learning outcomes is also discussed with practical examples. The ICLE and the relatedinquiry-based instructional approach seem to help students understand fundamental concepts more easily, thus making the topicmore comprehensible and helping students place the social facts into a structured scheme.

Keywords: Continuous Learning, Environment, Teaching School.

ISCA-ISC-2016-16EduS-06-Oral

ICT Challenges for Enhancing Teaching Learning Process in Higher Education

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Abstract: The innovative use of ICT is believed to be a game changer that can significantly strengthen India's higher education system and propel the country into becoming a "Knowledge superpower." The innovative use of ICT in higher education addresses the three fundamental challenges of - Access; Equity and Quality. The present paper focuses on the use of information Communication technology in teaching learning process that will greatly contribute to meet student needs for learning anywhere, anytime. The author is describing a pre-service teacher training experience that used

Information Communication Technology to develop teachers. This is an attempt to look at Integrating ICT in teacher education with an aim to bring ICT culture for teaching learning and improving teacher quality. The progress of any country depends upon the quality of education offered and its practices. Therefore, the main purpose of this paper is to discuss about Information Communication Technology integration process and accept the challenges as a teacher educator and as a student teacher which help to improve the teaching learning process in Teacher Education.

Keywords: Information, Communication, Technologies, Challenges, Teachers, Enhancing, Learning.

ISCA-ISC-2016-16EduS-07-Oral

Revisiting the Myths about Homeschooling; A Parallel Mode of Education

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Abstract: Homeschooling, also called "unschooling", refers to a method of education of children at home – typically by parents or sometimes by tutors instead of the formal settings of public or private schools. In fact, for some there is no "school" in homeschooling; it is home education; a method mainly used at a time when there was no formal schooling. It has re-emerged in the recent years as some parents desire to provide religious, if not sectarian and non-secular education, or moral education. Since formal schooling systems are viewed to be rigid, some also view homeschooling as an expression of assertion of individual freedom. Reasons given for homeschooling vary from individualizing the curriculum and learning environment, to enhance family relationships, to provide a safer environment for children and youth, because of physical violence, drugs and alcohol, psychological abuse, racism, and improper and unhealthy sexuality associated with institutional schools, to having a child with severe disabilities, to a desire to create a religious environment for the child. Elementary education is meant not just for learning alphabets or acquiring skills and knowledge; socialisation is also an important function of education. A formal school environment spontaneously enables the development of social skills, and socialisation along with the formation of collective, secular and national values. Homeschooling cannot do this, certainly. This is primarily what is expected from those opposing this widely prevalent form of education. However, in the midst of a significant growth in this form of education and evidence demonstrating that homeschooling produces excellent students and citizens, many people, are still plagued by various myths regarding homeschooling. In the paper, I will revisit four commonly held myths that still influence individuals regarding their perspective and understanding of the role homeschooling plays in the education. Homeschooling produces social misfits, it fails to prepare 'Good Citizens', most of the homeschooled children face difficulty entering colleges and most people home school only for religious reasons. Will homeschooling act as a parallel mode of education is an important theme to dwell upon?

Keywords: Homeschooling, Myths, Social misfits, Parallel mode.

ISCA-ISC-2016-16EduS-08-Oral

Assessment of Quality of Education after Implementation of Right to Education act (2009) with special reference to Delhi / NCR

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Abstract: Education is the backbone of the empowerment and freedom which yields significant social development gains and makes an individual self-reliant. Right to Education (RTE) is the major step towards this. The following study deals with the current status, challenges in implementation of RTE 2009, specifically in Delhi (both government as well as private schools), and its effects on overall quality of education. The data was collected through primary as well as secondary sources. A variety of techniques were used for primary data collection such as questionnaire survey, face to face interviews, focused group discussion, participant observation based on extensive field work to get information related to Elementary Education and to decipher specific issues. Semi structured Questionnaire were prepared in the light of requirement for Infrastructure, teacher-student ratio, Classroom Process and School administration as laid down in RTE Act and then the survey was conducted in four schools in Delhi/NCR. The study reveals that not much impact has been seen on the overall quality of education after implementation of the RTE Act. Given this quality of education, those students will not be able to cope the demand of secondary education. Major critical socio-economic factors have been highlighted in the study which hinder in imparting quality education. Hence, there is need to strengthen the operational aspects of the Act in Delhi/NCR.

Keywords: RTE, Article 21A, DPSP, 86th Constitutional Amendment Act, Quality, Education, Teacher, Student, Ratio, Infrastructure, School, Administration, Classroom.

ISCA-ISC-2016-16EduS-09-Oral

Importance and Sociology the study of Society

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Abstract: Sociology is useful as a teaching subject too. Sociology is a profession in which technical competence brings its own rewards. Sociologists, especially those trained in research procedures, are in increasing demand in business, Government, industry, city planning, race relations, social work, social welfare, supervision, advertising, communications, administration, and many other areas of community life. A few years ago, sociologists could only teach sociology in schools and colleges. But sociology has now become practical enough to be practiced outside of academic halls, areas of application of sociology in schools and colleges. Careers apart from teaching are now possible in sociology, which are coming more international levels. The need for the study of sociology is greater especially in underdeveloped countries. Sociologists have now drawn the attention of economists regarding the social factors that have contributed to the economic backwardness of a few countries. Economists have now realized the importance of sociological knowledge in analyzing the economic affairs of country. Sociological knowledge is necessary for understanding and planning of society. Social planning has been made easier by sociology. Sociology is often considered a vehicle of social reform and social reorganization. It plays an important role in the reconstruction of society.

Keyword: Importance, Sociology, Society.

17. Commerce, Law and Management

ISCA-ISC-2016-17CLM-Guest Speaker-01

A Study of Strategies for Non-Urban Marketing: A Case Study of Small Merchandise Shops in Hingoli District, MS, India

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Abstract: Today non-urban market is important for all companies producing consumer products. This is because most urban markets are becoming competitive and saturated. Non-urban markets are tomorrow's market and the marketers should know how to penetrate these markets. This is not just because 70% of India's population still lives in non-urban areas, but because of sweeping changes that are occurring here. These changes are being fueled by the cable and satellite television as also by the advent of internet and telecommunication facilities. This has enhanced non-urban consumer's awareness and aspirations. For the non-urban consumer, access to product or services is more critical than just its ownership. Non-urban marketing therefore requires an innovative approach. It involves changing the value paradigm by altering product's price performance relationship. It also involves designing products that can deliver in sub optimal conditions and despite infra-structural constraints. Companies will however have to establish strong distribution networks and grapple with unwieldy logistics as there are not enough dealers or distributors with access to non-urban markets and no proper retail outlets. Reasonable pricing would have to be the key factor. Companies would have to concentrate more on "no frill products" for the non-urban consumer. In other words, they have to offer good quality functional products although it may not be equipped with features presents in high-end models. However, advertisers have to follow the principle of "thinking global and acting local" and even brand ambassadors have to be picked judiciously for reaching out to the non-urban consumers. This paper attempts to study how the various strategies of 4P's are implemented in the non-urban market and whether implementing the right strategies for the right product will really helps the marketers to boost the business. A structured questionnaire was administered to find out the strategies of 4P's and 7P's should be adopted by the companies.

Keywords: Non-urban market, Non-urban areas, Non-urban consumers, Retail outlets, Distribution networks, Frill products.

ISCA-ISC-2016-17CLM-01-Oral

Intellectual Property Rights and Women Entrepreneurship: A case study of Kota district, Raj, India

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Abstract: Most Indian women entrepreneurs are SME and micro business owners working in sectors such as beauty product, homemade textile, furniture, education, food items, fashion design, and jewellery where copyright, branding, trademarks, and intellectual property, patent can make a big difference and play a important role. Intellectual property rights (IPRs) among women entrepreneurs as an important part of business development in India, but similar to other developing countries. Indian women entrepreneurs does not have any knowledge, how to protect there IP Rights for their economic development. They does not have the information related to the concepts of IP rights, protection of IPR, trademarks, copyright, service marks, patents, branding, the impact of piracy, and business promotion. They also not able to received guidance on resolving their IP issues, how to register their IP rights and receive protection of their innovations. In the light of these fact present case study is taken to analyize the IPR awareness among the women entrepreneurs of Kota City of Rajasthan. A questioner is prepared to collect for various information related to IPR, Copyright, Treademark and other IP issues. After collecting information the data are presented in perfect view of understanding with the help of statistics. Result indicates that there is lake of information related to IPR issues.

Keywords: Intellectual, Property, Rights, Women, Entrepreneurship.

ISCA-ISC-2016-17CLM-03-Oral

Digitalization of Legal Research for Development: Retrospect and Prospects

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Abstract: Legal Education in India is considered as education provided to the students to become Advocates or Lawyers for entering into practice before the Court of Law. Legal education in India is offered by the Traditional Universities and the Specialized Law Universities. According to one survey, there is utter confusion in mind of general public or masses regarding meaning and concepts of Legal Education. Very few of them understand it. Similar is the condition of higher legal education. Legal Research is the gathering of evidence or information for ascertaining an assumption or verifying some hypothesis. No research can be purely new, as even original discoveries are an extension of the search already undertaken. Twenty First Century is the era of Digitalization. Digitalization is the integration of digital technologies into everyday life. Digitalization means computerization of systems and better ease and accessibility to it. In Legal Research, students are mostly depending upon the traditional methods in collection of their Research Material. In modern digital ere there is great scope for Digitalization of Legal Research for Development of people and society. This paper is an attempt to through light on what is a Legal Research? How it can be Digitalize? And how it is useful for society and researcher for Development?

Keywords: Digitalization, Legal, Research, Development, Retrospect, Prospects.

ISCA-ISC-2016-17CLM-04-Oral

A Theoretical Paper on Research Studies about Conventional Toy Industry

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Abstract: The economical toys like from china and made by using modern technologies, plays over the conventional industries and affecting the smooth running of the craftsmanship. This Research article tries to depict the current scenario of conventional toy industry through available literatures. Between 2001 and 2012, Toy imports increased at a level of Twenty five percentage (ASSOCHAM, 2013). In India, many wooden toy makers give up their job like any other conventional profession due to lack of adequate earning and livelihood. These toy industries face a financial crisis for some year's results from changing trends and inadequate placing. Awareness of the benefits and value of eco-friendly toys are essential for the goodness of child development and boosting of the conventional industries.

Keywords: Conventional, Toy, Industry, Wooden, Placing, Trends, Eco-friendly.

ISCA-ISC-2016-17CLM-05-Oral

Impact of E-HRM on HRD- Review and Implications

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Abstract: E-hrm or Electronic Human Resource Management has become a buzz word in the corporate sector in the recent times. However, the existence of E-HRM extends way back to 2 decades when the Information and Communication Technology (ICT) was at its development stage. ICT has brought about multidimensional advancement in organisations whether big or small, where most of the functions are being performed with a click of a mouse. HR departments are neither left behind. HR management is a gamut of activities which are now encountering the taste of electronic media and technology. Starting from identification of current and required personnel, recruitment of new personnel, staffing, training, development, appraisal of employees and their compensation, every activity is now being conducted with help of technology. E-hrm is opening up new avenues for achieving organisational effectiveness and efficiency. Terms like E-recruitment, E-selection, E-learning are becoming very common to hear. E-hrm has the capability to manage and coordinate the human resource internally as well as externally. As E-hrm is still in its youth phase, this study is being conducted to identify overall concept and relevance of E-hrm in Indian firms. It aims at collecting information regarding various methods, tools and softwares being used by HR managers in select Indian organisations to impart their various HR related functions. It also includes general advantages and disadvantages of application of web-based technology in HR department of the firms.

Keywords: E-hrm, E-recruitment, E-selection, E-learning, E-learning, Web-based technology.

ISCA-ISC-2016-17CLM-06-Oral

Skill Development - Key Success for Make in India

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Abstract: Human resources are playing vital role for the growth of Organization in the competitive area of global market. HRD is primarily working since its recruitment to the retirement policies with the best satisfaction of all levels of the employees in the organization keeping the interest of the development and objective of the Company. Nowadays, almost all the industries are very much keen to develop the skill within the worker and application of new technology giving the more profit and sometimes sustainable competition amongst the market players in the open scenario. Mostly, entrepreneurs are focused on technical skill rather than managerial and supervisory skill. India is playing a vital role in different sectors of business right from IT to BT with the development of new ideas and technologies. The entrepreneurs including MNCs are keen to associate for the joint collaboration and showing their interest to be partner with the Government for the mutual benefit. Ultimately, the concept of participation of Private sector with Public enterprises is very successful and giving a new direction to the growth of the GDP of the country. PODSCORB – is a basic principal of the management and followed in almost all the organization. Skill Development and its management from supervisory level and effective managerial skill will enable the Organization to reach in the desire goal by bridging the technical skill and its output through human resources available in the organization. Development of the Supervisory skill is basically a part of the lower management team controlling the activities of the workers and laborers. Supervisors are required to be trained to understand the responsibility and carryout organization strategies, policies and goal. Besides that man management and human development also to be governed to create awareness, efficiency, effectiveness and excellence to motivate the people towards peak performance. Emotion and behavior of the people may severely affect the productivity and hence encourage the staff to come up with new ideas to their work and consciousness for operation excellence. Many of the tools are discovered to develop the personality, effective communication skills, leadership quality, etc. Taking all the tools and techniques time and come to thick more and more to find out the device for development skill of human relation which is ultimately give the best success for MAKE IN INDIA.
Keyword: Make in India, Skill, Success, Human.

ISCA-ISC-2016-17CLM-01-Poster

Goods and Services Tax- A Key Tax Reform in India

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Abstract: Introduction of Goods and Services Tax (GST) in India envisage being the biggest indirect tax reform in India post-independence. Indirect tax system of India was suffering from cascading effects and many shortcomings having negative impact on whole economy of India. So need of the hour was to have a single tax structure for Indirect Taxes which is put forth in form of Goods and Services Tax (GST). In India although the roots of GST backed since 1986 by introduction of MODVAT, it took more than three decades to introduce GST in a full- fledged manner which is still in process. GST system is a simple, transparent and efficient system of indirect taxation as has been adopted by over 150 countries around the world. It will replace almost all indirect taxes levied on goods and services by the Indian Central and State governments. This study is based on secondary data which revolves around the overview of concept of GST, some of the features of GST in India along with its stages of introduction and a comparison GST at international level of some selected countries.
Keywords: GST, India, Indirect Tax, Tax Reform, Indirect Tax System.

ISCA-ISC-2016-17CLM-02-Poster

Digital India: A Programme to Transform India into Digital Country

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Abstract: Digitalization being a key economic driver in the present world, it is important to identify the opportunities that it is likely to provide to business firms in the form of new revenue generating alternatives. The uses of such digital tools have given rise to new opportunities and challenges, which has triggered the digital transformation of enterprises. Use of digital technology has emerged as a catalyst for rapid economic growth and citizen empowerment across the

globe and as such it has given rise to the need for having such a technology in the Indian Economy so as to grant itself an equally competitive country. The objective of this paper is to study the 'Digital India' programme launched in the previous year, by our Prime Minister, having a vision of transforming our nation and creating opportunities for all citizens by making use of digital technologies. The opportunities and challenges of this programme are highlighted considering digital economy as a new productivity platform. Digital India is an ambitious programme of Government of India which will help in preparing India for a knowledge based transformation and delivery of good governance to its citizens by synchronized and co-ordinated engagement with both Central Government and State Government. Such a programme launched can act as a stepping stone towards digitalization of the Indian economy.

Keywords: Digitalization, Digital Transformation, Digital Technology, Digital India, Indian Economy

ISCA-ISC-2016-17CLM-03-Poster

A study of Environmental Accounting in India: with special reference to BPCL and ONGC

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Abstract: Industrialization on one hand contributes major part for the economic development of a country while on other hand it leads environmental deterioration. It has become clear today that economic development must be environmentally sustainable. Traditional accounting systems do not account for the costs arising out of the use of environmental and natural resources. In the past decade, there has been a huge demand on financial and economic data about environment and natural resources. As a possible solution to the limitations of traditional accounting system an environmental accounting has emerged as a new concept. Environmental Accounting aims at incorporating both economic and environmental information. It can be conducted at the corporate level or at the national economy level. However in India there is no common style for environmental accounting/reporting at corporate level. In this paper, a theoretical groundwork of environmental accounting and its reporting of two petroleum companies is studied. This research is based on secondary data collected from internet. After the proper research we believe that the scenario of Environmental accounting practices has not been transformed. The Environmental Policy of both the units show that they have taken full efforts for the better protection of environment but on the other hand the research findings doesn't shows the ecological cost , liability , and ecological expenditure.

Keywords: Environment, Environmental Accounting, Corporate, Reporting, Environmental policy.

ISCA-ISC-2016-17CLM-04-Poster

Digitization of Library Resource: Need, Advantages and Disadvantages

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Abstract: Advancement of information and communication technology have entered our day to day life in many ways, one of which is digitization of library. Every library, we see, are slowly getting digitized. Digitization in the field of library is of crucial importance as this method of preservation is a global phenomenon as well as a trend in managing all library collection, some of which are very precious. This paper discusses about the factors leading to digitization and also the advantages and disadvantages that it will offer. It also highlights problems faced by the libraries in adoption of this technique and establishes that librarian must face these challenges with the practical skills and the vision to implement it in a best possible manner. Digitization of libraries is very important in rapidly changing technological environment but however Digital libraries are not going to replace the physical existence of document completely.

Keywords: Digitization, Technology, Library, Preservation, Challenges.

ISCA-ISC-2016-17CLM-05-Poster

E-Filing: Creating New Revolution in Taxation of India

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Abstract: Indian tax system is considered to be one of the best tax systems in the world. The Income Tax Department of India is constantly striving and committed to provide simple and easy procedure to tax payers in the country. The Income Tax Department had introduced E – Filing of Income tax returns to make the filing process easier for taxpayers which has

resulted into reduction of time and paper work thereby making compliance easy and convenient. E-Filing is the new effective method of filing income tax returns online and making e-payment of tax and would go a long way in increasing the tax revenue of the country. From the year 2013 the E-Filing has become mandatory for major chunk of tax payers in India. This paper deals with the importance of E-Filing in India and further takes into consideration the benefits accruing from E- Filing along with some bottlenecks that are encountered in the process. Secondary data has been used for the study. The paper tries to throw light on the major challenges ahead in order to make e-filing more successful.

Keywords: E-Filing, India, Income Tax Department, Income Tax Return, assesses.

ISCA-ISC-2016-17CLM-06-Poster

Green Entrepreneurship in India: Proactive Role of Green entrepreneurs in Sustainable Development

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Abstract: Green Entrepreneurship is the activity of consciously addressing an environmental/social problem/need through the realization of entrepreneurial ideas with a high level of risk, which has a net positive effect on the natural environment and at the same time, is financially sustainable.Green entrepreneurship emerges from as a mutual product of environment and entrepreneurship. It aims to provide positive environmental outcomes when producing goods and services. Green, most calming of colours, has many shades. It is the colour of money. It is also the colour of the environment. For too long, the twains have not met. However, with global warming and an energy crunch, sustainable environment friendly businesses have begun capturing the world's imagination. Across India, entrepreneurs are investing talent, technology and loads of cash to kick start green businesses. In this paper an attempt is made to introduce the concept of green entrepreneurship; briefly discuss importance of green entrepreneurship and to communicate the readers list of successful green entrepreneurs in India.

Keywords: Green Entrepreneurship, Global warming, Sustainable Environment, Green businesses, green entrepreneurs.

ISCA-ISC-2016-18LS-Guest Speaker-01

Health Information Dissemination, Awareness and Participation in Select Communities in Akwa Ibom State, Nigeria

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Abstract: Health information activities essentially are geared towards raising people's awareness on good health and holistic living, thereby reducing the risks of opportunistic illness. In this regard, a related health promotional activity was undertaken in four local communities in Southern Nigeria. The purpose was gingered by the compelling efforts made by various government bodies and NGOs to curb the scourging HIV/AIDS pandemic, particularly in local communities. This Paper is therefore based on a three day health information outreach programme spearheaded by this author as a volunteer librarian in one of the communities. Planning and implementation of this endeavour undertook participatory approach with beneficiaries being predominantly youths, in cognizance to their 'reach-ability'. Team work makes effort worthwhile, as such two NGOs collaborated (or were in collaboration) in addition to the village head (chief) of host community. High point of this activity was massive and voluntary HIV/AIDS screening which prior to the health information awareness programme, was dreaded.

Keywords: Awareness, Medical check, Seminar, Outreach, HIV/AIDS.

ISCA-ISC-2016-18LS-01-Oral

Content Analysis of Annals of Library and Information Studies for the Year 1980-2010: A Study

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Abstarct: The present study aims to investigate the content analysis of 653 articles appearing in Annals of Library and Information Studies journal selected thirty one years for a period between 1980 and 2010. The highest number of contributions i.e. 43 (6.58 %) articles were published in the year 2010. It was found that most of the contributions are single authored i.e. 308 (47%). It was also noted that out of 653 articles two authors contributed 257 (39%) articles while rest 88 (14%) articles were contributed by joint authors. It was found that B.K.Sen was the active author who published 27 articles in this period. This paper also highlighted on the study of Geographical distribution, Institutional distribution, Authors Productivity (Degree of Collaboration), Subject wise distribution, Year wise distribution and the Length of the papers.

Keywords: Content Analysis, Authorship Pattern, Annals of Library, Information Studies, Degree of collaboration, Active Author, Scholarly Publication.

ISCA-ISC-2016-18LS-03-Oral

Greenstone Digital Library Software: How it does Create Digital Collection?

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Abstract: Greenstone Digital Library Software (GSDL) is a complete suit for creating, building as well as distributing digital library collections. It specifically designed to be highly extensible and customizable. It adds new technology to the digital world to communicate and collaborate digital content of library to the end users. This paper interprets complete picture of GSDL software and shows how it is useful to create digital library collection of books to make its more customized with the new Greenstone Librarian Interface. It has a great feature which allow user to create collection and metadata for documents, build it and put them in place for users to view. At the most advanced level, the Librarian Interface gives expert users interactive access to the full power of Greenstone, which could formerly be tapped only by running Perl scripts.

Keywords: Digital Library, Greenstone, Software, Digitization, Open, Source, Collection, Management, Interfaces.

ISCA-ISC-2016-18LS-05-Oral

New Understanding about the Subject of Study for the Library science Considered through the Precedent theories

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Abstract: The subject of study for the library science is the best basic problem that determines the contents of study for the library science and its personality. This paper discusses the limitation of the preceding theory on the subject of study for the library science and a new view of it.
Keywords: Subject of study, Library science, Preceding theory, New view, Limitation.

ISCA-ISC-2016-18LS-01-Poster

Use of UGC- Infonet Digital Library Consortium by P.G. Students of Various Post Graduate Departments of Veer Narmad South Gujarat University, Surat: A Case Study

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Abstract: The UGC-INFONET Digital Library consortium is providing 7500+ e-journals, Bibliographic Databases and Open Access Journals. This survey reveals the impact of UGC-Infonet Digital Library Consortium resources by the P.G. Students of various P.G. departments of Veer Narmad South Gujarat University at Surat. A structured questionnaire was distributed to P.G. students of University to collect data regarding the use of UGC-Infonet e- resources. This study would help to assess the impact of these projection university users and this study will help for any modifications or improvements to be made in the existing UGC-Infonet digital library consortium.
Keywords: Library, UGC-INFONET, VNSGU.

ISCA-ISC-2016-19LLC-01-Oral

भारत छोड़ो आंदोलन में शहीदो का एक अध्ययन (विषेष संदर्भ महाराष्ट्र के वर्धा जिले के आष्टि गाँव)

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सारांषः अगस्त १६४२ में अखिल भारतीय कांग्रेस कमेटी ने अंग्रेज़ो को "भारत छोड़ो" की चुनौती दी और इन्हें भारत छोड़ने पर जनांदोलन छेड़ दिया। 16 अगस्त 1942 को अष्टि गाव के लोग पुलिस चौकी पर सत्याग्रह करने वाले थे आष्टि सभी सत्याग्रही पुलिस चौकी पहुच कर सत्याग्रह करने लगे तभी पुलिस उपनिरिझक राम नाथ मिश्रा ने शांति तरीके से आष्टि पुलिस चौकी पर सत्याग्रह कर रहे आष्टि के लोगो पर गोलीं चलाने का आदेष दे दिया इस गोली बारी में गोविंद माल्पे जी, नवाब रषीद खा सादल खा, केषव श्रावण ढ़ोगे, पंची पोलसू गोंड, उदेभानजी डोमाजी कुबड़े, शहीद हो गये। ठीक उसी समय आस पास के सैकड़ो गाँव, के लोग आष्टि पुलिस चौकी की तरफ बढ़ रहे थे इन सत्याग्रहियों का नेतृत्व गुलाबराव वाघ कर रहे थे ये सभी सत्याग्रहियों को जैसे ही पता चला की पुलिस की गोली बारी में उनके साथी मारे गए हैं तो सभी सत्याग्रहियों ने आष्टि पुलिस चौकी के इंस्पेक्टर रामनाथ मिश्रा, पुलिस हवलदार श्री लाल सिंह, हवलदार श्री महादेव प्रसाद, श्री विनायक, श्री विनायक को मार डाला। ५ दिसंबर १६४२ को विषेष न्यायालय द्वारा सत्याग्रहियों को फ़ाषी कि सज़ा सुनाया गया जिसमें श्री पांडुरंग जैराम कलार, श्री रघुनाथ पांडुरंग कुंभार, श्री तुलषीराम सखाराम पांचघरे, श्री बकराम रामजी मुकदम, श्री वामन बलीराम तेली, श्री उंकड्या आनंदराव भोई, श्री कालेखान विलयातखान जी को फ़ाषी की सज़ा दी गई। ब्रिटिष हुकूमत ४ दिसंबर १६४२ सैकड़ो लोगो को उम्रक़ैद की सज़ा सुनाया गया जिनमें महादेव बलीराम सवालाखे, मोतिराम चैतु गोंड, काषीराम बलीराम माल्पे, बापूराव कृष्णराव, माल्पे, गणपत विठू माली, आदि को उम्र कैद कि सज़ा दीया गया। जिनमें पांडुरंग कलार, कलेखान विलायत खान, मधाव देषमुख और गुलाबराव वाघ आदि थे। वहीं सेषन्स कोर्ट, वर्धा नें २१ अक्टूबर १६४४ को नत्थु बाबूजी कुनबी, दलपत भगवान कुनबी, मारोती कृष्णा कोहली, पंजाबराव गणपतराव मानकर को तीन वर्ष से लेकर उम्र कैद की सज़ा दिया गया।

मुख्य शब्दः भारत छोड़ो आंदोलन, आष्टि गाव, सत्याग्रह, फ़ाषी, उम्र कैद।

ISCA-ISC-2016-19LLC-02-Oral

खाप क्षेत्र के अंतरगर्त गोत्र और वैवाहिक नियम "हरियाणा के विषेष संदर्भ में"

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सारांषः प्रस्तुत पेपर खाप पंचायत के अंतरगर्त गोत्र और उनके वैवाहिक नियम पर आधारित हैं। जाट गोत्रों कि संख्या 2500 से 2700 से अधिक का विवरण मिलता हैं। पिछले 20 साल से हरियाणा और पष्चिम उत्तर प्रदेष में बसे जाट समुदाय के गांवों में विवाह संबंधित सामाजिक मान्यता तथा क़ानूनी वैधता को लेकर के अनेक प्रकार के विवाद और हिंसक घटनायेँ हुई हैं। गोत के लोग किसी गाँव में यहाँ के सभी गाँव के दूसरे से गोत्र से जुड़े होने के कारण उस गाँव के सभी लोग रिष्तें के अंतरगर्त आने लगते हैं। अर्थात इन सभी गाँव में रहने वाले सभी लड़के और लड़की एक दूसरे के भाई और बहन के साथ–साथ एक दूसरे के गाँव की बेटी लगने लगती हैं। जिसका परिणाम यह होता हैं की गाँव के गाँव में शादी नहीं की जाती हैं। ऐसा इसलिए की कोई अपनी बेटी का विवाह अपने भाई के साथ नहीं करेगा। यदि कोई कर भी लेता हैं तो गाँव की बेटी होने के कारण उसे कोई अपने गाँव की बहू स्वीकार करने के लिए तैयार नहीं होता हैं।

मुख्य शब्दः खाप, जाट, गोत्र, गाँव, वैवाहिक नियम।

ISCA-ISC-2016-19LLC-03-Oral

Observations on A Test in Second Language Acquisition

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Abstract: This article is based on the observations of Dr. Chavan's thesis in ELT. Dr. Chavan, in his unpublished thesis, puts forward the hypothesis: The learning of English and the learning of Marathi are complementary. He proves this with three situations and certain statistical packages. At the end of his thesis, the said researcher draws seventeen conclusions.

The present researcher observes and analyses the data of the said tests given to students of primary schools. Apart from the conclusions arrived at by Dr. Chavan, he recorded the following observations: i. In scoring, primary skills have an upper hand over secondary skills; ii. 3 competencies show poor results in SI, 11 competencies in SII, and 8 competencies in SIII; iii. Pupils showed poor results in 22 competencies; iv. Among the competencies showing poor results, 3 competencies are common in S I and S III; v. Poor results are found highest in number in case of Listening in all the three situations, whereas another primary skill Speaking yields the best results among them. Here the researcher hopes that these observations will enable policy makers to devise their language strategies and researchers to lead the SLA study ahead.

Keywords: Acquisition, Competency, Listening, Speaking, Reading, Writing.

ISCA-ISC-2016-19LLC-04-Oral

'विद्यानिवास मिश्र के निबंधों में लोकगीतों का सरस प्रयोग : एक दष्टि'

सत्यप्रकाष तिवारी
इन्दिरा कला संगीत वि.वि., खैरागढ़, छ.ग., भारत

सारांषः जब बात निबंध की हो और उसमें लोकगीत, परम्परा एवं संस्कृति समाहित होने की हो तो जो नाम सर्वप्रथम आता है वह निबंधकार विद्यानिवास मिश्र जी का है जिन्होंने भारतीय संस्कृति के छोटे–छोटे टुकड़ों को इकट्ठा कर अपने निबंधों में उनका बिल्कुल नया एवं वष्हद संसार बनाकर खड़ा कर दिया है जिसमें केवल लोकगीत ही नहीं बल्कि लोकषब्द, लोकपरम्परा, लोकसंस्कृति एवं लोकाचार सभी कुछ समाहित है मिश्र जी अपने निबंध संग्रह 'छितवन की छाँह' की भूमिका में कहते हैं– ''वैदिक सूक्तों के गरिमामय उद्गम से लेकर लोकगीतों के महासागर तक जिस अविच्छिन्न प्रवाह की उपलब्धि होती है, उस भारतीय भावधारा का मैं स्नातक हूँ। मेरी मान्यता का वही शाष्वत आधार है, मैं रेती में अपनी डेंगी नहीं चलाना चाहता और न जमीन के ऊपर बने रूँधे तालाबों में छपकोरी खेलना चाहता हूँ।'' मिश्र जी जब लोक संस्कृति एवं हमारी भारतीय परम्परा की बात करते हैं तो उसका उदाहरण किसी न किसी लोकगीत या लोकगाथा को उद्धृत करते हुए देते हैं क्योंकि हमारी अधिकतर परम्परा एवं संस्कृति अन्तःकरण की एवं मौखिक रही है जिससे धीरे–धीरे लोग उसे भूलते गये और जो कुछ बचा हुआ है वह हमारे लोकगीतों एवं लोक गाथाओं में समाहित है, इन लोकगीतों की रचना का श्रेय मिश्र जी ने हमारे देष की नारियों को दिया है एक साक्षात्कार में वे कहते हैं– ''लोक काव्य रचने वाला मन नारी कण्ठ है। वह सीता की ओर स्वाभावतः झुका हुआ है, तो भी वह राम की करूणा से भीगा हुआ है। राम की करूणा सीता को और दीप्तिमयी बना देती है। जन–मन ने राम को अकेला पड़ते देखा है, राम को भीड़ में देखा है। राम को सीता के साथ चलते और जानबूझ कर हल्का पड़ते देखा है। राम हल्के न पड़ते तो सीता जैसी एकनिष्ठ नारी का दुःख अपना दुःख हम कैसे मानते?''

मुख्य शब्दः विद्यानिवास मिश्र, निबंधों, लोकगीतों, सरस प्रयोग।

ISCA-ISC-2016-19LLC-05-Oral

Impact of Digitization on Language Teaching and Learning

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Abstract: This paper examines the impact of digitization on two main entities of education, the teachers and the students, the change digital technology has on their learning environment explaining its impact on the role of teachers and of students. The study focuses mainly on the ways in which teachers and students make use of digital gadgets and the effect of such infrastructure and technology on classroom learning. A survey undertaken to examine the current scenario indicated positive attitude and welcoming approach of teachers towards digital classrooms and increase in students' interest for learning in such environment. Moreover, the study conducted showed maximum positive effect of on teachers' role of providing feedback on students' errors, and for students, the benefit is seen on their skill of reading. Evidence is also found of couple of challenges that digital environment puts forth for instance, the teachers' inability to monitor each student using a tablet or computer in a populous classroom and lack of spontaneous reply while providing online feedback when students need guidance. It is concluded that in order to improve the coordination between teachers and students in a virtual environment and for smoother functioning of digital classrooms, better understanding and awareness of digital environment amongst students is needed. Further, more communication channels and direct interaction between teachers and students can help achieve optimum benefits.

Keywords: Asynchronous feedback, Digital classroom, e-learning, Metalinguistic feedback.

ISCA-ISC-2016-19LLC-06-Oral

My Father Baliah Chronicles the Dalit yearning for Education

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Abstract: Though not commensurate with the huge population, Creative Writing by Indians has become common. Still, finding an English book of a Telugu writer, among the piles of foreign ones interspersed here and there, with Indian writings, gives a refreshing breather. More so, with 'My Father Baliah'; a recently released memoir of Y.B. Satyanarayana by Harper Collins. A rare one of the genre of experiential dalit writing in English. The book is a lucid and brief rendering of the lives of 4 generations beginning with Narsaiah, his son Narsaiah, his son Baliah and one of his sons Y.B.Satyanarayana. In addition to being a 'Madiga' by caste, one of the last rung of the social ladder of varna, the senior Narsaiah, as a landless labour, is a subject of Nizam's oppressive revenue system in the form of the upper caste landlords. The junior Narsaiah, distraught over the death of his endearing wife owing to cholera, unwittingly, bids goodbye to his village along with his son. With the help of his maternal uncles, he joins the Nizam's railways. While employment breaks the hold of feudalism, living in quarters in towns, subdues the caste discrimination too. Baliah grows enduring stepmother's treatment; all by himself becomes a semi-literate, takes up a job in the railways and marries. Midway, Baliah seems to go astray with over drinking and living with a lady. He, however, stands his ground, takes in the lady as his wife, and together they breed almost a score of children, of whom our protagonist too is one. Baliah, though not educated, finds education and through it a job in the railways, only way out of the social and financial predicament. The children too imbibe this. What are more striking in the narration are the discipline and the passion to get educated, that Baliah instills in the children, despite the appalling conditions of housing, food and clothing. Simply stated but touching is the familial love among the members. Finally, Y.B. Satyanarayana and two of his brothers earn doctorates in their respective subjects and the tale ends. The gripping nature of the theme, a sprinkle of words of Telangana dialect, several unknown or rather forgotten details of names and local practices – all together make it an exponential read. Given the familiar vocabulary and expressions used, it is an inspirational work for children – to know the value of academics and the inhumanness of caste. Single minded in their devotion to wriggle out of oppressions of caste and poverty and uplift themselves to an independent life of dignity, none of these real life characters seem to be affected by the political movements that overwhelmed their respective periods – the Telangana armed struggle, the movements for a separate state and categorization of scheduled castes for equitable distribution of opportunities under reservations. The writer, as it appears from a few sentences, is influenced by Dr. B.R. Ambedkar. He appears to have taken to Buddhism too. Of these however, nothing is stated in the book. May be, they are reserved for another one, which is obviously welcome.

Keywords: Chronicles, Dalit, Education, Population.

ISCA-ISC-2016-19LLC-07-Oral

A Changing Scenario of Practices in Terms of Changing in Dialect (Languages), Dressing, Marriage & Divorce Techniques among Convent Educated Females (15-45 Years)

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Abstract: Half a billion muslim women inhabited some 45 muslim majority countries, and another 30 or more countries have significant. India is one of them. In primitive muslim tradition, based on the teaching of Quran and the Hadith; and articulated by the muslim religion scholars known as 'Ulama', 'Ulama' direct muslims to abide by the divine will, not simply as individuals but also as a community. According to Quran, humankind was chosen by God to be his representative (Khalifa) on earth and, this reason all muslim must bear responsibility for the creating of a just moral social order. The injunction laid out in the Quran and Hadith form the basis of what is known collectively as the 'Sharia', the 'Islamic way'. From the body of teaching divine the laws of the 'Ideal Islamic Social System'. The Sharia is all-encompassing, and to worship God. The muslim must recognize that every relm of human activity bears religious significance. Sharia law known as 'madhhab' ('path' or 'way'). The 'madhhab' teaching school known as 'maddharssa'. The changing scenario of muslim social system by external forces due to spreading education especially convent education, western movements, socio-economic and cultural movements etc. brings a large extent to change primitive, traditional, religious life to a contemporary, advanced, educated, logical quality of life. A question arises; whether convent educated advanced muslim women brings changes in their way of life in accordance with the required rational quality of life? Govt. of India also

worried to form a uniform legal system and law for muslim community. The present paper aims to present a scenario of changed in practices of dialect (languages) dressing, marriages and divorce technique among convent educated muslim females (15-45 years of age). The paper was prepared at Lucknow city on convent educated muslim females of the age grup of 15-45 years. The sample selected for detailed study n=100. Changes in dialect (languages) among convent muslim females; a 60% Hindi and English, 18% only English, and rest 22% Urdu, Hindi and English from their traditional languages Arbi-cum-Urdu. Dressing changes among 68% females. only 32% female wearing clothes as per norm of muslim religion law.The marriages among 48% married womens 36% as per muslim law and rest 12% in a advanced way either court married or any other way. All the convent educated females were condemned the 'Shariastechnique' of divorce; all the respondent condemned traditional religious system for divorce and advocated a rational legal system for divorce. And all the respondent demanded from Govt. to interfere and form a uniform law for marriages and divorce just like Hindu law.

Keywords: Dressing, Marriage, Divorce, Females.

ISCA-ISC-2016-19LLC-01-Poster

पूर्वजों की याद में पौधरोपण

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सारांषः मैंने अपने कार्यक्षेत्र में देखा कि कुछ लोग अपने सम्बन्धियों का देहांत होने पर उनका दाह–संस्कार अपने खेत के एक कोने पर करते हैंद्य जानकारी करने पर ज्ञात हुआ कि एक शव को जलाने पर 4 कुन्तल लकड़ी जल जाती है। हमने गणना करके पाया कि 4 कुन्तल लकड़ी के जलने से लगभग 734 kg CO_2 (कार्बन डाई ऑक्साइड) का उत्सर्जन होता है। जो ग्लोबल वार्मिंग के लिए उत्तरदायी है। साथ ही प्रयुक्त भूमि की उर्वरता भी घट जाती है। मैंने लोगों को अपने पूर्वजों की याद में एक पौधा लगाने की सलाह दी। क्योंकि एक पौधा अपने पूरे जीवनकाल में लगभग 1000 kg CO_2 का अवषोषण करता है। जिससे हमारा पर्यावरण सुरक्षित एवं संरक्षित रहता है। हमारी जागरूकता से कार्य प्रारम्भ करने की तिथि 07 मार्च 2015 से 10 जुलाई 2016 तक 1267 पौधों को रोपित किया जा चुका है। इन पौधों का नामकरण उन्हीं लोगों के पूर्वजों के नाम पर करके उन्हें उनकी देखभाल की जिम्मेदारी सौंपी।

मेरा स्लोगन हैः हम ही समस्या, हम ही समाधान, रखें पर्यावरण का पूरा ध्यान।

मेरी अपीलः अपनों के जन्म की खुषी हो या जन्मदिन की, नौकरी की खुषी हो या मंगल–मिलन की, एक पौधा जरूर लगाएं क्योंकि जब तक हैं वन, तब तक है जीवन।

मुख्य शब्दः पूर्वजों, याद, पौधरोपण

ISCA-ISC-2016-20SH-Guest Speaker-01

Beneficial Impact of Smart Nutrient containing Healthy Diet and Behavioral Modification for slowing down of Nutritional Disorder Age Related Mental Decline among Geriatrics (SDNDARMD)

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Abstract: Smart nutrients provide a detailed account of the most important breakthrough nutrients currently being studied. These nutrients include 'Niacin and Vitamin C', as well as minerals such as Zinc, Chromium and many others. Each of which plays a crucial role in the maintenance of mental health and the treatment of specific diseases. It was hypothesized many times that behavioral modification technique are generally effective in reducing neurodegenerative disorder by controlling cognitive dysfunction resulting slowing down of age related of mental decline. A number of clinical condition which appear to be associated with the mental ageing process. Essentially these conditions are characterized by a progressive deterioration in the subject memory, intellect and behavior. The gradual increase in the number of geriatric population will continue to attract attention and resources in future. The healthy ageing and their quality of life mainly depends on social-economic security, healthy nutritional intake for perceived health and psychological well-being. The main objective of the study to assess the role of smart nutrients containing healthy diet with behavioral modification for SDNDARMD among geriatrics. The study was carried at Lucknow city. This study was an intervention study. The validation cohart n=50 in intervention group and n'=10 in control groups. A SCAG scale was used to record NDARMD. The acceptance of behavioral modification; a maximum in eating management (36%) followed by self-monitoring (34%), rewarding behavior (32%) and stimulus control (28%). The overall acceptance was found; 28%. The changes in SCAG component (after intervention) maximum self-care (+38) followed by hostility (+30), mental alertness (+28). The reduction in fatigue, emotional liability and impaired memory each (38), confusion (30), uncooperativeness (28), mood depression (26), anxiety (24), irritability (18) and unsociability (12) at rating scale. These changes observed mostly in moderate to mild, mild to very mild and very mild to normal. The calculated value of chi-square was found much more higher (18.0) as compared to table value (3.841) at one degree of freedom and 5% significant level. Therefore null hypothesis rejected and alternate hypothesis accepted. The higher intake of smart nutrient containing healthy diet and behavioral modification lower down in cognitive dysfunction and SDNDARMD. It was recommended that at the pre stage of ageing. There should be a regular intake of smart nutrients containing healthy diet along with behavior modification can be no doubt slowing down, NDARMD.
Keyword: Smart nutrients, Behavioral modification, Age related mental decline, Cognitive dysfunction.

ISCA-ISC-2016-20SH-01-Oral

Global Climate Change and Resource Management among the Baiga of Chhattisgarh, India

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Abstract: Conservation of environment and ecology is catalytic for the development of human society in sustainable manner. But the population growth coupled with technological development is responsible for degradation of environment that led to global climate change. Many countries are vulnerable to effects of climate change especially in farming sector. Global extraction of resources from their respective eco systems and mines are increasing day by day. As a result, forest coverage has come down drastically and led to loss of bio-diversity. It is also influences the livelihoods of the dependant people and eventually increases the poverty. However, the conservation dictum is well shrined in the traditional knowledge of the indigenous peoples and exhibited in socio-cultural practices like veneration of sacred grooves since their survival is depended on the rejenuvation of natural resources. But the changing environment transforming the traditional management of natural resources of the forest dwellers and forcing them to exploit their own resources for commercial interests. Keeping in this mind, an attempt is made to understand the environmental challenges and the resource management strategies of the Baiga tribes of Chhattisgarh. The Baiga is one of the Particularly Vulnerable Tribal Groups (PVTGs) of Chhattisgarh, and distributed in parts of Madhya Pradesh, Jharkhand, and Uttar Pradesh adjacent to Central India. They consists of seven sub groups namely Binjhwars, Bharotias, Narotias, Rai Bhainas, Kath Bainas, Kondwans, and Gondwainas. They speak *Baigani* dialect having mixture of neighbouring state languages influence. With the contact

of neighboring tribal (Gond, Panika, Kol) and non-tribal communities, Baiga are practicing primitive form of agriculture. They cultivate traditional crop varieties such as *kodo*, *kutki*, *sawa* or *dhunia*, *makka* (maize), *ram tilla* along with paddy and wheat. Despite of this fact, majority of their livelihood depend on exploitation of forest and its resources through their age old traditional knowledge. However, they are not exceptional to the eventual impact of global climate change as well as the resource exploitation. The ongoing bauxite mining on the bordering areas of Chhattisgarh and Madhya Pradesh got affected the fertile forest land as well as its resources in massive way. Due to intensive mining, major chunk of forest coverage has come down drastically and the Baiga facing problems of grazing the cattle, collection of forest produce, depletion of water level in natural springs and bore wells, soil erosion, etc. Now they have to walk down long way to harvest forest resources, drinking water and facing many problems in obtaining livelihoods. Due to climate change, the amount of rainfall is dwindling gradually and recorded very low in the current season. As a result of the agricultural crops are not yielding the expected harvest since their agriculture is still in primitive form and rainfed. Hence, they are forced to change their traditional livelihoods and adopted new ones for their survival. With this backdrop, the present paper highlights role of climate change in changing the traditional management of natural resources of the Baiga in the bordering villages of Madhya Pradesh and Chhattisgarh.

Keywords: Climate, Natural resources, Management, Livelihoods, Agriculture.

ISCA-ISC-2016-20SH-02-Oral

Community Participation in Nutrition Programming In Devadurga of Raichur District Karnataka, India

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Abstract: The World Health Organization defines malnutrition as "the cellular imbalance between supply of nutrients and energy and the body's demand for them to ensure growth, maintenance, and specific functions". Overpopulation, more commonly seen in developing countries, can reduce food production, leading to inadequate food intake or intake of foods of poor nutritional quality. The adverse effects of malnutrition include physical and developmental manifestation like poor weight gain and slowing of linear growth. Impairment of immunologic functions in these children mimics those observed in children with AIDS, predisposing them to opportunistic and other typical childhood infections. Apart from making them vulnerable to infections, children who are chronically malnourished exhibit behavioral changes, including irritability, apathy and decreased social responsiveness, anxiety, and attention deficits. This paper analyzed opinions and community participation in nutrition programming in Devadurga of Raichur District Karnataka.

Keywords: Community, Participation, Nutrition, Children.

ISCA-ISC-2016-20SH-03-Oral

Perception of Farmers towards Khed-Shirur Special Economic Zones

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Abstract: Land acquisition for Khed-Shirur Special Economic Zone (SEZ) is one of the highlighted issues in SEZ history in India. The major reasons of conflict between developers and farmers were lack of proper information and false information providing from some selfish persons. Therefore, the perception of farmers about SEZ is become a negative before the establishment of SEZ, but, presently it is totally changed due to proper implementation of all SEZ related activity through developer. Khed- Shirur SEZ is set good example before the other multi product type of SEZ in the country. Khed- Shirur SEZ has change and improves the economic activity in the SEZ region and nearest villages. The group discussion with project affected families suggested that, there is need to remove discussion barriers between government, developers and farmers on all issues. On the basis of this formula, this SEZ is definitely helpful for economic as well as regional development.

Keywords: Special Economic Zones (SEZ's), FDI, Labour Laws, Developer.

ISCA-ISC-2016-20SH-04-Oral

Nepal's Failed Constituent Assembly: The Role of Maoist

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Abstract: Nepal's Constituent Assembly was an elected body, which was institutionalized in 2008 with the aim of promulgating a democratic constitution. However, the democratic process of constitution making failed dismally without

delivering a new constitution in 2012. Nepal's Constituent Assembly and it's constitution-making process has suffered due to the erosion in leadership quality; weakening of norms and value based politics; power centric intra-party and inter-party conflicts; instability of the government; unhealthy inter-party competition; and unaccountability in the public domain. This paper tries to explore why Nepal's Constituent Assembly has failed to draft a constitution and chronologically examines the rise of Maoism in Nepal. It also examines the role of Maoist's in the failure of constituent assembly.

Keywords: Nepal, Democratization, Maoist, Constitution, Failure.

ISCA-ISC-2016-20SH-05-Oral

Can We Have World Peace?

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Abstract: "Peace comes from within. Do not seek it without" said Gautama Buddha. Peace and harmony are essential conditions of life and growth. At the same time they are the cardinal sign's of civilized life. These are the indispensable elements of progress and prosperity of mankind. Peace and harmony are mutually inter-connected in Indian perspective they are bed rocks of successful life. Study and analysis of peace and harmony are important and it is a significant aspect of the Indian way. Peace generally is a situation free from tension, struggle, disputes or conflict particularly in socio-economic sphere, is considered as the state of peace. This phenomenon connotes absence of fight or war between or among the nations and is the generally accepted notion of peace at the international level. Indian scriptures like Jainism and Buddhism also hope on centrality of peace Jesus appears to his disciples and says Peace be with you. The Buddhist approach of karuna (Compassion) towards all living beings and the jain view point of Ahimsa. The indan perspective of peace is monumental and matehless. The Upanishads counsel that harmony on earth mandates restoration of human values and experience the sacred wisdom. The importance and of all time significance of both peace and harmony for a society, A nation or humanity as a whole is understood and therefore it is said that we need to uphold it. Peace begins with a smile said mother teressa. Lord make me an instrument of thy peace. Where there is hatred, let me sow love said St. Francis of Assisi Modern world scientifically and technologically punctuated but lacking peace and harmony needs to understand the importance of peace and imbibe it for a bright and prosperous future Only then can we can call ourselves matured civilized and prosperous.

Keyword: World Peace, Prosperity, Technology, Science, Future.

ISCA-ISC-2016-20SH-06-Oral

Corporate Social Responsibility and Rural Development: A Case Study of Hindalco, India

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Abstract: The purpose of this paper is to attempt to identify and investigate CSR initiatives of HINDALCO and to analyze the contribution made by these organizations towards the RURAL development. The CSR practices and policies of HINDALCO had examined policies and programmes for rural development reviewed and data collected from Hindalco authorities Belgaum, also policy formulation for CSR, implementation, pattern of allocation of budget for CSR, and rationale for adopting CSR practices in organization was examined. Hence, the observation, public opinion had been collected also the quantitative and qualitative Methodology used to explore the facts. In this study several original findings identified by analyzing the different range of CSR policies, practices and activities of the company will provide a valuable insight into how the organization is practicing CSR. The study provides an evaluation of what is presently being done, and proposes ways through which the business contribution could be enhanced in order to achieve the goal developed Village. Researcher adopted exploratory and case study methods for this purpose.

Keywords: Corporate Social Responsibility, HINDALCO, Rural development.

ISCA-ISC-2016-20SH-07-Oral

Statistical Analysis for Health Expenditures by Gujarat State Government in India

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Abstract: Social sector is a very important sector among other sectoral services for any governmental set up.It is imperative for any government to take sufficient care about education and health services in the relevant service sectors. Since community health is an essential subject it needs prior investigation for any governmental set up to give due importance in this respect. Gujarat state in India is considered to bea progressive state with good and efficient governance since its inception. Gujarat state is also considered to be one of the richest states in India. It may be worthwhile to examine and evaluate about the health expenditure patternincurred by the state government. In this paper a statistical analysis is carried out to build up a model approach by means of considering semi log linear models for the total expenses by the state government in health sector and also total budgetary expenses during the year 2004-2014. Based upon the fitted model projections are carried out and prior estimates are obtained which may be made useful for state planning exercises.
Keywords: SLLM, GSDP, HEDI (Health Expenses Disbursement Indicators), Projections.

ISCA-ISC-2016-20SH-08-Oral

Secularism and Nationalism: Two sides of the same Coin?

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Abstract: The debate on Secularism has stirred new sentiments in India especially with its mixture with nationalistic tendencies. The frequency with which the intolerant debate has been taking place and way the patriotism of different classes has been questioned shows us how our political system has transformed to cater to only a few divisions in the society. Even though the concepts of Secularism and Nationalism are different from each other, nowadays they have been mixed together to form a single idea. This paper is devoted to understand the differences between the two concepts and also to evaluate the prevalent situation in the society. Although the idea of secularism is not present in our indigenous culture, it was a result of the colonisation of the country. The recent surge in the nationalistic tendencies brought on by the current political situation has created a new furore which has divided the society and has also started to undermine the secularist tradition which has been engraved in the constitution. Therefore, a new question arises which asks the importance of ideology of the ruling party as opposed to the importance of the preamble.
Keywords: Secularism, Nationalism, Sarva Dharma Sambhava, India, Patriotism.

ISCA-ISC-2016-20SH-09-Oral

Post-Modernism: A Study of Art, Architecture and Culture

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Abstract: Postmodernism carries inexact meaning and context as the project of postmodernity refers to many aspects of social life from musical forms and styles, literature and fine art through to philosophy, history and especially the mass media and consumer culture. However, it is a slippery term that is used by writers to refer to different contexts of meanings. Postmodernism provides several alternatives to culminate into the global culture of mass consumption, commodification, plurality of life world, cultural logic of late capitalism, rise of identity politics and deconstruction, thus, it has various socio-cultural forces which are far beyond any individual's control. In this context, the article aims to describe the roots of postmodernism, its impact on art and esthetic, architectural structures and urban cultures. It is found that the relation between postmodernism and identity is being explained from the perspective of consumption and of fashion production. In considering postmodernist aesthetic practices in parallel with the postmodern lack of political consensus. By contrast, postmodernist aesthetic practices may adopt any form, outlook, or agenda, new or old, and allow for other practices and alternative approaches. The postmodernist aesthetic is thus explained in terms of the political sense of this multiplicity of practices. The quintessential expression of postmodernist architecture is the shopping mall, an enclosed city in which spatial disorientation seems to have been a deliberate, structural intention. Elsewhere this

disorientation also takes on a temporal, historical form, as architects combine disparate elements from previous architectural eras and styles in the same building, an incongruous mixing that initially gave rise to the term postmodernist architecture.
Keywords: Postmodernism, Arts, Architecture, Urban Culture.

ISCA-ISC-2016-20SH-10-Oral

Raja Lakhamangouda Siradesai of Bombay Karnataka – Man and Mission

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Abstract: Authority, wealth and grandeur are the privileges enjoyed by a king. However, by sacrificing these, he chose to serve his subjects, protect the culture and strove to develop his country by devoting his life to these causes. Such men are one in a million! Present paperexplores the contribution of Raja Lakhamangouda a king of princely state Vantamuri of Belagavi district old provincial of Bombay. Paper is designed with secondary source, academic articles, online journals, expert's expressions and self-observations to comprehend and analyse the contribution of Raja Lakhamangowda in improving the life style of the weaker sections, down-trodden, orphans etc. in Bombay Karnataka region. Researcher adopted historical research methodology for this purpose and concluded the paper with the scientific analysis of contribution of the Raja Lakhamangowda in the Bombay Karnataka Region.
Keywords: Raja Lakhamangouda Siradesai, Bombay, Karnataka, Man, Mission.

ISCA-ISC-2016-20SH-11-Oral

Role of Digital Research in Development of Social Culture

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Abstract: In the present situation digitization concept has become more popular in every aspect. In a short period it has acquired every corner of the universal. Research is the major method of social work profession in understanding the social problems as well as to develop particular social areas like culture, economy; politics.Education andhealth.Social work is the profession that majorly deals with social issues and challenges. At present development of social cultureis an essential aspect in constructing a sound nation and also society speciallywhen it comes to the Indian context. To understand social culture in detail we need research study but manual research may bring bias in understanding several things regarding social culture. First of all we have to make research as digitization before going develop to social culture. Digitization of research may help the social worker to analyze virtual things without bias. Making digitization may also help us to save time and energy. We define *cultural development* as *the process of enabling cultural activities, including the arts, towards the realization of a desired future, particularly of a culturally rich and vibrant community. the social production and transmission of identities, knowledge, beliefs, values, attitudes and understanding; as well as, the way of life, including customs, codes and manners, dress, cuisine, language, arts, technology, religion and rituals; norms and regulations of behaviour, traditions and institutions. Therefore, culture is both the medium and the message – the inherent values, means and the results of social expression.* Using digital research methods like modeling, simulation, network analyses, visualization and e-research. Digital research plays a vital role in cultural development. This study will be carried out using descriptive method.
Keywords: Digitization, Sound nation, Digital research etc.

ISCA-ISC-2016-20SH-12-Oral

Sir Siddappa Kambli Contributions to Non Brahmin Movement

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Abstract: Present paper aims to know the contribution of Sir Siddappa Kambli to Non Brahman movement in Mumbai Karnataka as well as in south Maharashtra. He was freedom fighter, lawyer, academician, and minister for education in Mumbai province. He was great follower of social reformer Mahatma Basaveshwar, and Jyotibha Pule. Jyotibha Pule is known as a founder of non-Brahmin movement in India. Sir Siddappa Kambli also had a dream of comprehensive welfare and inclusive development of non-Brahmins in India, as non-Brahmins are underprivileged since from the thousands of years. Paper is designed with secondary source, academic articles, online journals, expert's expressions and self-observations to comprehend and analyse the contribution of Sir Siddappa Kambli in improving the life style of the weaker sections, down-trodden, orphans etc., through non Brahman movement in Bombay Karnataka region. Paper also

tries to know the relation between Sir Siddappa Kambli and Dr. B R. Ambedkar in relation with the welfare of non-Brahmins. The Researcher adopted historical analytical research methodology for this purpose and concluded the paper with the scientific analysis of contribution of the Sir Siddappa Kambli.

Keywords: Mahatma Jyotibha Phule, Sir Siddappa Kambli, Dr. B R. Ambedkar, Non Brahmin Movement.

ISCA-ISC-2016-20SH-13-Oral

Impacts of Globalization on Valmiki Tribe in Karnataka

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Abstract: The tribal people scattered in Karnataka state, they thickly living in Gulbarga, Gadag, Raichur, Dharwad, Bijapur, Haveri, Karwar, and other district and villages. There are 52 tribal communities living in the state, among them Valmiki people approximately constituted nearly 80 lakhs people in various parts. This paper is an attempt to find out various impacts among the community people. These people were warrior's class people during 18th and beginning of the 19th centuries. They have their own culture, folk, art, in earlier time. Today the process of globalization has been affected by their culture and progress. The following objectives have to be study. i. To analyse the various affects among Valmiki Tribes of Gadachinti village of Gadag district in Karnataka. ii. To study their socio-economic life in the past and present. iii. Due to globalization reservation affected to the Valmiki tribal people. iv. Due to the Globalization, researcher recorded the problems among Valmiki Tribe. Researcher participated and collected the samples from the head of the households. And observed the culture, tradition, education, and problems among the Tribal people.Due to the globalization,Valmiki Tribal people failed to make use of reservation like education, awareness, political importance etc. Today few people facing problems like drop outs, migration, and medical problems.

Keywords: Impacts, Globalization, Valmiki, Tribe.

ISCA-ISC-2016-20SH-14-Oral

Mid-Day Meal Scheme and Primary Education in India: Quality Issues (With special reference to HK region)

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Abstract: Improving the conditions of the underprivileged and backward has been the major issues while forming the policies of India as a welfare state. The target is children in many policies, acts and also in schemes. The Government of India started Midday meal (MDM) scheme in the government primary schools with the objective of improving health of the poor children. In addition, Right to Education implemented in April 2010 to enable these children the education starting from the age of 6 up to the age of 14 years. Though the quality has been gaining importance in all domains, yet, in both the quality factor seems to be missing. The paper will bring out the quality issues related to these two (Mid-day Meal scheme and Right to Education Act, 2010.

Keywords: Mid-Day, Meal, Scheme, Primary, Education, Quality, Issues.

ISCA-ISC-2016-20SH-15-Oral

Restoration and Conservation of the Archaeological Glasses Lakhdar Salim

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Abstract: The alteration of the glassy material resulting from extremely complex process involving both the chemical composition of glass and the environment to which it is submitted. In this context is our job to be focused on mechanisms for alteration of glass in water. The objective of this work is to provide some clarification on the first stages of alteration of glass exposed to the atmosphere and means of restoration of archaeological glass palace Ahmed Bey of Constantine.To assess and quantify the alteration of glasses, tests were conducted on samples of local archaeological glass such as chemical analysis RX glasses studied, the chemical durability, morphology by SEM and optical transmission, and an experimental accelerated deterioration in function of pH, time and temperature to understand glasses studied the faces various atmospheric factors. For means of restoration is the goal of this work, we opted for another method from sodium silicate (glass soluble), the results are translated by a spectral behaviour of the transmission glasses studied, which confirms the effectiveness of the method applied.

Keywords: Restoration, Conservation, Archaeological glass, Durability, Environment, Changes.

ISCA-ISC-2016-20SH-16-Oral

Study on Digitization of Personal Information in Rural Area and its Psychological Aspects

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Abstract: The dream of current government is of Digital India. A drive for digitization of personal information, routine transaction details in various fields are carried out since few years. This started with electronic voting system followed by digitization in farmers' crop details, Milk billing in cooperative societies, digitized ration cards, PAN details, banking details, plastic cards which include credit and debit cards, Aadhar card etc. The core rural area is not yet acquainted with digitization process and lots of anxiety and questions are arising among them. This study is pertaining to understand the prevailing anxiety and scenario of reluctance towards the digitization of personal information and acceptance of digital transactions in routine life. For the purpose of this study, group of 25 male and female participants were approached from three different villages having population less than 1500 each from Valsad district. For the purpose of this study, total sample size taken is 150 using random sampling method. The participants are having different education level, age group and income groups. These three groups were given a set of 15 different questions pertaining to this study. Obtained results are analyzed and acceptance and reluctance towards the digitization of personal information and related anxieties are assessed. It is observed that more than 74% of participants were reluctant to use digital transactions using credit / debit cards. More than 36% participants of study feel that it is dangerous to digitize their details and have anxiety of using computer or related peripherals. Many other relevant interesting results were observed on this issue.
Keywords: Digital India, Anxiety of using digital devices, digitization of information, Psychological aspects of digitization, rural area digitization.

ISCA-ISC-2016-20SH-17-Oral

Prevalence of Pre-diabetes in relation to BMI in an urban population of Lakhimpur Kheri District, India

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Abstract: BMI is strongly correlated with various metabolic diseases. In general, BMI is considered as an inexpensive and easy-to-perform method of screening for weight category as underweight, normal or healthy weight, overweight, and obesity. Body fat is generally associated with an increase in risk of metabolic diseases such as type 2 diabetes mellitus, hypertension and dyslipidaemia. A community based cross-sectional study was conducted in urban area of Lakhimpur Kheri district of Uttar Pradesh. A total of 644 respondents were selected. Visits were made to get their blood sugar checked on the following day. Information was collected on socio-demographic profile with the help of semi-structured pretested interview schedule. Fasting blood glucose with the help of glucometer was estimated. The height of subjects was measured by height-o-meter and a personal weighting machine was used for weight measurement. The result showed the prevalence of pre-diabetes in relation to BMI. The prevalence of pre-diabetes was higher among (29.6) obese subjects fallowed by 21.7 over weight subject's 29.6% normal weight subjects and 5.1% underweight subjects. There was significant association ($p<0.05$) between prevalence of pre-diabetes and BMI.
Keyword: BMI, Fasting Blood Glucose, Height, Pre-diabetes, Prevalence, Weight.

ISCA-ISC-2016-20SH-18-Oral

Attributional Hierarchy in Environmental Problems

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Abstract: According to the Central Pollution Control Board (CPCB) report in 2014-15, nearly one third of plastic litter goes uncollected and littered. With growing awareness among Indian citizens on the need for a solution and lack of a uniform system to implement recycling, there is a growing state of helplessness among Indian masses. Based on the theory of Learned Helplessness by Seligman (1975) the present study has tried to examine attribution process in the context of disposal of non bio degradable plastics. A survey of (N=1200) individuals examined how the respondents

perceived the role of Individual action, Manufacturer's responsibility, Government regulation and need to Collaborative action towards Plastic disposal. Further the study also tried to examine how the above factors influence learned helplessness in terms of Permanence, Pervasiveness and Personalization of Plastic disposal. The results of the regression analysis showed that the role of Government (β =.74) and need for Collective Action (β =.70) explained most of the attitude towards plastic disposal. In terms of attributional hierarchy, it was found that Instability (β =.67) and Global (β =.65) were found to be equal and stronger predictors of Learned Helplessness. Based on the results it has been suggested that stronger governmental actions and collaborative projects at community level with an implementable solution polices are recommended for plastic disposal.

Keywords: Attribution process, Permanence, Pervasiveness, Personalization.

ISCA-ISC--2016-20SH-19-Oral

Important Factors of Job Satisfaction

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Abstract: Job satisfaction is one of the most researched variables in the area of workplace psychology, and has been associated with numerous [Psychosocial issues - the changing world of work organizational factors] ranging from leadership to job design. This article seeks to outline the key definitions relating to job satisfaction, the main theories associated with explaining job satisfaction, as well as the types of and issues surrounding the measurement of job satisfaction. While it is also important to explore what factors precede and is impacted by job satisfaction, this is covered in a separate article. In addition to these five factors, one of the most important aspects of an individual's work in a modern organization concerns communication demands that the employee encounters on the job. Demands can be characterized as a communication load: "the rate and complexity of communication inputs an individual must process in a particular time frame." If an individual receives too many messages simultaneously, does not receive enough input on the job, or is unsuccessful in processing these inputs, the individual is more likely to become dissatisfied, aggravated, and unhappy with work, leading to a low level of job satisfaction. Superior–subordinate communication, or the relationship between supervisors and their direct report(s), is another important influence on job satisfaction in the workplace. The way in which subordinates perceive a supervisor's behavior can positively or negatively influence job satisfaction. Communication behavior—such as facial expression, eye contact, vocal expression, and body movement—is crucial to the superior–subordinate relationship.

Keywords: Important, Factors, Job, Satisfaction.

ISCA-ISC-2016-20SH-01-Poster

Casein Milk Protein Fiber- A New Innovative Fiber

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Abstract: Milk protein fibre is made out of skimmed milk. Main components of this fibre are casein proteins, drawn from the cow's milk. It is responsible for the white, opaque appearance of milk in which it is combined with calcium and phosphorus as clusters of casein molecules, called micelles. This fiber contains eighteen type of amino-acids extracts that helps in the nourishments of the skin and makes it healthier. Milk protein fibre is a blend of nature, science and technology that has benefits of natural as well as synthetic fibre. Milk fiber was invented in 1930s in both Italy and America and was called milk casein. A new generation of innovative fiber and a kind of synthetic fiber made of milk casein through bioengineering method with biological health care function and natural & long-lasting antibacterial effect, which has got valid certification for international ecological textile certification. It is hygienic, flexible, smooth, sheen, renewable, biodegradable and eco – friendly fabric but it has low durability and is expensive. The mass specific resistance of milk protein fiber is large. Milk protein fiber is bulky and it is easy to open. The cohesion force is relatively weaker. Casein fibres resemble wool in having a soft warm handle. Casein fibres provide good thermal insulation. They are resilient like wool. The process of making milk protein fiber include: - Desizing, scouring, bleaching, dyeing, drying, printing, finishing, carbonising. Milk fibers can be blended with many other fibers like cotton, cashmere, silk etc. The healthy nature of milk fiber is considered as a perfect material for manufacturing of underwear's. Milk casein protein are considered as a main ingredient of milk protein fiber, which can lubricate the skin. The milk proteins contain the natural humectants factor which can help to maintain the skin moisture, to reduce the wrinkles and to smoothen the skin. Milk fiber can be used for making of garments, beddings, socks, sportswear's, new born's bath towels etc. The milk protein fiber is a healthy and comfortable fiber that makes us feel better and will certainly become popular in the market.

Keywords: Milk fiber, Casein, Skimmed milk, Protein, Micelles, Lubricate, Comfortable.

ISCA-ISC-2016-20SH-02-Poster

Local Self Government – Urban (Socio Political Analysis)

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Abstract: Local Self Government-Urban is the main support to Developed the Indian Democratic System. This Local Self Government Crate the Self Confidence, Self Creativity and Self Leadership in Urban Area. Neheru's "Modern India: dream has been translated into reality with introduction of Local Self Government in Urban Reconstruction. This Paper Explain the Ideology and Structure of Local Self Government of Urban Area and also Discuss the aim, Object, importance and Study relevance. The Paper also analysis the Socio-political and Economical Condition of Urban Area and Understand the De-Centralized Democracy.

Keywords: Local, Self, Government, Urban, Socio, Political, Analysis.

ISCA-ISC-2016-20SH-03-Poster

Effect of Colour on Attention and Memory of Young Children

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Abstract: Colour is known to be an important and stimulating cue for learning in children. The present study investigated the colours which facilitate attention and memory of young children. Thirty young children aged 4 to 5 years were drawn from 180 children of six preschools of Jorhat District of Assam. The children with average intelligence level and normal health status were selected for the study. Culture Fair Intelligence Test was used to screen out the children with average intelligence. A testing tool comprising of two sub-tests namely Prose Memory test and Test Cards was developed to identify the colours stimulating attention and memory of young children. The testing tool was prepared using seven numbers of colours which were identified based on the analysis of the frequently used colours in the existing children literature. As revealed by the study the rank of colours from highest to lowest attention and memory stimulating impact on children was natural colour (colour of an object as seen in nature), red, green, blue, light blue, yellow and black. The ranking order was significantly correlated in both the tests.

Keywords: Colour, Attention, Memory, Young Children.

ISCA-ISC-2016-20SH-04-Poster

Stressors and Stress Symptoms in Children

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Abstract: The study was conducted to identify various stressors in children, their reaction to stress and to find out the inter-relationship between the stressors and stress symptoms. A total number of 192 children studying in grade I to grade VI were selected randomly as sample for the study from eight different private schools of N.C Hills District of Assam. A self constructed interview schedule consisting of statements pertaining to different stressors and probable stress symptoms was used to collect data. The Interview schedule was constructed separately for the teachers and parents. School related information and family related information were collected from both the teachers and parents respectively. The findings of the study revealed that school related stressors such as overloaded assignments, project works, heavy class workloads and family related stressors like restrictions on watching television, increasing study hours, unable to meet parents expectation and confined at home even during holidays were identified to be the main stressors in children. Children's reactions to such stressors were expressed through various physiological, socio-emotional behavioural symptoms as well as changes in academic performances. It was also revealed that when the academic related stressors and familial stressors increased the symptoms also increased.

Keywords: Stress, Stressors, Childhood stress, Stress symptoms, School related stressors, Family related stressors.

ISCA-ISC-2016-20SH-05-Poster

Baul - The Devotional Music Transcends the Religion

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Abstract: The music of the Bauls, Baul Sangeet, is a particular type of folk song in Bengal. Its lyrics carry influences of the Hindu bhakti movements and the suphi, a form of Sufi song exemplified by the songs of Kabir. Baul religious and philosophical standpoints exist largely as an outcome of the comingling of Hinduism and Islam, containing as well some signs of Buddhist influence. Baul philosophy promotes a liberal view, renouncing caste and other social constructs in an effort to strip oneself of outside influence, revealing the **monermanush**. In this way Bauls focus heavily on the physical as the object of devotion. Their practice focuses heavily on the **chaar-chand**, representing the four fluids of the body and the **naba-dwar**, representing the nine openings of the body. As such, the*monermanush* is given the utmost respect by the Bauls, who feel that **Bhagavan** can only be reached through the human form. In this way, Baul philosophy emphasizes love for all human beings. This, they feel, is the path leading to the Divine Love; Romantic love especially is viewed by Bauls as the link between God and man.

Keywords: Monermanush, Chaar-chand, Naba-dwar, Bhagawan, Sangeet.

ISCA-ISC-2016-20SH-06-Poster

Women Rights Violation– An Agent of Violence

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Abstract: Every human being is naturally entitled to human rights. If these naturally bestowed rights of a human being are breached, or taken away completely, it is injustice and abuse and a progenitor of disorder. In India, women are being exploited everyday. Females have been denied humanitarian treatment for ages. They have been addressed to as equals of lower animals, *shudras* or inept gauche slaves. They have been subjected to inhuman conduct and have always been victims of maltreatment and injustice. When injustice is inflicted, it is required that society comes forth in opposition of it and makes provisions for prevention of such incidents from repeating. Be it woman or man, every individual's rights need to be safeguarded and nurtured. This is the prime responsibility of the judicial system, the government as well as the constitution. The right toLiberty, Fraternity, Equality and Justice applies to all and should not be seized from women.

Keywords: Fundamental, Rights, Liberty, Equality, Fraternity, Women, Constitution, Caste, Community, Hindu Code Bill, Buddha, Manusmriti, Ambedkar.

ISCA-ISC-2016-20SH-07-Poster

Women Safety in India

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Abstract: Thousands of years ago, Indian women had enjoyed high status. Gargi, Maitreyi, and other women of Vediclore illustrate the high status Indian women enjoyed in ancient times. The tradition of "Brahmavadinis", women celibates pursuing intellectual studies for life, existed in ancient India. Indian women, who have played a big role in moulding our culture, civilization, arts, religion, have also handled statecraft from the time of Draupadi to Chola Royal women,from Rani Padmini, Rani Jhansi and many others, to Indira Gandhi—something which no other society in the world can possibly boast. Indian freedom movement was driven by the symbol of "Mother India" and devotion to her in the song "Vande Mataram". In India, from ancient times, Female Divinity has equated women with power. And, God as confluence of man and woman (Ardhanareeswara) symbolized gender harmony. But unfortunately, contemporary Indian women continue to face discrimination and other social challenges and are often victims of abuse and violent crimes. Manifestations of violence include physical aggression, such as blows of varying intensity, burns, attempted hanging, sexual abuse and rape, psychological violence through insults, humiliation, coercion, blackmail, economic or emotional threats, and control over speech and actions. In extreme, but not unknown cases, death is the result.

Keywords: Women, Safety, India.

ISCA-ISC-2016-20SH-08-Poster

Climate Change: a Greatest Environment Challenge (Geographical study of Jodhpur city, India)

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Abstract: Climate change is the greatest environmental challenge which we are facing today. Climate change refers to a significant variation in either the mean state of the climate or in its variability, persisting for an extended period . Climate change may be due to natural internal processes or external forces, or due to persistent anthropogenic changes in the composition of the atmosphere or in land use.The climate of the Earth has never been stable in historical aspects when human Population was very less, the change in the climate were almost natural and there was a very little role of Human being in affecting the Climate Factor of the Earth, but in near time span, due to excessive Anthropogenic activities by Human beings causes the Climatic change at the Global level. The Climatic changes are infect a result of Global Warming Phenomena which affects the Environment of the Earth. Rapid growth of Population, intensified human activities has altered the natural properties of the Earth's Atmosphere and affects its Ecology and the Environment. It is very loud and clear that human activities today have altered the Functioning of Global Climate System and a Serious check on those un-thoughtful activities is required to make the rhythm of the Climate factor which is compulsory to save the life on the Earth, epically to escape human beings to become extinct. Climate change requires a good scientific understanding as well as coordinated action at national and global level infect, the climate change issue is part of the larger challenge of sustainable development. Climate change occurs when the climate of a specific area or planet is altered between two different periods of time. Such changes can involve both changes in average weather conditions and changes in how much the weather varies around these averages. The changes can be caused by natural processes like volcanic eruptions, variations in the sun's intensity, or very slow changes in ocean circulation or land surfaces which occur on time scales of decades, centuries or longer. But humans also cause climates to change by releasing greenhouse gases and aerosols into the atmosphere, by changing land surfaces, and by depleting the stratospheric ozone layer. Both natural and human factors that can cause climate change are called 'climate forcings', since they push, or 'force' the climate to shift to new values. Vulnerability is defined as the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity. In short Climate of a place is a multivariate phenomena, it is the result of a number of factors which are inter related and inter dependent in nature such as Temperature, Rainfall, Humidity etc. Climate change is imposing a risk to our Environment, ecology, economy and society. Observations shows that changes are being experienced in the climate of World and Rajasthan. Studies have shown that Rajasthan lies in the greatest climate sensitivity area, maximum vulnerability and lowest adaptive capacity. Water resources available in the State are scarce and have a highly uneven distribution both temporally and spatially. The State also has the highest probability of drought occurrence in the country. Timely and coherent Action Plan will help reduce vulnerability and build resilience of the State to likely climate change impacts.

Keywords: Climate, Environment, Geographical study, Jodhpur city.

21. Supplimentary Abstracts (All Section)

ISCA-ISC-2016-1AFH-18-Oral

Physiological Responses of Wheat to Foliar Sprays of Humic Acid through Vermicompost Wash with NAA

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Abstract: Wheat is (*Triticum* spp.*)* is an annual plant of gramineae family. It is most widely cultivated as stable food crop of the world. In India, wheat is the most important food grain after rice in terms of both area and production which contribute 12% of the world wheat pool. Globally wheat is the leading source of protein than other major cereals. Humic acid when externally supplied was observed to increase crop growth and ultimately the yield. It absorbs the nutrients from chemical fertilizers and these exchanged nutrients are slowly released to the plant. NAA is synthetic auxin with identical properties to that of naturally occurring auxin. Application of growth promoting hormones is a recent technique in this direction. Plant hormones in a broad sense are organic compounds which play an important role in plant growth development and yield of crops to prevent the fruit and flower drop for a longer period. An experiment to study the efficacy of foliar sprays of humic acid through vermicompost wash and NAA was done with eighteen different treatments and three replications in randomized block design. Two foliar sprays of humic acid through vermicompost wash and NAA were given at 45 and 60 DAS. Five concentrations of HA (300, 350, 400, 450 and 500 ppm) through VCW and two concentrations of NAA (25 and 50 ppm) individually and in combination were tested. Data were recorded for morpho-physiological parameters such as plant height plant^{-1}, number of tillers m^{-1} row length, leaf area plant^{-1}, dry weight plant^{-1}, relative growth rate (RGR), net assimilation rate (NAR) and yield and yield contributing parameters such as number of spikelets ear^{-1}, number of grains ear^{-1}, grain weight ear^{-1}, 1000 grain weight, grain weight plant^{-1} and yield plot^{-1}. The treatment T_{15} (350 ppm HA + 50 ppm NAA) followed by T_{14} (300 ppm HA + 50 ppm NAA) exhibited their significance over control and rest of the treatments under study in respect of above mentioned parameters.

Keywords: Wheat, Humic acid, NAA, Foliar application.

ISCA-ISC-2016-1AFH-19-Oral

Digitization for Termite R&D

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Abstract: Termites secure important position in the insect world owing to their voracious feeding habit on cellulosic materials. Though, scientists have developed numerous control intervention practices to combat them both indoor and outdoor, timely accessibility to the appropriate resource and information in the right manner is quite crucial for users. These days, digital information system has extended the opportunity to share information worldwide. Scanty/ no such attempt has been taken in Indian scenario on termite R&D. Aiming at bridging this gap, a website with full of resources about termite management is being developed under ICAR-National Fellow Project. The technology of three tier architecture - server, database and user-interface will add dynamism to the website. This one-stop information system comprises not only taxonomy, research and management of termites but also recently developed technologies and termiticides. ITK and extension are also included to promote the information to end users. A database comprised of large number of relevant research publications will minimize the researchers' hunt for literature. Online free advice service is to be available with name "e-clinik" for farmers and house owners. We hope this will cater to the national need, and invite the symposium participants to suggest for the further improvement of this website.

Keywords: Digital, Information, Insect, Management, Termiticides.

ISCA-ISC-2016-1AFH-20-Oral

Preparation of *Chhana* Whey Beverage from Goat Milk by using Pomegranate Fruit Extract

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Abstract: *Chhana* whey and pomegranate fruit extract beverage prepared by blending different levels of pomegranate fruit extract as 0, 10, 15 and 20 parts in the treatment T_0, T_1, T_2 and T_3. The sugar 8 per cent, sodium alginate 0.1 per cent

and ginger extract 0.3 per cent were added in each treatment. Beverage were evaluated for physico-chemical properties and overall acceptability. Significantly higher viscosity, titratable acidity, total solids, protein, carbohydrates and ash content was found as 6.71 Cp, 0.56 per cent, 20.59 per cent, 0.59 per cent, 18.80 per cent and 0.86 per cent respectively. Organoleptically beverage with different levels of pomegranate fruit extract had significant effect on the colour, flavour, consistency and overall acceptability. The highest score (8.35) for colour recorded as in treatment T_3 with 20 parts of pomegranate fruit extract. The lowest score (7.03) was recorded in the treatment T_0 i.e. without addition of pomegranate fruit extract in *chhana* whey. The highest score 8.61 for flavour was recorded in treatment T_3. The highest score for consistency was recorded as 8.33 in treatment T_3 and highest score 8.43 for taste was recorded in treatment T_3 and highest score 8.65 was recorded for overall acceptability which was liked by most of the panelists. The cost of production of one kg *chhana* whey beverage by using pomegranate fruit extract was in the range of Rs. 13.20 to Rs. 47.10.

Keywords: *Chhana* whey, Pomegranate fruit extract, Beverage and Pomegranate fruit extract.

ISCA-ISC-2016-1AFH-21-Oral

Studies on Physico-Chemical Properties of *Chhana* Whey Beverage from Goat Milk by using Pomegranate Fruit Extract

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Abstract: *Chhana* whey and pomegranate fruit extract beverage prepared by blending different levels of pomegranate fruit extract as 0, 10, 15 and 20 parts in the treatment T_0, T_1, T_2 and T_3. The sugar 8 per cent, sodium alginate 0.1 per cent and ginger extract 0.3 per cent were added in each treatment. The research was conducredat Department of Animal Science and Dairy Science, College of Agriculture Parbhani. The physico-chemical qualities of chhana whey beverage from goat milk by using pomegranate fruit extract were evaluated. Chhana whey beverage prepared by blending different levels of pomegranate fruit extract as 0, 10, 15 and 20 parts in the treatment T0, T1, T2 and T3. The sugar 8 per cent, sodium alginate 0.1 per cent and ginger extract 0.3 per cent were added in each treatment. On an average chhana whey beverage of treatment T0, T1, T2 and T3 contained 82.27, 81.36, 80.49 and 79.41 per cent moisture, 0.53, 0.45, 0.40 and 0.34 per cent fat, 0.44, 0.48, 0.54 and 0.59 per cent protein, 0.72, 0.75, 0.80 and 0.86 per cent ash, 16.03, 16.95, 17.77 and 18.80 per cent carbohydrate, 17.72, 18.64, 19.51 and 20.59 per cent total solids, 3.65, 3.55, 3.49 and 3.41 pH, 0.53, 0.54, 0.55, and 0.56 per cent titratable acidity, 4.66, 5.63, 6.13 and 6.71 viscosity respectively.

Keyword: Chhana Whey Beverage, Goat Milk, Pomegranate Fruit extract, Physico-chemical properties

ISCA-ISC-2016-1AFH-22-Oral

Response of Summer Blackgram (*Phaseolusmungo* L.) to different Sowing time and Weed Management Practices

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Abstract: A field investigation on "Response of summer blackgram (*Phaseolusmungo* L.) to different sowing time and weed management practices" was conducted during summer season, 2015 at AICRP on Irrigation Water Management, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist. Ahmednagar (Maharashtra). The experiment was laid out in a factorial randomized block design with three replications. Eighteen treatment combinations consisting of three levels of sowing times i.e. 3rd week of Feb. (16th February) (D_1), 1st week of March (2nd March) (D_2), 3rd week of March (17th March) (D_3) and six levels of weed management i.e. Weedy check (control) (W_1), Weed free up to harvest (W_2), Pendimethalin @ 1 kg a.i. ha^{-1} (PE) (W_3), Pendimethalin @ 1 kg a.i. ha-1 (PE) fbimazethapyr @ 75 g a.i. ha^{-1} (PoE) at 20 DAS (W_4), Imazethapyr @ 75 g a.i. ha^{-1} (PoE) at 20 DAS (W_5), one hoeing at 20 DAS fb one hand weeding at 40 DAS(W_6). The predominant weed flora observed in the experimental plot were *Cynodondactylon*, *Cyperusrotundus*, *Digeraarvensis*, *Parthenium hysterophorus, Euphorbia geneculata, Euphorbia thymifolia* and *Portulaca oleracea*. Total weed count and weed dry matter was higher under 3rd week of March sowing and in weedy check. Weed control efficiency was recorded highest under 1st week of March sowing and in treatment one hoeing at 20 DAS & one hand weeding at 40 DAS. Weed index was recorded the highest under 3rd week of March sowing and in treatment weedy check. Sowing on 1st week of March (D_2) recorded significantly the highest seed (11.04 q ha^{-1}) and stover yields (14.40 q ha^{-1}) of summer blackgram. Likewise weed free up to harvest treatment gave significantly highest seed (12.19 q ha^{-1}) and stover yields (15.98 q ha^{-1}) and was at par with one hoeing at 20 DAS *fb*one hand weeding at 40 DAS and Pendimethalin @ 1 kg a.i.

ha^{-1} (PE) fbimazethapyr @ 75 g a.i. ha^{-1} (PoE) at 20 DAS. The highest net monetary returns (25923) with B: C ratio (1.97) was obtained in 1st week of March sowing. Similarly the highest net monetary returns (28492) with B: C ratio (2.05) was obtained from treatment one hoeing at 20 DAS and one hand weeding at 40 DAS followed by pendimethalin @ 1 kg a.i. ha^{-1} (PE) *fb*imazethapyr @ 75 g a.i. ha^{-1} (PoE) at 20 DAS (27671) and B: C ratio (2.02) and treatment weed free up to harvest with net monetary returns (27785) and B: C ratio (1.92).

Keywords: Blackgram, Imazethapyr, Pendimethalin, Weed control efficiency, yield and economics.

ISCA-ISC-2016-1AFH-23-Oral

Comparative performance of Coloured shade net house and Open field condition on Growth and yield of Cluster bean Varieties

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Abstract: A research was carried out to study comparative performance of coloured shade net house and open field condition on growth and yield of cluster bean varieties at MPKV, Rahuri (Maharashtra) during summer season 2013. The red shade net colour (35 % shading intensity) found more suitable to obtain significantly maximum growth, yield attributes and pod yield of green cluster bean (118.89 q ha^{-1}) followed by green + white colour (118.38 q ha^{-1}). The open field condition recorded significantly minimum growth, yield attributes and pod yield of green cluster bean (96.77 q ha^{-1}) compared to different shade net colours. The photosynthetic rate, CO_2 concentration, stomatal conductance and transpiration rate were significantly higher under local variety, whereas stomatal resistance and leaf temperature in NCB 12 variety. Maximum chlorophyll content was recorded in local variety than NCB 12 variety. Maximum and significantly higher gross monetary returns (‘ 35952 $unit^{-1}$ of shade net) and net monetary returns (‘ 11272 $unit^{-1}$ of shade net) obtained under red shade net colour.

Keywords: Coloured shade net, Open field condition and Shading intensity.

ISCA-ISC-2016-1AFH-24-Oral

Effect of Foliar Application of Macronutrient and Micronutrients on Yield Attributes, Yield and Economics of *Kharif* Greengram (*Vigna Radiata* L.)

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Abstract: The field experiment was conducted during *kharif* 2013 at the Research Farm of All India Co-ordinated Research Project on Irrigation Water Management, Mahatma Phule Krishi Vidyapeeth, Rahuri on clayey soil to study the response of foliar application of macronutrients on growth, yield and quality of *kharif* greengram (*Vigna radiata* L.). Amongst the growth characters, *viz.* plant height, number of functional leaves per plant, number of branches per plant and dry matter per plant were significantly influenced by treatment in GRDF + foliar spray of DAP @ 1% + Urea @ 1% + Boron @ 0.2% at flowering. The mean values of yield attributes *viz*., number of pods $plant^{-1}$ (25.13), weight of pod $plant^{-1}$ (15.63 g) and 100 grain weight (5.80 g) were increased significantly in treatment GRDF + foliar spray of DAP @ 1% + Urea @ 1% + B @ 0.2%. Grain yield (16.07 q ha^{-1}) and straw yield (16.90 q ha^{-1}). Gross returns (‘ 67494.00 ha^{-1}) and net returns (‘ 36753.37 ha^{-1}) along with benefit cost ratio (2.19) was also increased significantly in treatment GRDF + foliar spray of DAP @ 1% + Urea @ 1% + B @ 0.2%.

Key words: Macronutrients, Micronutrients, GRDF, Nutrient uptake.

ISCA-ISC-2016-1AFH-25-Oral

Impact of Climate Change in Indian Agriculture

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Abstract: India is a developing country with regard to animal species. There exists much evidence of climatic effects on the biology, abundance and distribution of vertebrates and of certain groups of insects of our fauna, and there are very little data on most of the invertebrates. There are two future scenarios of the effects of climate change on the biodiversity

of vertebrates: 1) Ecosystems will be displaced jointly in accordance with climate, and 2) Ecosystems will adapt and change. The first scenario is unrealistic, due to the tremendous and growing fragmentation of habitats in Asia and the complexity of the responses by the different species and of the interactions between them. A possibility of displacement of the biocenoses only appears to exist in rivers. The second point does not allow for accurate predictions in most cases in view of the current level of knowledge. There is evidence of the direct effects of climate change to date, in spite of the scarcity of good temporal series. Thus, large phenological changes have been detected in populations of vertebrates and invertebrates, with advances in processes of initiation of activity, the arrival of migratory species or reproduction. The adjustment between predators and their prey resulting from differential responses to climate is another detected consequence of recent changes.

Keywords: Water pollution, System perspective, Decline water.

ISCA-ISC-2016-1AFH-26-Oral

Effect of Mg $(OH)_2$ Nanoparticles on Biochemical, Biophysical and Antioxidative responses in Two Cultivars of *Brassica juncea* Germinated under Cadmium Toxicity

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Abstract: The present study investigated the possible role of Mg $(OH)_2$ Nanoparticles in protecting *Brassica juncea* cultivars stressed with different toxicity levels of cadmium (Cd). Seeds of *Brassica juncea* were primed with $Mg(OH)_2$ NPs suspensions for four hours. Then seeds were dried back to their original weight and germinated in glass petri dishes using four levels of cadmium stress (0.5mM, 1 mM, 1.5 mM, and 2 mM). Unprimed seedlings of both cultivars subjected to Cd stress showed decline in growth and enhancement in activity of antioxidant enzymes (SOD, CAT, APX), but activities of APX and CAT subsequently declines with increasing stress levels. Nanoparticles primed seedlings showed much improvement in (SOD, CAT, APX) activities as compared to unprimed seedlings. Our results also suggested that Cd stress adversely affects the membrane integrity. H_2O_2, ROS and MDA content enhanced in unprimed seedlings raised under different Cd concentrations, whereas nanoparticles primed seedlings showed significant reduction in H_2O_2, ROS and MDA content. Proline production and electrolyte leakage increases in unprimed seedlings, whereas nanoparticles primed seedlings showed decrease in electrolyte content. The present research work demonstrate the positive and ameliorative effect of $Mg(OH)_2$ Nanoparticles treatment for Cd toxicity.

Keywords: Magnesium Hydroxide Nanoparticles, , Cadmium, *Brassica juncea*, antioxidant enzymes, oxidative stress.

ISCA-ISC-2016-1AFH-27-Oral

User Availability and Effectiveness of Sources of Information, Communication and other Resource Channels in Management and Promotion of Agroforestry in Rural India

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Abstract: Good availability of sources of information and communication channels play a role in determining participation of farmers in agroforestry. To understand and evaluate the significance of such factors in agroforestry, a pre tested semi structured questionnaire based survey was carried out in Haridwar District, India and 365 randomly selected farmers practicing agroforestry were interviewed. Respondents were asked to identify their availability, approach and effectiveness of sources of knowledge, information and communication channels in agroforestry. Traditional knowledge (91.78%), agriculture equipments (89.32%) farm instruments (69.86%), good market for farm produces (78.36%), transport facilities, sufficient land holding (75.07%), good seeds/seedlings (75.89%) , technical knowledge (74.79%), and training (74.25%) related to agroforestry management were considered effective by the farmers in management and promotion of agroforestry. It was concluded that availability and effectiveness of sources of information, communication and other resource channels with modern technologies, training facilities and extension services should be provided and improved as well especially by means of agroforestry extension systems and services.

Keywords: Agroforestry, Channels, Communication, Farmers, Sources.

ISCA-ISC-2016-1AFH-26-Poster

Agrometeorological Indices and Correlation coefficient Exhibited by Weather Parameters Prevailed in different Phenophases with Seed cotton Yield

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Abstract: The agro meteorological indices like GDD and PTU also showed a significant variation among different sowing dates and Bt hybrids of cotton. The average growing degree days were recorded among the different sowing dates was 1556 ^{0}days at the base temperature of 15.5 ^{0}C. The highest number of GDD (1649 ^{0}days) and PTU (20249 ^{0}day hrs) were accumulated in 25th MW sowing followed by 26th MW sowing. The lowest number of GDD (1452 ^{0}days) and PTU accumulation was recorded in 28th MW (1452 ^{0}days). The total number of GDD was significantly influenced by different hybrids. Among Bt hybrids the highest number of GDD were accumulated by Ajit-155 and Bunny Bt (1561 ^{0}days) and the average GDD were accumulated in different hybrids was 1556 ^{0}days.The PTU also significantly influenced by different treatments of sowing dates and different hybrids. The highest number of PTU accumulated in 25th MW sowing followed by 26th MW sowing. The lowest number of PTU recorded in 28th MW sowing. Among the hybrids the highest number of PTU recorded in Ajit-155 and Bunny Bt while lowest PTU recorded in Rashi-779.Correlation between weather parameter and growth stages of cotton with seed cotton yield showed that the weather parameters like rainfall, temperature, relative humidity and BSS have significant effect on critical growth stages. Rainfall during square formation and flowering stages showed positive influence on the seed cotton yield of *kharif* cotton. Diurnal temperature range also showed negative correlation with seed cotton yield.

Keywords: GDD, PTU, Bt, Correlation.

ISCA-ISC-2016-2AVF-18-Oral

Structure and Development of Pineal Gland in Catfishes: A Review

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Abstract: The purpose of this work was to investigate the structure of pineal gland in developing stage of catfish Clarias batrachus. This also present data from the literature on structure of the pineal gland in catfishes, we studied structure of the photoreceptor, the pineal window is a transparent/translucent pineal covering on the dorsal surface of the cranium of certain fishes, the pineal gland, situated on the roof of the diencephalon of the brain in fishes, acts as a photo neuroendocrine gland which secretes the hormone melatonin, the accessory glands of the adult farmed African catfish were studied, the first time, this study shows that melatonin feeding treatment to male C. macrocephalus has significantly improved the first puberty event by enhancing the maturation of testes and sperm, the first time that such a decentralized organization, similar in a way to the mammalian system, was found in any tallest species. Biological rhythms are known to play in impotents part in the temporal organization of the behavior and physiology of various species. During evolution of vertebrates, natural selection of air-breathing habits ill fishes has occult red many times and ill diverse ways, the pineal organ originates in the dorsal portion of the diencephalon and is formed by a medico-dorsal protrusion is the rudiment during embryonic developments. Detail studies on morphology, physiology, genetics & general biology are therefore in a fish species very much relevant in order to put forward conservation.

Keywords: Pineal Gland, Catfish, Biological rhythms, Photoreceptor.

ISCA-ISC-2016-2AVF-06-Poster

Toxicity of Endosulfan on Protein level in a Freshwater fish Wallago attu

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Abstract: The present work is carried out to study effect of endosulfan pesticide (0.0065 ppm concentration) on the fish *Wallago attu* exposed for 20 days (Chronic toxicity). The changes in the total proteins level of organs such as brain, liver, gill, kidney and muscle were studied and shows decreased protein level. The decrease in proteins under the stress of endosulfan toxicity observed in different tissues of *Wallago attu* indicates the proteolysis, prompting the suggestion that

the proteins were utilized to meet the excess energy demands imposed by the toxic stress. The percent decrease of total proteins were observed and compared with control fishes.

Key words: Toxicity, Endosulfan, Protein level, *Wallago attu.*

ISCA-ISC-2016-3BS-55-Oral

Utilization of Vermiwash Potential against Insect Pests of Tomato

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Abstracts: Vermiwash is brownish red coloured liquid organic fertilizer obtained from unit of vermiculture and vermicompost as drainages. It is used as spray on tomato plants for controlling insect pests. Our study examines the effect of vermiwash on the pest infestation (at 20%, 30%, 40% and 50% concentration of vermiwash) on the tomato plants. Vermiwash caused significant reduction in pest infestation of tomato crop. In order to evaluate the impact of vermiwash (at 20%, 30%, 40% and 50% concentration of vermiwash) in suppressing insect pests of tomato, a field experiment was conducted. The vermiwash concentration 20% and 30% solutions were less effective as compared to 40% and 50% solutions against insect pest of tomato.

Keywords: Vermiwash, Bio-pesticides, Pest, Vegetables, Earthworm.

ISCA-ISC-2016-3BS-56-Oral

Modeling of Systemin binding Interaction with its Putative Receptor SR160

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Abstract: Many plants have defensive mechanism to protect themselves from the predators by synthesizing defensive chemicals. Systemin is an 18-amino acid polypeptide hormone found in tomato, responsible for the activation of defensive genes. The release of systemin occur at wound sites of the tomato leaves, binds with the surface receptor SR160 to carry out the downstream process for the activation of the genes. The pathway involves the binding of systemin with SR160 leading to release of linolenic acid from the membrane which is subsequently converted into jasmonic acid that have the potential to activate the defensive genes. All amino acid sequences of systemin are conserved and important for the maximal activation of the proteinase inhibitor gene expression. Their studies of binding interaction reported that the amino acids near COOH terminus responsible for the function and the amino acids near NH terminus responsible for the interaction with receptor. How systemin binds with its receptor SR160 and what are their functional native complex structure is still unclear. We predicted 3D structure of SR160 using homology modeling and analysed the dynamic binding behaviour of the systemin with its known receptor. For better analysis of binding interaction we can do atomistic level of simulations that may help in future drug design.

Keywords: Systemin, Prosystemin, SR160, Homology modeling, 3D structure, Proteinase inhibitor, Jasmonic acid, Linolinic acid.

ISCA-ISC-2016-3BS-57-Oral

Medico Ethno Botanical Survey of Maheshwar tehsil West Nimar district of Madhya Pradesh, India

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Abstract: In the present the ethnomedicinal plants used by the tribal communities of Maheshwar Tehsil of West Nimar district of Madhya Pradesh are reported. In all 105 plant species belonging to 86 genera are identified. Which are used to cure various human ailments by the tribal people of this area. The historical place Maheshwar is one of the biggest Tehsils of West Nimar District of M.P. It is situated in the extreme South-West part of Madhya Pradesh state. Before independence major part of Holkar state and a part of Dewas state was included in this Tehsil. Biogeographically this area comes under Central India. The biodiversity, of this area is quite rich which is probably due to the wide variation in climate, rainfall, extremes of temperatures and presence of a part of Vindhyachal Mountain in this region. This tract is inhabited by three main tribes namely Darbari bhilala, Rathiya bhilala and Barela bhil. Each of these tribes has its own identity and dialect. These people are very rich in their culture and cultural herbal medicines etc are a component of

tribal culture. They offer an excellent scope to study the indigenous knowledge of ethno-biodiversity in the region under investigation. This investigation was done during the year 2015-16 and in this connection various tribal villages of Maheshwar Tehsil were visited e.g Chunariya, Jhapri, Karandiya, Moganwa, Kamadiya and Devpipaliya. The important species used amongst the tribal people is the use of *Cocculus hirsutus* (L.) Diels. (in leucorrhoea), *Butea monosperma* (Lam.). Taub. (in colic pain), *Merremia tridentata* Hallier (in urinary problems), *Cissus quadrangularis* L. (in sprains and bone fractures), *Boerhaavia diffusa* L. (in kidney trouble), *Tinospora cordifolia* L.(in stone trouble), *Withania coagulans* (Stock) Dunal. (in tension), *Tephrosia purpurea* (L.) Pers. (in leucorrhoea), *Pergularia daemia* (Forsk.) Chier. (in urino-genital problems), *Solanum virginianum* L. (in joints pain) and *Adathoda vasica* L. (in cough trouble), *Enicostoma axillare* (in Sciatica), *Vernonia cinaria* (in fever), *Bauhinia variegate* (in septic conditions) and *Tridax procumbens* (in wounds and cuts). *Echinops echinata* (hypertension), *Eclipta alba* (skin disease), *Holarrhena antidysenterica* (in dysentery), *Bryonia laciniosa* (in fertility), *Triumfetta* spp.(in hornia) and *Barleria prionitis* (in toothache) Besides this, some animals are also used to cure human diseases i.e. Cow (urine used in epilepsy), Goat (milk is used tuberculosis), Hare (meat is used in chicken pox) and Python (for insanity and other neurobial problems). Hence there is an urgent need for the protection and conservation of these valuable plant and animal species. It is strongly believed that some of these folklore plants and animals might prove to be life saving and lead to effective drugs through detailed investigation by scientific techniques in future.

Keywords: Traditional knowledge, Flora, Vegetation, Human ailments.

ISCA-ISC-2016-3BS-58-Oral

Weeds in the field of *Vigna unguiculata*

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Abstract: Plats growing together have natural relationship among themselves and with their environment. Group of plants in one area froms a stand and several similar stands represents a community. In present investigation quantitative analytic study of community characters are obsreved on 20th, 40th, 60th days after sowing. In the experiment other than crop V*igna unguiculata, Chorchorus capsularis, Commelina benghalensis, Cyperus rotundus, Digera arvensis, Oldenlandia corymbosa, Phyllanthus niruri, Portulaca oleracia, Rhincosa minima, Trianma monogyna, Gnaphalium* weeds were observed. Ethnobotnical observation of certain plants are reported by Pandey & Sharma. On 75th day impect of yield were recorded under different conditions. It was observed that L-4 (weeding at every seventh day) condition is the best method as for as yield is considered.

Keywords: Crop, Weeds, Yield.

ISCA-ISC-2016-3BS-29-Poster

Characterization and dye decolorizing ability of laccase from *Genoderma species,* isolated from karwar coastal region

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Abstract: Laccase producing fungi from decaying wood of fallen trees, soil and mushrooms in the coastal regions of karwar, Karnataka were isolated and characterized. In this study, 25 fungal isolates were isolated by serial dilution technique and fruiting bodies of mushrooms. They were cultivated on potato dextrose agar (PDA) plate with standard Guaiacol as indicator compound to screen the laccase production ability. Out of 25 isolates, Only 10 isolates were showed the ability to produce laccase and further different substrates were used to screen for their ability to produce laccase on solid medium containing 2, 2'-azino-bis (3- ethylbenzothiazoline-6-sulphonic acid) (ABTS), Tannic acid and Syringaldazine. The potent laccase producer selected on basis of all substrate reaction and was used for further studies. Potent fungus was morphologically identified as white rot fungus, *Ganodermasp ASN3*. Laccase production was done by Submerged Fermentation (SmF). Various process parameters like different pH, temperature, carbon and nitrogen sources were investigated onlaccase production in the fermentation process. The laccase activity was highest with glucose as carbon source and yeast extract as nitrogen source. The highest production of laccase at pH 6.5and the temperature for production was recorded at 40°C. Further dye decolourization was performed with the selected fungus. Textile dyes Navy blue HER, Orange HE2R, were decolorized at a range of 80–95 %.

Keyword: Laccase, Ganoderma, ABTS, Decolorization, Textile dyes.

ISCA-ISC-2016-3BS-30-Poster

In-silico Inhibitors for Pectin- Methylesterase of *A. thaliana* by virtual Screening to Inhibit the Seed Germination process

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Abstract: Pectin is the one of the major component of plant cellwall which maintains structural integrity of cellwall. They can be modified by pectinases such as pectin methylesterases (PMEs), which catalyses the demethylesterification of homogalacturonans releasing pectins and methanol, playing important roles in growth, developement and seed germination. The activity of an enzyme PME affects the cell wall porosity and elasticity by allowing water uptake. The control PME activities by several proteinaceous inhibitors have a direct effect on the regulation of various processes in plant physiology. Recently it has been found that the catechin isolated from Green tea can inhibit the PME from citrus and tomato plants. In the previous work we have characterized the PME from *A. thaliana* & predicted its 3D structure by using bioinformatics tools. Now, the present study focuses to find out the novel inhibitor of PME by screening the various catechin analogue compounds from the ZINC database. The further molecular docking studies were carried out by using the *Hex* software against the PME of *A. thaliana.* Further *in-vitro* inhibition effect of the PME by catechin on the seed germination can provide the alternative to stop the growth of unwanted plants & weeds.
Keywords: *In-silico,* PME, Catechin, Virtual screening, Hex software, ZINC database.

ISCA-ISC-2016-4CS-39-Oral

Alcium Chloride/Hcl An Efficient Co-Catalytic System for Synthesis of 3-(Aryliminomethyl)-Chromones under Sonochemical Condition

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Abstract: Calcium Chloride and one drop conc. HCl has been found to be an efficient catalyst for the synthesis of 3-(Aryliminomethyl)-Chromones (**3**) from 3-Formylchromones (**1**) and amines (**2**) under ultrasound condition. The reaction under ultrasound condition proceeds in high yields at ambient temperature in a short time. A variety of imines have been synthesized by varying substituent on aromatic amines in good yields.
Keywords: Imines, Formylchromones, Amines, Calcium Chloride, Ultrasound.

ISCA-ISC-2016-4CS-33-Poster

Aromaticity in Redox States of Quinones: A Density Functional Study

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Abstract: Since from last five decade there has been growing interest in the research of redox chemistry of aromatic compounds such as phenols, quinones etc. Quinones play an important role in the electron-transfer in the biological processes. Here we try to quantify aromaticity of different redox states of quinones. The widely used criteria for quantification of aromaticity are the nucleus independent chemical shift at 1Å above the ring center (NICS(1)) and harmonic oscillator model of aromaticity (HOMA). The geometry optimization of quinones redox states are done with GAUSSIAN09 package at B3LYP/6-311+G(d,p) level with density functional theory (DFT). The change in the NICS (1) and HOMA values of different redox states of quinones show the change in aromaticity. The decrease in NICS(1) and increase in HOMA values during the change of quinone to quinol brings out its increase in aromaticity. This aspect will be important for the study of stability and reactivity properties of quinones.
Keywords: NICS, HOMA, DFT, Aromaticity, Redox.s

ISCA-ISC-2016-4CS-34-Poster

DFT study of Isomerism in 5-[(4-chlorophenyl) methylidene]-3- cyclopropyl-2-(phenylimino)-1,3-thiazolidin-4-one

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Abstract: By using biological compounds, containing nitrogen, oxygen and sulphur, the thiazolidinone derivatives which are having the different pharmacological activities has been synthesized.[1-5] The synthesized derivative is associated with cyclopropyl ring at 3rd position of the thiazolidinone ring. With the experimental study based on X-ray the (2Z-5Z) conformer is observed. The stability of the (2Z-5Z) conformer is explored on the basis of energetic by DFT with exchange-correlation functional at 6-311++G(d,p) with B3LYP and M06-2X levels of theories. Under the investigation it was found that the compound (2Z-5Z) conformer possesses lowest total energy and observed to be most stable one than the (2Z-5E), (2E-5Z) and (2E-5E). Thus, the theoretical results are in good agreement with the experimental one and it is confirmed that the lead compound preferred (2Z-5Z) conformation.

Keywords: DFT, Thiazolidinone derivative, Geometrical isomerism.

ISCA-ISC-2016-4CS-35-Poster

Plant Parts as A Low Cost Natural Adsorbents For The Elimination Of Toxic Heavy Metals From Industrial Waste Water

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Abstract: Many heavy metals are obligatory trace elements for humans, animals and plants in small amounts. Excessive of toxic metals in drinking water is considerably toxic to human being and ecological environments. Heavy metals have inhibitory effects on the biological treatment process at the wastewater treatment plants. Heavy metals are the most hazardous pollutants present in industrial and domestic waste water. Adsorption is one of the alternatives for such cases and is an effective purification and separation technique used in industry especially in water and wastewater treatments. Low cost is very important parameter of adsorption process. The paper investigate the result of a study emphasizing the practical usefulness of a low cost natural adsorbents like many plants, plant leaves, plant stems, plant bark etc,. Adsorption kinetics and equilibrium have been investigated as a function of initial metal ions concentration, pH value, contact time, and adsorbent doses. Kinetic studies suggested that the adsorption allowed pseudo firs order reaction and pseudo second order reaction. Equilibrium data were analyzed using Langmuir and freundlich isotherm models.

Keywords: Environment, Heavy metals, wastewater, domestic, industrial.

ISCA-ISC-2016-7EEAP-12-Oral

Adsorption of Auromine 'O' by green synthesized Graphene sand composite

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Abstract: Auramine 'O' dye is considered to be one of the most toxic contaminants among all type of dye and recognized as a carcinogenic and mutagenic agent and needs complete removal from waste water before disposal. In the present study , graphene based adsorbent was synthesized from sugar and sand using green chemistry approach and adsorption of AO dye from aqueous solution was studied by batch adsorption technique under varying experimental conditions like contact time, adsorbent dose, initial AO dye concentration and temperature. The characterization of graphene sand composite (GSC) was accomplished by Fourier transforms infrared (FTIR) spectroscopy, transmission electron microscopy (TEM), X-ray diffraction (XRD) analysis. The optimum adsorption of AO dye by new adsorbent, coined as GSC, was observed at initial dye concentration of 15 mg/l, contact time of 2 hr, adsorbent dose of 50 mg/ml, and temperature of 323 K. The maximum adsorption capacity of GSC for AO dye was found to be 17.99 mg/g at a temperature of 323K .The

equilibrium sorption data were fitted satisfactorily to the Freundlich adsorption model with R^2 value of 0.950.The progress of the adsorption process was found to follow the second order kinetics. The results obtained in this study illustrated that the prepared graphenic material could be an effective and economically viable adsorbent for removal of AO dye.

Keywords: Adsorption, Auromine, Green synthesized, Graphene.

ISCA-ISC-2016-14PhyS-05-Poster

Ultrasonic Investigations of Aqueous Solution of Urea at 313.15 K Temperatures

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Abstract: The ultrasonic velocity, viscosity and density have been measured for the aqueous solution of Urea as a function of concentration at 313.15K temperature. The ultrasonic velocity measurements of binary mixture were carried out at frequency 2MHz. The experimental data have been used to calculate the thermodynamic parameters such as intermolecular free length (L_f) and specific acoustic impedance (Æ). These thermodynamic parameters have been further used to elicit in terms of molecular interactions present in the binary mixtures.

Keywords: Ultrasonic velocity, Density, Iintermolecular free length, Acoustic impedance, Urea, Molecular interaction.

ISCA-ISC-2016-14PhyS-06-Poster

Acoustic Study of Ethanolic Binary Mixture of Natural Sap of Phoenix Sylvestris at Different Temperature

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Abstract: Various thermodynamic properties of solid and liquid can be determined by measurement of ultrasonic velocity. Properties of liquid may vary with the variation in temperature and concentration of solution. Present Experimental study has been performed at three different temperatures to measure the longitudinal sound velocity by means of ultrasonic interferometer. Binary mixtures of different concentration were prepared by mixing sap of Phoenix sylvestris in pure ethanol (99.9% AR grade). Subsequently acoustic parameters such as acoustic impedance (Z), adiabatic compressibility (âa), Intermolecular free length (Lf) and bulk modulus (K) have been derived by using sound velocity. Sound velocity has been measured at a constant frequency 2MHz and at different temperatures. Trends of variation of speed of sound and the variations of these parameters are discussed in term of different intermolecular interaction.

Keywords: Ultrasonic velocity, binary mixture, molecular interaction, Phoenix Sylvestris.

ISCA-ISC-2016-17CLM-07-Oral

Multiple Branding

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Abstract: Branding has emerged as a one of the highest management preference in the last decade due to the growing realization that brands are one of the most valuable assets that are intangible firms have. Driven in part by this intense industry interest, academic researchers have explored a number of different brand-related topics in recent years, articles, generating scores of papers, research reports, and books. This paper identifies some of the influential work in the branding area, highlighting what has been learned from an academic perspective on important topics such as brand positioning, brand integration, brand equity measurement, brand growth, and brand management. The paper also outlines some gaps that exist in the research of branding and brand equity and formulates a series of related research questions. Choice modeling implications of the branding concept and the challenges of incorporating main and interaction effects of branding as well as the impact of competition are discussed.

Keywords: Multiple Branding, Management, Industry.

ISCA-ISC-2016-1AFH-28-Oral

Starvation Effect on Digestive Enzyme of *Holotrichia serrata* (Fab) (Coleoptera: Scarabaeidae)

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Abstract: Freshly emerged female of *Holotrichia serrata* (Fab) were collected from groundnut, maize, potato, sugarcane growing areas of Khed Tahasil in the first week of June after first monsoon shower and selected for the starvation experiment. The duration of starvation is 15 days. Well-fed individuals on the leaves of Neem (*Azadirachta indica*) served as control. The effect of starvation on the digestive enzymes of female *Holotrichia serrata* (Fab) shown that there were general considerable reductions in enzymatic activities except in a lipase in both gut sections; however there are considerable increases of soluble proteins, both the gut section homogenates of starved female. The maximum reduction of protease is 83% in a hindgut and 86% in mid gut followed by invertase which is 59% in a mid gut and 50% in hindgut and also trehalse 62% hindgut and 51% in mid gut. The lipase is 80% reduction in a hindgut and 41% in mid gut in a starved female. In starved female, Lipase showing the significant decrease in activity of 11% in a hindgut and 5% increasing in midgut.
Keywords: Coleoptera: Scarabaeidae, enzymes, *Holotrichia serrata*, Starvation.

ISCA-ISC-2016-1AFH-27-Poster

Marker Aided Introgression of Blast Disease Resistance Gene *Pi2* into Intan Rice Variety

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Abstract: Rice blast caused by *Magnaporthe oryzae* is the most devastating fungal disease which causes approximately 80% yield loss. The use of resistant cultivars is the most effective and economical way to control rice blast disease. "Intan" is a medium slender indica rice variety, popular with farmers and consumers across Karnataka. However, it is highly susceptible to blast disease. Marker Assisted Backcross Breeding approach was adopted and *Pi2* gene was introgressed into Intan variety. Polymorphic markers for foreground selection [AP5659-5 (0.10cM)], recombinant selection and background selection were identified. Flanking polymorphic markers RM6836 (1.5 cM) from upstream and AP5413(1.2 cM) from downstream of *Pi2* gene were used for recombinant selection. In background selection 63 markers were screened, out of which 23 markers were found to be polymorphic. F_1 plants were generated and two backcrossings were done to generate BC_2F_1 plants. Plants having target gene *Pi2*, minimum donor segment and maximum recurrent parent genome were identified for future use in rice breeding programme.
Keywords: Rice, Blast, Foreground, Recombinant and Background selection.

ISCA-ISC-2016-1AFH-28-Poster

Efficacy of a Novel Phytopesticide against *Thrips tabaci*, an insect pest on Onions

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Abstract: Onion is an important crop cultivated as vegetable. Onion thrips is a key insect pest in most of the onion production regions of the world. A new biopesticide prepared from the crude leaf extracts of ten plants in cow urine was evaluated for their efficacy against *Thrips tabaci*. The biopesticide was tested in agricultural field on onion plants in varying concentrations and was found to be highly efficient in eradicating the thrips in an eco-friendly manner.
Keywords: *Thrips tabaci*, Biopesticide, Leaf-extract, Insect pest.

ISCA-ISC-2016-1AFH-29-Poster

Studies on Biological Control of Leaf Spot of *Citrus aurantifolia* by using Endophytic Bacteria

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Abstract: The purpose of this work is to study the effect of endophytic bacteria as a biocontrol on leaf spot of *citrus canker*. *Citrus aurantifolia* is small aromatic flowering plant, symptoms observed commonly on leaf, fruit and it suffers from various abiotic and biotic factors. Endophytic bacteria were isolated from infected citrus plant to study the antigonastic activity of endophyte against the pathogen it was observed that the endophyte produce inhibitory zone which indicates it is antagonistic to the phytopathogenic bacteria (xanthomonas pv.citri subsp.citri(ex Hasse))was rod shaped and gram negative. warrior and wulff etal used such type of eco-friendly methods as a biological control for plant protection. Endophytic bacteria on citrus aurantifolia.

Keywords:

ISCA-ISC-2016-1AFH-30-Poster

Evaluation and Characterization of Genetically Modified cotton *g. Herbaceum* var. Jayadhar for *Helicoverpa Armigera* Resistance

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Abstract: Cotton crop is infested by more than 160 species of insects from which bollworm infestation results in severe yield loss. Plant transformation technology has allowed the introduction and expression of *cry*1Ac genes from *Bacillus thuringiensis* encoding Cry1Ac insecticidal proteins into the cotton genome. Jayadhar (*G. herbaceum),* a widespread diploid desi cotton cultivated in rainfed conditions of Karnataka, is highly susceptible to *Helicoverpa*. Therefore, twenty two Bt cotton events were generated in Jayadhar (*G. herbaceaum*) using *cry*1Ac gene for evaluation in T_4 generation. Among all the events showing expression of Cry protein, only two of them J8 (2.23 µg/g) and J2 (1.68 µg/g) showed expression beyond the threshold level in the field. Highest cumulative insect mortality was recorded in event J2 (76.16%) followed by J12 (63.59%). The number of bolls harvested per plant observed in the transgenic lines was found significantly higher than the non transgenic lines. It indicates that the presence of transgene in these lines is directly related to yield. The Bt Jayadhar events J2 and J8 are promising based on insect bioassay, protein expression and yield parameters. These results may be validated by large scale verification trials under effective biosafety conditions.

Keywords: Cotton, transformation, *cry*1Ac gene, Jayadhar.

ISCA-ISC-2016-2AVF-20-Oral

Study on Length Weight Relationship and Condition Factors of *Catla catla, (*Ham., 1822) from Vallabh Sagar, Gujarat (India)

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Abstract: This study describes the important parameters such as length-weight relationships (LWR), condition factors (K) and relative condition factor (Kn) of Catla catla from Vallabh Sagar reservoir, Gujarat. A total of 554 specimens were used to measure the total length and weight during June, 2013 to May, 2014. The LWR was analyzed and growth exponent 'b' (2.880) was observed from pooled data which indicates negative allometric growth in studied fish. The correlation coefficient 'r' (0.976) was observed during the study which depicts high correlation in length and weight variables. The value of condition factor and relative condition factor were found >1 which indicates the well-being of studied fish and conduciveness of the habitat.

Keywords: Length weight relationship, condition factor, Vallabh Sagar, cube law.

ISCA-ISC-2016-2AVF-07-Poster

Effect of *Sapindus Mukorossi* on Biochemical and Physiological Parameters of Crab, *Paratelphusa Jacquemontii* (Rathbun)

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Abstract: Crab, *Paratelphusa jacquemontii* (Rathbun), is important food as well as pest in the paddy field and cause destruction in Canals, dam and water reservoirs. In present investigation, toxicity of *Sapindus mukorossi* plant leaves was evaluated and variations in glucose and protein content were demonstrated at 10ppm and 20-ppm concentration for 24 and 48 hrs. Simultaneously oxygen consumption was also determined to know mode of toxicity of *Sapindus mukorossi* extract. Where decrease in glucose and protein was noted while oxygen consumption was increased. This may be due to the stress, increased energy demand lead increased metabolic pathways like Glycogenolysis, and Gluconeogenesis resulted in alterations of oxygen consumption. *Sapindus mukorossi* extract cause toxicity and alteration of physiological state.
Key words: *Paratelphusa jacquemontii, Sapindus mukorossi, Oxygen consumption. Glucose, Protein.*

ISCA-ISC-2016-3BS-59-Oral

To Study Species Diversity of Butterflies with the help of Line Transect Method from Khed Tahasil, Pune District, Maharashtra

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Abstract: Butterflies are vital part of the forest ecosystem. Monitoring butterfly population is an important means of measuring change in the environment as well as the state of habitats for biodiversity. They are highly sensitive to the change in environment and easily affected by even relatively minor perturbations in habitat, so they have been considered as indicators of environment quality and health of an ecosystem. This manual describes how to setup butterfly monitoring, do the counts and report them. In present investigation we observed five families namely Papilionidae, Pieridae, Nymphalidae, Lycaenidae and Hesperiidae. These observations were taken in four different sides of Khed Tahasil. Their biotopes and nectar food plants were also studied. Due to civilisation and industrialisation decreases in butterfly species were the reported in year 2015-16.
Keywords: Lepidoptera, Diversity, Line transect, Nectar food.

ISCA-ISC-2016-3BS-60-Oral

Distribution of Microcystinsynthetase genes in Filamentous Cyanobacterial Phytoplankton and Production of Microcystin in water samples collected from Eastern Madhya Pradesh, India

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Abstract: On the basis of relative abundance, frequency and biovolume, the important value index ranks were assigned to individual cyanobacterial genera present in phytoplanktonic scum/mat samples collected from ten water bodies located in three districts of Eastern Madhya Pradesh. All water samples were dominated by scum/mat forming cyanobacteria mostly belonging to the genus *Oscillatoria,* whereas the sub-dominant genera were *Anabaena, Nostoc, Phormidium* and *Spirulina*. The microcystinsynthetase genes (*mcyABDE*) were detected in all the cyanobacterial scum/mats samples representing toxic genotypes of cyanobacteria constituting the populations. Despite ubiquitous presence, *mcy* genes displayed quite a patchy distribution pattern, and rarely all the four genes were present together. Present study showed amplification of*mcyA* (80%), *mcyB* (60%), *mcyD*(50%) and *mcyE* (80%) genes. The dissolved microcystin content in the waters harbouring cyanobacterial populations was determined by semi-quantitative ELISA. Water sample prepared with different filtration method and concentrate with ODS cartridge. QualiTube ELISA test determined 30% water bodies contain below 0.5 ppb, as where 70% water bodies contained between 0.5 ppb and 3.0 ppb of microcystins. Microcystin concentration was well below 1 μg L^{-1}, a benchmark set for safe use of water for drinking and recreational purposes according to WHO guidelines.
Keywords: Biodiversity, Agarose gel electrophoresis, PCR amplification, ELISA, Microcystin.

ISCA-ISC-2016-3BS-61-Oral

Study on Avifaunal Diversity of Khargone City (M.P.), India

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Abstract: The city is biodiversity rich and harbors a variety of local resident and migratory birds due to abundant food available throughout the year in the form of invertebrate animals and aquatic weeds. A study on diversity and status of avifauna in urban area of Khargone city Madhya Pradesh was done in 12-months period from September 2015 to August 2016. A total of 26 species of birds were recorded belonging to 19 different families of class Aves from Khargone city sites. The majority of the wetland birds observed during the present study period were the migratory and resident birds. The resident birds are observed in most of the months of study period but the migratory birds were observed mostly in the winter season. These data suggest that the Khargone city sites are more suitable habitat than the other. Preferences for nesting sites were significantly higher on the indigenous trees in study sites, meaning that vegetation is important factor affecting the diversity of avifauna.
Keywords: Avifaunal Diversity, Khargone city, Migratory and Resident birds.

ISCA-ISC-2016-3BS-62-Oral

Studies on Airborne Fungal Diversity in the Kitchen Environment of Jabalpur City, India

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Abstract: The present approach aims to screen out the prevalence of airborne fungal spores of intramural and extramural environments of kitchen in Jabalpur city. The air sampling was conducted using Anderson two stage Sampler (Anderson, 1958; 1966) containing SDA plates. Different kitchen environments of Jabalpur city were surveyed every month for a period of one year (January 2014-December 2014). During the study period a total of 30 fungal species belonging to 9 genera were observed. *Penicillium notatum* was most dominant types in all fungal forms followed by *Alternaria tenius*, *Alternaria* sp., *Mucor* sp.and *Mucor racimosus* was prevalent in both indoor and outdoor environment. The more number of fungi were found as a tendency of attraction towards the moisture availability and nutrition present in the kitchen environment. Thus by increasing the ventilation rate can be helpful in improving the kitchen air quality.
Keywords: Airborne fungi, intramural, extramural, Jabalpur.

ISCA-ISC-2016-3BS-63-Oral

Screening of Algae Isolated from various Aquatic Environments for their Antioxidant Potential

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Abstract: Algae derived compoundshave many applications in medicines, cosmetics and food industry. The organism adapts themselves with respect to environmental factors and properties of the habitat. Therefore the organisms from different habitats will have diversity in their structure and properties and concentration. The environmental factors change with respect to their altitude & magnitude. This will result in change in their abundance also. The present study was focused on screening of algae for phenolic and flavonoid compounds. Various algal strains were isolated from different aquatic environments like fresh water, salt water and Soda Lake. Methanolic extracts were studied for phenolic and flavonoid contents. Phenolic content was studied in terms of Gallic acid equivalents using Folin-ciocalteu method. Flavonoid contents were measured using quercetin as a standard. The extracts were also studied for antioxidant potential using DPPH assay. In this study corresponding results were observed in concentration of bioactive compounds and antioxidant potential. Antioxidant activity is directly proportional to concentration of phenolic and flavonoid compounds. These algal strains may have potential in therapeutic and cosmetic industry. The algal strains having antioxidant potential were selected for further application study in cosmetics.
Keywords: phenolics, flavonoids, antioxidants, algae, DPPH assay

ISCA-ISC-2016-3BS-64-Oral

Isolation and Screening of Microorganisms from different Ecological niche with Antioxidant Potential

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Abstract: Synthetic colorants are commonly used in the cosmetics, textiles, paper and food industry. The problem associated with the synthetic colorants is they are non-biodegradable and harmful in nature. Now there is an increase in demand towards the use of the natural colorantsin market. Microorganisms, plants and animals produce various pigments as secondary metabolites. Thus various water and soil samples were collected from the different ecological niche i.e. extreme environment, polluted water. Total eighty five pigmented bacteria were isolated from different ecological niche. Pigment was extracted from pigmented bacteria using different solvent such as Methanol, Ethanol, Hexane and Chloroform. Absorption maxima pattern for extracted pigments was studied. Thin layer chromatography of extracted pigment was performed using different solvent system, out of which Ethyl acetate: chloroform: Methanol was found to give better separation of constituents. Antioxidant activity was studied using DPPH assay and pigment giving highest scavenging activity were shortlisted for the further studies. Pigment havingantioxidant property is capable of providing a good protection in cosmetics. Pigments having a better antioxidant are useful for application in cosmetic industry.
Keywords: Pigments, Antioxidant, Antidandruff, synthetic colorants, DPPH assay.

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Utilization of Ferruginol (Meroterpene) on Quality of Silk Spinned by the fifth Instar larvae of silkworm *Bombyx mori* (L.) (Race: PM x CSR2)

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Abstract: The present attempt was undertaken to study the influence of acetone solution of Ferruginol, a natural phenol and a meroterpene compound, on the cocoon characters and silk filament parameters of silk worm *Bombyx mori* (L.) (Race: PM x CSR2). Three concentrations (5ppm; 10ppm and 20ppm) of Ferruginol were prepared. The fifth instar larvae were utilized for the experimentation. Soon after the fourth moult, the fifth instar larvae were grouped into five groups (each with hundred individuals) (Untreated control; Acetone treated control; 5 ppm Ferruginol; 10ppm Ferruginol and 20ppm Ferruginol). Ten microliters of each concentration of Ferruginol solution were topically applied to respective group to the individual larva at 48 hours after the fourth moult. The larvae were maintained through standard schedule. Acetone solution of Ferruginol at 5 ppm, 10 ppm and 20 ppm concentrations recorded maximum cocoon weight (2.046;2.387;2.924gm), shell weight (0.438, 0.541, 0.673 gm), pupal weight (1.613;1.846;2.252 gm). All three concentrations of Ferruginol recorded significant weight of cocoon, shell, and pupal weight in comparison with the control (untreated and acetone treated).There was a gradual increase in the silk yield with an increase in the concentrations of Ferruginol (in acetone) from 5 ppm, 10 ppm and 20 ppm. Shell ratio of the cocoons harvested from the treated group were found with most significant (** $P < 0.005$, ***$P < 0.01$) influence. Similar type of effect was observed for the silk filament parameters. Efficient use of acetone solution of Ferruginol may open a new avenue in the field of sericulture.
Keywords: *Bombyx mori*, Ferruginol, Meroterpenes, Silk yield.

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Contamination of Raw Vegetables with Potential Human Pathogens that Carry Antibiotic Resistant Genes

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Abstract: Occurence of multidrug resistant (MDR) bacteria in manure and its application in soil allows resistant bacteria to spread from soil to humans through the food-chain. The aim of this study was to evaluate presence of MDR bacteria encoding extended spectrum of betalactamases (ESBL) gene-among fourty two raw vegetables of different types collected

from different areas of Indorecity. After culture, Strain identification and susceptibility testing of isolates was performed using BD Phoenix automated system as per manufacturers instructions. ESBL encoding genes (TEM, SHV, CTX) were confirmed by polymerase chain reaction (PCR). The high contamination of human pathogens on the surface of raw vegetables (4- 10 logCFU/ml) and MDR count (1-6 logCFU/ml.) were obtained. Out of fourty two samples thirty samples (71.42%) yielded E.coli, twenty four (57.14%) Klebsiella and thirty six (85.714%) Pseudomonas spp, eight (19.04%) Staphylococci and seven (16.66%) Enterococci. Out of thirty samples contaminated with E.coli twenty (66.6%) of them were ESBL producers and harbour TEM, SHV and CTX genes. Out of twenty four Klebsiella spp. twelve (50%) of them were multidrug resistant and were ESBL Producers. The finding shows that raw vegetables contaminated with MDR bacteria can posed a therapeutic challenges for the resulting infections among community.

Keywords: MDR ESBL, Raw vegetables, PCR.

ISCA-ISC-2016-3BS-67-Oral

Rogor Induced Histopathological Changes in the Gills of Freshwater fish Puntius Stigma from Sukhana River, Aurangabad (MS) India

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Abstract: Histological biomarkers of toxicity in fish organs are a useful indicator of environmental pollution. The histological effects of rogor, an organophosphate insecticide, on the gill tissues in *Puntius stigma* were determined. The fishes *Puntius stigma* were exposed to lethal concentrations at 96 hrs LC_{50} and sub lethal concentrations at (1/5, 1/10 and 1/15 ppm) of rogor for 30 days. The fishes shows severe histological changes in the gill lamellae such as bulging, epithelial hypertrophy, fusion of secondary lamellae, hemorrhage, curling of lamellae, swelling of pillar cells, swelling of chloride cells.

Keyword: *Puntius stigma,* rogor, gill, $LC_{50,}$ Sukhana river.

ISCA-ISC-2016-3BS-68-Oral

Effluence of antibiotic Gentamicin against *Acenetobacter*

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Abstract: Gram negative hospital acquired infection are a major problem since last two decades *Acinetobacter baumanii* has emerged as a highly trouble pathogen for many institutions globally. As a consequence of its immense abilityto acquired antibiotic drug resistance determinant .It has justifiably been propelled to the fore front of scientific attention.Rapid spread of multidrug resistant isolate causing infection.Several typing method have been described for Acinetobacter to establish a correlation between various epidemic strains and their source and mode of transmission some typing systems of Acinetobacter are profile of Acinetobacter are profile of biochemical tests,carbon source growth assays DNA-DNAhybridization ,antibiotic susceptibility pattern(antibiograms),protein eletrophoretic patterns and electrophoretic mobilities of cellular enzymes.The most popular rapid and simple method is plasmid profile strains with similar plasmid profiles have been further analysis by restrictions endonuclease digestion of plasmid DNA to generateplasmid finger print.for typing of Acinetobacter PCR based methods were used.Acinetobacter isolates are also identified to genomic species level by technique called amplified ribosomal DNA restriction analysis (ARDRA).Although many of typing systemic are based on the last taxonomic development biotyping serotyping ,antibiotic typing enzyme ,electro-eretic typing and plasmidprofile ribotyping.The treatment of multidrug resistant Acinetobacter baumanii is a serious therapeutic problemdue to the limited penetrationof antibiotic.

Keywords: Acinetobacter isolates, Antibiotic gentamycin, Resistant to Antibiotic gentamycin.

ISCA-ISC-2016-3BS-33-Poster

Wild Vegetable and Food Plants Biodiversity in Akot Region, Maharashtra

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Abstract: Akot region is connected with the southern part of the Melghat Tiger Reserve. Akot wildlife division has three conservation areas, Narnala Sanctuary, Wan Sanctuary and Ambabarva Sanctuary. The peoples living in the remote villages near or around the Tiger Reserve is used the wild plants for consumption as food, vegetables etc. Wild weeds, fruits, vegetables and other plant parts are consumed as an alternative for staple food by the locals. The plats like

Amaltas, Mahul vel, Varah kand, Ran Kela, Kena, kunjar, Salai, Belphal etc, are used as food or vegetables. Unfortunately no systematic documentation of this region on this aspect is present. The present study was conducted from July 2014 to April 2015 in Akot Tahsil of Akola district of Maharashtra state to document the wild plants consumed by the locals as vegetables. About 30 wild plant species consumed as vegetables by the local peoples were documented.

Keyword: Wild vegetable, Biodiversity, Akot

ISCA-ISC-2016-3BS-34-Poster

An in Vivo Assessment of Genotoxicity of Titanium Dioxide Nanoparticle

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Abstract: In the era of nanoparticle technology, Titanium dioxide nanoparticles (TiO_2 – NPs) is one of them being manufactured worldwide in large quantities for a variety of applications leading to direct and indirect exposure. There are some studies on toxicity of TiO_2 – NPs reported elsewhere. However, reports on its genotoxicity with special reference to in vivo system are very scanty. In this context, a study has been conducted to assess the genotoxicity of TiO_2 – NP (<25nm) using Swiss albino mouse as the test system. Experiments were conducted to determine the dose and time dependent effects. Three doses of TiO_2 – NP, viz 125, 250 and 500 mg/kg b.wt was suspended in distilled water and injected i.p. Bone marrow micronucleus test was performed at 24, 48 and 72 hours time interval. The micronucleus test measures damage to the chromosomes and mitotic apparatus of cells. An increase in the frequency of micronucleated cells is an indication of induced genotoxicity. Cyclophosphamide (CP) at a dose of 50mg/kg b.wt. was used as the positive control. . A total of 200 PCE and corresponding NCE were scored per animal, and PCE/NCE ratio was also determined for cytotoxicity; a significant decrease in the ratio indicates the cytotoxicity/bone marrow depression. The results indicate that there was a dose-dependent genotoxic effects as indicated by a significant increase in the frequency of micronucleated cells when compared with the solvent control group. The maximum effect was observed up to 48 hours and at 72 hours of exposure, the genotoxic effect was reduced. There was no significant reduction in PCE/NCE ratio compared with the negative control, indicating that it is not cytotoxic unlike CP, which is both potent genotoxic and cytotoxic. Thus, TiO_2 – NPs which has several applications and human exposure need to be taken special care to avoid the risk of mutation related health effects.

Keywords: In vivo genotoxicity, Titanium oxide nanoparticles, Micronucleus, DNA damage, PCE/NCE ratio

ISCA-ISC-2016-3BS-35-Poster

Arisaema murrayi: Ethanomedico Practice by Thakar tribal people of Rakshewadi (Khed)

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Abstract: Some wild plants are rich source of medicines and these are well known to many tribal people. These medicinal plants provide outstanding contribution to modern therapeutics. The natural medicines are attracting renewed attention from both practical and scientific view points. They have proved their efficacy for primary health care because they are safe and lesser side effects. Arisaema murrayi (sapkanda) is an ancient plant used as food and medicine for many diseases by thakar tribe from Rakshewadi. Present works focus ethano medicinal use of this medicinal plant by thakar tribe from Rakshewadi.

Keywords: *Arisaema murrayi*, Thakar, Ethno Medicinal uses.

ISCA-ISC-2016-3BS-36-Poster

In-Vitro Screening of Extremophillic Algae for it's Anti-Acne Activity

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Abstract: Acnes is a common skin disorder,and itscontrol is using creams containing chemicals such as salicylic acid, resorcinol, benzyl peroxide and sulphur. Such synthetic ingredients are harmful to skin and are banned in many countries, because of their ill effects. *Propionibacterium acnes* is the main causative agent of acne. Recent studies focus on natural

antimicrobial agents which can replace synthetic ingredients. Algae are well known for their antibacterial, antifungal, antiviral and anticancer potential. The present study was done on various algae isolated from salt pan areas. Total 7 algal isolates were obtained from salt pan area near Mulund and Bhandup. Algae produce bioactive compounds like phenolic and flavonoid compounds to protect themselves from stress conditions. These antioxidant substances are antimicrobial in nature. Salt pan being an extreme environment, their antioxidant activity and antiacne activity was studied.Antioxidant activity was studied using DPPH assay. The anti-acne activity was studied qualitatively using agar cup method. *Propionibacterium acnesATCC 1951* was used as standard test organism. The algae having significant zone of inhibition can be used for cosmetic applications.

Keywords: Algae, Salt pan, Antiacne, DPPH, Antioxidant.

ISCA-ISC-2016-3BS-37-Poster

Screening of Effluent Water for Pigmented Bacteria with Antidandruff Activity

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Abstract: In last few years, there has been an increasing trend towards the use of natural colorant against synthetic colorant. Synthetic colorants are used invarious cosmetics, textiles and foodindustry. The synthetic colorant hasmany adverse effects on human beings such as allergic reactions. The natural colorants haveapplication in food, textiles, paper industry, agricultural practises and cosmetics. The present studies involve the isolation of pigmented bacteria from effluent water and study its antidandruff activity. The effluent water is apotential source of microorganisms. Microorganism show enhanced pigment production under stressed environmental conditions. Pigments harbour various biological activities such as antioxidant property, anticancer property and antimicrobial properties. Red coloured pigment producing bacteria were isolated from the effluent water. The luxuriant growth of pigment producing bacteria was observed in Tryptic soya agar containing 4% glycerol. Pigments were extractedmethanol and chloroform solvent. Absorption maxima of extracted pigment were studied. Thin layer chromatography was performed to calculate the relative Rf value. Isolated strain was assessed for the antidandruff activity against *Malassezia furfur MTCC 1374* using agar cup method.The pigments havingsignificant zone of inhibition indicates antidandruff activity can be used for further studies in hair cosmetics.

Keywords: Pigments, Antidandruff, Thin layer Chromatography, Antioxidant, Hair Cosmetics.

ISCA-ISC-2016-3BS-38-Poster

Biosynthesis of Silver Nanoparticles using *Agaricus bisporous* and its Characterization

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Abstract: Among different methods employed for synthesis of nanoparticles, biological methods is preferred because they are clean, non-toxic, safe, biocompatible and environmentally acceptable. Fungi has emerged as a novel method for the synthesis of nanoparticles. In this study extracellular synthesis of silver nanoparticles from *Agaricus bisporus* (button mushroom) was carried out. The synthesized silver nanoparticles were confirmed and characterized by UV-Visible spectrum of the aqueous solution containing silver ions showed a peak at 430 nm corresponding to the surface plasmon absorbance of silver nanoparticles.The FTIR studies showed the presence of functional groups involved in the reduction of silver nitrate to silver ions. The XRD study showed the size of silver nanoparticles 37nm.

Keywords: silver nanoparticles, *Agaricus bisporous*, FT-IR, XRD

ISCA-ISC-2016-3BS-39-Poster

Diversity of Dragonflies around Yedgaon Dam in Taluka- Junnar, District-Pune, Maharashtra India

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Abstract: A study of fresh water body sites such as dam, river, ponds and small streams in forest areas around Yedgaon dam, district Pune was carried out for three seasons in a year. Transect of 100 m long and 50 meter wide was selected for the study. Total of 21 species of dragonflies belongs to 9 genera and 3 families viz. Libellulidae, Gomphidae and Aeshnidae

were recorded. Diversity indices for dragonfly were 1.33, 1.32, and 1.30 at river, dam & forest respectively. Dragonflies belongs to the Libellulidae (19 species) followed by Aeshnidae and Gomphidae each one species. Out of total 21 species 5 were abundant or very common, 3 were common and 3 were rare. *Brachythemis contaminata, Orthetrum sabina*, *Acisoma panorpoides, Bradinopyga geminata* and *Pantala flavescens* were found to be the most abundant species recorded in this study.

Keywords: Dragonfly, Diversity, Yedgaon dam.

ISCA-ISC-2016-3BS-40-Poster

Effects of Leaf Extract of *Moringa Oleifera* on Angiogenesis by Chorio Allontoic Membrane Assay (Cam) in Chick Embryo

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Abstract: Chick embryo study reflects valuable information in further development; it is used as valuable tool to study angiogenesis. Angiogenesis is a natural, fundamental process in cancer, ischemic diseases and other inflammatory disorders. Various plant extract affect formation of blood vessels and related effects on CAM (Suaib Luqman, 2012). In the present investigation effects of leaf extract of *Moringa oleifera* on angiogenesis were studied. Fertilized eggs of *Gallus gallus domesticus* were incubated at 38^0 C and 72-75% related humidity. After 48 hrs, 72 hrs and 96 hrs embryo CAM were exposed and injected with 70 mg/ml leaf extract of *M. oleifera* and eggs were further incubated up to 144 hrs and CAM were studied. A significant inhibitory effect of leaf extract of Moringa Oleifera were observed on the number and area of primary, secondary and tertiary vitelline veins of 48 hrs, 72 hrs CAM as compared to 96 hrs CAM incubation.

Keywords: Angiogenesis, *Moringa oleifera*, Chorio Allontoic Membrane assay (CAM), Tertiary Vitelline Veins.

ISCA-ISC-2016-4CS-40-Oral

A Review on Humidity Sensors Fabricated using Polyaniline

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Abstract: Sensors are gadgets that are utilized to gauge physical variables like temperature, pH, speed, rotational rate, stream rate, weight and numerous others. Chemical sensors are small-size devices comprising a recognition element. Mïre and mïre attentions have been rewarded tï the sensïrs manufactured frïmcïnductingpïlymers. Out of several polymers, polyaniline (PANI) has received widespread use because of its doping and dedoping chemistry. The two most important factors determining the chemical structure of polyaniline are the redox state and the doping level. For using polymers in chemical sensor, polymers like PANI has been doped with different materials for preparing a composite, this doping changes the properties of polyaniline such as relative humidity, conductivity, resistivity etc, thus by sensing this change in properties it can be used as a sensor. The paper consists of the brief introduction of the sensors and especially the chemical sensors, including elements of chemical sensors followed by a brief review of humidity sensor based on polyaniline and its composites.

Keywords: Polyaniline, Sensor, Humidity, Chemical Sensor.

ISCA-ISC-2016-4CS-41-Oral

MOPS (3-(*N*-morpholino) Propanesulfonic acid): An efficient Biochemical buffering agent for Green Synthesis of Tetrahydrobenzo[*b*] pyrans

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Abstract: A cost effective and novel protocol for the synthesis of medicinally important class of heterocyclic scaffold tetrahydrobenzo[*b*]pyrans derivatives has been reported by one pot three component reaction of malononitrile, aromatic aldehyde and dimedone as substrate by using MOPS (3-(*N*-morpholino)propanesulfonic acid. Greener protocols of reaction are followed by using the best safe additive in accelerating the reaction in aqueous media. Present methodology is alternate approach to address the catalytic activity of simple buffer which offers several advantages like non toxic catalyst; aqueous media, and high yield along with short reaction time, simple work up procedure, no waste or by products, lacking of heavy metals or nanoparticles makes the fascinating features of reaction.

Keywords: Aromatic aldehydes, Malononitrile, Dimedone, Green chemistry, Tetrahydrobenzo[b]pyrans.

ISCA-ISC-2016-4CS-43-Oral

A Facile Way of Synthesis of 5 –Phenyl /4-Nitro Phenyl - 1, 3, 4-Oxadiazole-2-Amine and their Novel Derivatives

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Abstract: The development of mild and simple methods for the formation of C–C and C–N bonds is of great importance and remains a pre-eminent goal in current synthetic chemistry. Due to the unique properties of 2, 5-disubstituted 1, 3, 4-oxadiazoles the development of synthetic methods which enable facile access to these useful entities are desirable. As part of our research studies on the development of efficient and facile methods for the preparation of biologically active heterocyclic compounds, we report herein a new synthesis of 5-aryl-1,3,4-oxadiazole-2-amines and their derivatives. It is pharmaceutically very important moiety to synthesize various derivatives which showed potential biological activity. Aromatic aldehydes reacted with semicarbazide to form (E)-2- arylidenehydrazinecarboxamide- 5 as an intermediate and cyclised in presence of I_2/K_2CO_3 to form 5-phenyl/4-nitro phenyl-1,3,4-oxadiazole-2-amine . From this moiety 2–amine is synthetically important pharmacophore to synthesize various derivatives. All the synthesized compounds were send to screened for antimicrobial activity in vitro. The chemical structures of all new derivatives were established by IR, ^{1}HNMR, and mass spectra data.

Keywords: 2, 5-disubstituted 1, 3, 4-oxadiazoles, pharmacophore, antimicrobial activity, IR, ^{1}HNMR, mass spectra etc.

ISCA-ISC-2016-4CS-44-Oral

Equilibrium Soil Sorption for organic compounds using Quantitative structure-Activity Relationship

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Abstract: Sorption capacities of sorbent are necessary for selecting and designing sorption systems for separation and removal processes, such as water quality control devices, because they are indicators of service life. Empirical methods for building models of the relationships between molecular structure and useful properties are becoming increasingly important. A quantitative structure–activity relationship is developed for soil sorption as a control technology for organic compounds as a tool for water quality professionals to protect public health. The aim of the study is to investigate the equilibrium sorption process in the removal of organic compounds. Equilibrium sorptions are carried out in batch system. Soil samples are characterized through different physico-chemical means. This paper describes the use of the Langmuir equation and the quantitative structure activity relationship to predict the equilibrium sorption of organic compounds by soil sorbents. The Langmuir isotherm parameter, K_s, depends on the sorbate as well as the sorbent, and the prediction for K_s can be obtained indirectly from the affinity coefficient. A correlation is developed to compute the affinity coefficient from the modified, valence molecular connectivity index. This method provides an improved way to predict equilibrium adsorption capacities for organic compound adsorbates and soil sorbents. The recommended model trained on a large number of organic compounds having descriptors offered a good balance between good performance statistics, low error, and low probability of over-fitting while describing a wide range of chemical features.

Keywords: Sorption, Sorption capacities, Langmuir isotherm, organic compound, Soil, QSAR, molecular connectivity index

ISCA-ISC-2016-4CS-45-Oral

Use of Green Chemistry for Control of Hazardous Chemical Waste Disposal

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Abstract: Green chemistry is the new and emerging branch of chemistry. The beginning of this, is considered as a response to the need to reduce the damage of the environment by hazardous chemical waste disposal and also it includes anything from reducing waste to even disposing of waste in correct manner. This paper presents the implementation of green chemistry for control of hazardous chemical waste disposal. Green chemistry is highly effective motivational concept for prevention of hazardous chemical waste disposal, industrial waste, domestic waste etc. because it applies innovative scientific approaches in real world environmental situations.

Keywords: Green chemistry, Hazardous waste, Disposal, Industrial waste, Chemical waste.

ISCA-ISC-2016-4CS-46-Oral

Study the properties of Waxy Coating on Apple and solution (General Awareness)

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Abstract: We worked on a project Study the properties of waxy coating on apples and a solution. We analysed the waxy substance to study different physical properties like nature, colour, melting point and solubility of the substance. We found that the substance was soluble in hexane. The melting point of two different samples was found to be 60^0C and 42^0C respectively. Thus the substances used for coating were different. Similarly we studied the chemical properties of two substances. We found that one of the substances may be artificial wax. It did not contain any functional group. Therefore it is advisable to check the label before purchasing apples and prefer those with fssai labels.
Keywords: Waxy, Coating, Apple.

ISCA-ISC-2016-4CS-36-Poster

Practical Synthetic Approach to Related Substances of Rivaroxaban; an Anti-coagulant Drug Substance

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Abstract: During the process development of Rivaroxaban (1); an anticoagulant drug substance, two related substances were detected by a gradient high performance liquid chromatography (HPLC) method. Liquid chromatography mass spectrometry (LC–MS) was performed to identify the molecular mass of these impurities. A detailed study was undertaken to characterize the impurities. Based on the spectral data (^{1}H NMR and MS), these impurities were characterized as [2-({4-[(5S)-5-({[(5-chloro-2-thienyl)carbonyl]amino}methyl)-2-oxo-1,3-oxazolidin-3-yl] phenyl}amino)ethoxy]acetic acid (impurity-1) and 5-chloro-N-[(2R)-2-hydroxy-3-{[4-(3-oxomorpholin-4-yl)phenyl]amino}propyl] thiophene-2-carboxamide (impurity-2). Identified impurities were synthesized by operationally simple methods in good yield and purity by HPLC. Synthesis of these impurities involves (a) simple acid catalyzed opening of morpholinone ring of 4-{4-[(5S)-5-(aminomethyl)-2-oxo-1,3-oxazolidin-3-yl]phenyl}morpholin-3-one hydrochloride (6) to get intermediate (8), primary amine of 8 is selectively coupled with active ester (5) leads to impurity-1, (b) Phthalamide deprotection of 2-[(2R)-2-hydroxy-3-{[4-(3-oxomorpholin-4-yl)phenyl]amino}propyl]-1H-isoindole-1,3(2H)-dione (4) using hydrazine hydrate to get intermediate (9) which is coupled with active ester (5) to afford impurity-2. The synthesized imputiy-1 and impurity-2 were co-injected with sample containing the impurities and found the retention time match of the spiked impurities.
Keywords: Impurities, Rivaroxaban, Anti-coagulant drug, synthesis.

ISCA-ISC-2016-4CS-37-Poster

Synthesis and Activity Evaluation of new Oxazolidinone Derivatives against gram-Positive Bacteria

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Abstract: Oxazolidinone class of compounds continue to generate interest as promising agents effective againstsensitive and resistant Gram-positive pathogenic bacteria strains. Recent focus is to develop new potentderivatives with improved broad-spectrum activity and safety profile superior to linezolid. A series of new oxazolidinone derivatives have been synthesized by condensation reaction between (*R*)-Mandelic acid (**1**) and 4-Nitrophenylethyl amine (**2**) to provide amide (**3**) in first step, amide **3** was then reduced using $NaBH_4$-I_2 to amino alcohol **4**, the obtained 1,4-amino alcohol **4**was simply cyclized by insertion of carbonyl group by using 1,1'-Carbonyldiimidazole (CDI) to furnish aimed oxazolidinone ring **5**, nitro group of **5** was reduced with hydrogen gas and hydrogenating catalyst Raney nickel to provide desired scaffold aniline **6**. In last synthetic step derivatization of scaffold **6**furnished series of amides, sulfonamides and ureas**(7a-j)** derivatives of oxazolidinone.All these compounds were screened for their antibacterial activities against different bacterial strains like *Staphylococcus aureus*, *Staphylococcus epidermis*, *Bacillus cereus*, *Enterococcusfaecalis*. The antibac-

terial activities were compared with the standard drug linezolid. All the synthesized compounds, showed good to moderate antibacterial activities compared to standard drug linezolid. Obtained results are useful for the researchers to establish SAR in achieving novel oxazolidinone antibacterial agent.

Keywords: Oxazolidinone derivatives, Antibacterial activity, Gram-positive bacteria.

ISCA-ISC-2016-4CS-38-Poster

Spectroscopic Studies on the Interaction between Thiamine Hydrochloride and Bovine Serum Albumin

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Abstract: The interaction between antispasmodic drug, Thiamine hydrochloride (TH) and bovine serum albumin (BSA) was studied by spectroscopic and viscosity methods. The intrinsic fluorescence of BSA was quenched in the presence of TH. UV absorbance of TH shows hyperchromic effect on the addition of BSA to the solution with negligible shift in wavelength. The thermodynamic parameters were calculated according to van't Hoff equation. The viscosity of BSA solution was almost unchanged on addition of TH. The effects of some metal salt solutions on the binding of TH with BSA were investigated in the present study.

Keywords: Thiamine hydrochloride, Bovine serum albumin, Spectroscopy.

ISCA-ISC-2016-4CS-39-Poster

Kinetic Soil Sorption for Controlling Emerging Contaminants through QSAR Study

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Abstract: Emerging contaminants are chemicals recently discovered in natural streams as a result of human and industrial activities. Most of them have no regulatory standard and can potentially cause deleterious effects in aquatic life at environmentally relevant concentrations. The aim of the study is to investigate the sorption process in the removal of emerging compounds. Sorption kinetic is carried out in batch system. Soil samples are characterized through different physico-chemical means. Empirical methods for building predictive models of the relationships between molecular structure and useful properties are becoming increasingly important. A quantitative structure–activity relationship was developed to predict the efficiency of soil sorption as a control technology for organic compounds as a tool for water quality professionals to protect public health. In addition, molecular modeling tools (QSAR methodology) are used to calculate different properties of organic compounds including electrostatic potentials. A sorption mechanism is then proposed in which clay-minerals species interact electrostatically with organic molecules. We use linear (Partial Least Squares) machine learning methods to describe a broad chemical space and produce a user-friendly model. We employ cross-validation method for quality control. The recommended model trained on a large number of organic compounds having descriptors offered a good balance between good performance statistics, low error, and low probability of over-fitting while describing a wide range of chemical features.

Keywords: Adsorption, organic compound, Soil, QSAR, Partial Least Squares, cross-validation, method.

ISCA-ISC-2016-4CS-40-Poster

Photocatalytic Degradation of Crystal violet by using a Quaternary Oxide

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Abstract: Draining of waste water from textile and dyeing industries into rivers without treatment causes serious problems of water pollution. Photocatalysis plays an important role in treatment of waste water. In the present paper, a Quaternary oxide ie., $Na_{11}[CuFeW_{18}O_{62}]$ was used as a photocatalyst for the degradation of crystal violet in aqueous solution. The effect of various operational parameters such as effect of pH, concentration of dye, amount of semiconductor and light intensity were studied. Kinetic studies revealed that the photocatalytic degradation of crystal violet follows pseudo first order kinetics. It was observed that the dye molecules were reduced to harmless products by superoxide anion radical ($O_2^{\bullet -}$).

Keywords: Water pollution, Photocatalysis, Quaternary oxide, $Na_{11}[CuFeW_{18}O_{62}]$, Crystal violet.

ISCA-ISC-2016-4CS-41-Poster

Flame Retardant and Thermal Properties of PVC/MMT and PVC/LDH Nanocomposites

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Abstract: Nanocomposites of poly (vinyl chloride) (PVC) were prepared to increase the flame retardant property. The solution cast method was used for the formulation of PVC nanocomposites, using nano fillers such as montmorillonite (MMT) and layered double hydroxide (LDH). The resulting nanocomposites were analyzed by means of thermo gravimetry analysis (TGA), static oven test and flame retardant properties. The obtained results were compared with each other and also with pristine PVC film. The results of thermal analysis, static oven test and flame retardant properties indicated that the nano sized MMT as well as LDH work as flame retardant for the PVC formulations.
Keyword: Poly (vinyl chloride), Montmorillonite, Layered double hydroxide, Nano-composite, Thermo gravimetry analysis, Flame retardant.

ISCA-ISC-2016-4CS-42-Poster

Synthesis and Characterization of Polyaniline-Ferric alum

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Abstract: Polyaniline based nanocompsites containing ferric alum were synthesized by using potassium persulphate as oxidizing agent for polymerization. The prepared samples were characterized using some techniques such Fourier transforms infrared (FTIR), X-ray diffraction (XRD), scanning electron microscopy (SEM). X-ray diffraction (XRD) and Fourier transform infrared (FT-IR) spectra studies indicated the presence of Fe-polyaniline bond. XRD spectra indicate the amorphous nature of this nanocomposities.
Keywords: Polyaniline, Ferric alum, Polymerization, aniline hydrochloride.

ISCA-ISC-2016-4CS-43-Poster

Spectrophotometric Determination of the Stability Constant and conformation of complex formation of synthesized Schiff base ligands of [5-hydroxy 3-methyl 1-(2,4-dinitrophenyl) pyrazol 4-yl] (phenyl) methanoneand 4-amino antipyrine

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Abstract: The spectrophotometric study of apparent stability constants of complexes of some metal ions with synthesized Schiff base ligands of [5-hydroxy 3-methyl 1-(2,4-dinitrophenyl) pyrazol 4-yl] (phenyl) methanoneand 4-amino antipyrine at constant ionic strength (0.1 M) in 70% dioxane-water mixture were determined by Job's method of continuous variation. it show 1:1 and 1:2 complex formation. The Formation of complex is confirmed using isobestic point method. The present method compare with potentiometric method. The results obtained of stability constant are in good agreement.
Keywords: Spectrophotometry, stability constant, Schiff base ligand, 1-phenyl 3-methyl 4-Benzoyl Pyrazolone-5, Metal Complex.

ISCA-ISC-2016-5CIT-05-Oral

A Study on Social Media Obsession in Youth

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Abstract: In today's society, million and billions people across the world are accessing the internet multiple times in a day. The world has become global with social media and people come closer with high uses of Social Networking Sites. Among the most popular of social media are face book, twitter and instagaram, all with the main purpose to share or view personal information and experience, communication with others and meet new people on social or professional grounds. Now every people have the internet in their smart phones, at touch of button they can check their emails, twitter, face

book, Whtas App, bank account balance etc and any social networking sites or application access with one click, it seems easily to spend hours of time on Social Networking Sites. Craze of selfies, uses of new unique smart phones, makes friends on face book, twitter, instagarm, WhatsApp t these all causes lead towards obsession and addiction with social media. The aim of this study is to examine "The obsession level of social media in youth", examine negative consequences of uses of social networking sites. Negative correlates of social networking sites usage include the decreases in real life social community participation and academic achievement.

Keywords: Social network addiction, Social networking sites, negative consequences.

ISCA-ISC-2016-5CIT-07-Oral

Role of Real Time Operating System to reduce the road Accident Fatalities

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Abstract: Now a day's traffic accidents due to human errors cause increasing number of deaths and injuries around the globe. Driving with drowsiness and driving under influence of alcohol are main causes of road accidents. This paper describes a real-time non-intrusive method for detecting drowsiness and alcohol consumption of driver which will help to reduce the amount of fatalities with automatic driver drowsiness and alcohol detection based on visual information and Artificial Intelligence. The aim of this system is to locate, track and analyze drivers face and eyes to compute drowsiness with image processing. Also we have to use smoke detector to detect presence of alcohol in the vehicle. Where this real-time operating system is to carrying a great responsible role or quality-of-service to society.

Keywords: Real Time Operating System, drowsiness detection, influence of alcohol, image processing, artificial intelligent.

ISCA-ISC-2016-5CIT-08-Oral

Secure GEDEEC Protocol against CCDs and DCDs Attacks using SCADD protocol in WSN

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Abstract: Wireless Sensor Networks are a collection of large number of tiny and low cast node. Wireless Sensor Network has wide application in data gathering and data Transmission. To transmission of data, Various Routing Protocols are used like: SEP, DEEC, EDEEC, GEDEEC. GEDEEC Protocol. GEDDEC protocol gives better network life time as compare to all the protocol.Node Capture Attack is one of the most dreadful security attack exist in WSN. Security of WSN is an important issue for maintaining confidentiality and integrity of WSN. CCDs and DCDs is most popular attack to WSN. There are different technique to prevent CCDs and DCDs attack in WSN. In this paper we use SCADD protocol for node capture attack detection and defense in WSN. Which will increase the security of WSN and gives a cost effective solution against the Node capture attacks in WSN.

Keywords: WSN, GEDEEC protocol,CCDs,DCDs, SCADD protocol, Routing Protocols.

ISCA-ISC-2016-5CIT-09-Oral

Generations of Wireless Mobile Technology

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Abstract: Wireless Technology is the transfer of information over a distance without the use of enhanced electrical conductors or "wires". Information such as data, voice, and video are carried through the radio frequency of the electromagnetic spectrum. The distances involved may be short or long. The cellular wireless Generation (G) generally refers to a change in the nature of the system, speed, technology and frequency. Each generation have some standards, capacities, techniques and new features which differentiate it from the previous one. In the past few decades, mobile wireless technologies have experience 4 or 5 generation of technology revolution and evolution, namely from 1G to 5G. At present, 3G mobile phone systems are sustaining IP connections worldwide for all real and non-real time operations. Subsequently, the platform of 4G is formerly deliberated and it is sure that 4G comprises heterogeneous standards under a same umbrella. In this knowledgebase article we will focus on the evolution and development of various generation of wireless mobile technology along with their significance and advantages of one over the other. Current research in mobile wireless technology concentrates on advance implementation of 4G technology and 5G technology. In this paper

we propose novel network architecture for next generation 5G mobile networks. Our future minds are eagerly waiting for fifth generation technology which is based on user centric concept means user is the topmost priority of system. Each network in 5G mobile phones will capable to handle user mobility. As a whole, advancement in technology reaches our lives to a forward step ahead.

Keywords: 1G, 2G, GSM, GPRS, 3G, 4G, 5G, WWWW

ISCA-ISC-2016-5CIT-01-Poster

Self Organization Algorithm to process data with missing values and estimation

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Abstract: The present paper shows how you can use the self organization algorithm Kohonen to process data with missing values and estimate them. After methodological reminder, we illustrate our subject from three applications to actual data. In this paper, three examples were taken and showed that how it is possible and desirable to use self organization maps when the available data have missing data. Good certain estimates and classes obtained will be more relevant than variables .Descriptive data are well correlated. Example shows how this method allows estimating missing data accuracy. The data thus completed can then be subjected to any conventional treatment.

Keywords: Imputation Data analysis, Kohonen maps, Missing Data.

ISCA-ISC-2016-5CIT-02-Poster

Cloud Computing Technology

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Abstract: Cloud computing is the latest effort in delivering computing resources as a service. Cloud computing is the latest of computing paradigms. It promises to change the way people use computing resources. Using internet as the backbone, cloud computing asserts that it is possible to provide computing as a "utility" to end users "as and when needed" basis. Cloud computing has a potential to serve users of all kinds: individual users, institutions, industry at large. It represents a shift away from computing as a product that is purchased, to computing as a service that is delivered to consumers over the internet from large-scale data centers – or "clouds". Whilst cloud computing is gaining growing popularity in the IT industry, academia appeared to be lagging behind the rapid developments in this field. This poster aims to provide an overview of the swiftly developing advances in the technical foundations of cloud computing and their research efforts. Structured along the technical aspects on the cloud agenda, we discuss lessons from related technologies; advances in the introduction of protocols, interfaces, and standards; techniques for modeling and building clouds; and new use-cases arising through cloud computing.

Keywords: Cloud computing, cloud technologies.

ISCA-ISC-2016-5CIT-03-Poster

Voice Usage for Mobile Charging

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Abstract: Life in this world is changing consistently and there's a great demand for new technology that would make the information available at each one's comfort and at required place.. A new technique for turning sound into electricity that allows re-charging Phones the power of the human voice. When we are in important conversation with any official on mobile, then if our battery gets discharged, our works get disturbed. But by using this technology called "Voice Usage to Charge Mobiles". There is no possibility of discharging of the battery. This technology works on the principle of piezoelectric phenomenon. Sound waves are given as input and we get electrical energy as output. The generated electrical energy charges the battery.

Keywords: Recharging, voice technology, Piezoelectric phenomenon.

ISCA-ISC-2016-5CIT-04-Poster

Enhancement of Higher Education with Big Data

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Abstract: Technology is distracting education, expanding the education ecosystem beyond traditional lecture halls and classrooms to accommodate learners' preferences for time, place, style and previous levels of talent. Now a day's Academic institutions are drawing attention in finding methods for making effective learning process, for identifying learner's achievements and weakness, for tracing academic progress and also for predicting future performance. The ability to access, analyze, and manage vast volumes of data while rapidly evolving the Information Architecture has long been a goal at many Education institutions. So here Big Data helps the institution more holistically than any other areas for improved decision making and forecasting models to make right investment decisions for better impact. With this conception of Big Data becomes immensely important because it allows you to unpack how this student and college relationship is playing out in real time.

Keywords: Big Data, Education Industry, Student enhancement, Traditional Learning System.

ISCA-ISC-2016-6EG-01-Poster

Image Analysis of Sonic logging Data

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Abstract: Geophysical signals are multiscale and nonsationary in character. Mathematical morphology-top hat transform, fractional fourier transform, fractional wavelet transform, partial differential euations, etc. are employed for image processing and analysis. The multiscale decomposition of the geophysical data takes into account the timescale localization properties of the wavelet transform. One of the drawbacks of the filter -based frequency decomposition techniques, Wavelet Transform(WT), is that the vertical resolution of the original Sonic data is not preserved due to vertical smearing(bleeding effect).Vertical resolution of well logs is challenging task for ultra thin bed formation evaluation. Multiscale segmentation of well logs is integral part of wavelet analysis of boreholegeophysical logging data. Acoustic well-logging is used for the following applications: formation mechanical property analysis (e.g. elastic moduli), formation evaluation (e.g. lithology), geophysical interpretation (e.g. synthetic seismograms), and shear-wave anisotropy measurements, etc. All of these applications are generated from the analysis of the full-waveform acquired by the acoustic well-logging tool.Signal processing techniques fashionable for effectively extracting reflected waves under the strong interferences of borehole guided waves for the new logging tools. Wavelet processing methods with multi-scale analysis is employed for borehole geophysical data-processing mainly for coping with non-stationary noise. It is essence of signal processing techniques for effectively extracting reflected waves under the strong interferences of borehole guided waves. Multi-scale semblance method is employed for the separation and velocity (slowness) analysis of the reflected waves and guided waves in borehole acoustic logging. Wavelets transform (CWT) is applied for appropriately extract the reflected waves under severe interference from the guided waves and to suppress noise in the time-frequency domain of sonic waveform. IODP (International Ocean Discovery Program) sonic full waveform data is used for processing research work. Acoustic logging tools can also be used to detect the waves reflected from the near-borehole structural features, in addition to the borehole guided waves for formation elastic velocity analysis. These reflected waves can be used to form an image of the near-borehole structural features. Because the reflected waves from near-borehole geological structures are usually mixed with the dominating borehole guided waves. Single-well imaging bridging the resolution gap between well-logging and seismic data. The acoustic well-logging tool provides a unique geometry whereby both source and receivers are in the same wellbore, several receivers are located at different offsets along the body of the well-logging tool and, as the well-logging tool is moved up hole, the sub surface surrounding the wellbore is sampled repeatedly. Single-well imaging can be considered a subset of the many borehole seismic imaging techniques (Vertical seismic profiling). Single-well imaging can be defined as the study of the acoustic and elastic wave propagation in and around a borehole where the source and receivers are located in the same borehole. Single-well imaging data can be acquired by using a borehole seismic source with clamped receivers in the same borehole to image the flank of a salt dome, or using an acoustic well-logging tool to evaluate the elastic properties of geologic formations. Single-well imaging can contribute to reservoir understanding by bridging the resolution gap between well-logging and seismic data for precise understanding of the reservoir characteristics. Weierstrass approximation theorem- Weierstrass function, hough transform, wavelet transform and kuwahara filter are employed for image processing -analysis-understating-interpretation. Combinatorial image processing(splicing and quilting) Image processing(image to image), Analysis (image-attributes), Understanding & interpretation (attributes to attributes) for borehole image analysis. SEISMICUNIX (LAS2SU) log ASCII standard (LAS) is employed for sonic logging data processing.

Keywords: Borehole Geophysical data, Full Waveform Sonic, signal processing, Multiscale segmentation, wavelet transform, kuwahara filter, mathematical morphology, fractional fourier transform.

ISCA-ISC-2016-7EEAP-13-Oral

Application of Hybrid AHP-TOPSIS Method of MCDM Approach for Ranking and Selection of Handloom Fabrics for Summer Clothing

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Abstract: In the midst of many alternatives, ranking and selection of a textile fabric for a specific end-use requirement is not a simple task. Because, this situation involves consideration of multiple criteria simultaneously while ranking the fabrics and thereby selecting the best alternative/option. This is a typical situation where multiple criteria decision making (MCDM) techniques come into play. In this paper, an effort has been made to devise an index of handloom fabric quality, which should be a benchmark for selecting the handloom fabrics for summer clothing. A new technique of MCDM namely,hybrid Analytic Hierarchy Process (AHP) – Technique for Order Preference by Similarity to Ideal Solutions (TOPSIS)approachhas been employed here for ranking 25 handloom cotton plain fabrics and thereby selecting the best alternative in terms of their quality value considering their suitability for summer clothing. Three important comfort criteria namely drape coefficient, air permeability and thermal resistance were considered and their relative importance or weights were determined by the formation of a typical pair-wise comparison matrix. Handloom fabrics were ranked according to their relative closeness with respect to the best and worst possible alternatives.
Keywords: Multi-criteria Decision Making, Decision criteria, Handloom fabric, Summer clothing, Analytic Hierarchy Process, Technique for Order Preference by Similarity to Ideal Solutions.

ISCA-ISC-2016-7EEAP-Civil-04-Oral

Performance Assessment of *Moringa oleifera* seed Biomass in the treatment of iron rich Groundwater

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Abstract: Contamination of groundwater by various heavy metals is an increasing problem all around the world especially in mining areas. Iron (Fe^{2+}) being the usually occurring single ion in groundwater either in dissolved or un-dissolved form. Iron and its other compound impart turbidity and affects potability of water. Hence treatment of groundwater becomes necessary. The present study focuses on the removal of iron from groundwater using natural coagulant/adsorbent of *Moringa oleifera* seed biomass. The *Moringa oleifera* seed coagulant prepared was used at varying dosage from 50 mg/L to 5000 mg/L. Variation in initial iron concentration (0 mg/L-20 mg/L) and contact /reaction time (0 min-240 min) was done. Effect on initial pH and iron concentration (iron removal) was observed. Coagulant dose of 3000 mg/L at 240 min contact time and 20 mg/L of initial iron concentration was found optimum in removal of around 61.3 % of initial iron concentration. The use of *Moringa oleifera* coagulant was found effective in iron removal and is recommended for eco-friendly treatment of groundwater.
Keywords: Moringa oleifera; coagulation; adsorption; iron rich groundwater; etc.

ISCA-ISC-2016-7EEAP-Textile-02-Oral

Silk Degumming with Sapindusmukorossi, Balanitesaegyptiaca and Dyeing with Buteamonosperma

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Abstract: The present study focused on the effect of degumming and dyeing on physical and chemical properties of silk. Here degumming silk were mordanted with potash alum and stannous chloride as metal mordants. And buteamonosperma flowers were used for dyeing M:L ratio was kept 1:50 dyeing was carried out 60^0C for 60 minutes. Physical properties of sample degummed with Sapindusmukorossi, Balanitesaegyptiaca and dyed with palas flowers were over all increased physical properties with very good to excellent wash and rubbing fastness properties.
Keywords: Degumming, Sapindusmukorossi, Balanitesaegyptiaca, Buteamonosperma, Fastness properties.

ISCA-ISC-2016-8EVS-34-Oral

Ganesh Idol Immersion: Impact on Water Quality of Tapi River, Surat (Gujarat) India

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Abstract: India is a country of diverse cultural and religious festivals. Ganesh festival and Durga puja are the festivals involving idol immersion as ritual. Present Study was conducted to assess the impact of idol immersion on water quality of Tapi river during Ganesh festival. Water samples were collected during morning hours in Pre-immersion, post immersion periods, and were analyzed for various Physico-chemical and microbial parameters. pH was found alkaline, Dissolved Oxygen recorded lower after immersion. BOD, COD, total Hardness and total Alkalinity were recorded higher compared to pre immersion period. Bacterial count also recorded higher. Study reveals that the river water is getting affected by the immersion of ganesh idols and puts pressure on the ecology of the natural water bodies.
Keywords: Idol immersion, Tapi River, Physico-chemical properties, TVC, eco-friendly practices.

ISCA-ISC-2016-8EVS-35-Oral

Seasonal Variation of Epifloral Communities with respect to Nutrient load in Sediment of Tapi at Utran, Surat

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Abstract: This study was aimed to observe the Epifloral communities with respect to nutrient load (Nitrite, Nitrate, and Phosphate) seasonally. This study was carried out for one year from March - 2015 to February - 2016. Sediment samples were collected from Utran, Surat which is located near the Gas based power station on the bank of Tapi River. Sediment samples were collected monthly in morning hours. Samples were analysed for nitrate, nitrite and phosphate. During the study period, four families of epifloral communities were found i.e. *Bacillariophyceae*, Chlorophyceae, Cyanophyceae and Euglenophyceae with reference to seasonal nutrient load. Nutrient load was high in summer and showed the higher growth of Cyanophycaeae. In monsoon when nutrient load was less Chlorophyacae was observed highest.
Keywords: Epiflora, Nutrient load, Sediment, Tapi, Utran.

ISCA-ISC-2016-8EVS-36-Oral

Appraisal of Heavy Metals Concentration in Ground Water used for Drinking Purpose in Olpad Taluka, Surat, Gujarat

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Abstract: Safe drinking water is as major requirement as safe air for humans. Ground water is one of the most valuable source of drinking water on the earth. From last few decades, the major problem of environment pollution increases because of human activities. Because of rapid industrialization and agricultural practices, the ground water quality is declining. It is also a root entry of heavy metals into ground water. The study was undertaken to assess the ground water status of Olpad taluka with respect to heavy metals like, Cu, Ni, Zn and Co. Seven samples from four villages were collected with different sources. The heavy metals were analysed on Atomic Absorption Spectrophotometer. The values of Cu, Zn and Co were found under permissible limit but Ni recorded higher than limits specified by Indian Standards for drinking water. Toxic effects in respiratory tract and immune systems found with higher concentration of nickel. Deficiency of vital metals like Co, Zn and Cu also affect the human health.
Keywords: Heavy metals, AAS, Pollution, Olpad, Surat.

ISCA-ISC-2016-8EVS-37-Oral

Phytoplankton population in relation to Physico-chemical Properties of River Tapi, Surat (Gujarat) India

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Abstract: Monthly variation in Phytoplankton population in relation to Physico-Chemical properties of Tapi river was analysed from September-2015 to February -2016. Water samples and plankton samples were collected from two pre-selected sites. Water samples were analyzed for Temperature, pH, Nitrate, Nitrite, Silicate and Phosphate by using standard methods. Quantitative estimation of Phytoplankton was done by using standard method. Pearson correlation was calculated among the various Physico-Chemical variables and Phytoplankton density.
Keywords: Physico- Chemical properties, correlation, Phytoplankton, Tapi, Surat

ISCA-ISC-2016-8EVS-38-Oral

Mitigating the Pollution Issues in Steel industry through Automation and Digitisation of Bulk Material Handling Route - A perspective of Bhilai Steel Plant

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Abstract: The arisings generated in the Refractory Material Plants of Bhilai Steel Plant have a considerable percentage of CaO, and can be used with limestone and dolomite as flux for sinter making. In Sintering Plant-3, Bhilai Steel Plant the RMP arisings have been added with the limestone and dolomite for use as flux in sinter charge leading to considerable saving in use of limestone. The transportation of RMP arisings from ore handling plant to Sinter Plant -3 was through haul packs. This resulted in unreliable supply of the material due to dependence on the availability of haulpacks and consequently less supply of RMP arisings. A fully automated system has been developed for its transportation from Ore Handling Plant to Sintering Plant-3 through raw material conveyors instead of haulpacks, which has greatly increased the volume of RMP arisings transported.
Keywords: Solid Waste, RMP Arisings, Sinter Making, Process Automation.

ISCA-ISC-2016-8EVS-39-Oral

The Effects of Pharmaceutical Pollution on Water Quality: An Overview

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Abstract: Pharmaceuticals commonly found in the environment are disrupting streams, with unknown impacts on aquatic life and water quality. So reports a new paper that highlights the ecological cost of pharmaceutical waste and the need for more research into environmental impacts.(Science Daily) Streams stressed by pharmaceutical pollution
Keywords: pharmaceutical, Water, Pollution.

ISCA-ISC-2016-8EVS-40-Oral

Sustainability Issues at Higher Education Institutions: A Vision

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Abstract: As major contributor to the values, health and well-being of society, higher education has a fundamental responsibility to teach, train and do research for sustainability. We believe that success of higher education in the 21st century will be judged by our ability to put forward a bold agenda that make sustainability and the environment a cornerstone of academic practice. Higher educational institutions are considered microcosms of small city and encompasses within its campus border a myriad of diverse operations and activities that impact the environment. This includes physical, chemical, biological research labs, meetings rooms (conference halls), hostels, canteen, mess, sports facilities, construction and demolition sites, drinking water supply, gardens, solid hazardous biological wastes etc. These sites offer model to adopt appropriate environmental management system for sustainability and conservation of natural resources and also for environmental assessment. These institutions shall work to guard our environment for sustainable future which is

ultimate for resilient ecosystem. We have always worked to explore opportunities to improve environmental performance and sustainability. These activities are used to handle a crises. Although these activities are done but in isolation and improvements were generally not measured/recorded. These practices were generally not standardized and were not documented. It is a high time to develop a system to manage environmental issues. The Paper presents a design manual with parameters in the form of sustainability indicators which are applied to audit/assess sustainability in the campus.

Keywords : Sustainability, Resilient ecosystem.

ISCA-ISC-2016-8EVS-24-Poster

Biochemical Analysis of Agro Waste for Biogas Production

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Abstract: Being agriculture based country, huge amount of lignocelluloses biomass is generated in India as per year as waste of agro industry. It is huge biomass available for bioenergy like biogas with low cost and sustainable availability. However lignocellulose based biogas technology has major challenge of outer lignin layer destruction of plant sheath and simplification of lignocellulosic biomas.To overcome these challenges, physiochemical treatment may serve as fascination approach as it is rapid and high yielding. In physiochemical treatment ,acid alkali and superoxide exposure in combination with heat and vapour was proved effective. Present work is focused to study effect of different physiochemical stresses to simplification of lignocelluloses to enhance biogas production. The effect of these treatment were discussed in terms of sugar analysis, total solid and volatile solid study.

Keywords: Agro waste, Biogas and Pretreatment.

ISCA-ISC-2016-9FMDN-07-Poster

Monitoring the Evolution of Heart Rate Recovery & Chronotopic index during Different Phases of Menstrual Cycle Post Exercise: Across-Sectional Study

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Abstract: Post exercise, return of HR to pre exercise value depends on both parasympathetic &sympathetic system which depends on interaction of female hormones. To elucidate the relation between HR indices postexercise during different phases of menstrual cycle. 30 females (18-20yrs) from 1st year M.B.B.S (J.N.M.C)recruited. On the 10th &20th day of menstruation a BBT, HR recorded using Naviquire software & a Balke protocol on treadmill. HR (5 mins), HRRI, % decline in HR (1&3 min), $HR_{recovery}$ & Chronotopic index were computed. Data analyzed as Mean± SD &students t test. HR was (129) bpm in luteal vs (110) bpm in follicular phase. HRRI was $(60)_{1min}$ $(71.5)_{3min}$in follicular vs $(58)_{1min}$($64.1)_{3min}$ in luteal phase.% decline in HR was (59.2) in follicular vs (33.3) in luteal phase. Recovery time was 14min in follicular vs 19 min in luteal phase. Our results project a blunted vagal reactivation during the luteal phase.

Keywords: Monitoring, Evolution, Heart Rate Recovery, Chronotopic.

ISCA-ISC-2016-9FMDN-08-Oral

The Influence of the Circa-menstrual rhythm on Autonomic Activity, Baroreflex Sensitivity, Cardiovascular strain& Psychodynamics in females - A Novel Simple & Non-Invasive Method for Assessing the Athletic Performance

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Abstract: Hormonal changes during the course of a woman's menstrual cycle may affect Physiological & Psychological potential impacting sports performance. The purpose of this study was to explore the effects of the above on selected indices of athletic performance like Aerobic& anaerobic endurance, Isometric strength, autonomic status, psychosomatic responses like Rate perceived exertion& Cognition. Aim -Are the select variables mentioned above which determine athletic competence affected by different phases of Menstrual Cycle.30 females aged (18-20) from 1 year M.B.B.S (J.N.M.C) were recruited during 10th (follicular) & 20th (luteal) day of menstrual cycle after an informed & written consent. BBT & menstrual charting done. Aerobic endurance was done using Balke protocol on a treadmill, Isometric strength using Jamar hand grip dynamometer. Autonomic Tests (CPT, HGD, VR, 30:15 RATIO, S:L RATIO, E:I RATIO) were conducted.HR & BP monitored throughout & RPP calculated. Psychosomatic responses using Borge scale for RPE & fatigue index. Cognitive conflict task like mental arithmetic task was performed. A significant CVS Strain, Sympathetic overactivity& negative affect during the luteal phase which negatively affected the athletic performance observed.

ISCA-ISC-2016-9FMDN-09-Oral

Identification of *Mycobacterium bovis* isolates from Cattle by conventional and serological assays from Barak Valley, Southern Assam, India

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Abstract: *Mycobacterium bovis,* the causative agent of BTB is a worldwide animal health problem and remains a major threat to public health in counties in which people live in close proximity with their cattle and where milk is not pasteurized. The present study from the selected regions of Barak Valley, southern Assam, India, highlights the co-relation between the prevalence of *M. bovis* infection in cattle populations and its possible infection in human exhibiting the potential threat of this disease to humans. Sequential cattle samples were obtained and examined for microscopy and antigen detection technique to determine the prevalence of *Mycobacterium bovis* among the cattle and also to evaluate the sensitivity and specificity of Microscopy and antigen detection. A total number of 152 samples of dung from cattle were collected from the study area and all the samples were first examined by direct smear microscopy by modified Ziehl Neelsen staining technique and then subjected to the antigen detection of *M. bovis*. The overall prevalence of *Mycobacterium bovis* was found 7.2% by antigen detection technique. Moreover the sensitivity and specificity of antigen detection and microscopy in term of detection of bovine tuberculosis was determined that microscopy was found less sensitive then antigen detection test. In conclusion antigen detection is more reliable diagnostic tool for diagnosis of bovine tuberculosis.

Keywords: Cattle, *M. bovis*, Microscopy, Serological assay, Prevalence.

ISCA-ISC-2016-9FMDN-10-Oral

Relational Scrutiny of Dermatoglyphics Markers and Executive Functions Predicated on Impulsivity

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Abstract: In contemporary era of Equity System and Forensics Investigation trend requires to develop incipient obviation techniques in order to prognosis and combat the criminal activity. Impulsivity, is widely accepted as a prime key of psychological factor in analysis of any anti-social activity. Impulsivity and aggression correlate negatively and significantly with executive function. Research examination has documented a cognationamid the executive functions (EFs) and interpersonal aggressive behavior which result in offensive crime. Prime concern is to observe Executive functions (flexibility, strategic planning, inter-dependent process memory, multitasking, impulsive control, organization, empathy) with poor grade which causes impulsive behavior, criminal intent personality and Dermatoglyphics Markers. Utilizing these quantifications, relation equation could be established among Psychology Index, Age Factor, Similarity Index (subject and prototype), Gender Specificity, Impulsive Department, and Executive Function. The bio-metric Dermatoglyphics Markers prototype based on IE equation can be develop in a way to resemble possible human behavior in extreme situations and other characteristics of criminal intent. Research in this direction will craft forensic model of criminal which justify the prognosis. Profound data analysis using machine paraphrase may reveal more corresponding areas between these two studies.

Keywords: Fingerprint, Cognitive and Behavioral Studies, Computational Data Analysis, Identity, Executive Function, Impulsive Behavior.

SCA-ISC-2016-10FCC-11-Oral

Changes in Chemical Compostion, Antioxidants Andpredicted Glycemic Indexof Jackfruit at Different Levels of Maturity

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Abstract: Dietary fibre is well known for itshypoglycaemic and hypolipidemic effect. It helps in lowering serum cholesterol and there by helps in prevention of atherosclerosis, antitoxic effect and anti-cancerous effect. Jackfruit contains both

soluble and insoluble dietary fibre as well as other biologically active substances viz. polyphenols, antioxidants, vitamins, trace minerals, phytoestrogens, lipids, proteins and starch, the amount varying with stages of maturity.Hencethe present study was planned to estimate dietary fibre, antioxidant activity and in-vitro predicted glycemic index (pGI) of jackfruit at different levels of maturity. Proximate analysis of the jackfruit at different levels of maturity revealed that crude protein content was (4.36%)in mature (3.42%)in immature and (1.61%) in ripe fruit, maximum total dietary fibre found in matured fruitwas (14.7%) followed by ripe(9.29%) and immature jackfruit (3.6%) while, immature jackfruit showed higher antioxidant activity(98.15%) followed by ripe (87.14%) and mature jackfruit(67.41%). pGI at 90 min of hydrolysis was (47.66%), (54.75%), (62.16%)in immature, mature jackfruitand ripe jackfruitrespectively.This indicates that immature and mature jackfruit falls under low GI category whereas ripe fruit lies in medium GI category.

ISCA-ISC-2016-10FCC-02-Poster

Assessing and Redesigning the Interiors of Selected Anganwadis from Vadodara City

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Abstract: As a part of the Integrated Child Development Scheme (I.C.D.S) of the Central Government, 'Anganwadi' centers are run in the urban and rural slum areas of the city. As generally observed, the Anganwadi is run either in special room or in one of the houses of local community which may not have good interiors. A well designed and attractive Anganwadi having good interior would be one of the motivating factor for children and women to attend the programmes and activities conducted in Anganwadi. Hence a need was felt to assess and redesign the interiors of selected Anganwadi of Vadodara city. From various areas of Vadodara city 20 Anganwadis were selected through purposively sampling and were observed for the various components of their interiors. The components were wall, floor, ceiling, doors, windows, furniture, furnishing, lighting, storage space, and accessories. Those Anganwadis which were found to be having poor interiors were selected for redesigning. The study revealed that most of the Anganwadis had poor interiors. They had faded paints chipping off from various places, uneven and dull floors, less walking space ,lack of enough sitting arrangements, less storage space, no furnishings and accessories, no proper display boards, blackboards, lack of play material and no place and play material for outdoor games. The Anganwadis had poor light and ventilations. The researcher redesigned three Anganwadis using specific colour schemes. The existing rooms were reorganized, display boards and blackboards were added, lighting and storage cabinets were added and seating arrangements was improved. Existing and modified presentation and working drawings, redesigned electrical layout, tiling layout for modified drawings were developed. Cost estimation for the modification in the selected Anganwadis was also presented.
Keywords: Redesigning, Assessing, Interior

ISCA-ISC-2016-10FCC-08-Oral

Digitization in Banking Sector: Extent of Consumer's Knowledge and Problems Experienced

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Abstract: With the emergence of new digital technology and kinds of innovations in information technology, a paradigm shift in the banking industry has been observed. The banking industry has blended with information technology to gain, to process and to deliver several information to their customers. Internet banking enables their customers to conduct all banking services such as fund transfer, online bill payments, balance enquires etc. without going to banks. The concept of internet banking is a new concept for India as compared to developed countries. Internet banking on one hand helps banks to meet the increasing demands of the customers but on the other hand their customers face lot of problems due to change in technology. Hence, a study was conducted to find out the knowledge of the consumers about internet banking and to identify the problems faced by them while availing internet banking facilities. The data were gathered through a questionnaire from a sample of 200 consumers who were availing internet banking facility through convenience sampling. The findings of the study revealed that majority of the respondents were male between the age group of 31 to 40 years, were graduate and self employed with total monthly income ranging between Rs. 31,000/- to 50,000/-. Majority of consumers were using internet banking for cheque related queries, credit and debit card status and history, and viewing

information regarding demat accounts. Three fourth of the respondents had one account in a bank and were using internet banking since more than one year.Majority of the respondents were using internet banking facility to medium extend. The data revealed that majority of the respondents had medium extent of knowledge about internet banking. With regards to problems faced, it was observed that the respondents faced problems while availing internet banking to some extent.A significant relationship was found between use of internet banking and their gender, education, occupation and knowledge of the respondents regarding internet banking. The extent of problem faced by the respondents was found to be significant with age and knowledge of the respondents about internet banking.

Keywords: Digitization, Internet banking, Knowledge regarding internet banking, Extent of problem faced.

ISCA-ISC-2016-10FCC-09-Oral

Study on Indigenous Food Consumed by the *Galo* Tribe of Arunachal Pradesh

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Abstract: The tribe's of Arunachal Pradesh has unique lifestyle and food habits depending on the vagaries of nature. One among the major tribe is Galo tribe inhabiting in the lofty peaks of Himalayas in West Siang district.Varieties of wild plants and also ethnic processed food are consumed and served as an important source of their daily diet. Therefore the present study was conducted to document and determine the nutritional contents of locally available green leafy vegetables and other traditional food consumed by the tribe. The knowledge about the wild edible vegetables and their uses by the indigenous tribes for food were documented. Nutrient analysis was done for protein, moisture, fat, ash and crude fiber, and mineral estimation was done for Fe, Mn, Cu and Zn. The wild edible vegetables play a vital role in enrichment of the health of the tribal people. Total of 27 foods including wild vegetables and processed food were documented showing GLV's as the most dominating, also the fermented foods and non-vegetarian product act as staple food to the tribe. The study resulted that the ethnic wild vegetables and other processed food have a good potential in terms of food value and can serve as an easily accessible food resources.

Keywords: Indigenous, Food, Consumed, Golo Tribe.

ISCA-ISC-2016-11MatS-19-Oral

Potentiometric biosensor based on polypyrrole for determination of Triphenyl Phosphate

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Abstract: A potentiometric biosensor based on polypyrrole has been developed for the quantitative estimation of Triphenyl Phosphate (TPP) which occurs in commercial fruits and vegetables samples. An interference free pesticide biosensor has been developed, based on the immobilization of acetylcholinesterase (AChE) on surface of modified electrodes. Effect of influence of pH and effect of potential on response of biosensor was investigated for optimization the process parameter for good operational stability of sensor. Organized materials were characterized by analytical techniques such as FT-IR, UV-Vis, XRD and FE-SEM analyses. The sensor responds for paraoxon in 0.2 M phosphate buffer solution (PBS) (pH7) at the range $1x10^{-4}$ to $10x10^{-4}$ M and the detection limit were found to be 0.1 mM. The response time is about 60–70 s reaching to a 95% steady-state potential value and about 90% of the enzyme activity is retained for about 60days.

Keywords: Graphite based biosensor; Paraoxon (D4-NPP); Organophosphorous pesticide; Potentiometric determination.

ISCA-ISC-2016-11MatS-23-Poster

Utilization of Waste Egg Shells Derived Calcium Oxide Nano Powder for High Performance Polymer Composite

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Abstract: Waste egg shells were utilize to make the calcium oxide nanopowder and characterized by XRD, SEM and IR spectroscopy. The melt compounding of the CaOnanopowder with linear low density polyethyelene (LLDPE) was carried out on a BrabenderPlastograph and grinded the obtained formulation for injection molding. The molded samples of nanocoposite were tested for the thermomechanical, physical and morphological characterisations. Various concentration of the CaOnanopowder with LLDPE were prepared and tested for the thermo-mechanical properties. It is observed that

the addition of CaOnanopowder in the LDPE composite significantly increases its flame retardant ability and thermal stability.

Keywords: Egg shells, Biomaterial, Polymer composite, LLDPE.

ISCA-ISC-2016-13PCS-11-Oral

Strain improvement of new strain of *Bacillus methylotrophicus* for enhanced production of antibacterial metabolites

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Abstract: The present study describes the screening process of a mutant strain of *Bacillus methylotrophicus* strain Kharuss 0103 isolated from poultry farm showing enhanced production of antibiotics and antagonistic activities against four pathogenic bacteria. The mutant was obtained by treating the new strain of bacteria with physical mutagen (UV rays). *B. methylotrophicus* strain Kharuss 0103 after exposure to UV was more active against *B. subtilis* with maximum zone of inhibition of 5 mm through Agar well diffusion method. There was no change in zone of inhibition for *E. coli* before and after the mutation of this new strain. This result indicated that mutation of this strain is recommended for various applications especially as an antibacterial agent against human pathogens.

Keywords: *B. methylotrophicus*, Mutation, Physical mutagen

ISCA-ISC-2016-13PCS-12-Oral

Modulatory effect of *Hemidesmus indicus* (Linn.) on IL-6, TNF-á andIGF-1 after anti-tuberculosis drugs induced deviation in cellular structure and function of liver

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Abstract: Anti-tuberculosis drugs (ATDs) causeslivertoxicity.*Hemidesmus indicus* (Linn.) is well-known herb and its protective effect against ATDs is still unexplored. Present study was carried out to evaluate therapeutic potential of ethanolic leafextract *of H. indicus* at 100, 200 and 400 mg/kg doses against ATD induced hepatic toxicity.Rats were administered with different doses of *H. indicus* against ATD induced toxicity for 8 weeks.Administration of ATD significantly increased aspartate transaminase, alanine transaminase, alkaline phosphatase, triglyceride, cholesterol, bilirubin, IL-6, TNF-á and decreasedIGF-1, glucose and albumin level in serum. Glutathione, superoxide dismutase, catalase, glutathione peroxidase, glutathione reductase and glucose-6-phosphate dehydrogenase were decreased whereas lipid peroxidation and tissue lipid profile were significantly increased after ATD exposure. Administration of *H. indicus* extract significantly brought serum biochemical indices and molecular parameters i.e. TNF-á, IL-6 and IGF-1 towards control, maintained antioxidant status and diminished oxidative stress in dose dependent manner. Histopathological and electron microscopic observations showed recovery and maintained liver histoarchitecture and substantiated biochemical findings at cellular level. Therapeutic potential of extract of *H. indicus* was compared with positive control silymarin.*H. indicus* has therapeutic potential against ATD induced liver toxicity may be of clinical significance.

Key words: Antituberculosis drugs,*Hemidesmusindicus,* Antioxidant activity, Tumor necrosis factor á, Interleukin -6

ISCA-ISC-2016-14PhyS-04-Oral

Potentiometric Determination of urea by Modified Polyaniline based Nanocomposite Graphite Paste Electrode

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Abstract: New graphite and conducting polyaniline based nanocomposite has been developed as electrochemical biosensor for the potentiometric detection of urea from aqueous solution. The sensor being highly sensitive, selective with a low detection limit was successfully applied for urea determination which occurs in blood, urine and body enzymes. An interference free biosensor has been developed based on the immobilization of ureaseon surface of modified electrodes.

Effect of influence of pH and effect of potential on response of biosensor was investigated for optimization the process parameter for good operational stability of sensor. Synthesized materials were characterized by analytical techniques such as FT-IR, UV-Vis, XRD and FE-SEM analyses. It has been found that the electrode responds to low urea concentration with wider range of detection. The electrode showed a linear response range of 6×10^{-5} to 7×10^{-4} M urea. The response time is about 60-70 s reaching to a 90% steady-state potential value and 75% of the enzyme activity is retained for about 60 days. These results indicate an efficient covalent linkage of enzyme to surface of biosensor, which leads to high enzyme loading, an increased lifetime stability of the electrode and an improved wide range of detection of low urea concentration in aqueous solution.

Keywords: Graphite based biosensor; urea; Potentiometric determination

ISCA-ISC-2016-14PhyS-05-Oral

Modified Polypyrrole/ZnO based biosensor for potentiometric determination of diethyl 4-nitrophenyl phosphate (Paraoxon) pesticide

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Abstract: A new Polypyrrole/ZnO (Ppy/ZnO) based conducting polymer film has been developed by electrochemical method and used as a biosensor for the potentiometric detection of paraxon(D4-NPP) an organophosphorous pesticide , the sensor being highly sensitive, selective and with a low detection limit at 0.1 V and was successfully applied for paraxon determination in commercial fruit, vegetables samples. The electrochemical cell was assembled in a conventional one compartment. In which ITO used as a working electrode, graphite used as counter and Ag/AgCl used as a reference electrode. An interference free pesticide biosensor has been developed, based on the immobilization of acetylcholinesterase (AChE) on surface of Ppy/ZnO/ITO electrodes. The concentration of enzyme, influence of pH and effect of pyrrole monomer concentration on response of biosensor was investigated to optimization the process parameter for good operational stability of sensor. Organized material was characterized by means of FTIR, UV and SEM analyses. The sensor responds for TPP in 0.2M phosphate buffer (pH 7.0) at the range 0.1mM to 0.10mM and the detection limit were found to be 0.5mM. The response time is about 50–60 s reaching to a 95% steady-state potential value and about 95% of the enzyme activity is retained for about 1 months.

Keywords: Graphite based biosensor, Paraxon, Organophosphorous pesticide, Potentiometric determination, Acetylcholinesterase

ISCA-ISC-2016-14PhyS-06-Oral

Photoelectrochemical Cell

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Abstract: The photoresponse of chemically synthesized polyaniline (PAn) film has been studied. PAn, casted in the form of film,on ITO glass substrate formed the photoanode, 0.1 M aqueous $LiClO_4$ solution has been used as electrolyte and platinum as counter electrode. This photocell shows good performance.

Keywords: Polyaniline, photocell.

ISCA-ISC-2016-14PhyS-07-Oral

Synthesis and Characterization of Polyanilne for Ammonia Detection at Room Temperature

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Abstract: An attempt has been made to investigate the electrical and optical properties of conducting polymer Polyaniline (PANI). The Polyaniline were synthesized by oxidative polymerization using chemical synthesis route. The Polyaniline

films were synthesized using optimized concentration of monomer Aniline, Hydrochloric acid (HCL) a dopant and by using Ammonium Peroxidisulphate (APS) as an oxidant. The polymer was grown from aqueous solutions below the room temperature. The film was deposited by the Sol Gel technique using DMF solution as a solvent for the formation of gel and thin film is formed using Spin coating technique. PANI thin films were characterized by analyzing UV-Visible, X-Ray Diffraction and FTIR spectroscopy. Ammonia gas sensing of the synthesized Polyaniline was studied by measuring the change in electrical resistance on exposure to ammonia gas at different concentrations. This Result indicates that the Polyaniline exhibits excellent sensing behavior for ammonia gas.

Keywords: Polyaniline, Chemical Synthesis, Sol gel, Sensor , Ammonia.

ISCA-ISC-2016-14PhyS-08-Oral

Electrochemical Synthesis of composite 4-methyl pyridine, aniline as Conducting Polymer by Galvanostatic Method

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Abstract: Polymer films will prepared by galvanostatic electrochemical synthesis, which provides a constant oxidative current at the anode. The electrochemical deposition of monomer and their copolymer films was carried out by using a galvanostatic technique at temperature 27 °C in a one-compartment, three-electrode glass cell. The ITO coated glass plate will have to use as a working electrode, platinum foil as a counter electrode and Ag/AgCl as a reference electrode. The electrolyte solution will prepare in deionized water with optimum parameter. After synthesis the polymer coated electrodes will rinsed thoroughly in deionized water dried in cold air and then used for subsequent characterization. The synthesized composite films will subjected to various characterization viz. galvanostatic electrochemical techniques. The FTIR, SEM, X-RD etc methods use for characterization. The electrochemical, electrical, optical and morphological properties of composite 4-methyl pyridine , aniline and HCL(supporting electrolyte) at 1 mA/cm2 current density and pH 3.0 have been successfully studied. The characterization study reveals that the composite 4-methyl pyridine, aniline film provide uniform, porous and stable polymer matrix which is suitable for immobilization of bio component.. The composite 4-methyl pyridine, aniline film shows highest conductivity 2.412 x10-3 S/cm. with lower polymerization potential. The FTIR spectra of composite 4-methyl pyridine and aniline confirm the presence of organic groups as well as occurrence N-H.

Keywords: Galvanostatic method; 4-methyl pyridine;polymer.

ISCA-ISC-2016-14PhyS-09-Oral

Crystal growth of semi-organic Methane Sulphonamide of Morpholine single crystals and its linear, nonlinear optical, photoconductivity, dielectric, thermal and laser damage threshold properties

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Abstract: The Methane Sulphonamide of Morpholine (MSM) has been synthesized from aqueous solution by Slow Evaporation Solution Technique (SEST) and characterized successfully. Single X-ray diffraction (SXRD) studies were conducted which conûrmed the crystal structure. The optical transmission spectrum exhibited a better optical transmittance of the crystal in the entire visible region with a lower cut-off wavelength of 265 nm. The linear absorption value was calculated by the optical limiting method. The load dependent mechanical stability study was also carried out. Second order nonlinear optical properties of the crystal were found by second harmonic generation (SHG). The MSM crystals were also characterized by frequency dependent dielectric measurement and a Photoconductivity analyzer to determine the dielectric property and the optical conductivity of the grown crystal. The laser damage threshold (LDT) activity of the grown crystal was studied by a Q-switched Nd: YAG laser beam. Thermal studies established that the compound did not undergo a phase transition and stability was identified.

Keywords: Crystal, growth, semi-organic, Methane, Sulphonamide, Morpholine, Linear, Nonlinear, photoconductivity.

ISCA-ISC-2016-14PhyS-07-Poster

Pico-second Time Domain Reflectometry Techniques to estimate dielectric Properties of polar Liquids

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Abstract: Laplace Transform (LT), Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT) are powerful techniques mostly employed in the determination of dielectric properties of polar liquids using Time Domain Reflectometry (TDR) waveforms. In the present paper, Fourier Transform alike algorithms can be used to obtain complex permittivity spectra of some polar liquids. Electrical permittivity and relaxation time are important parameters to explain dielectric dispersion properties of polar liquids. Comparison of simulated spectra using standard Debye model or using the complex permittivity spectrum with static dielectric constant (ε_0), dielectric constant at optical frequency (ε_∞) and relaxation time (τ) can be estimated by using Havriliak-Negami expression and actual recorded data can be fitted and dielectric properties of unknown samples can be estimated with good reliability. The pico-second Time domain pulse reflected from sample contains high frequency dispersion/relaxation data, usually in microwave region, could be useful to predict intermolecular interactions.

Keywords: Pico-second, Domain, Reflectometry, dielectric, polar liquid.

ISCA-ISC-2016-14PhyS-08-Poster

Optical, thermal and Electrical properties of CuO doped PVA Nanocomposite

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Abstract: The effect of CuO nanocomposite doping on optical, thermal and electrical properties of the PVA polymer has been investigated using FTIR, UV-Visible TGA, SEM and Electrical studies. Nano sized CuO nanoparticles were synthesized through a simple wet chemical route method. Pure and CuO/PVA nanocomposite films were prepared using solution casting technique. The FTIR study confirmed that the CuO nanoparticles interacts with the OH group of PVA polymer and forms the complex. The presence of these complexes affects the optical thermal and electrical properties of the polymer. The change in optical properties was studied using UV-Vis absorption method. The thermal properties of the polymer composite has been investigated using TGA and surface morphological properties with SEM studies. The change in the electrical properties like DC and AC conductivity were studied using I-V, and C-V measurements

Key words: PVA, CuO, FTIR, UV-Vis, TGA, SEM, and DC & AC conductivity.

ISCA-ISC-2016-14PhyS-09-Poster

Effect of Li^{1+} substitution on Relaxation time in Ni-Zn ferrites

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Abstract: A series of Li^{1+} substituted Ni-Zn ferrites were synthesized using oxalate precursors method. Relaxation time as a function of Li^{1+} contents are studied for the various compositions of $Ni_{0.32}Zn_{0.68-2x}Li_xFe_{2+x}O_4$. It is observed that with the addition of Li^{1+}, the relaxation time increases. An increase in relaxation time with Li^{1+} suggests that the response of the material to the field variation is slowed down i.e. this substitution cause the hindrance to the domain wall motion in the synthesized material.

Keywords: Effect of Li^{1+}, substitution, relaxation time.

ISCA-ISC-2016-15PESY-01-Poster

Comparative study of Physical fitness of students between C.P.Ed and P.T.C. students in Ahmedabad

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Abstract: The purpose of the study is to find out comparison of Physical fitness of students between C.P.Ed and P.T.C. students in Ahmedabad. The study was delimited to 35 PTC student and 35 C.P.Ed students selected from training college which was in Ahmedabad. All subjects were selected from second year class. The students were divided in two groups one was experimental and other one was control group. AAHPERD test was used for assesing the physical fitness

of students. On the basis of literature reviewed, research findings and investigator own understanding of the problem It was Hypothesized that significant difference will be find in Physical fitness of students between C.P.Ed and P.T.C. students in Ahmedabad. The collected data was tabulated and analyzed. To find out comparison of Physical fitness of students between C.P.Ed and P.T.C. students in Ahmedabad, t- test was applied as statistical techniques. The result of the study are indicated that experimental group students are better then control group students in all physical fitness components.

Keywords: Physical fitness, shuttel Run, Students and Strength.

ISCA-ISC-2016-15PESY-02-Poster

A Comparative Study of Hemoglobin and Body Composition of Sports Participated and Non Sports Participated Adolescent Girls in Four District of Gujarat, India

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Abstract: To determine and compare the hemoglobin (anemia) and body composition (obesity) between Sports participated and non sports participated adolescent girls in four districts of Gujarat. One hundred sports participated girls and one hundred non-sports participated girls were selected as a subjects from each district of Gujarat like Ahmadabad, Rajkot, Gandhinagar and Junagardh (total 800 girls) for the purpose of this study. Age of the subjects was from 11 to 17 years. The study was further delimited to measuring the hemoglobin and Body composition through the Bio-chemistry analyzer and body composition analyzer. On the basis of literature reviewed, research findings and principal investigator own understanding of the problem It was Hypothesized that significant difference will be find in Hemoglobin and Body composition of Sports Participated and non-sports participated adolescent girls in four districts of Gujarat India. For the comparison of the hemoglobin and Body composition in sports participated and non sports participated adolescent girls in four district of Gujarat the one way analysis of variance ANOVA test and T- test was applied. Significant difference found in sports participated girls of Ahmedabad, Rajkot, Junagadh and Gandhinagar district in hemoglobin, as obtained F – ratio was 3.72, which was higher value than the tabulated value 2.62. Rajkot sports participated girls is significantly higher than Junagadh and Gandhinagar Sports participated girls in hemoglobin, hieght, weight and BMI.

Keywords: Body Composition, FFM, BMI, FM and Hemoglobin.

ISCA-ISC-2016-15PESY-03-Poster

A Survey study of Sports Facilities and Teacher Achievement in Different Physical Education Collages in Gujarat

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Abstract: The purpose of the study is to find out sports facilities and teacher achievement in different physical education collages in Gujarat. The study is restricted to different physical education colleges in Gujarat and only to find out the sports facilities and teacher achievements, survey method was used to collect the data. For collecting the data questionnaire has been utilized. Questionnaire is prepared on the basis of hypothesis and research the information from sports facilities and teacher achievement in different physical education collages in Gujarat. Research scholar personally went to the different physical education colleges and interviewed the principals and teachers total 23 physical education colleges have selected for study and taken required data with the help of questionnaires. The collected data was tabulated and analyzed. The hypothesis of the study was the good sports facilities and teacher achievement will be in different physical education colleges in Gujarat. The result of the study are indicated that required and sufficient sports facilities like sports equipments, teaching staff, laboratories, sports hostel facilities were available in different physical education colleges in Gujarat. And teachers are qualified in teaching, having knowledge about officiating and qualified referees and organized national and international event which was related to physical education.

Keywords: Sports Facilities, Academic Achievement, Physical education colleges and Teacher Achievement.

ISCA-ISC-2016-15PESY-04-Poster

Anger Management

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Abstract: Anger and stress management have become important issues in the modern workplace. One out of four American workers report themselves to be chronically angry, which has been linked to negative outcomes such as retaliatory

behaviour, revenge, interpersonal aggression, poor work performance, absenteeism, and increased turnover. We hypothesized that people who work in office environments decorated with aesthetically engaging art posters would experience less stress and anger in response to task-related frustration. Two hundred and ten college students were randomly assigned to different office conditions where abstract and nature paintings were hung on the walls. Participants performed four mild anger-provoking computer tasks and then reported their levels of state anger and stress. Results indicate that different office conditions had a significant influence on state anger and stress for males but not for females. Males experienced less state anger and stress when art posters were present. Through mediation analysis, we found that increased proportions of nature paintings decreased state anger because of decreased levels of stress.

Keywords: Anger, Causes, Symptoms, Management.

ISCA-ISC-2016-16EduS-10-Oral

Child Labour - The Future of a Nation

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Abstract: The future of a nation is determined by the way it treats its children. The most violated human rights are children rights. Children up to 18 years are considered as child. Work that deprives children of their childhood, their potential and their dignity, exploiting them physically, mentally, morally and blocking their fundamental rights such as education, proper food shelter, and cloths etc is considered as child labour. Work which promote or enhance children development without interfering with their schooling, recreation and rest need not be taken as child labour. Children are exploited both at urban and rural areas in different ways UNICEF has categorized child work into three categories: Within the family. Within the family but outside the home and outside the family. The consequences of the of child labourers is regarded as a serious issue in terms of economic welfare and an economy prosperity .The young labourers today, will be part of India's human capital tomorrow. Child labour undoubtedly results in a trade-off with human capital accumulation. The main causes for child labour are Poverty, illiteracy. Ignorance of Parent's, Discrimination of Gender, child trafficking. The problem of child labour in India had become an issue of concern since Independence. Society and people, government, and welfare organizations like UNICEF are playing an important role in eradication of child labour .The major responsibility is for us, the people who live in the society. Let start from our home. In India there are many Laws enacted to protect the rights of children, the Constitutional provisions provision provide the children a free and facilities to develop in a healthy manner and in conditions of freedom and dignity. Internationally developed country and organization should come forward to help the poor child of the third world country.

Keywords: Child, Labour, Future, Nation.

ISCA-ISC-2016-17CLM-08-Oral

Study of "New Techniques for Improvement in Productivity' of Merchant Mill, Bhilai Steel Plant, Bhilai, Durg, Chhattisgarh

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Abstract: In steel industry, the market generates more competitions for selling the products in developing country like India. Increase in the productivity of mill is the present demand of our steel company from "existing technology "by the use of efficient working, creative thinking, knowledge of workman at site, innovative change in old techniques. The Merchant Mill of , Bhilai steel plant, SAIL produces merchant products by hot rolling process and use of 12 number of mechanical rolling stand with capacity 5 lakh ton per annum. such as Angles, Channels ,TMT Bar, & Beams etc. The change for importance of production has done in the 3 main section of mill: i. R.H. Furnace ii. Mill Stand and Cooling beds iii. Finishing zone and Shipping Main objective of this study is "optimum rate of rolling for best production with minimum maintenance and improvement in operative techniques". it gives more production and increased the profit of the company .By analysis of existing production system, we developed new improved operational techniques such as: i. Change in design parameters f a equipments as – Increased the rolling temperature by 50^0C from 1200^0C, furnace temperature of different zones by 50 to 100^0C (at S.Z, B.Z, T.Z) increase the rate of rolling operated the control equipments in auto mode , all time raw material available for rolling. ii. Change in operational practices - Only the Experts & senior operators must operate the main equipments , immediate attend the problems during rolling process, preventive maintenance at ideal time, increased rolling speed from normal charging of hot raw materials in R.H.F. iii. Motivational factor - Provision of Incentive schemes based on high production, provided good welfare facilities, provide safe and clean worksite, precision of award for innovation and best working by operators. Applied all above new techniques in existing process, against design value of tools and tackles of merchant mill. It gives positive result by increased the production

15-20%. Also these techniques does not require more input finances. All this things done at shop level and mill are proceeding towards profit zone as more than 6 lakh ton per annum production.

Keywords: R.H. Furnace, Hot charge, productivity, S.Z. ,T.Z., B.Z,

ISCA-ISC-2016-17CLM-09-Oral

New Companies Act, 2013 - A Road Ahead For Effective Regulation and Corporate Governance in India

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Abstract: Corporate India continues to evolve at a fast pace, and besides driving industrial growth is witnessing the emergence of a diverse set of stakeholders. The surge in natural consequences such as risk and default seems to be visibly impacting the virtues of governance. There are close to one million registered companies in the country today which are increasingly looking beyond domestic boundaries to access pools of financial and human capital and forge alliances with foreign companies .Foreign investors are looking towards India as an attractive investment destination. In such a situation, it becomes the responsibility of the government to provide an effective legal structure for corporate. The financial development of any nation depends on strong investor protection and good governance. The recently enacted Companies Act, 2013 is landmark legislation with far-reaching consequences on all companies incorporated in India. The New Companies Act, 2013 is replacing old Companies Act, 1956. The New Companies Act, 2013 makes comprehensive provisions to govern all listed and unlisted companies in the country. The New Companies Act, 2013 is partially made effective w.e.f. 12th September, 2013, by way of implementing 98 Sections and repealing the relevant sections corresponded with Companies Act, 1956. The Act in a comprehensive form purports to deal with relevant themes such as investor protection, inclusive agenda, fraud mitigation, internal control, director responsibility and efficient restructuring. The Act is also quite outward looking and in several areas attempts to harmonize with international requirements. Indian companies will have to closely examine these developments to develop a clear strategy at ensuring compliance as per the new requirements. The present paper traces the corporate governance reforms brought in by the new Companies Act, 2013 and their implications.

Keywords: Corporate, Companies Act, Governance, Efficient Restructuring, Fraud mitigation and Investor Protection.

ISCA-ISC-2016-17CLM-10-Oral

E-Commerce - Advantages, Disadvantages and Challenges

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Abstract: E- Commerce allows consumers to electronically exchange goods and services with no barriers of time or distance. Electronic commerce has expanded rapidly over the past five years and is predicted to continue at this rate, or even accelerate. In the near future the boundaries between conventional and electronic. commerce will become increasingly blurred as more and more business move section of their operations onto the Internet. The e-commerce industry in India is growing at a remarkable pace due to high penetration of internet and electronic devices. However the recent growth rate of e-commerce in India is far lagging behind than other developed countries. the advantages of e-commerce are convenience, Time saving, options. Easy to compare, Easy to find out products, Recurring payments made easy, suitable transactions, Expand business activities, There are many big problems and transaction being the biggest problem along with others have cubed the smooth expansion of the online industry in the country.

Keywords: E-commerce, Electronic commerce, Advantages, Challenges.

ISCA-ISC-2016-17CLM-11-Oral

A Study of Indian Accounting System with Challenges and Prospects of 'IFRS'

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Abstract: IFRS are International Financial Reporting Standards, which are issued by the International Accounting Standards Board (IASB), a committee compromising of 14 members, from nine different countries, which work together to develop global accounting standards . Presently, there are two sets of accounting standards that are accepted for international use namely, the U.S., Generally Accepted Accounting Principles (GAAP) and the International Financial

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Reporting Standards (IFRS) issued by the London-based International Accounting Standards Board (IASB). Generally, accepted accounting principles (GAAP) are diverse in nature but based on a few basic principles as advocated by all GAAP rules. The attempt to achieve congruence with IAS appears to be more a by-product of the country's rapid economic growth rather than its catalyst. However, continued growth and the attraction of foreign capital to domestic ventures will depend on the transparency of the financial dealings. The global financial crisis surfaced the lack of transparency about the risks to which investors were exposed from their involvement with 'off balance sheet vehicles' (such as securitization vehicles) , as a result of which the G20 leaders and the Financial Stability Board asked the International Accounting Standards Board (IASB) to review the accounting and disclosure requirements for such 'off balance sheet vehicles' The focus of the study will be whether by following the converged IFRSs the primary objective of uniformity and comparability of the financial statements prepared in India with the rest of the countries of globe will be achieved.

Keywords: Study, Indian Accounting System, Challenges, Prospects.

ISCA-ISC-2016-19LLC-09-Oral

Feminism in Indian Writing in English

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Abstract: The word feminism refers to the advocacy of women's right seeking to remove restrictions that discriminate against women. It relates to belief that women should have the same social, economic and political rights as men. Feminism often focused upon what is absent rather than what is present. The word feminist refers to the person who advocates or practices feminism and it takes political position. Female is a matter of biology and feminine is asset of culturally defined characteristics. Women find literature is the most expressing form of art, which is true to women's experience women's writing falls as a separate category, which articulates the gender specific concerns of women – feminist view point. The history of Indian feminism can be divided into three parts: i. Beginning in the mid-19th century when Europeans came out openly against the social evil the Sati. ii. From 1915 onwards up to 1947 when Mahatma Gandhi associated feminist movement with Quit India Movement. iii. Post independence up to now. It has focused fairly for equality and giving rights for politics too. The result of all these phases is that we can see the complete change as far as women writings are concerned. It has got quite richer in the span of time. Writers like Shashi Deshpande, Kiran Desai, Anita Desai, Gita Mehta, Shobha De, Gita Hariharan, Bharati Mukherjee, Kamala Das, Mahashweta Devi etc. have made feministic and women writing popular in the world.

Keywords: Feminism, Feminist, Literary Feminism, Phases of Feminism in India, Feminism in Indian writing in English.

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Digitization and Child Landuage Development

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Abstract: Language acquisition is a matter of great concern in the modern day world. Since language is a very effective medium of communication, language competence came to receive serious attention amongglobal students. Besides, English being a world language, the competence of English became a cardinal aspect of study. Most of our schools are equipped with infrastructure; unfortunately the teachers of English as a second language, at Marathi medium primary schools in Maharashtra, lack the necessary digital knowledge. From this study point of view, child language acquisition and digital awareness is a necessity. The present paper attempts to discuss in length the use of digitization and child's second language acquisition, with reference to three hypotheses: The Contrastive Analysis Hypotheses (CAH), The Inter -language Hypotheses (ILH) and The Creative Construction Hypotheses (CCH), for better L2 teaching.

Keywords: Digitization, Second Language Acquisition, Creative Construction Hypotheses, Contrastive Analysis Hypotheses, Inter Language Hypotheses.

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Politlcal Ideology as Propoganda in Benjamin Zepaniah's *City Psalms* and *Propa Propaganda*

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Abstract: The paper is an attempt to understand and analyze the political tensions and cultural confrontations experienced by a creative poet as reflected in Benjamin Zephaniah's *City Psalms* (1992) *and Propa Propaganda* (1996). This

performance poet from England expresses the feelings and reactions of dispossessed people. The forceful migration from the African countries is the part of the past but it has resulted in cultural and political confrontation. The black creative artists are asserting their space and identity. The tensions created by the search for political identity and Diaspora are well reflected in Zephaniah's *City Psalms* and *Propa Propaganda*. Alienation perceived by the poet, his political protest and his desire to assimilate can be understood. Zephaniah rejects the myth of superiority of the white. He wants his people to free themselves from psychological imprisonment. The poet presents a wide range of thoughts and moods which indicate his doubts about colonization and its aftermath. The basic argument in the present paper is that the poet's political protest is based on the principles of equality, liberty and recognition of human rights. The poems do not remain a coarse propaganda. They reflect the complexity of a search for identity.

Keywords: forceful migration, cultural conflict, dispossessed people, diaspora, space and identity, human values.

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जुंदरी लोककलांचे जतन

दत्तात्रय प्र. डुंबरे

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सारांषः समाजात जनजागृति, मनोरंजन याबरोबर वेदांताची, धर्मगंथाची समीक्षा या माध्यमातून केली जाते। जुन्नर तालुक्यात यात्रा, जत्रा, सण–उत्सव आदी प्रसंगांना अनुसरून कलगीतु–याचे कार्यक्रम आयोजित केले जातात या गीतांना स्वतःचा असा बाज व स्वतंत्र ओळख आहे। त्यातून दैवतकथा, देवदेवतांचे मूळ स्वरूप, अवतार, नीतीमूल्ये, गुण–अवगुण आदी विषयांवर भाष्य केले जाते, त्यामुळे या परिसरातील सांस्कृतिक वैभव नजरेस येते। येथील लोकलांबरोबर लोकसंस्कृतीचीही ओळख होते। पर्यायाने येथील हजारो वर्षाची परंपरा असलेल्या लोकरूढी संस्कृतीवहनामुळे टिकून राहिल्यात ही दैवगीते, दैवतकथागीते येथील संस्कृतीचे वाहक आहेत। त्यामुळे संस्कृती प्रवाही राहिली, त्यात साचलेपणा आला नाही या दैवतगीतांमधील क्रियासंबंधता, मंत्रात्मकता, गेयता या लोकसंस्कृतीच्या उपासकांमुळे अजूनही शाबूत आहे। कलगीतु–याची दैवतगीते एका पिढीकडून दुस–या पिढीकडे मौखिक परंपरेने वहन होताना दिसतात। दुर्दैव हे की संत वाड्.मय जसे शब्दरूप घेरून ग्रंथित झाले तसे हे शाहिरी वाड्.मय अद्यापही ग्रंथित झाले नाही। येथील लोकवाड्.मय भविष्यात संगणकयुगात किती प्रवाही राहील, याबाबत शंकाच आहे। म्हणून हे सर्व मौखिक वाड्.मय ग्रंथरूपात एकत्रित प्रकाषित होणे गरजेचे आहे, अन्यथा पुढील आमच्या या अमूल्य ठेव्यापासून वंचित राहावे लागेल। दैवतगीतांमध्ये येथील भक्तिगीते, जात्यावरील अध्यात्मिक ओव्या, पौराणिक भक्तिगीते, वासुदेवाची गाणी, अध्यात्मिक भक्तिगीते, पोतराजाची गाणी, उत्सवगीते, ऋतुगीते आदींचा समृद्ध वारसा या तालुक्याला लाभला आहे। वारकरी भजनासोबतच एकताटीवरील भजनाची परंपरा येथील लक्ष्मण रभाजी डुंबरे आजही एकतारीवरील भजने गातात। याषिवाय येथे सोंगे आणून भारूड सादर करणा–या पाटर्या आहेत। पूर्वी जुन्नर तालुक्यात लळिताची मोठी परंरा होती। दुर्दैवाने सध्या तरी कुठे ते सादर होताना दिसत नाही। नगर आणि ठाणे जिल्ह्यांच्या सीमारेषेवरील हा पुणे जिल्ह्यातील सर्वात उत्तरेकडील तालुका सांस्कृतिकद्ष्ट्या अतिषय संपन्न आहे।

मुख्य शब्दः कलगीतुरा, दैवगीते, दैवतकथागीते, वाड्.मय

ISCA-ISC-2016-19LLC-15-Oral

A Critical Reading of Postcolonial Literature and Cultural Imperialism

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Abstract: Postcolonialism or postcolonial studies have now been established as an important academic discipline all over the world. It seeks to understand how oppression, resistance and adaptation have occurred during the colonial rule and how the colonized reacted to resist its structure of domination. Postcolonial in India works through the process of writing back and re-reading in opposition to colonialism. The present paper is an attempt to re-read this very emergence of postcolonialism and its literary expression itself. It also reviews the various parameters of the deliberation of postcolonial literature. Like colonialism, imperialism also involves political and economic control over a dependent territory. The

British rule did not only control India through political form but also extended their domination in almost *every sphere of life* in our society The colonial impact over economic growth of India is visible till now. Cultural imperialism signifies the domination of the process that go beyond economic exploitation or military force. Today, as a global economic and political power, the United States is interfering into the cultures of other countries of the world. This cultural imperialism promotes capitalist values and western or American lifestyle. The new global order does not depend upon direct rule. However, it does allow the economic, cultural and political incursion of some countries by others. Therefore the present paper also seeks to understand how cultural imperialism in the global world imposes its cultural values on India and other third world countries.

Keywords: Postcolonialism, postcolonial studies, colonialism, oppression, resistance, adaptation cultural imperialism, globalization, capitalist values, third world countries etc.

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Employment in the globalization Era

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Abstract: Expansion and creation of employment opportunities has been the unstated objectives of economic reforms being followed since the early 1990s in India. As industrial controls and trade restrictions are lifted, it is argued that this would result in higher output growth leading to creation of new employment opportunities and a visible fall in poverty and inequality. But the emerging evidence in India in the 1990s on the employment front has been rather dismal. Employment growth in the secondary sector, consisting of mining, manufacturing, electricity, water and gas, and construction, has been relatively high, in fact the highest among the three sectors, during the period under study, 1972-73 to 2009-10. It is interesting to note that while in aggregate urban areas have experienced a much faster growth than the rural areas; employment has seen significantly high growth in rural areas in most non-agricultural activities.

Keywords: GDP growth, Reforms, employment opportunities, sectoral performance, new generation reforms, IT and ITES sector.

ISCA-ISC-2016-20SH-21-Oral

Digital Humanities for Scientific Development: Study and Scope

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Abstract: The humanities should not be confused with "humanism," a specific philosophical belief, or with "humanitarianism," the concern for charitable works and social reform. Humanities emphasize analysis and exchange of ideas rather than the creative expression and explanation of arts and sciences. Definition of humanities includes: Archaeology, Comparative Religion, Ethics, History, Languages & Linguistics, Literature, Jurisprudence Philosophy, Theory, and Criticism of the Arts. In connecting and communicating with people it presents a way to answers about what is right or wrong, or what is true to our heritage and history. The study of the humanities helps to address the challengesin day-to–day life.Digital Humanities refers to analyze new forms of human expression in order to assess its impact on culture. It is collaborative and computationally engaged research, teaching, and publication .This paper projects the effect of various disciplines and its contributes to the knowledge of computing in Digital Humanities.

Keywords: Digital, Humanities, Scientific, Study, Scope.

ISCA-ISC-2016-20SH-22-Oral

Dairy Development Index - Tool to Measure Regional Dairy Development in Maharashtra

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Abstract: Development is a multidimensional phenomenon. There are a large number of factors which affects the development process, particularly in the dairy sector. Given the diffi-culties in analyzing development with respect to each of these factors, researchers generally prefer to aggregate them - what one calls composite index, i.e. dairy development index, to depict the overall status of the region. Based on literature search and availability of district level data 17 theoretically important and policy-relevant variables were chosen for the present study. District level secondary data were collected from various sources such as Integrated Sample Survey Report, Livestock Census, District Socio-Economic

Review Report and Economic Survey of Maharashtra. There are mainly five regions in Maharashtra namely; Konkan, Western Maharashtra, Khandesh, Marathwada and Vidarbha. According to the dairy development index, western Maharashtra was found to be most developed region and konkan was the least developed region amongst five regions of the state. Districts of the state have been divided into three categories, i.e, high, medium and low developed districts. For bringing out uniform regional development, potential targets of important indicators have been estimated in the study.

Keywords: Dairy Development index, development indicators, potential target.

ISCA-ISC-2016-20SH-23-Oral

Educational Intervention: A Boon for Healthy Ageing among Elderly

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Abstract: Two hundred and two rural male and female elderly of age 60 to 88 yrs were randomly selected from five villages of Dharwad Taluk. Personal information schedule was used to elicit auxiliary information of the subjects regarding demographic variables. Life satisfaction Scale by Ramamurthi (1978), Mental Health Inventory by Jagadish and Srivastava (1983) and Socio Economic Status Scale by Aggarwal et al., (2005) was employed. Data was collected through interview method. On the basis of the results that indicated a sizable proportion of elderly with poor mental health status and low level of life satisfaction, an intervention programme was developed and conducted on a sample of 170 elderly in five batches (each batch with 40-50 elderly). A non- experimental research design with single group pre- test, post test design was employed. The educational intervention program was provided for five months for each batch. Majority of the elderly (74.8%) belonged to lower middle SES, 19.3 percent belonged to poor SES and 5.9 percent were from upper middle SES. Significant differences were noticed in the mental health status as well as life satisfaction of both male and female elderly from pre to post test indicating that, the Intervention programme was effective in enhancing the mental health status and life satisfaction of the rural male and female elderly.

Keywords: Educational, Intervention, Boon, Healthy Ageing.

ISCA-ISC-2016-10FCC-10-Oral

Work Related Musculoskeletal Problems and Risk Factors of Brick Kiln Female Workers

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Abstract: Women workers are working in brick kiln and have faced different risk in relating to their work and workplace were selected for the study. This investigation consisted of survey which was conducted in the selected brick kilns of marathwada region Parbhani city. The thirty selected brick kiln female workers performing brick carrying activity 1-5 years between the age groups of 25- 50 yrs were selected for the experiment. Musculoskeletal problems of the workers were identified by using the body map and intensity of pain was recorded by using scale having a five points (Ranjwan, 2000). A questionnaire method was conducted on female workers identifying risk factors The study indicated that musculoskeletal problem of women workers while performing brick carrying activity were very severe pain in case of neck (70%) and severe pain in shoulder (63.3%) and all female workers working in brick kiln faced risk factors i.e. brick fall on leg, burn to hand and eye injuries. Study indicates immediate and urgent need to develop safety measures for female brick kiln workers.

Keywords: Brick kiln, Musculoskeletal problems, Brick kiln workers, Risk factors, Brick carrying activity.

ISCA-ISC-2016-10FCC-11-Oral

Changes In Chemical Composition, Antioxidants and predicted Glycemic Index of Jackfruit at Different Levels of Maturity

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Abstract: Dietary fibre is well known for itshypoglycaemic and hypolipidemic effect. It helps in lowering serum cholesterol and there by helps in prevention of atherosclerosis, antitoxic effect and anti-cancerous effect. Jackfruit contains both

soluble and insoluble dietary fibre as well as other biologically active substances viz. polyphenols, antioxidants, vitamins, trace minerals, phytoestrogens, lipids, proteins and starch, the amount varying with stages of maturity.Hencethe present study was planned to estimate dietary fibre, antioxidant activity and *in-vitro* predicted glycemic index (pGI) of jackfruit at different levels of maturity. Proximate analysis of the jackfruit at different levels of maturity revealed that crude protein content was (4.36%)in mature (3.42%)in immature and (1.61%) in ripe fruit, maximum total dietary fibre found in matured fruitwas (14.7%) followed by ripe(9.29%) and immature jackfruit (3.6%) while, immature jackfruit showed higher antioxidant activity(98.15%) followed by ripe (87.14%) and mature jackfruit(67.41%). pGI at 90 min of hydrolysis was (47.66%), (54.75%), (62.16%)in immature, mature jackfruitand ripe jackfruitrespectively. This indicates that immature and mature jackfruit falls under low GI category whereas ripe fruit lies in medium GI category.

Keywords: Changes, chemical composition, Antioxidants, predicted, Glycemic.

ISCA-ISC-2016-19LLC-12-Oral

Postcolonial Imagination: History and Narration in Toni Morrison's Beloved

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Abstract: Toni Morrison in her novels explores the complexities of black female experience in white America. She attempts to resolve the contradictions inherent in her African American identity. Conscious of her own marginalization within the context of mainstream she starts valuing her peripheral existence. For this she uses Magic Realism as a literary device to represent the history of Afro - American slave tradition. Morrison put forth the reality of Eurocentric discourse and its consequences on black identity.

Key words: Imagination, Narration, hegemony, discourse, psychological trauma.

ISCA-ISC-2016-19LLC-13-Oral

तंत्रज्ञान आणि भाषिक संस्कृती

डॉ. मंदा माणिकराव नांदुरकर
मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती

सारांश

'भाषा' हे मानवी समुहामध्ये वावरतांना परस्पर संवाद साधुन व्यक्तीचे समाजात अस्तित्व टिकवण्याचे, राहून प्रगती करण्याचे साधन आहे. व्यवहार वाढला की भाषा हळूहळू व्यावहारिक, बौध्दिक व सांस्कृतिक प्रगतीचे साधन बनते. विविध क्षेत्रात संवाद करण्यास व जीवनव्यवहार सुरळीत करता यावा याकरता भाषा ही प्रामुख्याने महत्त्वपूर्ण ठरते, त्यामुळे सभोवतालच्या बदलणाऱ्या परिस्थितीला आत्मसात करत संक्रमण काळातील आव्हाने स्वीकारण्यासाठी भाषा सक्षम ठरते. मराठी भाषेला तर अनेक वर्षांची समृध्द परंपरा आहे, दमदार साहित्य व सुंदर काव्य लाभलेली सकस अशी मराठी भाषा आहे. लवचिकता व प्रवाहीपणा ही लक्षणे मराठी भाषेने आत्मसात केल्याने संक्रमण काळातील आव्हाने स्वीकारण्यासाठी ती सक्षम आहे. 'नवे शब्द, नव्या संकल्पना' आत्मसात करत जागतिक संवादाच्या क्षेत्रात ती आधिक समृध्द होतांना दिसून येते.

तंत्रज्ञानामुळे भाषिक संस्कृतीमधील संपर्क व आदानप्रदान वेगाने वाढलेले आहे. तंत्रज्ञानाच्या या युगात मराठी भाषेचे भवितव्य खणखणीत आहे. गुगलवर मराठी भाषकांचा वाचक क्रमांक बरचा आहे. आपल्या भावना व्यक्त करण्याकरता मराठीत परिपूर्ण शब्द आहेत. असे तंत्रज्ञ सांगतात. विज्ञान - तंत्रज्ञानाच्या गतिमानते मुळे सभोवतालची एकंदर परिस्थिती बदलते आहे. ह्या गतिमानतेचे चित्र प्रतिबिंबित करणाऱ्या भाषा जिवंत व समृध्द राहतील; आणि अशा भाषांमध्ये मराठीभाषा विज्ञान तंत्रज्ञानाला घेवून समर्थपणे पूढे पूढे जात असेल. भाषा आणि संस्कृतीचे नाते फार जवळचे आहे. ज्या सांस्कृतिक पर्यावरणात भाषा घडते त्या संस्कृतीचे संस्कृतीविशेष भाषेमध्ये नकळतपणे येत असते. प्रत्येक भाषेला एक वेगळा चेहरा लाभतो मराठीच्या बाबतीत परकीय संस्कृतीची आणि भाषेची झालेली सरमिसळ हा आणखी वेगळा पैलू आहे. भाषा, साहित्, व इतर कला यांचा परस्पर संबंध महत्त्वपूर्ण आहे.

ISCA-ISC-2016-2AVF-Guest Speaker-02

A New Species of Genus *gangesia* Woodland, 1924 (Cestoda: Proteocephalidae)

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Abstract: The genus *Gangesia* was erected by Woodland, 1924. The description of *Gangesia* by Southwell was very meager and Verma 1928 gave a fresh account of the form. In the same paper, Verma described *G. pseudotropii* from *Silurus gangia* and *G. agraensis* from *Wallago attu.* Southwell 1930, however, recognized only four valid sp. of the genus others being regarded as synonyms. Five specimens were collected from the intestine of fresh water fish *Barbus ticto* from Aurangabad in the month of February. All were stained with Mayars carmalum. The measurements are given in millimeters. The new species is described with affinities and differences with some related species.
Keywords: *Gangesia,* Aurangabad, *Barbus ticto*, Proteocephalidae.

ISCA-ISC-2016-14PhyS-Guest Speaker-01

Science and Technology Innovations for National Growth

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Abstract: The technological revolutions of the 21st century are emerging from entirely new sectors, based on micro-processors, tele-communications, bio-technology and nano-technology. Products are transforming business practices across the economy, as well as the lives of all who have access to their effects. Science and technology are key drivers to development, because technological and scientific revolutions underpin economic advances, improvements in health systems, education and infrastructure. The future is going to be knowledge-based economy. Over the past decade, new dynamics have emerged in each of the key domains of higher education, research and innovation. It is important to inculcate research culture among students of undergraduate and postgraduate programmes across all disciplines. This will not only help them to encourage their original and novel thinking but also will provide an opportunity for expression of their academic talent. The key is to approach creatively. Preaching science pedagogically does not help. Teachers should go beyond the obvious and make the children reason every single theory and principle Science, technology, and innovation policy must be a top priority for the next administration and a central component of national economic strategy. Science, technology, and innovation are critical to future for a variety of reasons. The development of new products, services, and processes drives economic growth and job creation. Innovation is important not only for high-tech sectors such as advanced manufacturing, aerospace, clean energy, the life sciences, In many ways invention is the wellhead of innovation, even though many inventions are often rooted in existing innovations. Innovation can play an important role in meeting many of the most important goals we have as a nation. Innovation is pivotal to providing all with longer, healthier lives, fighting global warming, maintaining a strong defense at home and abroad, expanding access to high-quality education and training, and making government more open and efficient. India in comparison with other countries has fewer number of science personnel per million of the population. Official statistics show only 103 people per million and that includes the lab assistants and a whole gamut of personnel involved in Science and Technology. It is for this dismal ratio that believes there is an urgent need to take science closer to citizens, especially the younger generation. To promote technological advances, developing countries like India should invest in quality education for youth, continuous skills training for workers and managers, and should ensure that knowledge is shared as widely as possible across society. There is also a need to address some issues like gap between our education and industry requirements which has to be solved immediately. It is important to promote interaction among academia, R & D Institutes and Industries which will create job opportunities and also product development as per the need of society In conclusion, Invention will generate benefits if it is converted into innovation and to the market place. However, the innovation process may be long and requires a lot of expertise and resources. Governments should support and promote the creation of support services for innovation. This will undoubtedly help to convert a dream into action and a real product and hence the national growth.

Keywords: Science, Technology, Innovations, National Growth.

ISCA-ISC-2016-16EduS-Guest Speaker-02

Environmental Ethics: Challenges in Value Added Environmental Education

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Abstract: The new millennium confronts us with a puzzling combination of promise and threat. The richness of the information age is being felt by all of us, from the internet and the internationalization of trade to the once inconceivable breakthroughs in medical science. Despite the profits and promise of globalization our old problems are enduring and urgent. We contemplate the looming threats of inequalities brought about by the forces of globalization, poverty, reduced food security, the intricate balance between population, resources and the environment, the challenge of sustainable development, and the relationship of all these to the future of humanity and the environment. We have to develop the ecological, holistic worldview, which connects us with the rest of Nature- both materially and spiritually. Religious traditions emphasize this connection. Our task should be to retrieve these basic symbols and doctrines within each tradition and translate them into a clear prescription for public policy and behaviour, which is only possible through value added environmental education. The paper highlights concern for all human beings and the need for incorporating environmental ethics and values in our educational system to face the challenges in environmental education. In order to transform the educational process into one anchored in human values advocacy for environmental citizenship is stressed. The paper also pleads development of environmental understanding through self-awareness in our children as responsible environmental citizen, so that, they know the ground they stand on, while maintaining a sense of wonder with nature.

Keywords: Environmental ethics, Education, Sustainable development, Globalization.

ISCA-ISC-2016-17CLM-Guest Speaker-02

Status of Intellectual Property Rights Studies in Higher Education System of India

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Abstract: In the era of globalization and emergence of modern science like biotechnology and during last decades right related to the intellectual property are discussed. As we all knows that IPR is a collective term includes the patents, trade secrets, copy right, trademark, design registration, GI, etc. At this time it is very much necessary that IPR knowledge should be included in our colleges and university syllabus. So that our upcoming generation will be able to get basics information about their IP right and save their IP rights. Our students are the back bone our country and IPR knowledge is a tool by which we can make our back bone strong and we can also able to save our traditional knowledge, and can save treasurer of our country. Students of colleges and universities are come from various background and they have very strong knowledge about medicinal uses of plant, innovations and other areas related to different fields .Therefore, cheep and innovative ideas of these people should be protected by awareness about IPR.

Keywords: Status, Intellectual, Property, Rights, Higher Education System.

ISCA-ISC-2016-3BS-41-Poster

Effect of Endosulafan on Urea and Uric Acid of Earthworm *Eudrilus Eugeniae* (Kinberg)

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Abstract: Earthworm are ecologicaly important in field. There is an economic interest in testing side effect of environmental factor like temp, salinity, polutance etc. on biological aspects. Earthworm are biological organism in most environment play an important role in improved structure and fertility of soil ecosystem. The objective of this study was evaluating the effect of endosulfan on whole body and nephridia in the Earthworm *Eudrilus Eugeniae* (Kinberg). Treatment of earthworm with endosulfan (0.047ppm) for different time period produced a significant increase in the urea and uric acid in whole body and nephridia.

Keywords: Earthworm, Nephridia, Endosulfan, Salinity.

ISCA-ISC-2016-3BS-42-Poster

Phytochemical Study of *Tradescantia spathacea*

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Abstract: *Tradescantia spathacea*, commonly called Moses-in-a-basket or oyster plant, is a clump-forming evergreen perennial that is native to southern Mexico, Belize and Guatemala. It is widely cultivated in tropical areas because of its attractive foliage. It is commonly grown in the West Indies. It has shown invasive tendencies by escaping gardens and naturalizing in parts of Louisiana and Florida. It is generally cultivated as ornamental plant in India. It belongs to the family commelinaceae. It typically grows as a 6-12" tall rosette consisting of narrow, spirally arranged, linear-lanceolate, stiffly-ascending, sword-shaped, dark green leaves (to 6-12" long) with purple undersides. Plants will spread to form a dense ground cover over time. White flowers in axillary cymes are enclosed by long-lasting, boat-shaped, purple bracts, hence the common name of Moses-in-a-basket. Flowers bloom throughout the year. Flowers are followed by fruit (3-celled capsules). This plant is easily grown indoors in pots or containers. Genus name honors John Tradescant, 17th century English horticulturist and plant collector. The present study was aimed to investigate phytochemical present in the leaves extract of *Tradescantia spathacea*. Initially dried powder of *Tradescantia spathacea* was extracted successively in ethanol and tested for the presence of different phytochemicals.

Keywords: *Tradescantia spathacea*, Phytochemistry, Flavonoids, Alkaloids.

ISCA-ISC-2016-11MatS-20-Oral

Cobalt ferrite for Data Storage and Stress sensitivity

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Abstract: The cobalt ferrite is a most versatile and hard ferrimagnetic material. It possesses unique properties such as high Curie temperature, high coercivety (≈5400 *Oe*), higher magneto-crystalline anisotropy, moderate saturation magnetization and Faraday rotation. We have synthesized $CoFe_2O_4$ by sol gel auto-combustion. The XRD confirms the pure phase formation. The magnetic properties and magneto crystalline anisotropy depend upon the site occupation of Co^{2+} and Fe^{3+} in Cobalt ferrite matrix. M-H hysteresis shows the higher values of squareness ratio, which indicates its application as data storage. The synthesized Cobalt ferrite shows significant values of magnetostrictive coefficient and magneto mechanical coefficient. The reported values show the importance of CFO for data storage and stress sensitivity.

Keywords: Cobalt Ferrite, Data Storage, Magnetism, Stress Sensor.

ISCA-ISC-2016-19LLC-08-Oral

The Changing Trends in Indian English Literature with special reference to Chetan Bhagat's Fiction

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Abstract: The name of Chaten Bhagat is highly appreciated in the field of English literature. He is a personality who expresses the present modern experience as he realized. The main aspect of his presentation is youth and their struggle as they have to face. The social milieu as depicted in the novels of Chetan Bhagat is predominantly of the society in the post globalization era. As we are aware, Indian Literature in English includes contributions of both natives and Diaspora. Chetan Bhagat's *Five Point Someone, One Night at the Call Centre, The Three Mistake of My Life and what young India wants* are quite representation of modern culture and changing trends. Bhagat gives importance to redefining social values. He writes about India as Indian. He writes about each aspect of India like its culture, Its problems, its language and depicts the life of young generation. In his new book *what young India wants* the answer is very simplistic and that is good," According to Bhagat today's young India wants a good life, a good job and romance — "meri naukri, meri chokri". *The Five Point Someone* is the story of first person narration. There is a combination of human emotion and passion. Chetan Bhagat's *three mistake of my life* is a representation of modern culture and modern people. There is story of three friends Govind Patel, Ishaan and Omi. The narrator of this sensational story is Govind himself. The three friends have occupied with different life-style- Govind is more obsessed with business. Ishaanhas passion of cricket while Omi is more concerned with religion.

Keywords: Representation, Trends, Generation, Modernism, Globalization.

ISCA-ISC-2016-19LLC-16-Oral

Feminist interpretation of Margaret Atwood's Novel *The Edible Woman*

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Abstract: Men and Women are two invaluable constituents of society, but, sadly enough the place and status of women in our society, since the times of Mary Wollstonecraft's path-breaking book have much to be desired. Women are relegated to a subordination not sanctioned by biology but in obedience to strong cultural forces and social tradition. This issue needs to be studied under the term "feminism". This Margaret Atwood's novel *The Edible Woman is studied* from a feminist angle. She is a famous Canadian author, who has portrayed women characters from a new perspective. In order to study feminism, some issues like the place and the role of women in society, the treatment she receives in family, at the workplace and in society have been studied. At the same time, it is essential to give a serious thought to how women are projected in literature. In view of this thought the present researcher decided to embark on this topic.

Keywords: Constituents, Subordination, Cultural forces and Social tradition, Feminism, Projection of women.

ISCA-ISC-2016-7EEAP-Mech-03-Oral

Comparative analysis of different Catalysts used in Catalytic Converters for C. I. Engine based Automobiles

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Abstract: Today, the environmental pollution has become a severe threat to not only the human race but also plants and animals. One of the main reasons for this is the high exhaust emission level from C. I. engine based automobiles. At some places including India, the movement of automobiles has been restricted to odd or even days. So, an effective measure is required to prevent this hazard. One of the effective methods for prevention of exhaust emissions from the tail pipe of C. I. engine based automobiles is the use of nano-coated catalytic converter. There are many nano-materials which have been used for various applications including prevention of exhaust emissions from automobiles. This research work is based on the comparative analysis of various nano-materials used in catalytic converter. It will open a pathway as to which catalyst can be more effective for use in the catalytic converter for automobiles based on C. I. engine.

Keywords: Automobiles, Comparative analysis, Catalyst, Catalytic converter, Pollution.

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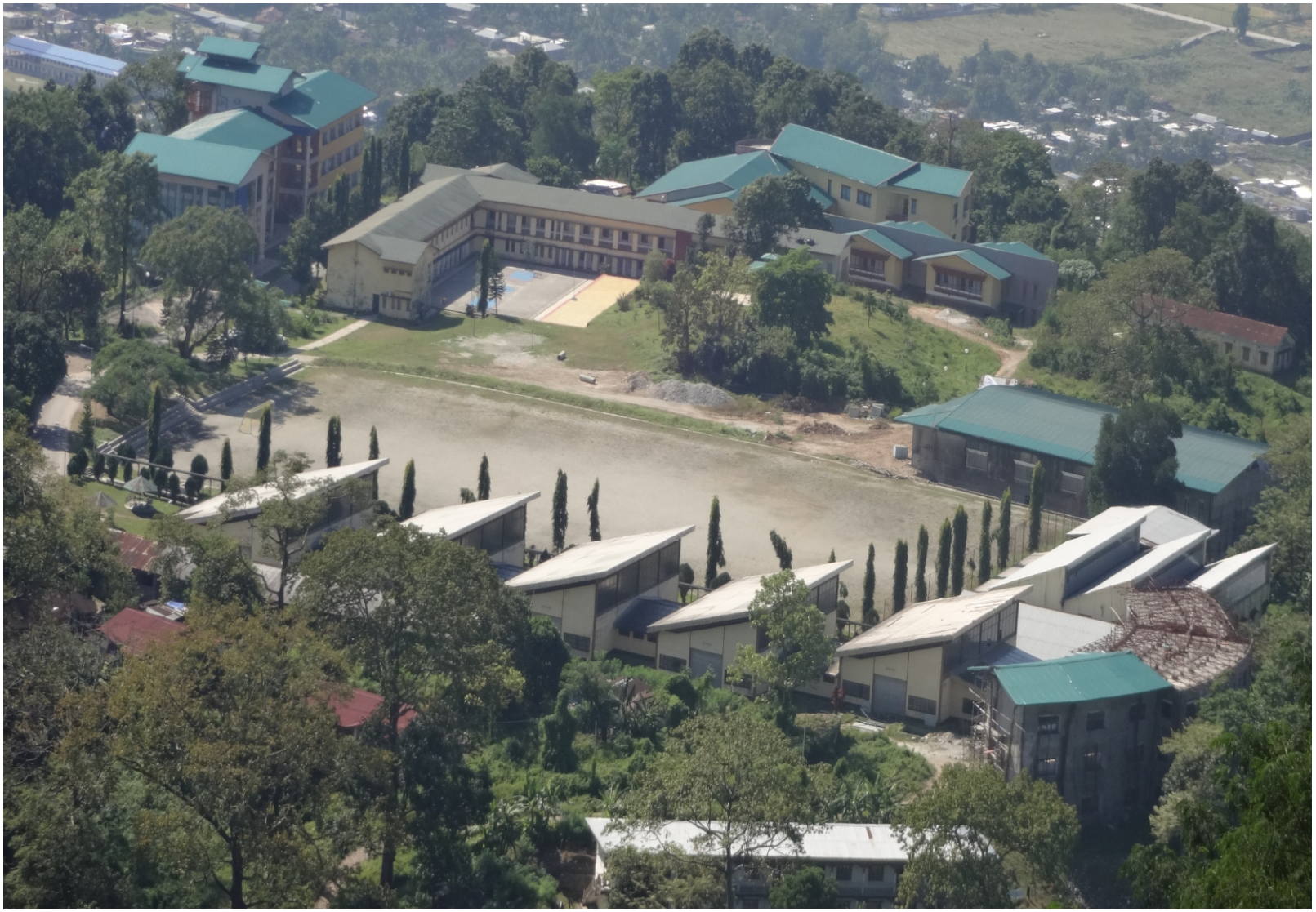

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