8th International Science Congress

ISC-2018

8th & 9th December-2018

SOUVENIR

Focal Theme: Global Green Growth and Green Economy

organized by

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8th & 9th December-2018

Focal Theme

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ISC- 2018 Inaugural Ceremony

Saturday, 8th December 2018, Time 10:00 am

Inauguration By

Sh. Tarsem Kumar Garg
Chancellor, Maharishi Markandeshwar (Deemed to be University),
Mullana, Ambala, Haryana, India

Prof. Victor Gambhir
Vice Chancellor, Maharishi Markandeshwar (Deemed to be University),
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Sales Director, MAGA S.R.O., and
External cooperation with University of Zilina, Zilina, Slovakia

ISC-2018 Valedictory Ceremony

Sunday, 9th December 2018, Time 03:30 pm

Felicitation By

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Chancellor, Maharishi Markandeshwar (Deemed to be University),
Mullana, Ambala, Haryana, India

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Vice Chancellor, Maharishi Markandeshwar (Deemed to be University),
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8th International Science Congress (ISC-2018)

8th - 9th December 2018
at
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Ambala-Yamunanagar Highway, Mullana-133207
Ambala, Haryana, India

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. 2018	Registration & Breakfast	Inaugural Ceremony	Plenary Sessions	Lunch & Interaction	Guest Lecture/ Oral Presentations	Oral Presentations	Tea
9th Dec. 2018	Breakfast & Poster Presentation	Oral Presentations	Oral Presentations	Lunch & Interaction	Oral Presentations	Valedictory Ceremony	Certificate Distribution & Tea

Note:

Date 8th December 2018

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 *Tea*

Date 9th December 2018

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

10:00 am: *Sectional Programme (oral presentation) in continuation of first day.*

02:30 pm: *Group Photograph*

04:30 pm: *Certification Distribution*

9th International Science Congress (ISC-2019)

Focal Theme: Exploring the transformations and changing dynamics of a global economy

8th and 9th December 2019

Organized by

International Science Community Association

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Bhilai Institute of Technology, Durg, Chhattisgarh, India

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Publication of Abstract in E-Souvenir ISBN 978-93-86675-64-4, Publication of full papers "Research Journal of Recent Sciences"

Awards	**Important Dates**		
International Young Scientist Best Oral Presentation Award (Each Section) International Young Scientist Best Poster Presentation Award (Each Section) International Best Oral Presentation Award (Each Section) International Best Poster Presentation Awards (Each Section)	Submission of Abstract (E-Souvenir with ISBN) upto Early Registration Acceptance of Abstract upto Last date of Submission of Full Paper Late registration fees	: : : : :	30th November 2019 31st May 2019 30th November 2019 30th November 2019 From 1st June 2019

Registration Contribution

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Spouse/Others	Rs. 1550/-	$ 40	$ 50
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Delegates	Rs. 3550/-	$ 70	$ 175
Research Scholar	Rs. 2550/-	$ 60	$ 150
Spouse/Others	Rs. 1550/-	$ 40	$ 50
From October 1st, 2019 to October 31st, 2019			
Delegates	Rs. 3750/-	$ 80	$ 200
Research Scholar	Rs. 2750/-	$ 70	$ 150
Spouse/Others	Rs. 1550/-	$ 40	$ 50
From November 1st, 2019 and November 30th, 2019			
Delegates	Rs. 4050/-	$ 90	$ 200
Research Scholar	Rs. 3050/-	$ 80	$ 150
Spouse/Others	Rs. 2050/-	$ 40	$ 50

Registration contribution from December 1st to 7th and on the spot, visit website

5th International Young Scientist Congress (IYSC-2019)

Focal Theme: Alternative Resources and Technology Development

&

Workshop on Research Methodology

8th and 9th May 2019

Organized by

International Science Community Association

(Registered under Ministry of Corporate Affairs, Government of India)

in collaboration with

Mid-Western University, Surkhet, Nepal

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There are twenty sections namely:

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Abstracts will be published in Souvenir E-Souvenir ISBN 978-93-86675-06-4. After approval of experts, full papers will publish in an international peer reviewed journal "Research Journal of Recent Sciences" (ISSN 2277-2502).

Award

International Young Scientist Best oral Presentation Award (Each Section)
International Young Scientist Best Poster Presentation Award (Each Section)

Important Dates	
Conference & workshop Date	8th - 9th May 2019
Submission of Abstract (E-Souvenir with ISBN) upto	30th April 2019
Early Registration	31st January 2019
Acceptance of Abstract upto	30th April 2019
Last date of Submission of Full Paper	30th April 2019
Late registration fees	From 1st Feb. 2019

Registration Contribusion for Conference and Workshop: Indian/ SAARC (INR), Foreign ($)

From 1st Jan. to 31st Jan. 2018	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	2600/-	50
Spouse/Others	1500/-	50
From 1st Feb , 2019 to 31st Feb , 2019	**Indian / SAARC**	**Foreign**
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From 1st March , 2019 to 31st March , 2019	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	3600/-	50
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From 1st April, 2019 to 30th April, 2019	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	4100/-	75
Spouse/Others	1500/-	75
From 1st May, 2019 to 7th May 2019	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	4600/-	100
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6th International Virtual Congress (IVC-2019)

Focal Theme: Attitude, Skills and Practices

&

Workshop on Communication Skills

5th - 10th August 2019

(Online Conference and Workshop www.isca.net.co)

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There are twenty sections namely:
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Abstracts will publish in E-Souvenir with ISBN: 978-93-86675-55-2. Paper Publication in UGC approved journal "IRJBS" (ISSN 22783202) or "Research Journal of Recent Sciences" (ISSN 22772502).

Two certificates (one for conference and one for workshop)

Important Dates	
Conference and Workshop Date	5th- 10th August 2019
Submission of Abstract (E-Souvenir with ISBN) upto	4th August 2019
Acceptance of Abstract upto	4th August 2019
Last date of Submission of Full Paper	4th August 2019

Abstracts / Papers should be submitted at earliest by email:
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Registration Contribution for Conference and Workshop			
Upto May 31th, 2019	**Indian**	**SAARC**	**Foreign**
	Rs. 1050/-	$ 30	$ 40
From June 1st, 2018 to June 30th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 1350/-	$ 40	$ 50
From July 1st, 2018 to July 31th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 1650/-	$ 45	$ 80
From August 1st, 2018 to August 4th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 2000/-	$ 50	$ 100
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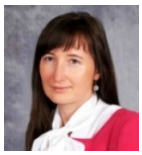
CONTENTS

Dr. Snehal Satish Shastri Memorial Lecture

ISCA-ISC-2018-Planery Session-01

Quantitative risk assessment RM/RA CRAMM method for environmental, social and technology threats



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Abstract: The paper introduces RM/RA CRAMM the original method developed by author and her team in cooperation with Police Academy and Ministry of Interior in Bratislava. The weakness of known risk assessment methods is their abstractness and usually high level of subjectivity as well as their specialization in one field of problems. The RM/RA CRAMM method comes with simple step by step process involving risk identification, analysis and evaluation. It is applicable for wide range of problems such as technology, environmental or social risk. It has been applied in many cases for district risk assessment. The input data involves wide and exact range of information, the calculation of risk involves probability and other three quantitative analytic parameters. Thanks to tab in-line calculation the method can easily reflect the dynamic environment with changing input data. The paper introduces a case study of its application to the risk assessment in one of the district in Slovakia.
Keywords: Risk assessment, quantitative method, RM/RA CRAMM, environmental risk, technology risk, social risk.

Dr. Preeti Choudhary Memorial Lecture

ISCA-ISC-2018-Planery Session-02

E-Revolution: Digital forensic and its impact on society

Dr. Reeta R. Gupta
Senior Scientific Officer-cum-Assistant Chemical Examiner, Central Forensic Science Laboratory (CFSL),
Central Bureau of Investigation (CBI), Lodi Road, New Delhi
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Abstract: Digital India is a campaign, launched by the Government of India so as to facilitate all the citizens of India to make available the Government Services electronically through internet connectivity by providing high-speed Internet network. It was introduced by the Hon'ble Prime Minister of India, Shri Narendra Modi on 1st July 2015. The objective of this campaign was to connect the rural citizens through internet facility with the technological advancement improving digital literacy. It is powerful tool to deliver the government services without delay and harassment or corruption to all important areas of our society. The objective of this paper is to create the awareness regarding the use of secure innovative technological facilities in the modern situation of high-tech criminal scenario. Digitalization has the biggest threat to our society because criminals are equipped with more advanced facilities rather than the common man and those who are engaged in solving such high-tech criminal cases. The growth rate of cybercrime is increasing on day to day basis with excess use of internet in society. Cyber fraud is very common in today's digital world. Thus we as a forensic scientist or common person are required to take highly secure measures to make the digital India mission, a complete feasible for the objective by which it was initiated. It also directly effects on socioeconomic status of our country. Digital India theme is actually a systematic process of thinking towards the one step forward for better progress of our country. This innovative idea is going to make magnificent change in the life style of Indian Citizens and also give an opportunity to adopt modern technologies.
Keywords: Digital forensic, digital word, cyber fraud.

1. Agriculture, Forestry and Horticulture

ISCA-ISC-2018-1AFH-01-Oral

E–Agriculture

Manjeet Kaur Arora
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Abstract: The present study analyzes the impact of e-Agriculture on farmers' basic rights and quality of life. e-Agriculture helps the farmers to increase the basic rights and improve their quality of life. The e-agricultural system provides its users and researches to get online information about, the crop, statistical details and new tendencies. The trends of the crops act so that these will be pretty important to the users who access these via the Internet. The main features of the system includes information retrieval facilities for users from anywhere in the form of obtaining statistical information about fertilizer, research institutes and researches, land availability, diseases, suitable soil concentration for the corresponding crops, statistical information about exports and etc. The positive changes were found of the e-Agriculture users. These results may assist to develop new policies that support to enhance farmers' livelihood.
Keyword: E-agriculture.

ISCA-ISC-2018-1AFH-02-Oral

Evaluation of fluoride deposition in agricultural land in the vicinity of aluminum smelter plant in Renukut, India

Shishu Pal Singh[1*], Jay Prakash Verma[2], Shivraj Singh[3] and Rajesh Kumar[4]
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[2]Banaras Hindu University, Varanasi, UP, India
[3]Department of Environment Sciences, P.G. College Gazipur, UP, India
[4]Sri Babu Singh Dadduji Agriculture College Baghar Fatehgarh, Farrukhabad, UP, India
shishupal_bhu@yahoo.co.in

Abstract: The purpose of this investigation was to determine the fluoride content in soils, located in the vicinity of the aluminum plant in Renukut district Sonbhadra are polluted with fluoride. For this purpose 30 soil samples of cultivated soil were collected from the depths (0 to 15 cm). Total and available fluorine were determined by potentiometric method, after necessary preparations of soil samples for the analysis. It was found that in almost all soil samples content of total fluorine was above 300 mg/kg – maximum permissible value for the content of this element in agricultural soils. Highest values were found on locations Kharpatthar of the aluminium plant. However, the content of available fluorine (soluble in water) in the soil samples in average value is 6.20 mg/kg 6.20 indicating that major part of deposited fluoride had transformed itself into insoluble compounds like CaF_2.
Keywords: Fluoride, aluminum smelter plant, total fluoride, available fluoride, soil pollution.

ISCA-ISC-2018-1AFH-03-Oral

Improved midday meal by using cowpea as eco-friendly crop controlling root-knot forming global green, growth and green economy

Subhas Chandra Datta[1*] and Bodhisatwa Datta[2]
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Abstract: Global Green, Growth and Green Economy and School Midday meal in a school depends on quality and supply of food. But plant diseases, caused by pathogens, significantly reduce food production particularly in the developing world. The pesticides are the most effective means of control, but they are expensive and not environment friendly. The "evils" of synthetic- and chemical- pesticides has been a major concern to environmentalists. To move forward, it will require new and more efficient solutions, technologies, products and it has to fulfill its food and nutrition requirement. Our best endeavor is to focus on the Cowpea plants which may have important economic implications for agriculture in future. In a well protected garden of *Kanchannagar D. N. Das High School (HS),* Government of West Bengal, naturally-infested with *Meloidogyne incognita*, Kofoid and White, Chitwood, Cowpea (*Vigna ungyculata* L.) cv.5269 was intercropped with okra (*Abelmoschus esculentus* L. Moench) cv.Ankur-40 to determine the effects on nematode populations. The nematode population varied from 2373-2439 per 200g of soil. Cowpea were planted in between every two okra plants. All the plants were harvested at 65 days after plantation. Of the two plant species, Cowpea received maximum infection in terms of root gall number, nematode population in root, root protein content and plant growth parameters. Though both the Cowpea and Okra plants were

susceptible to root-knot nematodes. Cowpea was more susceptible than okra in terms of root-gall number nematode population in root and root protein content. Okra has also the lowest root-gall number and nematode population in root. While *M. incognita* population increased significantly both in soil as well as in roots in 65 days in the monoculture. But Cowpea showed the highest intensity of nematode infection. These results suggest that root-knot disease easily and effectively controlled by the use of Cowpea plants as "trap crop" for root-knot nematodes intercropped with okra plants in the naturally root-knot infested field. This way Cowpea could serve as highly effective Eco-Friendly Catch Crop protecting other crops from invading larvae and increase soil fertility. The farmers would be benefited double; by controlling root-knot nematodes in the naturally infected agricultural field and by buying and selling the Cowpea- Okra fruits regularly from the intercropped agricultural field by enriching soil nitrogen and improve midday meal by supplying quality vegetables also. Intercropped cowpea also improves the plant growth by effectively which directly increase photosynthesis rate and significantly reduce CO_2 in the environment and it would not only be easier way, easily available, cheap but also conserve our biodiversity which will contribute towards "Focal Theme: Global Green, Growth and Green Economy i.e. Sustainable Climate, Health and Development by controlling root-knot diseases which is sometime devastating to all kinds of natural and artificial vegetation and Improved Midday meal by preventing Malnutrition in all schools".

Keywords: Eco-friendly crop, intercropping, cowpea, root-knot, naturally-infested garden, midday meal.

ISCA-ISC-2018-1AFH-05-Oral

Influence of various seed treatments on seed quality and root yield parameters in Ashwagandha (*Withania somnifera* Dunal)

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Abstract: A field experiment was conducted at New Orchard, Main Agricultural Research Station, UAS, Raichur to study the effect of seed treatment on seed quality of ashwagandha (*Withania somnifera* Dunal).The field experiment was laid out in the Randomized Block Design with nine treatments replicated three times. The germination test was conducted by TP method as per ISTA. Seeds obtained from different treatments were subjected to germination test. It was conducted by using 50 seeds in each treatment in the petri plate with eight replications in the germination room. The germination room was maintained at 25±1°C temperature and 90±2% RH. At the end of fourteenth day, the number of normal seedlings in each treatment was counted and the germination was calculated and expressed in percentage (ISTA 1999). Among the different seed treatments, the seed treatment with $NaNO_3$ + GA_3 + *Azospirillum* (each 12 hrs soaking) significantly enhanced the germination percentage (94.25%), seedling length (8.84 cm), seedling vigour index (832.95) and seedling dry weight (0.12mg) as compared to unsoaked and water soaked seeds. Unsoaked seeds recorded minimum germination percentage.

Keywords: Ashwagandha, germination, seed quality, seed treatment, unsoaked, *withaniasomnifera.*

ISCA-ISC-2018-1AFH-06-Oral

Role of silicon for mitigation of Cadmium toxicity in seed germination of *Avena sativa*

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Abstract: Approximately 68% of Indian population directly or indirectly depends on agriculture. *Various anthropogenic activities like overuse of fertilizers and pesticides,* nickel-cadmium batteries *etc. are making soil polluted of heavy metal like cadmium and are* affecting human health. In the soil the cadmium ultimately absorbed by plants and hence, interferes with uptake of nutrients; inhibit cell division, cell enlargement and total biomass of crop. Silicon, the 2nd most abundant element, is found commonly in the form of silicon dioxide in earth crust and play crucial role in alleviating drought stress, salt stress, heavy metal toxicity. Present study was conducted to investigate the effects of cadmium on seed germination and seedling growth parameters and role of silicon in alleviating these in *Avena sativa* seedlings. The seeds of *Avena sativa* were procured from IARI, New Delhi. The thermocol glasses were filled with 100g of soil, mixed with 0.7mg of Cadmium chloride and in treated pots two different concentration of Potassium silicate i.e. 5mg and 7mg/100g were taken. Seed germination parameters were recorded up to 15 DAS. 46.67% seed germination was observed in soil supplemented with Cadmium chloride but 86.67% and 100% seed germination was observed in the pots treated with 5mg and 7mg of concentrations of Potassium silicate supplemented with Cadmium chloride. The further investigations are required to know the mode of action of silicon in mitigating the effect of Cadmium toxicity and increase in productivity of *Avena sativa* plant.

Keywords: Cadmium chloride, *Avena sativa*, Potassium silicate.

ISCA-ISC-2018-1AFH-07-Oral

Comparing the efficacy of bio-pesticides versus chemical pesticide against leafhoppers (*Empoasca kraemeri*) in Cowpea (*Vigna unguiculata*) under field condition in summer season in Chitwan, Nepal

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Abstract: Leafhopper (*Empoasca kraemeri*) is one of the key pests of cowpea. Along with the growing use of chemical pesticide, several research works had been done to examine their efficacy to reduce the key pests of cowpea. Not only emphasizing the chemical pesticide, this paper has checked and compared the efficacy of chemical pesticides with bio-pesticides against leafhopper. For the experiment, treatment namely Jholmol (125 ml/L), Neem (*Azadiracta indica*) extract (2ml/L) and Cannabis extract (100g/L) as bio-pesticides, Chloropyrifos 50% EC and Cypermethrin 5% EC (2ml/L) as chemical pesticide along with control was assigned and the research was conducted in the horticulture research field of Agriculture and Forestry University, Chitwan, Nepal in 2018. The experiment was laid out in Randomized Block Design (RBD) with five treatments i.e. four insecticidal treatments and one untreated control in four replications. The results showed that all the insecticidal treatment was found significantly efficient over the control. From the three insecticidal application, it was found that chemical pesticide showed highest control on leafhopper which is at par with Neem extract, followed by Cannabis extract and Jholmol. But yield of cowpea was found significantly highest in Neemix application (100.7 qt/hac) at par with chemical pesticide (93.75 qt/ha) amongst the insecticidal treatment, while lowest in control (68.6 qt/hac). Similarly, the highest net profit and lowest incremental cost/benefit ratio was obtained in Neem extract treatment followed by chemical pesticide, Jholmol and Cannabis extract. It showed that the use of bio-pesticide like Neem extract can replace the chemical pesticides providing better yield and efficiency.
Keywords: Leafhopper (empoasca kraemeri), neem extract (azadiracta indica), efficacy, bio-pesticides, chemical pesticide.

ISCA-ISC-2018-1AFH-08-Oral

Morphological and molecular characterization of *Trichoderma* sps isolated from Sorghum rhizosphere

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Abstract: The *Trichoderma* isolates uses with efficient antagonistic activity against anthracnose disease of sorghum. For this research, a survey was conducted by our team during kharif season of 2015 and 2018 in major Sorghum grown areas of Uttarakhand for isolation of *Trichoderma* from rhizosphere of sorghum. The *Trichoderma* isolates were initially characterized based on morphology. The isolates were evaluated for their morphological variability, considering colony color, growth pattern and conidial symmetry. Diversity analysis of cultural characteristics of *Trichoderma sp*. was done on 3 different cultural media at room temperature. Maximum radial growth was recorded on oat meal agar with excellent sporulation in compression to others and later characterized by ITS region and translation elongation factor 1-α gene sequence. Based on the sequence analysis of *EF1* gene and ITS region the isolates were designated as *Trichoderma harzianum* and *Trichoderma asperellum*.
Keywords: Trichoderma, antagonistic activity and ITS region.

ISCA-ISC-2018-1AFH-09-Oral

Eco-friendly approach to combat *Fusarium moniliforme*, inciting foot rot of rice

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Abstract: In order to maintain the productivity of various crops in developing countries xenobiotic chemicals are being added in the natural environment by the farmers. According to WHO survey more than 50,000 people in developing countries

are poisoned annually and 5,000 die as a result of the effects of toxic agrichemicals. In India 35,000 - 40,000 tons of hazardous chemicals are sprayed on crops every year resulting cancer, sterility and death. So there is an urgent need to develop sustainable methods for these horrible diseases. Plants are known to possess antimicrobial secondary metabolites that can inhibit the growth of plant pathogens. In the present study, experiments were carried out to evaluate the antifungal properties of 100 plant parts samples of 100 plants spanning over 45 families against plant pathogenic fungi *Fusarium moniliforme* by the food poisoning method. The results are promising and shown varied response. Plants samples of some families such as Apocynaceae, Caesalpinaceae, Combretaceae, Compositae, Ebenaceae, Liliaceae, Lythraceae, Meliaceae, Mimosaceae, Rosaceae, Salvadoraceae, Sapindaceae, Theaceae and Zingibraceae were found to be comparatively more effective against the test fungi. The research work indicates that the use of plant extracts as antimicrobial agent to control plant pathogens is feasible and is cost effective. The major benefit is its being eco-friendly.

Keywords: Plant pathogens, fusarium moniliforme, antifungal, plant-extracts, phytochemicals.

ISCA-ISC-2018-1AFH-10-Oral

Aeroponics: an alternative production system for high returns

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Abstract: The current world population of 7.2 billion is projected to increase by almost one billion people within the next twelve years, reaching 8.1 billion in 2025 and 9.6 billion in 2050, according to a new United Nations report. As the world population continues to grow, the rising demand for agricultural production is significant. Therefore an alternative production system aeroponics is the need of the hour. The word "aeroponics" is derived from the Greek word, aero means "air" and ponic means "labour/culture". Aeroponics is cutting edge in the world of hydroponics. Aeroponic culture differs from conventional hydroponics, aquaponics and in-vitro (plant tissue culture) growing. Aeroponics is the process of growing plants in an air or mist environment without the use of soil or an aggregate medium (known as geoponics). Aeroponics is primarily a process of growing plants in air, or misty environment by time bound spray application of all the required nutrients without the use of soil or an aggregate media. Aeroponicstechnologyisanewmodelofsoillesscultivation tomeet thedemandfor savingwater and fertilizer to grow vegetables.Being a new technology, it needs to be adapted to the local conditions, *viz*. the varieties grown in the region, designing the crop geometry, plant protection schedule, etc.

Keywords: Aeroponics, cultivation, plants, population, soilless.

ISCA-ISC-2018-1AFH-11-Oral

Bio efficacy of rhizobacterial Isolates for the growth promotion and protection of chilli against *Ralstonia solanacearum*

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Abstract: The bacterial isolates from rhizosphere of different vegetable crops were evaluated for the growth promotion and protection of *Capsicum annuum* L.(Chilli) against wilt disease caused by *Ralstonia solanacearum*. The total number of 55 Rizobacterial strains were assessed, 11 isolates were exhibited strong inhibition to *R.solanacearum*. The maximum antagonism was recorded by KC-17 upto 78.77%. Metabolite of bacteria were screened for siderophore, HCN, ammonia, IAA and P solublization and it was recorded that 9 isolates were able to produce IAA, 10 isolates produces siderophore and able to solubilize phosphate. None of the isolates were found to produce ammonia and HCN production. Out of the 55 isolates, 8 selected isolates were chosen to perform under greenhouse conditions in chilli crops. Rhizobacteria treated seeds showed enhanced germination, total chlorophyll, total biomass of chilli plants and reduced diseases incidence and had positive effect on biochemical parameters as compared to uninoculated control. The results indicated that the specific activity of peroxidase (POD) and polyphenol oxidase was significantly up-regulated from zero hours onwards after inoculation of *Ralstonia solanacearum.*

Keywords: Rhizosphere, antagonism, growth promotion, biochemical parameters.

ISCA-ISC-2018-1AFH-01-Poster

Ameliorate the impact of abiotic stress on wheat by use of microbial inoculants under different sowing dates

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Abstract: Wheat (*Triticum aestivum*) is one of the most paramount staple food crops globally. Maintaining a consistent wheat yield with growing population under variable weather conditions is a major challenge. The application of microbial inoculants to alleviate the abiotic stress could be cost effective and environmental friendly opportunity. The standard cultures of *Azotobacter* sp. and *Streptomyces badius* were screened *in vitro* for PGP characteristics and evaluated for their beneficial effects on growth and yield attributes of wheat under field conditions. Both the cultures were able to produce indole-3-acetic acid, ammonia, gibberellic acid and solubilised inorganic phosphate *in vitro*. Both the cultures were also able to withstand high concentration of NaCl (*Azotobacter* sp. up to 25% and *Streptomyces badius* up to 15%), temperature as high as 50°C and wide range of pH from 2-12. Further, the liquid inoculants of *Azotobacter* sp. and *Streptomyces badius* prepared using PEG in basal medium showed maximum viability after 180 days as compared to other formulations. The field experiment was conducted at Regional Research Station, Bathinda in a split plot design. The main plots treatment consisted of five sowing dates and four liquid inoculants treatments in subplots. Among the sowing dates, the crop sown on 10th November was found to be superior in all the agronomic traits. Liquid inoculants of *Azotobacter* sp. and *Streptomyces badius* were found to enhance growth and yield attributing characters of wheat at each date of sowing by direct and indirect mechanisms. Thereupon, liquid inoculants could play a crucial role in ameliorating the abiotic stresses due to climate change.
Keywords: *Azotobacter* sp., liquid inoculants, sowing dates, *Streptomyces badius*, wheat.

ISCA-ISC-2018-1AFH-02-Poster

The scope of integrated nutrient management in forage cowpea with application of liquid microbial inoculants

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Abstract: Livestock is an integral part of Indian Agriculture and plays a vital role in rural economy. The heavy livestock pressure on limited land resources in the country calls for increasing the fodder production. The scope of increasing the area cultivated for forages is rather limited, the suitable strategy to meet the growing demand for forage crop available is to increase the production per unit area per unit time. Cowpea can make a relevant contribution towards livestock fodder and supply nitrogen to the soil acting as dual purpose crops. Cowpea requires good quantity of nutrients throughout its growth periods. Modern agriculture based on chemicals is not sustainable because of many problems. Neither the fertilizers nor the organic sources in isolation can achieve sustained production under intensive cropping system. Thus holistic approach is required. Integrated nutrient management includes application of organic, inorganic and biological component in an integrated manner. Microbial inoculant emerged as one of the integral component of INM. Microbial inoculants are cost effective, eco-friendly and renewable source of plant nutrients. Microbial inoculantsof *Rhizobium* and PSB have assumed a great importance on account of their vital role in N_2-fixation and Phosphate Solubilization. Thus research is being carried out to develop liquid microbial inoculants containing nitrogen fixing and phosphate solubilizing bacteria for forage cowpea.
Keywords: Fodder cowpea, *Bradyrhizobium* sp., INM, liquid inoculants, *Burkholderia* sp.

ISCA-ISC-2018-1AFH-03-Poster

Response of vetiver grown on ridges, bed and bag method of planting with application of N, P and K fertilizers on root yield parameters

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Abstract: A field investigation was conducted at Medicinal and Aromatic Plants Unit, Saidapur Farm, Department of Horticulture, College of Agriculture, University of Agricultural Sciences, Dharwad, Karnataka to evaluate the response of vetiver grown on ridges, bed and bag method of planting with application of N, P and K fertilizers on root yield parameters during July 2015 - July 2016. The experiment was laid out in split plot design with three main plot and six sub plot

comprising of eighteen treatment combinations with two replications. The main plot consisted of three planting methods; P_1– Ridge and furrow method, P_2– Bed method and P_3– Bag method. The sub plot consisted of six fertilizer levels; F_1- 25:25:25 kg NPK/ha, F_2- 50:25:25kg NPK/ha, F_3- 75:25:25kg NPK/ha, F_4- 25:50:25kg NPK/ha, F_5- 50:50:25kg NPK/ha and F_6- 75:50:25kg NPK/ha. For all the treatments, farm yard manure @ 10 tonnes per ha was applied. Among the planting methods, bag method (P_3) recorded significantly higher number of roots per plant (317.0), root length (50.1cm), dry root weight (95.1g/plant), dry root yield (4085.8kg/ha) and essential oil yield (85.3kg/ha) compared to other planting methods. Among fertilizer levels, 75:50:25kg NPK/ha (F_6) recorded significantly higher number of roots per plant (261.0), root length (46.0cm), dry root weight (86.3g/plant), dry root yield (3686.5kg/ha) and essential oil yield (78.4kg/ha) compared to other fertilizer levels.

Keywords: Essential oil yield, nutrition, planting methods, root yield, vetiver.

ISCA-ISC-2018-1AFH-04-Poster

Vertical garden system: a new urban horticulture concept

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Abstract: Urbanization which is one of the most serious problems in 21st Century causes many environmental problems such as concrete areas and population increase. Although the decreasing urban green areas cause many environmental problems, it provides a basis for developing vertical garden. Vertical gardens are becoming a common component in contemporary garden designs at urban living space because of shrinking landspaces. They're especially popular for small-space gardening where ground is at a premium, or as decoration for patios and outdoor rooms. The vertical gardens are defined asgardens that cover facade walls with using various plant species by systems. Vertical gardening is more than just aesthetics; it can help to cool and insulate buildings, reducing the need and cost for air-conditioning. Growing plants in the building can also help to filter air particulates and improve air quality as well as add some humidity to centrally cooled offices at the same time. Vertical gardening requires little maintenance/trimming and mostly does not use soil. It also helps to save water by reducing the need for irrigation and watering. With vertical greenery, it also helps to soften the grey, hard and cold look of concrete especially in concrete urban jungles. A vertical garden also known as green wall or living wall is self-sufficient vertical garden attached to exterior or interior walls of a building.

Keywords: Aeroponics, cultivation, plants, population, soilless.

ISCA-ISC-2018-1AFH-05-Poster

Spatial pattern of fertilizers application in major crops grown in Karnal District of Haryana, India

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Abstract: The average quantity of fertilizer use per hectare of the cropped area in 2015-16 was found as 206 kg for the State as a whole. During the same period, it was 293.95 kg in Karnal district, which comes out 142 per cent of the State average. In total consumption of NPK the proportions of N, P and K were respectively, 80.29, 17.34 and 2.36 per cent in Karnal district whereas for the State as a whole these were 77, 21.5 and 1.5 per cent respectively. The study revealed that on small farms one hectare in size of holding increased the expenditure on fertilizers by Rs. 1383.20. However, on large holdings the one hectare increase in size of holding resulted in an increase of Rs. 1253.40 on fertilizers expenditure. The percentage of irrigated area on small farms was more as compared with large farms, the expenditure on fertilizer per hectare of net area shown is also more on large farms than the small farms. It was found that the extent of fertilizer consumption is dependent upon mainly on two factors namely area fertilized and the quantity of fertilizers used per hectare. Both of these in turn are dependent upon several factors namely; the economics of fertilizer use and ability of farmers to purchase fertilizers.

Keywords: Fertilizer expenditure, pattern of fertilizer use, marginal value productivity, determinants of fertilizer use.

2. Animal, Veterinary, Fishery and Marine

ISCA-ISC-2018-2AVFM-Guest Speaker-01

Enhancement of indigenous cattle milk productivity in India

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Abstract: Indigenous cattle are rich in diversity and excellent in desirable attributes like disease resistance, tolerance to hot and humid stresses, adaptability to different environment and production management systems andability to utilize coarse roughages and crop residues.There are 190.9 million cattle including 33.7 million of exotic and crossbreds and 151.1million of indigenous cattle. Indigenous cattle are represented by 41 recognised breeds, grades of recognised breeds and non-descript. India produced 165.4 million tons of milk with per capita availability of 355 ml/per day/per person in the year 206-17. In India, milk is the single largest commodity which contributed around 67.7% in livestock GVS. The proportion of different species in milk production in the country was exotic cattle (1%), crossbred cattle (25%), indigenous cattle (11%), non-descript cattle (10%), indigenous buffalo (35%), non-descript buffalo (14%) and other species (4%) in the year 2016-17. Milk productivity of exotic cattle (11.21 kg), crossbred cattle (7.33 kg), indigenous cattle (3.41 kg), non-descript cattle (2.16 kg, indigenous buffalo (5.76 kg), non-descript buffalo (3.8 kg) and goat (0.45 kg) is low as compare to European countries while all the indigenous cattle are producing A2A2 type of milk, which is supposed to be good for health. India has large indigenous cattle diversity in terms of breeds, adaptation to different habitat, milk production and productivity etc. which provides an opportunity to increase milk production and productivity by proper management of the said biodiversity. Milk production and productivity of indigenous cattle can be increased by adopting genetic improvement programs and suitable breeding strategies and for poor and rich resources farmers and kind of cattle germplasm available. Recording of performance under field for evaluation of elite germplasm. Managements of reproduction will increase more number of milch animals and reduce the cows those not calved once. Reduction of number of dry cows will increase milk production in the country. Availability of male elite germplasm for natural breeding and artificial insemination will result enhancement of milk production and productivity.

Keywords: Indigenous cattle, milk productivity, genetic improvement, management.

ISCA-ISC-2018-2AVFM-Guest Speaker-02

Cestode infra community and diversity in freshwater snakehead fish of India

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Abstract: Parasitic helminthes are widespread and global in occurrence in all groups of organisms. In aquatic bionetwork and aquaculture, the fish are important to food web and food chain for nutrition, medicine, economy and sustainable development. Due to the feeding habit and niche utilization behavior, fish are the most suitable host group of aquaculture system for helminthes. Helminthes are the parasitic nonchordata with triploblastic and organ-system garde of organization, acoelomate and dorso-ventrally flattened body. The consumption of helminthes infected fish may leads in to the transmission of infection to the top consumers of food chain of an ecosystem like human, birds etc. *Channa* sp. (Bloch) is an important and most common carnivorous food fish with high protein contents as well as an aquarium fish of India. There are four species of the model fish genera (namely: *Channa straitus, C. punctatus, C. marulius and C. gachua*) present in India. Out of these, *C. punctatus* is most susceptible to helminthes infection especially cestode parasites. The detailed workout reflected that the recovered helminthes from *C. punctatus* belonging to different taxonomic groups namely: *Circumbothrium* sp., *Lytocestus* sp., *Lytocestoides* sp., *Bothriocephalus* sp., *Senga* sp., *Polyoncobothrium* sp., *Gangesia* sp., *Proteocephalus* sp., *Silurotaenia* sp. and *Aitodiscus jalaunensis* from various regions of India. Thus, the literature survey reflected that, sum of 38 species from 10 genera of cestodes were recorded from *Channa*. sp. in India.. The occurrence, prevalence and intensity, distribution and transmission of the cestode parasites in *C. punctatus* depend upon extrinsic (environmental factors, topography, altitude, latitude and seasonality, humidity), intrinsic (size, sex, age, immunity and BMR of fish) factors, vegetation and management practices, feeding habitat of host and availability of food and infective stages.

Keywords: Helminthes ifracommunity, freshwater snakehead fish, cestode diversity, distribution dynamics, extrinsic and intrinsic factors.

ISCA-ISC-2018-2AVFM-Guest Speaker-03

Marine Protected Area (MPA)

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Abstract: A Marine Protected Area (MPA) is essentially a space in the ocean where human activities are more strictly regulated than the surrounding waters. The IUCN defines a Marine Protected Area as; "Any area of the intertidal or sub tidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment". The benefits of protected areas are conservation and restoration of depleted, threatened, rare or endangered species and populations; Maintaining biodiversity and providing refuges for endangered and commercial species; to ensure the long-term viability and maintaining the genetic diversity of marine species and systems; protecting critical habitats from damage by destructive fishing practices and other human activities and allowing them to recover. India has a vast coastal line, so well defined marine protected areas.
Keywords: Marine protected area, endangered species, environment, human.

ISCA-ISC-2018-2AVFM-01-Oral

Haemato-biochemical alterations in Canine Parvo Virus Infection affected dogs

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Abstract: The present study was conducted to monitor clinical, haematological and biochemical parameters in dogs infected with canine parvovirus infection. A total of six apparently healthy and affected dogs having age 1 to 6 years were brought to the Teaching Veterinary Clinical Complex having principal complaint of anorexia, frequent vomition, and foul smelling bloody diarrhea were considered for the present study. Dogs showed a significant decline in Hb, PCV, TEC and MCH. The values of AST, ALP increase and albumin level showed significant decrease whereas the levels of other biochemical parameters did not vary significantly.
Keywords: Dogs, canine parvo virus, bloody diarrhea.

ISCA-ISC-2018-2AVFM-02-Oral

Effects of *Ficus racemosa* on the Indian major carp fingerlings haematological parameters

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Abstract: The present study was conducted to study the effects of *Ficus racemosa* on the fingerlings of *Labeo rohita*, *Catla catla*, *Cirrhinus mrigala.* A total of 1500 carp fingerlings with average weight 25g were randomly dived into four groups. After one week of acclimatization period, gular powder incorporated in the fish diet at the rate 10%, 20% and 30 of total feed were given for a period 90 days in T1, T2 and T3 respectively. Various haematological parameters were determined like TLC, TEC, Hb, MCH, MCV, MCHC, Haematocrit. Results of the haematological parameters showed that the inclusion of Ficus racemosa influenced the haematological parameters.
Keywords: Carp fingerlings *Ficus racemosa,* haematological parameters.

ISCA-ISC-2018-2AVFM-03-Oral

Study of diversity of snakes in Khed Tahsil, District Pune, MS, India

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Abstract: Ecologically snakes are the very important Reptile. However, now a day this animal of suborder Ophidian is on the verge of threat. Whatever may be the snakes exposed, observed or reported by the local people in resident area or all around the human habitations, are caught by an expert, authorized snake catchers and as per the guidelines of wildlife and forest department rescued and released into the proper habitat for the survival of the individual species. This work is most important for the enrichment of the individual species survival and will helps to provide information, awareness and

conservation of fauna in Khed tehsil, Pune district, Maharashtra. This data collected for one year from June 2017 to May 2017. Analysis of data showed that, there are 20 species of snakes in Khed tehsil, Pune district, belonging to five families out of which only 04 were poisonous, 03 were semi-poisonous and remaining 10 were non-poisonous.

Keywords: Snake diversity, Khed tahasil, Dist. Pune.

ISCA-ISC-2018-2AVFM-04-Oral

Development of novel bio-molecules activated label-free nanoparticles for prototype arbovirus detection

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Abstract: Arboviruses (AR: Arthropod; Bo: Born) can be biologically classified as the viruses which are transmitted by hematophagus arthropod vectors, and they include viruses in different families including Togaviruses, Bunyaviruses and Reoviruses. Most discussed members of this group include Japanese encephalitis virus, Yellow fever virus, Rift valley fever virus and Zika virus, having tremendous potential of spreading throughout the world along with their vectors. The viruses classified under this category have RNA as their genomic material; therefore they are more likely to have mutations and also can appear in the form of newly emerging and re-emerging viruses. These viruses are very virulent in humans and require high level of biosafety measures, therefore for the basic research we have elected bluetongue (BT) virus as, a prototype for arboviruses. Since the last decade, nanoparticles (NPs) are proposed as promising tools for development of the next generation of diagnostic assays. Because of their exceptional properties and capacity to interact with biomolecules on a one-to-one basis, various nanoparticles can be exploited to meet the rigorous demands of the clinical laboratory for sensitive and cost-effective point-of-care diagnosis. Therefore, in this study, we have developed nanoparticles based diagnostic assays which includes, gold nanoparticles (GNPs) based immune dot-blot assay, immunechromato graphic assay or lateral flow assay and multi walled carbon nanotubes (MWCNTs) based immune biosensor for the detection of BT virus. Minimum detection limit of antigen detected was 5-10 pg/ml. The GNPs based robust technique can be implemented for diagnosis of other arboviruses as a potential point of care assay. There is no earlier report on designing of label-free nanoparticles-based assay for detection of bluetongue virus in world literature to the best of our knowledge.

Keywords: Arboviruses, BT virus, gold nanoparticles, dot-blot assay, lateral flow assay, multi walled carbon nanotubes, biosensor, Lab-on-chip, penside assay.

ISCA-ISC-2018-2AVFM-05-Oral

The use of herbal medicinal plant *Achyranthes aspera* (family: Amaranthaceae) as animmuno modulator for *Labeorohita*

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Abstract: *Achyranthes aspera* (Prickly chaff flower) is an indigenous herbal medicinal plant and used for various therapeutic purposes. The present research was to evaluate the immunostimulatory properties of pelleted diets enriched with crude powder of plant leaves and seeds. *Labeorohita fingerlings* (initial weight: 2.016 ± 0.231) was cultured in 60L tanksunder 4 feeding regimes. The three diets were prepared using seeds (0.5%), leaves (0.25%), and leaves (0.5%) of *Achyranthes aspera* and diet without plant ingredients serve as control. After 60days of feeding, fish were challenged with *Aeromonas hydrophila*bacteria (5×10^6 cells/ml). Themortality was checked for 7 days. Blood and tissues were collected for various immunological parameters and gene expression studies. Average weight, specific growth rate, nitric oxidesynthase, myeloperoxidase and serum lysozyme werehigher while cumulative mortality rate waslower in rohu fed with plant enriched diets compared to the control one. The relative mRNA expressions of immunity genes (Lysozyme C, G, IL-1β, IL-10 and TLR4) were evaluated. Enriched diets enhanced the immune response of fish and help tocombat the constant challenge of waterborne pathogens. The use of herbal compounds is alsobetter than hazardous antibiotics which are frequently used in intensive aquaculture.

Keywords: *Labeorohita*, *Achyranthes aspera*, *Aeromonas hydrophila*, cumulative mortality and gene expression.

ISCA-ISC-2018-2AVFM-01-Poster

Survey of diversity of spider (Class: Arachnid, Phylum: Arthropoda) at Khed Tehsil, Dist. Pune, MS, India

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Abstract: India is rich in both flora and fauna and is a mega diverse country. Knowledge about the diversity, distribution and abundance of spider in India is very sparse. Spiders are one of the most diverse groups of organisms. Spiders are among the most important predators in many ecosystems. Spiders are an important food source for birds, lizards, wasps and other animals. The study was conducted at Khed tahasil district Pune, Maharashtra India. In this study, by observing the diversity of Spiders (Class Arachnida, phylum Arthropoda), In total 12 species of spiders belonging to 5 families were observed. Araneidae was the most represented family with 15 species. Area surrounding Khed tahasil Dist Pune, Maharashtra, India represents 23.72% of the total families recorded in India. In totality, five different guilds of spiders were observed. 54% of spiders were orb web builders, 24% were foliage runner. Ground runner and Ambusers were 8%, while scattered line weaver were 6%. Khed tahasil region could be an important centre of speciation in Bhimashankar dist Pune.
Keywords: Spider diversity, Khed taluka, Dist. Pune.

ISCA-ISC-2018-2AVFM-02-Poster

Study of diversity of ant species (Hymenoptera: Formicidae) in and around Rajgurunagar, Dist. Pune, MS, India

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Abstract: The study is given to explore the diversity of ants in farms, grassland and human habitats located around Rajgurunagar. In this area the survey was conducted during the year 2017-2018. In the given study there are 7 species and 5 sub families are identified. All out search and baiting method were used to observe ants. Farms and Garden area showed the maximum percentage (88%), since this found that healthy natural condition in and around Rajgurunagar.
Keywords: Ant species, area around Rajgurunagar, Tal. Khed. Dist. Pune.

ISCA-ISC-2018-2AVFM-03-Poster

Study of spider webs for antimicrobial activity

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Abstract: Spiders build their webs with a material called silk. Spider silk contain protein fiber that have many advantages and functions. One of them is to capture their prey such as flies, insects, and others. The needs on the research of antibacterial activity are important for human health because of importance of finding a new cure for some diseases that occur because of microorganisms. Some of the microorganisms, especially bacteria are becoming resistant to many antibacterial agents. The purpose of this new investigation was to determine if spider webs exhibit antibacterial properties. In order to determine antibacterial properties, the spider webs were extracted using different solvents such as methanol, ethanol, acetone, and water in different conditions (extraction time, and concentration used for optimization). These extracts were screened for antibacterial activity using disc diffusion assay. Two bacteria were used in the antibacterial assay namely Bacillus subtilis, and Escherichia coli. The determination of spider webs exhibiting antibacterial properties was based, at least in this study, solely upon the definite appearance of inhibition zone around the well of plates. In screening, acetone solvent was shown the best for antibacterial activity compare to other solvents with 10 mm of diameter of inhibition zone for Bacillus subtilis and 9 mm of diameter of inhibition zone for Escherichia coli. In optimization, the maximum inhibition zone on the Bacillus subtilis was 15 mm at a time of 48 hours and concentration of 0.035 g/ml. Meanwhile, the maximum diameter of inhibition zone on the Escherichia coli was 12 mm at a time of 48 hours and concentration of 0.035g/ml. Therefore, this study showed that spider webs could be potential source of new antibacterial agents.
Keyword: Antibacterial, bacillus subtilis, Escherichia coli, inhibition zone, spider web.

ISCA-ISC-2018-2AVFM-04-Poster

Nutritional value of duckweed *Lemna minor* as a fish-feed and their impact on the digestive physiology of *Oreochromis niloticus*

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Abstract: Freshwater duckweed *Lemna minor* is opulent in good quality of protein, amino and fatty acids content. The essential amino acid content is higher or close to the requirements of tilapia (*Oreochromis niloticus*) according to Food and Agriculture Organization (FAO). The present work was aimed to evaluate the impact of duckweed on the digestive physiology of tilapia. Four isonitrogenous diets (32% crude protein) were formulated and fed to fingerlings (28.62 ± 0.32g) at inclusion of 25% (diet 1, D_1), 50% (diet 2, D_2), 75% (diet 3, D_3). The diet without *Lemna minor* served as control (diet 4, D_4).The average weight and specific growth rate were significantly (P<0.05) higher in tilapia fed with D_4 followed by D_1, D_2 and D_3. Among the treatments, significantly (P<0.05) lower FCR was found in D_3 compared to the fish cultured under other feeding régimes. Amylase activity was significantly (P<0.05) higher in fish fed with duckweed containing diets compared to the control one. Whereas trypsin activity was significantly (P<0.05) higher in fish fed with fish meal-based diet D_4 compared to the duckweed containing diets fed tilapia. Total protease, chymotrypsin and lipase activity was significantly (P<0.05) higher in fish fed with D_1 supplemented diet. Due to their nutritional value and availability, duckweed is a promising candidate to replace commercial fish meal in the diets of tilapia.
Keywords: *Lemna minor*, amino acids, fish-diet, digestive enzyme, *Oreochromis niloticus*.

ISCA-ISC-2018-2AVFM-05-Poster

To evaluate the immunostimulatory properties of medicinal plant (*Achyranthes aspera)* supplemented diets fed with rohu, *Labeo rohita* in pond culture conditions

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Abstract: Fish and fishery products represent a very valuable source of protein and essential micronutrients for good health. Diseases and various parasitic infections are responsible for major losses to aquaculture industry. Immunostimulation is one of the useful tools to prevent infectious diseases. The use of herbal compounds as immunostimulants has been increasing rapidly in aquaculture to avoid the use of hazardous antibiotics. Rohu, *Labeo rohita* (1.9±0.08g) were cultured in 3m^2 hapa under three different feeding regimes. Three replicates were used for each treatment. Two diets were formulated using seeds (0.5%) and leaves (0.5%) of *Achyranthes aspera*. The diet without plant ingredients served as control. After 60 days of feeding fish were challenged with virulent *Aeromonas hydrophila* bacteria (5x10^6 cells/ml). The mortality was observed after 7 days, more mortality found in control fed then rest of the treatments. Average weight, myeloperoxidase and nitric oxide synthase levels were significantly higher in plant supplemented diets fed rohu compared to control group. TBARS and carbonyl protein levels were lower in the experimental groups compared to the control one. The relative mRNA expression of immunological genes (Lysozyme C, Lysozyme G, TNF-α, IL-10, IL-1β and TLR-4) were evaluated in different tissues. Diets with plant ingredients increase the immunity in rohu in pond culture system.
Keywords: *Achyranthes aspera, Labeo rohita, Aeromonas hydrophila*, immunostimulantion, disease resistant property, pond condition.

ISCA-ISC-2018-2AVFM-06-Poster

Electrocardiographic observations and Haemato-biochemical alterations in urinary tract diseases affected dogs

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Abstract: The present study was conducted to investigate characteristics of electrocardiography in urinary tract diseases (UTD) in dogs. The positive cases of UTD (Group B) affected dogs were screened for ECG and haemato-biochemical parameters as per the standard procedure and the outcome was compared and correlated statistically with healthy dogs (Group A). A decreased in amplitude of P wave, T wave and QRS complex were observed in Gr. B as compared to Group A.

Additionally, a significant (P < 0.05) decreased Hb and TEC and increased in BUN, Creatinine and ALP were observed in Group B. There was significant (P< 0.05) positive and negative correlations between Electrocardiogram and haemato-biochemical parameters were observed UTD affected group. The study revealed that ECG and haemato-biochemical parameters had a significant role in urinary tract diseases in dogs.
Keywords: ECG, UTD (urinary tract diseases), dogs.

ISCA-ISC-2018-2AVFM-07-Poster

Parasitic aschehelminthes of freshwater fishes

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Abstract: Helminthes parasites are common in occurrence in all habitats and all groups of organisms. In aquatic ecosystem and aquaculture fish are important for food web and food chain in terms of nutritive, medicinal, economy and sustainable environment. Due to the feeding habit and niche utilization behavior, fish are the most suitable host group of aquaculture system for helminthes. Helminthes are the parasitic non-chordates with triploblastic and organ-system grade of organization, acoelomate and dorsoventrally flattened body. Nematodes are the most important parasites of fishes in the freshwater, brackish-water and marine environments throughout the world, but the knowledge about these parasites still remains incomplete, especially as to their biology and ecology, but also taxonomy, phylogeny, and zoogeography. *Procamallanus*is a common nematode parasite in stomach and intestine of fishes like *Heteropneustes fossilis* and *Clarias batrachus etc.*and both adult as well as larval stages of *Procamallanus* are parasitic to fishes. *Eustrongylides* sp. larvae are reported from a few fish species of the families Engraulidae, Cyprinidae, Siluridae, Bagridae, Channidae and Percichthyidae.The consumption of helminthes infected fish may leads to the transmission of infection to the top consumers of food chain of an ecosystem like human, birds etc.
Keywords: Parasitic helminthes, freshwater fish, nematode diversity, ecology, environmental factors.

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3. Biological Sciences

ISCA-ISC-2018-3BS-Guest Speaker-01

Introduction of poisonous snakes, and their conservation status in Mizoram, North East India

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Abstract: Snakes are fascinating gift of nature which is paid least attention due to their associated biting behaviour. Snakes are having serpentine body, covered with scales having no limbs, except some exceptions. There are several types of snakes in the world and in India which includes poisonous and non poisonous ones. Poisonous snakes' falls in a family called as Elapidae, which is characterised by the presence of poison gland with fangs, which is used to discharge the poison into the victim's body to paralyse. Poison in snake is a mixture of various types of proteins. Poisonous snake prefer mammalian diet specially rodents and mices, to produce sufficient amount of poison, which is not only a poison but an aid to digest their prey. This paper attempts to give an introductory account of poisonous snakes observed and their conservation status in Mizoram state of North East India.
Keywords: Poisonous, snakes, conservation, status in Mizoram, North East India.

ISCA-ISC-2018-3BS-01-Oral

Antiviral activity of medicinal plants of genus Ipomoea

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Abstract: Plants are silent companion of human being that afford reliable source of phytochemicals which can be used a medicine in various diseases. Plants and their phytochemical constituents have great potential to act as antibacterial, anti-inflammatory and antiviral agents. We know that virus enter in human body and redirect body's metabolism to produce larger copies of their genome and protein. Since centuries healthcare professionals are observing the battle between virus and antibiotics or drugs, sometimes virus wins to survive by mutation process and sometimes we by providing correct treatment to viral infections. Due to side effects of chemicals drugs, in recent years plants have proved to be more reliable source of antiviral agents; almost 40% of currently available drugs are direct or indirect derivatives of plants. This study is focused on identification of antiviral compounds from plant of genus Ipomoea as they are rich source of phytochemicals like alkaloids, tanins, lignans flavonoids, saponins and polyphenols. In this study the medicinal plants of genus Ipomoea has been extensively studies for their antiviral compounds. This is a bibliographic study the compounds reported from Genus Ipomoea as antiviral agents by different authors from 2000 till 2018.
Keyword: Antiviral, medicinal plants, Ipomoea, convolvulaceae, phytochemicals.

ISCA-ISC-2018-3BS-02-Oral

Prevalence of *salmonella spp.* in raw vegetables and fruits and their plant contamination routes: a review

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Abstract: Raw vegetables and fruits are an essential ingredients of a healthy diet and demand for salad vegetables and fruits has increased as vegetables and fruits act as antioxidants and immune boosters. In contrast to their health benefits, it is observed by scientists that utility of fresh vegetables and fruits has also been associated with risk of illness if utilised uncooked. Some *Salmonella spp.* contain virulence plasmid (pSV) which encodes *spv*operonare capable to adhere with plant surfaces by using type III secretion system and actively infect the interior of plants by suppressing immune response of plants as similarly as the infection of animal cells, *Salmonella* suppresses plant defence responses, shows that *Salmonella* possess a variety of infection strategy including *agf D* gene which is responsible for infecting variety of host from different kingdoms, which arise questions of *Salmonella* host specificity. The purpose of review study is to discuss and gain depth knowledge of routes and infection pattern of *Salmonella* with contrast to plant physiology, microbiological physiology, environmental interrelationship, crop processing, crop handling mechanisms along with crop cultivation methodology that provide opportunity of contamination will lead us to develop foolproof reliable policies, trustworthy standard operating procedures and infallible technologies for reducing the risk of contamination.
Keywords: *Salmonella* prevalence, plant contamination, host specificity, immune response, virulence plasmid.

ISCA-ISC-2018-3BS-03-Oral

Monoterpenoid geraniol as a potent inhibitor of major drug efflux transporter CaCdr1p in human fungal pathogen, *Candida albicans*

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Abstract: Over expression of drug efflux pumps CaCdr1p and CaMdr1p belonging to ATP binding cassette (ABC) and major facilitator super family (MFS) respectively remain the predominant mechanisms of Multi Drug Resistance (MDR) in *Candida albicans*. Inhibition of the function of these transporters can be effective strategy to combat MDR. Geraniol (Ger), a natural monoterpenoid from Palmarosa oil is an effective antifungal against *Candida albicans*. Herein, we explored the fungicidal nature of Ger and confirm the specific effect on CaCdr1p. Kinetic studies further unravels the competitive inhibition of Ger on CaCdr1p validated by molecular docking analyses, depicting that Ger binds to the active site of CaCdr1p. Although, RT-PCR and western blot revealed no change in expressions of *CDR1* and CaCdr1p, confocal microscopy images however depicted CaCdr1p mislocalization. Ger was synergistic (FICI<0.5) with known antifungal drug fluconazole (FLC) and sensitizes the FLC sensitive and resistant clinical matched pair of isolates Gu4/Gu5 due to abrogated R6G efflux and depleted ergosterol. Furthermore, phenotypic virulence marker extracellular phospholipase activity was diminished with inhibited cell adherence and biofilm biomass. Lastly, antifungal efficacy of Ger was demonstrated by enhanced survival of *Caenorhabditis elegans* model and negligible hemolytic activity (20%). Together, modulation of efflux pump activity by Ger and FLC synergism represent a promising approach for combinatorial treatment of candidiasis.
Keywords: Monoterpenoid, geraniol, potent, inhibitor, drug, efflux transporter.

ISCA-ISC-2018-3BS-04-Oral

Utilization of rhizobacteria, *Pseudomonas trivialis* (L) and Earthworm, *Eudrilus eugenae* (L) for the qualitative and quantitative yield in the crop of radish, *Raphanus sativus* (L).

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Abstract: The specific density of soil microorganisms and earthworms in soil serve to orchestrate the crop growth progression. There is fruitful interactions among soil microorganisms with earthworms and crop in the field that can change the response of growth and development. The rhizobacteria, *Pseudomonas trivialis* (L) deserve ability to yield the plant growth promoting compound IAA (Indol-3-Acetic-Acid) (IAA); the enzymatic activity of 1-aminocyclopropane-1-carboxylate (ACC) deaminase; production of siderophore and solubbilization of phosphate. These abilities made to designate the rhizobacteria, *Pseudomonas trivialis* (L) as PGPR (plant growth promoting rhizobacteria). The present attempt deals with analysis of influence of various titers of inoculums of rhizobacteria, *Pseudomonas trivialis* (L) in vermifield and nonvermifield on the biomass of radish, *Rhaphanus sativus* (L). Presence of rhizobacteria, *Pseudomonas trivialis* (L), earthworms were found enhancing growth of the radish, *Rhaphanus sativus* (L) with reference to biomass aboveground and total. This response was found significant over the control. The biomass of radish, *Rhaphanus sativus* (L) below ground was also found improved up to some extent, but not significant. Radish biomass promoting influence in vermin-field was observed directly proportional to the titer of inoculums of rhizobacteria, *Pseudomonas trivialis* (L). The rhizobacterial inoculum of about 10^8 CFU/ml titer was found most suitable for excellent biomass production of radish, *Rhaphanus sativus* (L). Vermi-field with rhizobacterial population can be utilized for crop yield.
Keywords: Rhizobacterial population, Vermi-field, Indole Acetic Acid (IAA).

ISCA-ISC-2018-3BS-05-Oral

Utilization of aqueous solution of *agaricus bisporus* (L) treated mulberry leaves for the quality of cocoons and silk filament in silkworm, *Bombyx mori* (L)

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Abstract: The aqueous solution of powder of fruiting body of *Agaricus bisporus* (L) with fifty milligram per liter (50ppm) strength and aqueous solution of powder of AB21 protein with fifty milligram per liter (50ppm) strength were used separately

for treating mulberry leaves. Such treated mulberry leaves were fed daily to the silkworm larvae of bivoltine Cross Breed [(CSR6 x CSR26) x CSR2 x CSR27)] for first four days after the fourth moult. For each day, four feedings were supplied at the rate 100 grams of mulberry leaves for the group of hundred larvae. Larvae fed with untreated and water treated mulberry leaves were also maintained. Mature larvae were considered for the provision of mountage for spinning the cocoon. The cocoons were harvested on fifth day after the provision of mountage. The shell ratio of cocoons, denier scale of silk filament of the untreated control group; water treated group; AB21 protein treated group and fruiting body treated group were found measured 20.241, 2.734, 20.241, 2.734; 28.390, 3.006 and 33.309, 3.224 respectively. The contents of powder of fruiting body of *Agaricus bisporus* (L) including AB21 protein may be serving for enhancement of metabolism in the fifth larval instars of silkworm, *Bombyx mori* (L). Through the improved rate of metabolism, powder of fruiting body of *Agaricus bisporus* (L) and it's novel protein: "AB21-protein" treatment may aiming the action of gross metabolic constituency of silkworm larvae.

Keywords: *Bombyx mori* (L), *Agaricus bisporus* (L), AB21-protein, shell ratio, denier scale.

ISCA-ISC-2018-3BS-06-Oral

Investigating anti-oxidant and anti-diabetic activity of plant leaf extracts of *Justicia adhatoda* and *Murraya koenigii*

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Abstract: *Justicia adhatoda* and *Murraya koenigii* are well known indigenous medicinal plants which have always been used in various Ayurvedic medicines. Where *J.adhatoda* is known to be effective against bronchitis, asthma, cardiac problems, e.t.c; *M.koenigii* is known to be useful as laxative, curing persistent boils as well as osteoporosis. Apart from their uses in Ayurvedic and Unani system, these plants are given no importance in Allopathy. In Ayurveda, both plants are used to prepare medicines for Diabetes treatment, which is a chronic disease, known to be fatal if not properly treated. Till now there is no complete cure of the disease as it is chronic and patient having the disease has to live on lifetime medication. Today, more and more researchers are focusing on plant based treatment as it has less side effects compared to synthetic drugs. In this study, Ethanol and DCM leaf extracts of *J.adhatoda* and *M.koenigii* were subjected to in-vitro analysis of Anti-oxidant and Anti-diabetic activity. Plant extracts were compared and evaluated to find the possible bioactive compound responsible for the activity. Both plant extracts came out as good Anti-oxidant and Anti-diabetic. Ethanolic extract of *M.koenigii* showed best anti-oxidant activity, where *J.adhatoda* Ethanolic extract was the excellent for anti-diabetic action. DCM extract of both plants were found moderately active against both assays. As expected, both plants came out to be excellent anti-diabetic and anti-oxidative in nature. Active compounds should be isolated and characterized and should be further pursued for development of new drug regiment to eradicate Diabetes.

Keywords: Ayurveda, *justicia adhatoda, murraya koenigii,* phytochemical tests, anti-oxidant activity, anti-diabetic activity.

ISCA-ISC-2018-3BS-08-Oral

To evaluate the antagonistic potential of *Trichoderma viridae* against the fungal plant pathogen isolated from *Sesamum indicum L.*

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Abstract: *Sesamum indicum* is well known oil seed crop and rich in protein. The product and byproducts have the tremendous value. Fungal diseases causing infection to the root, foliage and seed decreases the quality and yield. To tackle this problem biological agent is effective and it is eco-friendly does not harmful. So that, for recent investigation *Trichoderma viridae*. As bioagent was selected *Trichoderma viridae* act as a potent bio control agent having lytic activity and antagonistic properties against the wide range of the plant pathogenic fungi. Work were initiated with the isolation and identification of antagonistic fungi as well as phytopathogenic fungi by microscopic examination using standard key (Barnet and Hunter). In present study *Trichoderma viridae* was screened for antifungal activity by dual plate culture method against *Alternaria sesamae*, *Colletotrichum sp, Fusarium oxisporam* isolated from oil seed crop *Sesamum indicum L.* Antagonist i.e *Trichoderma viridae* maximally retarded growth of *Alternaria sesame*, followed by *Colletotrichum sp*, minimum growth of inhibition shown in *Fusarium oxisporum*.

Keywords: Bioagent, antagonist, phytopathogen, screen, eco-friendly.

ISCA-ISC-2018-3BS-09-Oral

Applications of bioinformatics tools in drug discovery: a review

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Abstract: Drug discovery being critical due to various steps involved when done by conventional method of wet-lab based high throughput screening for novel compounds is used by mostly pharmaceutical companies. To overcome those complications computational molecular docking has played a major role in drug discovery. This technique likewise acts as cost cutter in research and development department of various industries. This study of interaction of proteins with favorable compounds is called docking and possibly performed on various software such as AUTODock, MOLDock, Molegro Virtual Docker (MVD). MVD handles all forms of the docking process from preparation of the molecules to determination of the potential binding sites of the target protein, and prediction of the binding efficiency of the ligands. MVD offers high-quality docking based on a novel intensification technique combined with a user interface experience focusing on usability and productivity. For this whole process of docking we need to use some compounds which are novel and are called ligands in this whole task. These ligands are prepared in-silico by software following Lipiski's rule of five and selected ligand is then undertaken for various toxological, qualitative and quantitative analysis which show their drug-likelihood such as ADME, T-Test, etc. for a selected disease.

Keywords: Drug discovery, docking, Lipiski's rule, molegro virtual docker, ADME.

ISCA-ISC-2018-3BS-10-Oral

Threat factors of avian diversity in Basai wetland Gurugram, India

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Abstract: Basai wetland, located in Basai village in district Gurugram in Haryana. It is an important biodiversity area recorgnised by IUCN (International Union of Conservation of Nature and Natural resources). It is recognised as one of India's Important Bird and Biodiversity Areas (IBAs) and is of global conservation significance as it supports populations of several endangered, vulnerable, and threatened bird species. Basai Wetland is located about 2 kilometres from Gurgaon city in Gurgaon district of Haryana and 8km away from Sultanpur National Park in Haryana. The wetland is permanent shallow wetland covering an area of about 250 acres. It includes areas with open water, Water Hyacinth *Eichhornia crassipes*, *Typha* reedbeds, fields of *Paspalum* grass, and adjoining fallow fields, seasonally cultivated lands. The wetland is inundated to an area of about 1 square kilometre during the monsoon by rain water and water channeled by farmers to irrigate crops. A major source of water is also a breached water channel carrying waste water and treated sewage from the Gurgaon Water and Sewage Works. Basai wetland also provides an important habitat for migratory birds. In winter, around 1100 Bar-headed Goose have been reported, while up to 5,000 ducks of 18 species and 10,000 waders of 36 species occur during spring and autumn passage migration. Among the many migrant bird species found here over the winter are Wood sandpiper, Smoky warbler, Moustached warbler, Common grasshopper warbler, Water rail, Baillon's crake, Great bittern, Water Pipit, and Common crane. During winter, several thousand Citrine wagtail and Yellow wagtail are also known to roost in Basai Wetland. Basai village is famed for Basai wetland, home of endangered migrant birds, which is under threat from unsustainable development and urbanization. The location of the wetland near the growing metropolis of Gurgaon has led to loss of agricultural lands and wetlands. Basai Wetland adjoins major residential areas in the Gurgaon city, which were developed on land acquired from Basai village. Over two decades, around six-seventh of the village's agricultural land has been lost due to urbanization and residential development. Some agricultural area was also lost for establishing the water treatment plant of Haryana Urban Development Authority, which supplies drinking water to Gurgaon. Basai village has also faced the loss of five of the six village ponds due to urbanization: three were lost to the residential sectors of Gurgaon. Environmentalists have raised concerns over increasing construction activities and disturbance affecting the wetland and birds. The loss of wetlands and pastures in Basai Wetland has also affected local people, specifically potters and those keeping livestock, whose traditional livelihoods have been eroded and they have had to move into other occupations. State authorities, however, seem to be oblivious to the importance of the Basai wetland. In May, the municipal corporation of Gurugram started the construction of a waste-processing plant on these wetlands. This was met with outrage from bird lovers. The move was seen as a death knell for the birding ecosystem in Basai wetland and had lead to loss of major biodiversity due to mass mortality and mass migration in avian species.

Keywords: Basai, wetland, threats, avian diversity, habitat degradation.

ISCA-ISC-2018-3BS-11-Oral

IL-8 polymorphism and expression associated with risk of gastric carcinoma: a case control study in the ethnic Kashmiri Population, India

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Abstract: Cancer is one of the leading causes of adult deaths worldwide. In India, the International Agencyfor Research on Cancer estimated indirectly that about 635 000 people died from cancer in 2008, representing about 8% of all estimated global cancer deaths and about 6% of all deaths in India. Gastric cancer is the second leading cause of cancer deaths worldwide after lungcancer, resulting in more than 800,000 deaths worldwide every year. The Kashmir valley (India) which borders the southern part of the high incidence belt represents a moderately highincidence area where incidence rates for gastric cancer were: men 36.70/lack per annum, women 9.9/ lack per annum. Alterations in various genetic factors are important in increasing gastric cancer risk. *IL-8* a chemo attractant of neutrophils and lymphocytes, a wide variety of normal andtumour cells could express *IL-8*, and role of *IL-8* is to initiate and amplify acuteinflammatory reactions. Growing evidence has shown that the important roles *IL-8* may play in the pathogenesis of cancer, including angiogenesis, tumour growth, and metastasis. Number of molecular epidemiological studies have been done to evaluate the association between *IL-8–251 A/T* polymorphism and tumour risk in diverse populations. Here we describe a population-based case–control study of 150 incident gastric cancer cases and 250 cancer-free controls frequency-matched to the cases by age and sex from Kashmir (India), an area of high risk of gastric cancer, to test the hypothesis that these two promoter variants of *IL-8* and its expression contribute to host susceptibility to gastric cancer.
Keywords: *IL-8* polymorphism, expression, associated, gastric carcinoma.

ISCA-ISC-2018-3BS-12-Oral

Complexity of pesticide residue in environment

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Abstract: The over-reliance on pesticides has not only threatened our environment but contaminations of organophosphate residues have been also detected in certain agricultural products, soil samples, and water samples. Pesticides are critical inputs in agriculture worldwide as; protect crops from depredations from pests and diseases. This scenario is in favor of agribusiness and likely to increase the use of pesticides further and the resultant environmental and human health problems thereof. Use of chemical pesticides not only increases crop production and income but also negatively affects human health, pollute soil, water, air and ultimately the ecosystem as a whole may be collapsed. Over 98% of sprayed insecticides and 95% of herbicides reach a destination other than their target species, including non-target species (Humans, Flora and Fauna), air, water and soil. In addition, pesticide use reduces biodiversity, contributes to pollinator decline, destroys habitat (especially for birds), and threatens endangered species. Researchers have found that the toxic effects of low level combinations of certain chemical pesticides can be greater than the sum of the effect of the individual components. This paper will highlight the integrated complex effect of pesticide on environment as a whole.
Keywords: Pesticide residue, harmful effects, ecosystem.

ISCA-ISC-2018-3BS-13-Oral

Study of molecular docking of secondary metabolites from *Annona squamosa* L. against drug targets involved in diabetes mellitus type-II

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Abstract: Leaves of *Annona squamosa* L. (Annonaceae) are used for diabetes, fruit is popularly known as custard apple or sweet sops. The aim of the present study is to evaluate *in silico* inhibitory activity of its secondary metabolites against protein-tyrosine phosphatase 1B (PTP1B), a potential target for the treatment of type-II diabetes, due to its role as a negative

regulator of insulin signalling pathway. Diabetes is a metabolic disorder characterised by high blood sugar. The different types of diabetes are Type-I, in which pancreas produces little or no insulin; type-II, in which the way of processing blood sugar in our body is affected; and gestational diabetes, a condition of high blood sugar in pregnant women. The 3D structure of PTP1B was retrieved from RCSB Protein Data Bank and the phytochemical data was obtained from Dr. Duke's Phytochemical and Ethnobotanical Databases. Subsequently, the structure of secondary metabolites were retrieved from PubChem. The protein and the ligands (phytochemicals) were processed for docking using Discovery Studio 2017 R2 Cient and AutoDockTools 1.5.6. Finally, the docking studies were carried out by AutoDockVina. *In silico* value for binding affinity were compared with the known PTP1B inhibitors.

Keywords: Diabetes mellitus, *Annona squamosa* L, protein-tyrosine phosphatase 1B (PTP1B), molecular docking, antidiabetic.

ISCA-ISC-2018-3BS-14-Oral

Study of physico-chemical parameters of Bhima River: review

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Abstract: River is the most important resource for freshwater. The river water is used for many purposes like agriculture, industries as well as daily need of water for human. In India many cities are placed on bank of River. Day by day the pollution of river water is a serious problem in our country. Many things are create pollution but civilization is mostly effect on aquatic ecosystem. The waste water from industries, sewage water and domestic water are directly mixed in river water. These pollutant are create pollution of river water. The growing problem of water degradation, most of the rivers are covered with aquatic weeds, these all problems are need to studies and control all over India. The river Bhima in khed tahasil is one of the polluted rive in Pune district the river is covered with aquatic weeds and the ecosystem of the river are in danger zone. In given study review the effect of pollution on Bhima River.

Keywords: Bhima River, physico-chemical and biological parameter, literature review, characteristic.

ISCA-ISC-2018-3BS-15-Oral

Method of molecular docking of antidiabetic compounds with the established drug receptor proteins involved in diabetes mellitus type-II

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Abstract: Diabetes is a metabolic disorder characterized by elevated blood glucose levels. As per WHO report of 2015, more than 400 million adults live with diabetes globally and 1.6 million deaths occur due to diabetes and its complications. Computer aided drug designing uses bioinformatics tools and computational approaches for the discovery, development and analysis of biologically active molecules and their further use as potential lead compounds for use as drugs. In the present article, methodology for molecular docking is described. The data of drug targets and the anti-diabetic compounds currently used in clinical trials are obtained from Drug Bank database. The 3D structure of the drug receptor proteins and the antidiabetic compounds were retrieved from RCSB Protein Data Bank and PubChem respectively. The proteins and the ligands were processed for docking using Discovery Studio 2017 R2 Cient and AutoDockTools 1.5.6. Finally, the docking studies were carried out by AutoDock Vina. The binding affinities of different antidiabetic drugs against respective drug receptor proteins were determined.

Keywords: Diabetes mellitus, antidiabetic, molecular docking, binding affinity, computational tools.

ISCA-ISC-2018-3BS-16-Oral

Distribution of thalassemia and hemoglobinopathies in the Koch Rajbanshi ethnic group of Eastern Nepal

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Abstract: Koch Rajbanshis an important ethnic group of eastern Nepal with a population of 1, 15,252, are the largest settlements of Koches with the name Rajbanshi in the world. Hemoglobinopathies comprising of thalassemia and various hemoglobin variants are an emerging health problem in Nepal. Thalassemia is the commonest monogenetic disorder

worldwide causing a mutation in the beta globin chain with subsequent absent or decrease in the production of haemoglobin. To find out the common types of hemoglobinopathies and abnormal haemoglobin variants present in the Koch Rajbanshi ethnic group of eastern Nepal. The research was carried out among Koch Rajbanshi community of Jhapa, Morang and Sunsari districts of eastern Nepal. A community based cross-sectional study was conducted from July 2017 to July 2018 involving Hb-variant screening by Complete Blood Count, Peripheral Blood Smear and Capillary Electrophoresis of 300 individuals, selected through random sampling technique. The blood samples were collected in EDTA vials and stored at 4oC. Among the total participants 19% (57) of the cases had abnormal haemoglobin. The Hb variants observed were HbE homozygotes 10.33 % (31) and HbE heterozygote 9% (26). Findings suggest a high prevalence of hemoglobinnopathy particularly HbE in the Koch Rajbanshis and warrant a need of wider community based initiative for carrier detection and awarenesss generation.

Keywords: Hemoglobinopathy, capillary electrophoresis, Koch Rajbanshi ethnic group.

ISCA-ISC-2018-3BS-17-Oral

Physico-chemical parameter and ichthyofaunal diversity of fresh water reservoir Majalgaon dam in Maharashtra state, India

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Abstract: Majalgaon Dam was constructed on the River Sindphana which is tributary of River Godavari, in Beed District (Maharashtra, India) in 1987. Which falls 16°16N latitude and longitude 73°26E. The River Sindphana has been under constant threat of pollution by sewage and industrial wastes, disposal of dead bodies, deforestation, excessive use of fertilizers and pesticides, bathing and water development programs. The dam has a catchment area is 3840 sq. km. It is of great Importance for the region because its water is used for human and cattle consumption. It is multipurpose type like irrigation and power production (Hydro Electric Project). As a representative of these 'Majalgaon Dam' was selected for the limnology studies. As a representative of these 'Majalgaon Dam' was selected for the limnology studies. The present study is aimed to investigate some of the important physical and chemical parameters along with the flora and fauna of the reservoir. A total of 33 species of *phytoplanktons,* 29 species of *zooplanktons* and. The reservoir is very productive. There are several types of fresh water fishes present in the dam. *Labeorohita, Cirrhinamrigal, Catlacatla, Cyprinuscarpio, Silver carp, Wallagoattu, Mystancenbelusarmatus, Notopterus chital, Barbusticto, Channastaitus, Mystusseenghala, Mystuscavassius, Eutroplussuratensis, Belonconcila, Chela, Tilapia mosambica, Rohteealfrediana, Gobiusgiuris etc.* 17 species of fishes were identified during June 2014 – May 2015. Hence the present work is an attempt to accumulate information pertaining to various aspect of hydrobiology of standing water bodies from this part of peninsular India.

Keywords: Water quality, fish production, pollution.

ISCA-ISC-2018-3BS-18-Oral

Diversity of wild flora of Mullana-Ambala, Haryana, India

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Abstract: The presents study revealed the diversity of wild flora (weeds) along with their vernacular names, habit, occurrence and economic significance in campus of Maharishi Markandeshwer (Deemed to be University), Mullana-Ambala district of Haryana, India. This is the unique and foremost study conducted at the Institution or University level showing current status of the plant diversity so far. Sum of 60 plant genera belonging to different taxonomic categories (29 families) have been recorded from this area during the investigation (July to September, 2018). Among all 29 families, 6 (Asteraceae, Poaceae, Amaranthaceae, Euphorbiaceae, Convolvulaceae and Malvaceae) were found to be most dominant in the selected area. The comparative analysis reflected that the phytodensity and abundance of Linderniaceae and Mazaceae were more common. Out ofnoticed genera, most of the plant species are used by the peoples for medicinal significance andin the treatment of different disease like bronchitis, cough heart diseases, anaemia, oedemagastric irritability, nervous depression, liver complaints, fever and so many other diseases in Ayurvedic and Unanipathy. Therefore, the proper knowledge of plant diversity could playimportant role in planning for conservation and sustainable use of available resources.

Keywords: Phytodiversity, ethnobotanical significance, disease treatment, sustainable use.

ISCA-ISC-2018-3BS-01-Poster

Studies on dehiscence of anther, mode of pollination and germination of pollen grain in Manilkara zapota at Palghar, Maharashtra, India

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Abstract: A study of dehiscence of anther, mode of pollination and germination of pollen grains of Manilkara zapota plant was carried out at Palghar, Maharashtra during August 2017 to April 2018. The study was carried out in flowering season of chikoo plant namely March-April, August-September and November-December. Details of dehiscence of anther, mode of pollination and germination of pollen grains are discussed in the paper.
Keywords: Manilkara, zapota, dehiscence, pollination, pollen.

ISCA-ISC-2018-3BS-02-Poster

Geraniol: a natural monoterpenoid with antimyco bacterial potential of pharmacological interest

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Abstract: Nature has been a great source of medicinal agents for thousands of years to treat various infectious diseases all over the world. The present study explores the potential of Geraniol (Ger), a monoterpene alcohol, against *Mycobacterium tuberculosis* (MTB) which is the causative agent of tuberculosis (TB). We revealed that Ger leads to enhanced drug susceptibilities of the most commonly known anti-TB drugs. Underlying mechanisms included disrupted membrane integrity and impaired cell surface phenotypes revealed by colony morphology, sliding motility and cell sedimentation assay. Deeper insights displayed altered lipidome profile visualized by TLC and LC-ESI-MS. Moreover lipidomics data analyzed through mass spectrometry showed decrement of mycolic acid, phosphatidylinositol mannosides and triglycerides which have important role in pathogenesis. We further revealed that Ger interrupts iron homeostasis and leads to genotoxic stress. Additionally, Ger caused significant reduction of biofilm formation and cell adherence to polystyrene surface and human oral epithelial cells which are crucial virulence marker in MTB. Lastly, we confirmed disrupted phenotypes by RT-PCR which showed good correlation with the biochemical assays. Taken together, the data obtained from present study establishes Ger as anti-TB agent of potential interest which may be exploited pharmacologically to treat TB.
Keywords: Geraniol, natural, monoterpenoid, antimyco, bacterial, potential of pharmacological.

ISCA-ISC-2018-3BS-03-Poster

Population based survey for thyroid disease in Rajgurunagar, Tal. Khed, Dist. Pune, Maharashtra, India

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Abstract: Thyroid is one of the largest endocrine gland. It is a small butterfly shaped gland which is located in the front portion of the neck. It is located just below the Adams apple. Thyroid gland produces hormones that help the body to control metabolism. There are various thyroid disorders. It includes Hyperthyroidism, Hypothyroidism, goiter and thyroid nodules (benign/malignant). This Survey was done in Rajgurunagar Dist. Pune, mostly women will also briefly cover the exciting work that is in progress to ascertain the normal reference range of thyroid hormones in Rajgurunagar in different age group, especially in women. This is the observational, retrospective study conducted in Government Rural Hospital, Rajgurunagar Dist. Khed. In the study there are about 71% peoples are Suffers for Hypothyroidism and 20% was Hyperthyroidism and 9% in other categories related to thyroid disease hyperthyroidism was high in the 21-50 year age group with decreasing trend towards end. Also, the prevalence of mildly suppressed TSH was high in the 21-50 year age groups, which is 65%. This means that major burden of thyroid disorders is on reproductive age groups. This problem must be addressed immediately to avoid deleterious effect of abnormal thyroid dysfunction on the patients as well as on their offspring.
Keywords: Hypothyroidism, hyperthyroidism, Rajgurunagar.

ISCA-ISC-2018-3BS-04-Poster

Study of diversity of butterflies from HRM College Campus, Tal. Khed, Dist. Pune, M.S., India

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Abstract: Butterflies are "Insects of the Sun" and have glorious colours and delicate charisma. They are most efficient Pollinators as well as some species are agricultural pests; hence are of economic importance. The gardens and parks are important as regards of maintaining diversity of insect population in urban habitats moreover keeps the pollution under control. The present work represents the account on diversity of butterflies from Hutatma Rajguru college campus district Pune, Maharashtra. The occurrence of butterflies depends on various factors like presence of indigenous flowering plants, levels of human disturbance and garden management practices. Up till now the diversity of butterflies from college campus and nursery have been evaluated. A total 130 individuals pertaining to 11 species distributed over 4 families have been recorded till date. This species composition is 20% to that of species known from Maharashtra (214 species). Family Nymphalidae is the most dominant family with 48.83% of the total species, Pieridae is the second largest family accounted for 20.93% of the total dive rsity followed by Lycaenidae (16.27%), Papilionidae (11.62%) and Hesperiidae (2.32%). Further investigation will definitely add to species number qualitatively as well as quantitatively.
Keywords: Species richness, diversity, abundance, butterflies, HRM College campus Rajgurunagar, Maharashtra.

ISCA-ISC-2018-3BS-05-Poster

Survey of caronary heart disease in Rajgurunagar, Tal. Khed, Dist. Pune, Maharashtra, India

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Abstact: Coronary heart disease is disorder of heart is caused due to atherosclerosis, it is major cause of heart arrest. This affect to large arteries due to formation of plaque inside the arteries causes narrowing of arteries. Plaque made up of fatty substances like cholesterol, cellular waste product. Atherosclerosis is plaque in coronary arteries which is responsible for disorders in heart. Myocardial infarction and acute coronary syndrome, atherosclerosis causes heart stroke. In our study we survey in Rajgurunagar heart care hospitals in Dist-Pune and it is concluded that stress is important factor causing heart disease. In our study economic burden, hypertension, is cause of heart attack .we survey heart patient and different gender age groups and from 20 to 80 years. According to it in 100 peoples 34 females and 66 males suffer by heart disease hence the ratio is higher in male than female.
Keywords: Heart disease, atherosclerosis.

ISCA-ISC-2018-3BS-06-Poster

Population based survey for diabetes in Rajgurunagar, Tal. Khed, Dist. Pune, Maharashtra, India

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Abstract: Diabetes is an emerging health problem in our country with an increasing trend observed over the years. The number of diabetic patients has increased over the years due to urbanization, high intake of unhealthy diet and a sedentary lifestyle. Majority remain undiagnosed as no systematic survey programme exists in the country. There is evidence that early diagnosis through simple survey followed by confirmatory test can help to diagnose asymptomatic diabetics, thereby reducing or delaying the onset of complications. The aims of study for early diagnosis of diabetes through a population based survey. In the Rajgurunagar Dist. Pune, government hospitals visit was done to identify different age groups like 20 to 30, 30 to 40, 40 to 50 and 50 to 60 above with and without diabetes. Those without a history of diabetes and consenting to participating were subjected to random capillary blood glucose testing. Those found to have raised blood glucose levels were further offered confirmatory testing at the urban health training centre or referred to their physician for further evaluation. The participation rate for random capillary blood glucose testing in the community was very high. 70% of those available were tested using rapid blood glucose testing device. Amongst the 350 individuals tested, in that as about 4%, 10%, 34% and 52% detect diabetic in serial age groups.
Keywords: Diabetes, survey, random capillary blood glucose, prevalence.

ISCA-ISC-2018-3BS-07-Poster

A study of butterflies of Silvassa Nakshatra Garden and Khanvel Butterfly Park

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Abstract: The species diversity of butterflies of reclaimed land at Daman ganga river in Nakshatra garden in Silvassa (Latitude 20° 27'N; Longitude 72° 98'E) is in the Union territory of Dadra and Nagar Haveli and Butterfly Park which is situated at Khanvel (Latitude 20° 12'N; Longitude 73°06'E) in the Union territory of Dadra and Nagar Haveli. Both are situated near the Vapi. Butterflies play vital role in the ecosystem. Butterflies make the world a little more colourful. Butterflies are not only beautiful creatures but do a great deal for the environment. There is co-evolutionary relationship between butterflies and plants, their lives are interlinked. These insects enhance the aesthetic value of the environments by their exquisite wing colors. These insects tell us everything about the healthier ecosystem. These are effective pollinators, butterflies visit the flower to eat nectar and this is mutually beneficial relationship. These insects also provide food for other organisms, for example; birds, reptiles amphibians and also acts as biological pest control. But the population of these insects decline rapidly due to human activities, habitat destruction, uses of pesticides and unawareness of people about the importance of flying flowers.
Keywords: Butterflies, ecological indicators, pollinators, Nakshtra garden and Butterfly park.

ISCA-ISC-2018-3BS-08-Poster

Effect of different organic and inorganic manures on growth, yield and nutritional composition of *Spirodela polyrhiza*

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Abstract: Proteinaceous feed resources are generally short in supply, and cost liest components of the diets for most animals in developing countries. Duckweed is anexcellent protein source and having great potential for feeding to domestic animals and particularly fish. Use of duckweed have various advantages such as sustainability, availability and cost effectiveness etc. The nutritional value of duckweed depends upon the quality of water. The present study was aimed to evaluate the nutritional quality of duckweed with respect to different fertilizers. Duckweed, *Spirodela polyrhiza* was cultured in outdoor 150 Ltanks for 90 days using organic manures (Cattle manure, Poultry dropping and Mustered oil cake), inorganic fertilizers (Urea, Potash and TSP (Triple super phosphate)) and their different combinations. Manures were total organic (TO), total inorganic (TI), total inorganic and total organic (TI + TO), total organic and Potash (TO + P), total organic and urea (TO + U) and total organic and TSP (TO +TSP). Water quality was monitored weekly. Relative growth rate (RGR) was calculated at each harvesting. Plant was harvested from tank, air dried and powdered for nutritional composition analysis. Relative growth rate and total yield were significantly higher in TO+P followed by TO+TSP, TO, TO+U, TO+TI and TI respectively. Total protein and crude lipid content were significantly higher in plant cultured in TO+TSP and TO+P compared to rest of the manures. Essential fatty acid ALA (18:3n-3) and LA (18:2n-6) were significantly higher in plant cultured in TO manure and TI manure compared to the other manures.
Keywords: *Spirodela polyrhiza*, relative growth rate, duckweed, fertilizer, ALA, LA.

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4. Chemical Sciences

ISCA-ISC-2018-4CS-Guest Speaker-01

Application of nanotechnology in drug delivery

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Abstract: Any material having at least one of its dimensions in the range of 1-100 nanometers is called as a nanoparticle. The word 'nano' is a Greek word and it means DWARF or small. The term nanotechnology was coined by a scientist Norio Taniguchi in 1974. The diameter of DNA is only 2 nanometer and the cellulose nano fibrils in plant leaf measures only 3.5-100 nanometer in diameter. To cite another example to explain this, the population of India is 1 billion. 1 billion is equal to 100 crores that is 10^{-9}. So when the size goes down the surface area will be increased. When the surface area increases, nano objects can perform faster. It will be also lighter than the bulk material and it can get in to small spaces. For example, nano sized materials can carry anti-cancer drugs into mammalian cells easily because of its smaller size. They can easily enter into tumor location. It is cheaper than the bulk material and also it is more energy efficient. This is because of the change in the properties of materials when the size of the material is reduced. So how to make these nano structures? There are two main approaches. One is top down approach and next one is bottom up approach. Nanoparticles have wide applications in almost all the fields. But here the interaction is mainly emphasis on the Nanoparticles can also be made to deliver therapeutic drugs and molecules. The first application is that we can use these nano materials for diagnosing various diseases and we can make some fluorescence nanoparticles which can easily reach the tumor location. The fluorescence signals from these nanoparticles can be easily monitored. The next application is the targeted drug delivery. The main drawback of the traditional cancer therapy is that we are not able to specifically target only the cancer cells. The traditional drugs kill the healthy cells also. But by using nanoparticles, we can specifically make them go only to the cancer cell and kill the cancer cell. So we can make a targeted drug delivery system. This targeted and sustained drug delivery decreases the drug related toxicity and increase patient's compliance with less frequent dosing.

Keywords: Application, nanotechnology, drug, delivery.

ISCA-ISC-2018-4CS-Guest Speaker-02

A study of the effects of silver and ZnO nanoparticles in biological system

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Abstract: Green synthesis of nanoparticles is an eco-friendly approach to explore the potential of different herbs in order to synthesize nanoparticles. The plant extracts contain wide array of secondary metabolites such as flavonoids, proteins, terpenoids, tannins, polyphenols, etc. These biomolecules serves as potent reducing and capping agents for metal ion which helps to minimize the agglomeration of nanoparticles, thereby, controlling the morphology and also helping to stabilize the nanoparticles, thus improving the biological potential. The present study deals with synthesis and characterization of silver and Zinc Oxide (ZnO) nanoparticles (NP), and their application on pathogens. Silver NP was prepared by greener pathway from $AgNO_3$ solution through the extract of *Ficus auriculata* leaves and ZnO NP were synthesized by chemical reduction method using starch as capping agent. Detail characterization of the nanoparticles was carried out using UV-Vis spectroscopy, Dynamic Light Scattering (DLS) Particle size analysis, Scanning Electron Microscopy (SEM), X-Ray Diffraction (XRD) analysis and Thermogravimatric (TGA) analysis. From the analysis of XRD pattern, UV-VIS spectroscopy and TGA, the formation of nanoparticles was confirmed. The biological, catalytic degradation and drug delivery studies of the Nps was also determined by using different methodology

Keywords: Green chemistry, nanoparticles (Silver and ZnO), ficus auriculata, HR-SEM, HR-TEM, powder RXD, biological, catalytic degradation and drug delivery studies.

ISCA-ISC-2018-4CS-Guest Speaker-03

Bioinspired metallomacrocycles: a wonder molecule for applied chemistry

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Abstract: The chemistry of macrocyclic complexes has witnessed an outline by individual scientific backgrounds and individual interest due to their analytical, industrial, agricultural and medicinal. Terrence J. Collins championed the field of green chemistry (Presendential Green Chemistry Award-1999) and gained

international recognition for his work in creating a new class of TAML (tetraamido macrocyclic ligand) and their iron complexes. TAML activator acts as a catalyst to make H_2O_2 a more efficient bleaching agent. Collins' commercializing systems can be used to effectively replace chlorine-based oxidants in large global technologies. The anticancer properties of square-planner platinum compounds have fueled an interest in the chemistry of all the metal complexes. Organotin(IV) compounds are among the most widely used organometallic compounds owing to a variety of industrial and agricultural applications including their use as pesticides, fungicides and anti-fouling agents. A significant fraction of currently used anticancer drugs are organotin compounds with O, N, S donor ligands, and many studies focused on their structure-activity correlations. Although many efforts have been made to explore the mechanism of the biological action of organotin complexes, none of them have been entirely successful. Keeping all these factors in mind we aimed to synthesize and characterize organotin compounds with N_4–tetraamide ligands. The main emphasis has been given on in vivo studies on male rats by performing biochemistry and fertility test. The aim is also to prevent the toxic effect or abnormal observations of the pesticides and antifertility agents. Good antimicrobial complexes have been selected for antitumour activity. The positive findings will be discussed in detail.

Keywords: Bioinspired, metallomacrocycles, molecule, applied chemistry.

ISCA-ISC-2018-4CS-01-Oral

Breathtaking stunning life under frozen wave of Antarctica

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Abstract: The Antarctic is a polar region around the Earth's South Pole, opposite the Arctic region around the North Pole. The Antarctic comprises the continent of Antarctica and the island territories located on the Antarctic Plate. All of the land and ice shelves south of 60°S latitude are administered under the Antarctic Treaty System. Biogeographically, the Antarctic ecozone is one of eight ecozones of the Earth's land surface. Millions of years ago, Antarctica was warmer and wetter, and supported the Antarctic flora. Antarctica was also part of the ancient supercontinent of Gondwanaland, which gradually broke up by continental drift starting 110 million years ago. The separation of South America from Antarctica 30-35 million years ago allowed the Antarctic Circumpolar Current to form, which isolated Antarctica climatically and caused it to become much colder. The Antarctic flora subsequently died out in Antarctica, but is still an important component of the flora of southern Neotropic (South America) and Australasia, which were also former parts of Gondwana. Four Antartica tundra ecoregions are recognized: Marielandia Antarctic tundra, Maudlandia Antarctic desert, Scotia Sea Islands tundra, Southern Indian Ocean Islands tundra. Because Antarctica surrounds the South Pole, it is theoretically located in all time zones. The first Antarctic land discovered was the island of South Georgia in 1675. The first confirmed sighting of the continent of Antarctica is commonly accepted to have occurred in 1820. The Antarctic region had no indigenous population when first discovered, and its present inhabitants comprise a few thousand transient scientific and other personnel working on tours of duty at the several dozen research stations maintained by various countries. A variety of animals live in Antarctica for at least some of the year, including: Seals, Penguins, South Georgia pipits, Albatrosses, Antarctic petrels, Whales, Fish, such as Antarctic icefish, Antarctic toothfish, Squid, including the colossal squid, Antarctic krill. Scientists confirmed the existence of microorganisms living 800 metres below the ice of Antarctica. Cod icefish (Nototheniidae), as well as several other families, are part of the Notothenioidei suborder, collectively sometimes referred to as icefish. The suborder contains many species with antifreeze proteins in their blood and tissue, allowing them to live in water that is around or slightly below 0°C. Most of the Antarctic continent is permanently covered by ice and snow, leaving less than 1 percent of the land exposed. There are only two species of flowering plant, Antarctic hair grass (Deschampsia antarctica) and Antarctic pearlwort (Colobanthus quitensis), but a range of mosses, liverworts, lichensand macrofungi. Blue ice is exposed in areas of the Antarctic where there is no net addition or subtraction of snow. That is, any snow that falls in that area is counteracted by sublimation or other losses. These areas have been used as runways due to their hard surface, which is suitable for aircraft fitted with wheels rather than skis. Frozen blue towers were created when ice was compressed and the trapped air bubbles were squeezed out. During the summer the surface ice melts and new ice layers compress on top. The ice appears blue because when when light passes through thick ice, blue light is transmitted back out but red light is absorbed. If the bubbles were not compressed they would scatter the light, meaning it would all be reflected back out and it would appear white. Icebergs in the Antarctic area sometimes have stripes, formed by layers of snow that react to different conditions. Blue stripes are often created when a crevice in the ice sheet fills up with meltwater and freezes so quickly that no bubbles form. When an iceberg falls into the sea, a layer of salty seawater can freeze to the underside. If this is rich in algae, it can form a green stripe. Brown, black and yellow lines are caused by sediment, picked up when the ice sheet grinds downhill towards the sea. This paper reviews study of the climate, weather, geology, and wildlife of Antartica which is a remarkable continent – remote, hostile and uninhabited. This frozen continent is key to understanding how our world works, and our impact upon it. Antarctica is important for science because of its profound effect on the Earth's climate and ocean systems.

Keywords: Antartic, penguins, icefish, toothfish, antarctic hair grass, antarctic pearlwort (colobanthus quitensis), blue ice.

ISCA-ISC-2018-4CS-02-Oral

Nature of water soluble seeds polysaccharide from *Growia Oppositifolia* roxb. Plant

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Abstract: *Growia oppositifolia* Roxb. plant belong to the family-Tiliaceae and commonly known as *Bhimal,* is a medium sized tree and occurs in Himalayan region of Northern India. Seeds are known for their uses in Ayurvedic system of medicine. Present manuscript mainly deals with isolation, purification, preliminary analysis and nature of the constituent sugars of purified seeds polysaccharide in authentic form. Water soluble seeds polysaccharide was precipitated with ethanol, yielded sugars as: D-galactose and D-mannose in 2:5 molar ratio by TLC, Column and Paper Chromatographic analysis of hydrolysed compound. Derivative of D-galactose was prepared by usual manner as: D-galactose phenylhydrazone, had m.p. 171-172^{0}C while D-mannose as; D-mannose phenylhydrazone, had m.p. 196-197^{0}C. It consumed 1.25 moles of iodine by eudiometrically after 28 hrs. Optical rotation of parant polysaccharide is a low positive must be of α-type linkages with D-galactose possibly β-type linkages with D-mannose. Absorbance were recorded at 814 and 874cm^{-1} on IR-Spectra (KBr) of seeds polysaccharide of *Grewia oppositifolia* Roxb. plant.
Keywords: Sugars, isolation, D-galactose, D-mannose, *Grewia oppositifolia* seeds polysaccharide.

ISCA-ISC-2018-4CS-03-Oral

Chemical constituents of *Urtica Ardens leaves*

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Abstract: *Urticaceae* is a large family of about 45 genera and 550 species most abundantly found in tropical and temperate regions, of which 21 genera and 120 species were reported in India. The plants of this family are herbs, undershrubs or rarely trees, without latex. Flowers are minute, unisexual, sometimes crowded on enlarged receptacle. *Urtica ardens*, vern. Kandali or 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. Flowering and fruiting season is August to January. The plants of genus Urtica is distributed throughout the world including Paraguay, Uruguay, Brazil, Southwest of Hubei, China, Asia, America, Europe, Iran, Greece and Turkey. *Urtica ardens* contain properties that help to reduce nasal inflammation and ease allergy symptoms, particularly hay fever. Nettles contain antihistamines which act against the body's natural response to produce nasal congestion and watery eye in response to pollen and other allergens. Stinging nettles may bring relief upon people who have excess uric acid built up in their bodies. In the case of gout, this uric acid builds up and crystallizes around the joints, causing inflammation and excruciating pain. Stinging nettles can work to clear out this excess uric acid and relieve some symptoms of the disease. The most common way to bring relief to joints inflamed with gout is by brewing a cup of stinging nettle tea. In addition, the seeds and leaves of stinging nettles are used by certain populations of Garhwal Himalaya to treat arthralgia, colds and flu, diabetes, joint pain, cancers, hypertension and liver diseases. The present abstract deals with isolation and structure identification of 3β-hydroxy-35-(cyclohexyl-5'-propan-7'-one)-33-ethyl-34-methyl-bacteriohopane and Glucopyranosyl-O-(1→2) fructofuranoside (Sucrose) from MeOH extract of leaves of *Urtica ardens*. The structures of isolated compounds was confirmed by spectroscopic methods viz. UV, IR, NMR and mass spectrometry.
Keywords: Urtica ardens, Urticaceae, 3β-hydroxy-35-(cyclohexyl-5'-propan-7'-one)-33-ethyl-34-methyl-bacteriohopane and Glucopyranosyl - O-(1→2) fructofuranoside (Sucrose).

ISCA-ISC-2018-4CS-04-Oral

Effects of motor oils and role of biosurfactants as wonderful cleaning agents

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Abstract: The increasing contamination of soil by used motor oil is very common and of great concern to our society because of the possible harm that it can cause to the environment. Contaminants like heavy metals and aromatic hydrocarbons are found in used motor oil. Oil spills cause irreparable damage to soil, aquatic life and living organisms and harm the affected areas. When in contact with water, oil and its by-products form a thin layer on the surface that impedes the exchange of gasses between the air and water, thereby hindering the passage of sunlight and the processes of respiration and photosynthesis and causes a fundamental collapse in the food chain. The threat of hydrocarbons to human health is linked to

the physical and chemical properties of these compounds, which are absorbed through the skin and rapidly spread throughout the organism when ingested or inhaled. It is therefore fundamental to develop treatment strategies for such spills. Biosurfactants can be used for this purpose without causing harmful effect on environment. Biosurfactants are scientifically known biomolecules produced by microorganisms capable of allowing water-oil interaction. Biosurfactants can be synthesized by several identified microorganisms including bacteria, yeast and fungi.

Keywords: Motor oils, irreparable damage, remedy of contaminated oils, microorganisms biosurfactants.

ISCA-ISC-2018-4CS-01-Poster

An overview of earth and its atmospheric processes

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Abstract: Latitude is distance north or south of the equator and longitude is distance east or west of the prime meridian of a circle. The Equator is the line of 0° latitude, the starting point for measuring latitude. A prime meridian is a meridian (a line of longitude) in a geographic coordinate system at which longitude is defined to be 0°. Tropic of Cancer, Tropic of Capricorn, Arctic and Antarctic Circles and the Equator are five major circles of latitude that mark maps of Earth. The Earth has a substantial magnetic field that is thought to be due to the movement of the charged particles in the liquid core. The Earth is surrounded by two regions of particularly high concentration of charged particles called the Van Allen radiation belts. These charged particles trapped in the Earth's magnetic field are responsible for the aurora (Northern and Southern Lights) seen in the sky around the poles. UV-c (red) is entirely screened out by ozone around 35 km altitude. On the other hand, most UV-a (blue) reaches the surface, but it is not as genetically damaging. It is the UV-b (green) radiation that can cause sunburn and that can also cause genetic damage, resulting in things like skin cancer, if exposure to it is prolonged. It is in the lower part of the magnetosphere that overlaps with the ionosphere that the spectacular displays of the aurora borealis and aurora austral is take place. The magnetosphere also contains the Van Allen radiation belts, where highly energized protons and electrons travel back and forth between the poles of Earth's magnetic field. The ionosphere was thought to be composed of a number of relatively distinct layers that were identified by the letters D, E, and F. The F layer was subsequently divided into regions F_1 and F_2. Electron density increases more or less uniformly with altitude from the D region, reaching a maximum in the F_2 region. The solar wind compresses the magnetic field on Earth's dayside at a distance of about 10 Earth radii. On the nightside, the terrestrial field is stretched out in a giant tail that reaches past the orbit of the Moon, extending perhaps to distances in excess of 1,000 Earth radii. Most of the electrical activity in the ionosphere is produced by photoionization. Ionization in the F_1 region is produced mainly by ejection of electrons from molecular oxygen (O_2), atomic oxygen (O), and molecular nitrogen (N_2). The threshold for ionization of O_2, O and N_2 corresponds to a wavelength of 102.7 nm, 91.1 nm and 79.6 nm respectively. In the D region, NO^+ and water vapour (H_2O) can interact to form the hydronium ion, H_3O^+, and companion species such as $H_5O_2^+$ and $H_7O_4^+$. Production of hydrated ions is limited by the availability of H_2O. As a consequence, they are confined to altitudes below about 85 km (53 miles). The electron density in the D, E, and F_1 regions reflects for the most part a local balance between production and loss. Electrons are removed mainly by dissociative recombination, a process in which electrons attach to positively charged molecular ions and form highly energetic, unstable neutral molecules. These molecules decompose spontaneously, converting internal energy to kinetic energy possessed by the fragments. The most important processes in the ionosphere involve recombination of O_2^+ and NO^+. Ions and electrons produced at high altitude are free to diffuse downward, guided by Earth's magnetic field. This paper deals with an overview of earth and its atmospheric processes which in turn is valuable for understanding different phenomenon of Auroras the most spectacular manifestations of the complex interaction of the solar wind with the outer atmosphere.

Keywords: Latitude, longitude, tropic of cancer, tropic of Capricorn, earth's magnetic field, electromagnetic spectrum, ionosphere, magnetosphere, photoionization, recombination, diffusion.

ISCA-ISC-2018-4CS-02-Poster

Greener and conventional route for Knoevenagel reaction

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Abstract: Chemistry of several named reactions have been modified day by day. Because it needs to modify named reactions regarding their procedure modification, catalysis and use of solvents: In the past few years the Knoevenagel condensation is one of the prime condensation reaction in pharmaceutical chemistry and other transformations which is used by several chemists and Researchers. Basically it is a Carbon-Carbon bond forming reaction which needs carbonyl compounds

containing active methylene group. Classic methods of synthesis have been replaced by newer methods involving principles of Green Chemistry leading to environmentally safer products and reducing pollution. In this review article we have compared old classical method of Knoevenagel reaction with greener methods for a more sustainable, pollution free and future society.

Keywords: Green chemistry, knoevenagel reaction, solvent free reactions, sustainable chemistry.

ISCA-ISC-2018-4CS-03-Poster

Mixed micellization behaviour of cationic surfactant DTAB in the presence of isoquinoline based surface active ionic liquid

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Abstract: The mixed micellization behaviour of cationic surfactant dodecyltrimethyl ammonium bromide (DTAB) in the presence of surface active ionic liquid (SAIL), lauryl isoquinolinium bromide [C_{12}iQuin][Br] has been studied in aqueous media using Conductometry. The critical micelle concentration (cmc) and various thermodynamic parameter of micellization viz. standard Gibbs free energy of micellization (ΔG_m^0), standard enthalpy change (ΔH_m^0) and standard entropy change (ΔS_m^0) has been calculated using conductometry. The cmc has been found to decrease with increases in content of the SAIL. Mixed micellar parameters such as ideal cmc (cmc*), micellar mole fraction (X_1), micellar interaction parameter (β) and activity coefficients, (f_1), (f_2) of component 1(surfactant) and component 2 (SAIL) have been evaluated by applying Clint, Rubingh and Motomuratheoretrical models. The interaction between SAIL and surfactant has been found synergistic and non-ideal. Use of SAIL as an additive effectively reduce the cmc that is indicated by negative value of interaction parameter (β).

Keywords: Cationic surfactant, surface active ionic liquid, mixed micellization, Cmc.

ISCA-ISC-2018-4CS-04-Poster

Applications of isoconversional methods: an overview

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Abstract: Isoconversional method is a model-free approach which is used in both isothermal and non-isothermal kinetics which helps to avoid the problems that originate from the ambiguous evaluation of the reaction model. Isoconversional kinetic analysis allows the dependence of the activation energy on the extent of conversion or temperature. This, in turn, helps in making kinetic predictions and exploring mechanistic route of solid state processes. This paper provides a brief introduction to isoconversional methods and surveys the impact made by isoconversional analysis in several application areas that include kinetic predictions (in pyrolysis of wheat straw, epoxy-anhydride and epoxy-amine cure studies), thermal degradation (in case of ammonium dinitramide, ammonium perchlorate, polymers), thermal oxidation of polymers, crosslinking (curing), glass transition, and glass and melt crystallization. The differential and incremental isoconversional methods give the actual values of activation parameters whereas the isothermal and integral isoconversional methods provide the averaged values. A computational technique (advanced isoconversional method) has been reported to determine the dependence of the effective activation energy (E_α) on α for isothermal and nonisothermal TGA data.

Keywords: Activation energy, reaction kinetics, isoconversional methods, solid-state processes.

ISCA-ISC-2018-4CS-05-Poster

Effect of different ingredients used in home remedies on *In-vitro* study of curcumin loaded alginate beads

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Abstract: Curcumin, an active ingredient of turmeric is known to exhibit different pharmacological activities including antioxidant, anti-inflammatory, anti-bacterial, antiviral, antineoplastic, germicidal and antiangiogenic properties. The pharmacological activities exhibited by curcumin can be co-related with the inhibition of various physiologically significant enzymes. Attempts are continuously being made to explore strategies that can increase its bioavailability so that it can be a therapeutic molecule. Curcumin-loaded alginate beads containing different ingredients have been prepared by using ionotropic-gelation method. These formulations were characterized with the help of Fourier Transform infrared (FTIR) spectral data. The beads were screened for release rate of curcumin and studied for their serum protein binding activities.

Formulation, F28 has been found to show maximum release and highest *in-vitro* serum protein binding activities. The release mechanism and pharmacokinetics of curcumin were calibrated by fitting release data in Peppas's equation.
Keywords: Pharmacological, anti-inflammatory, antineoplastic, antiangiogenic, ionotropic-gelation method.

ISCA-ISC-2018-4CS-06-Poster

Heavy metals and hydro biological analysis of river "Ganga" at Haridwar in Dhanpura village (Luxar), India

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Abstract: Heavy metals are important environmental pollutants and many of them are toxic even at very low concentration. Toxic mental contamination of sail, aqueous, waste streams a major environmental and human health problem which is still in need of on effective and a fordable technological solutions large quantities of heavy metals are present in many regions of the globe. These metals include copper magnesium and iron. Many free floating emergent and submerged spices have been identified as potential accumulators of heavy metals due to these toxic metals phy-to-toxicity in plants are seen. The water bodies are major life reporting systems facing ecological degradation today due to irrational human inter feryence and unsustainable development keywords heavy metals, dhanpura village.
Keywords: Heavy metals, hydro biological, river.

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5. Computer and Information Technology

ISCA-ISC-2018-5CIT-01-Oral

Prediction of final year student's reports using machine learning

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Abstract: These days there is an availability of large amount data sets everywhere. It is important to withdraw the specific information upon analysing the data sets. Machine Learning is a part of Artificial Intelligence. Currently, the algorithms have shown huge impacts in the field of drug discovery, bioinformatics and many more. The use of machine learning in the field of Academic research has been very limited. This paper analyses the scores of different students in a class of some schools and using different machine algorithms predicts that the student will pass in the Final year exam or not. Due to the inference of the data, the schools take extra efforts on the predicted students who are not going to pass and hence this helps the weak students to score better and also the overall results of the institution or schools get better.
Keywords: Machine learning, student results, examination, prediction, school efforts.

ISCA-ISC-2018-5CIT-02-Oral

Evaluation of classifier models for the detection of diabetes disease

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Abstract: Diabetes is one of the major disease which is commonly found among all age groups and people of different origins. Diabetes is a disease which may lead to failure of different organs, and causes high risk of blindness, kidney failure, heart disease and problems in the nervous system. Data mining algorithms could be used as an alternative way for diagnosis this disease by discovering patterns from the history of patient data and also by capturing the experience of experts. In this paper, different classifier models was designed and implemented for predicting presence or absence of diabetes as well as predicting type 1 and type 2 diabetes disease from positive class, performances measure was evaluated for identifying the optimal model. The classifiers proposed will be using the following approaches: decision tree, Support Vector Machines, and Artificial Neural Networks. The optimal model identification was implemented using performance evaluation measures, such as Accuracy, specificity, sensitivity and precision. The models is tested using the following databases: Pima Indian diabetes database from UCI Machine learning repository and also data set obtained from VCU database collected from 139 hospitals across US.
Keywords: Data mining, classification of diabetes, classification, prediction, neural network, SVM, decision tree.

ISCA-ISC-2018-5CIT-03-Oral

Development of web based GIS for mapping, monitoring and reporting of health facilities

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Abstract: National Rural Health Mission (NRHM) was launched in 2005 by the Ministry of Health and Family Welfare, Govt. of India with the objective to improve the availability and access to quality healthcare for people especially for those residing in rural areas. Health MIS was launched in October, 2008 for capturing data in its generated formats on a web-based system at the district level so that the primary data can easily be aggregated and the information flow quickly to the State Headquarters and the Ministry. HMIS GIS Application is a web application that allows users to view Health Facilities over GIS Map on the web and can execute queries over the map. This application provides a user friendly interface for quick accessing and analysis of data and generating various reports, graph and geospatial theme for day-to-day administration, planning, management and monitoring of facility centers. It has features to show the performance of various indicators reported in HMIS data entry system on GIS Maps. The web application is purpose-built using ArcGIS API for Silver light the well-documented and flexible Microsoft Silver light over Dot Net framework that provides a cross-browser, cross-platform development environment for building and delivering rich Internet applications (RIA) for the web with Windows Communication Foundation (WCF) Service. It uses MS SQL Server 2008 R2 Enterprise (64bit) and Web server: Microsoft IIS7.0. The maps available in GIS are as per NIC with dynamic service layers that provide access to map and image services that generate map images on-the-fly.
Keywords: Web GIS, internet, health, mapping, monitoring.

6. Earth and Geological Sciences

ISCA-ISC-2018-6EG-01-Oral

Palynology and petroleum geochemistry of the Barail group in parts of Mokokchung District, Nagaland, India

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Abstract: A diversified Palynofloral and Palynodebris assemblages have been recorded from the Barail Group of rocks of Mokokchung District, Nagaland. The present palynological study emphasizes on delineating paleoclimatic conditions prevailed at the time of deposition of the sediments derived from palynological studies. The palynofloral assemblage is represented by angiosperm and gymnosperm pollens and pteridophytic spores, like *Striatopollis bellus, Palmaepollenities sp., Meyeripollis nahorkotensis, Podocarpidities sp.*, *Magnastriatities sp., Polypodiisporities sp. etc.* The assemblage is dominated by angiosperms followed by gymnospermous pollens. Prolific presence of structured and amorphous organic matters together with mangroove and shoreline pollen grains indicate deltaic environment with tropical to subtropical humid climate during the deposition of the Barail group. The palynofossil assemblage suggests Upper Eocene-Lower Oligocene age. Source rock analyses reveals low S_2 (0.01–0.58) and fair TOC (0.03–1.21) values suggesting presence of type III kerogen and low hydrocarbon generation potential of the formation.
Keywords: Palynology, petroleum geochemistry, Barail group, Nagaland, India.

ISCA-ISC-2018-6EG-02-Oral

Education and ICT for disaster management in rural areas of Himachal Pradesh, India

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Abstract: We are living in technological era. But, still the world is becoming vulnerable to natural disasters. It is very surprising figure that 3 million people killed around the world just due to natural disasters in the past 20 years. In developing nations our country has second largest share. As per the need of the hour the Ministry of Human Resource Management emphasized integration of Disaster Management in the existing curriculum in its 10th five years plan. Therefore, Disaster Management included as frontline curriculum in Social Science. The schools are expected to participate in both pre and post disaster activities. This proposal is concerned with the role of education and ICT in disaster management of rural areas. Study is conducted in limited area to find its wide scope of implementation. Two Gram Panchayats were selected, one from district Solan and other from district Shimla. The disaster management campaign was organised in three villages in which 40 houses were selected randomly. ICT tools like Mobile phones, Internet, Laptop, Whatsapp were used to educate and aware the villagers regarding disaster management. The study was conducted in three phases – 'Before the Campaign', 'During the Campaign' and 'After the Campaign'. Various information collected regarding previous knowledge of disaster management from the villagers through self-constructed semi structured interview scale. Then, the school organised the campaign through ICT tools, rallies, expert talks and posters. After the campaign, the scenario has been changed. The people and local authorities liked the campaign and changed the set-up of their houses. They have modified it as per Disaster Management Plan. Every house purchased first aid kit and most of the villagers maintained it effectively. Much more changes in the villagers are discussed in the study.
Keywords: Disaster management, earthquake, landslides.

ISCA-ISC-2018-6EG-03-Oral

Geochemical characteristics of Lichi Volcanics, Arunachal Pradesh, India: implication for petrogenesis of the rocks

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Abstract: The Lichi volcanics occur in the Papumpare District of Arunachal Pradesh and is bounded by latitude 27°22' N and longitude of 93°52' E to 93°54' E. They are associated with the Lower Gondwana Group of rocks and uplifted by Main Boundary Thrust (MBT) in the area under study. They are mainly basaltic-andesitic and trachytic in nature. The rocks consist of microliths of plagioclase, augite as groundmass with some biotite. Some basalts contain phenocrysts of sanidine and nepheline. At places, ultramafic rock fragments (xenoliths) consisting of orthopyroxene, calcite and garnet are also observed.

The garnet is intergrown with the orthopyroxene and quartz as inclusion in the pyroxene. Geochemical investigation reveals that the rocks are basalt-andesitic and calc-alkaline in character. Alteration index (AI) ranging from 33.85 to 48.77 shows the characteristics of pristine (MORB) and arc related volcanic rocks. Both the chondritic normalized and primitive mantle normalized trace element diagrams indicate enrichment from less compatible to more incompatible elements with negative strontium anomaly. The negative Sr peak may be attributed to the removal of Sr with Ca during ocean floor weathering. Low to moderate Y (from 9.20-29.8) and low HREE conc. (Yb < 3.18ppm) coupled with fractionated HREE patterns (Dy/Yb)N > 1, suggest that garnet was likely to have been involved as a residual phase at some point during the partial melting process. The insignificant negative anomaly of europium indicates that the plagioclase content was low and it has negligible role in the petrogenesis of the rock. Presence of ultramafic xenoliths with orthopyroxene and garnet indicates comparatively deeper mantle derived magma.

Keywords: Lichi volcanics, gondwana, main boundary thrust (MBT), Xenolith.

ISCA-ISC-2018-6EG-04-Oral

Provenance, tectonic setting and redox conditions of basal part Tura formation in the areas of upper Assam Basin: Insights from petrography and whole rock geochemistry

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Abstract: The present work deals with the petrography and geochemical characteristics of a few borehole samples of Tura Formation belonging to both North and South Assam Shelf of Upper Assam Basin to establish the provenance characteristics, tectonic setting and redox conditions of the formation.Based on the modal analysis, the Tura sandstones are classified as quartz arenite and wacke types. Plots of sandstone composition in tectonic setting discrimination diagrams suggest derivation of these detritus from craton interior and recycled orogenic provenance. Geochemical classification of the sandstone samples shows mostly wacke type and provenance discrimination plots of sediments based on major oxides depict that the sandstone of Tura Formation was derived from quartzose sedimentary rock source. The tectonic discrimination diagrams suggest a passive continental marginal setting for the sandstone. The chondrite normalized REE pattern of the samples is equivalent to the upper continental crust, which reflects enriched LREE and depleted HREE with negative Eu anomaly. The Eu/Eu* (~ 0.69), La/Sc (~ 5.69), Th/Sc (~ 2.84), La/Co (~ 10.89), Th/Co (~ 5.26) and Cr/Th (~ 5.22) ratios indicate derivation of the Tura Sandstones from felsic rock source. Furthermore, La-Th-Sc ternary plot, Th/Sc-Zr/Sc and La/Sc-Th/Co binary plots also suggest felsic igneous source rock for the sandstone.The geochemical parameters such as U, authigenic U, U/Th, V/Cr, Ni/Co and Cu/Zn ratios support these sandstones were deposited under an oxic environment.

Keywords: Tura formation, provenance, tectonic setting, oxic environment, whole rock geochemistry.

ISCA-ISC-2018-6EG-05-Oral

Geological characteristics, technical status, future prospects and challenges of Shale Gas exploitation in India

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Abstract: The shale gas revolution has aided the United States to achieve energy independence and has turned around the pattern of world oil and gas supply by motivating the other counties to move towards the exploitation of unconventional reservoirs like shale gas. In unconventional resource like Shale Gas, the flow of natural gas is limited/restricted without the use of artificial cranks because of its very low permeability. India's dependency on oil/gas imports can be substantially reduced by sustainably developing shale gas reserves. Since India is at an earlier stage of shale gas exploitation, there is a huge gap between India and United States in terms of expertise, resources and technology. This paper analyses the current situation of shale gas exploitation in India and discuss the issues (pad drilling, hydraulic fracturing, multi-stage horizontal fracturing, and environmental impacts, etc) which are constraining its development in India. This paper also discusses the geology of shale gas formation in India, the technical status of its exploitation and the future development prospects associated with its exploitation.

Keywords: Shale gas, hydraulic fracturing, environmental impacts, geology, energy demand.

ISCA-ISC-2018-6EG-06-Oral

Delineation of groundwater prospect zones using remote sensing and GIS: a case of Gabharu river basin, North-East India

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Abstract: Groundwater is an important source of water supply throughout the world. To assure the continued availability of water supplies, conservation of groundwater is utmost important. Integration of remote sensing data and the geographical information system (GIS) has proved to be highly useful in the field of groundwater research, which assists in assessing, monitoring, and proper management of groundwater resources. Groundwater Potential of Gabharu river basin, North-east India, have been evaluated using remote sensing and geographic information systems. Survey of India toposheets and LISS-IV satellite imageries are used to prepare various thematic layers and Analytical Hierarchical Process (AHP) was employed to assign weightages and ranks to the thematic layers. The area falls into four categories of groundwater potential zones i.e. very good, good, moderate and poor zones. On the basis of this study it is found that 45.86% area is under very good category, 17.21% area is under good category, 3.04% area is under moderate category and 33.89% area is under poor category of groundwater availability. The study may assist in decision making related to the planning of sustainable water resources development of the area.
Keywords: Groundwater, Gabharu river basin, groundwater potential, analytical heirarchical process.

ISCA-ISC-2018-6EG-07-Oral

Comparison of directional and non-directional filtering techniques for lineament extraction using landsat-8 OLI to study active tectonics in parts of northwestern HFT

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Abstract: Himalayan Frontal Thrust (HFT), defining the physiographic and tectonic boundary between the Indian plate and the Himalayan orogeny. Itillustratesseismically active faults and connecteduplift ment which represents a zone of active deformation between the Siwalik Hills and the Indo-Gangetic Plain. In the foothills of Siwalik along HFT, numerous active faults have caused major and great earthquakes, it lies under seismic zone IV. The north-western part of Sub-Himalaya is a well-populated area like Chandigarh and small towns and villages near Pinjore dun. A moderate earthquake mightproduce extensive damages so, the identification and characterization of suchseismogenic areas are crucial for mitigation of seismic risk. Lineament mapping with remote sensing data by image processing techniquesis a most useful method for the mapping of the structural and tectonic setting of the area. The lineaments are very important structural and geological indicator to assess general and local tectonic trends and fracture zones in the rocks. Filtering is an image enhancement technique, which is used for edge enhancement of the image.In this work, a comparison of directional and non-directional filtering technique has been made to extract lineaments in parts of northwestern HFT adjacent Ghaggar river. In non-directional filter technique Laplacian filter is used for the linear feature analysis. Filtering is a technique of altering/enhancing an image to emphasize certain features or suppress other features. The analysis is carried out by using band 6 of Landsat-8 data, which is automatically processed in LINE module of PCI Geomatica to extract the lineaments. Lineaments extracted by both filtering techniques are verified from the manually digitized geological map. The results observed that lineament extraction with directional filtering gives a better result than non-directional filtering techniques.
Keywords: HFT, Landsat-8 OLI, directional filter, non-directional filter, PCI Geomatica.

ISCA-ISC-2018-6EG-08-Oral

Snow covered area mapping of Patsio Glacier from Sentinel 2 data using normalized difference snow index and band ratio techniques

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Abstract: Himalayan snow cover area plays an important role in the Indian environment and the hydrological system. As it changes it directly affected the water availability, mainly during the summer season. Hence, it is better to obtain the information on snow cover area and snow facies. In this study, Patsio glacier of lahulspiti (Himachal Pradesh) was undertaken. In Himalaya collection of the point to point data is not possible because of its rough terrain so that remote sensing satellite data has been used. Sentinel 2Asatellite data of October 2017 were used which provides 10m spatial

resolution. Apart from that Global Land Ice Measurements from Space (GLIMS), glacier mask was used in an open source application Sentinel Application Platform (SNAP). Manually Snow distinction and mapping are easy from the other methods, but it is time-consuming and also under the shadow condition it can possess difficulties. To overcome this spectral reflectance and normalized difference snow index (NDSI) algorithm is used for the detection and estimation of snow cover area. Sentinel 2 data has shown promising results in the study of snow under a shadow for Patsio glacier and further helped in interpreting of IMD and periglacial debris and snow under a shadow.

Keywords: Sentinel 2A, snow cover area, normalized difference snow index, band ratio, SNAP.

ISCA-ISC-2018-6EG-09-Oral

Groundwater quality study in Mullana Town, Ambala District, Haryana, India

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Abstract: Water is precious natural resource gifted by nature on the planet earth. About two third on the planet earth is water but the useable water for human beings is very less. In the present developmental activities water resources-both surface and groundwater are under stress. Availability of groundwater makes it highly useable resource for agriculture, drinking and industrial purposes. In urban areas, understanding of the groundwater quality is important for drinking as well as pollution purposes. In the present study, groundwater quality in Mullana town of Ambala district has been studied. Ten groundwater samples have been collected in the month of June 2018 from different locations in Mullana town. Groundwater samples were analyzed using Field Water Testing Kit prepared by Tamilnadu Water Supply and Drainage Board, Chennai for twelve chemical parameters-pH, Alkalinity, hardness, chloride, TDS, fluoride, iron, ammonia, nitrate, nitrite, phosphate, residual chlorine. Chemical analysis results show that in the groundwater pH ranges-6.5 to 9; alkalinity 140mg/l to 600mg/l; hardness 150mg/l to 650mg/l; chloride 50mg/l to 300mg/l; TDS 480mg/l to 1740mg/l; fluoride 0.5mg/l to 1.5mg/l; iron 0mg/l to 10mg/l; ammonia 0.5 mg/l - 5mg/l; nitrate 20mg/l to 45mg/l; phosphate 0 mg/l; residual chlorine 0 mg/l. As per BIS drinking water standards pH, hardness, iron, ammonia are falling under non-potable category. The study gives a view of groundwater quality scenario in the Mullana town which can further be used for monitoring drinking purpose and understanding anthropogenic pollution of groundwater.

Keywords: Groundwater, quality, Mullana, Ambala, Haryana.

ISCA-ISC-2018-6EG-10-Oral

Textural analysis and lithofacies study of the late quaternary sequence in the foothills of Arunachal Himalaya near Kimin, Arunachal Pradesh, India

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Abstract: This study was carried out to understand the depositional condition of the late Quaternary sequence exposed in the foothills region of Arunachal Himalaya near Kimin, India. The samples were subjected to granulometric analysis and the results show that the samples were granule (-1.5 ϕ) to very fine sand (3.55 ϕ) diameter in size and varies from well sorted (0.46 ϕ) to very poorly sorted (2.99 ϕ). The sediments were very coarse skewed (-0.64 ϕ) to fine skewed (0.24 ϕ) in nature and the kurtosis value of the samples ranges from platykurtic (0.86 ϕ) to very leptokurtic (2.23 ϕ). On the basis of sedimentary structure and grain size, seven lithofacies types were recognised in the field, viz: matrix supported gravel facies (Gms), crudely bedded gravel facies (Gm), small scale planar cross bedded sand (Sp1), large scale planar cross bedded sand (Sp2), horizontal laminated sand and silt (Sh), massive sand facies (Sm), massive mud (Fm). Both textural analysis and lithofacies association suggest that the sediments were deposited by tractive current in fluvial depositional environment.

Keywords: Quaternary, terrace, textural analysis, lithofacies, fluvial.

ISCA-ISC-2018-6EG-11-Oral

Study of source rock potential and thermal maturity of Shales of Kopili Formation, Jaintia Hills District, Meghalaya, India

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Abstract: Kopili Formation represents the middle to late Eocene sediments in the South Shillong Shelf. This formation is represented by alternation of thick grey to black splintery shales and sandstones with thin parting of coal. The study of

hydrocarbon generation potential and thermal maturity of shales of Kopili Formation of Eocene age of Jaintia Hills District, Meghalaya has been carried out on the basis of Rock Eval pyrolysis. In the present study, the average TOC of the Kopili shales 0.67% with a maximum value up to 3.71% and the average hydrocarbon generation potential of shales i.e. S is 0.48mg/g with a maximum value of 1.21mg/g and it could be considered as poor-quality source rock for petroleum, from the point of organic matter richness. The shales are characterised by type-iii and type-iv kerogen. Type-iii Kerogen is capable of generate very little oil and mainly gas at suitable temperature at depth but it is less productive on pyrolysis and type-iv Kerogen cannot generate any hydrocarbons and is considered to be one form of dead carbon in the sense of petroleum generation. Production Index (PI) (0.02% to 0.34%) and Tmax values (426^{0}C to 467^{0}C) indicate that the shale samples are not mature enough to generate hydrocarbon.

Keywords: Kopili formation shale, hydrocarbon potential, thermal maturity, rock eval pyrolysis.

ISCA-ISC-2018-6EG-12-Oral

Occurrence of fluoride in the drinking water sources in and around Bichhiya block, Mandla District, Madhya Pradesh, India

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Abstract: High fluoride content in the groundwater is reported in and around Bichhiya block, Mandla District, Madhya Pradesh, India. Therefore, an attempt has been made to determine the hydrogeochemical factors controlling fluoride enrichment in the groundwater resources in this belt. Fluoride concentrations ranged from 0 to 6 mg/L in groundwater samples in basalt and the Precambrian basement (gneiss) aquifers in the region. The presence of fluoride in groundwater has both beneficial and detrimental effects on human health. The granitic terrain consisting of fluoride bearing minerals like biotite, apatite, tourmaline etc. and the Precambrian basement is considered as a potential source of fluoride in the groundwater. The weathering of rocks, leaching from soil and subsequent deep circulation of fluoride rich groundwater between the basalts and the underlying crystalline basement (rock-water interaction) could be responsible for the geogenic contamination of fluoride in both the shallow and deeper aquifers of the region.

Keywords: Geogenic origin, fluorosis, piper's diagram, correlation, zonation maps, GIS, weathering.

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7. Engineering, Energy, Architect and Planning

ISCA-ISC-2018-7EEAP-01-Oral

Support vector machines based stock market prediction

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Abstract. Many factors such as economic conditions, political decisions and many more influence the stock market and hence, it has always been a difficult task to predict the exact daily price of the stock market index. Stock market prediction is a procedure of predicting the future value of the stock market on the basis of data available in the market. On the other hand, machine learning is one of the widely and latest available regression techniques. Hence, in this paper Support Vector Machines (SVM) has been used to predict the future prices traded in Indian stock market. For comparative purpose, its results have been compared and validated with back propagation neural network obtained predictions for Indian stock market.
Keywords: Support vector machines, artificial intelligence, stock market prediction.

ISCA-ISC-2018-7EEAP-02-Oral

GIS-based methodology for sustainable spatial planning at site level for hill areas: case study of University Campus

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Abstract: Traditional spatial planning at the site level in hill areas was done manually based on the experience of a planner. With the increasing spectrum of spatial complexity in hill areas, the use of Geographic Information Systems (GIS) in spatial planning is increasing nowadays. GIS deal with spatial planning problems in a structured manner by optimizing the planning process. GIS have advanced to a stage where geospatial analysis techniques are mature enough to assist spatial planning decisions for hill areas. GIS allow planners to plan, receive real-time feedback, and find probable impacts of the proposed planning decisions. The present study focuses on the development of GIS-based methodology for the sustainable spatial planning at site level for hill areas of developing countries like India. The developed GIS-based methodology has been executed on one of the proposed university campus in hill areas.
Keywords: GIS, geospatial analysis, sustainable spatial planning, hill areas.

ISCA-ISC-2018-7EEAP-03-Oral

Nature inspired routing for internet of things

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Abstract: The Internet of Things (IoT) is a promising solution to today's problem of automation with interconnection of a variety of physical devices. The main functions of this network are sense, compute and communicate. The devices include electronic home appliance, machines and vehicles as well. These devices must be embedded with sensing, computing and communication system or connected with other higher node with these capabilities. The featured outcome of these networks are monitoring the status/controlling/actuation of the devices globally. Any routing policy meant for IoT must be quickly adaptive and evolve in a decentralized self organizing and self configuring manner. The paper proposes two routing algorithms based upon nature inspired computing approaches namely Big Bang Big Crunch and Ant Colony Optimization. The proposed routing approaches aim at finding the optimized routing path within a stipulated time constraint. The time constraint is governed by the mobility of network nodes. Extensive simulations were conducted for various IoT topologies.
Keywords: Internet of things, nature inspired computing, automation, machine to machine communication, routing.

ISCA-ISC-2018-7EEAP-Civil-01-Oral

Study of Heat stress and its control in steel industry

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Abstract: Heat stress is the aggregate of thermal environment and physical work load factors, which are imposed on the body. The rate of heat transfer between the human body and its surrounding depend upon the thermal environmental contact

with the skin. Certain degree of temperature is necessary for maintaining normal life process. Healthy human life maintains a temperature around, 37^0C within it. This temperature is adversely affected by internal and external factors. Temperature extremes of external environment creates problem on health. The resources of heat stress are the blast furnace, steel melting shop, rolling mill zone, foundry shop, coke oven etc. in steel plant. Some of the external and personal factors influencing the heat stress are ambient temperature, humidity, radiant heat, air velocity, type of clothing at workplace, sickness etc. The main objective of this paper is to measure the heat stress by instrument W.B.G.T. and to compare the measured values with T.L.V as per work load of the body. According to T.L.V. workload for heavy work is 25^0C, for moderate work 26.7^0C and for light work is 30^0C WBGT. The average temperature 32^0C was measured by WBGT instrument, which is beyond the threshold limit. This will affect the human health in the form of heat stroke, heat exhaustion, heat cramp, heat syncope etc. as heat is a occupational health hazards in the steel industries. The control and measures of heat stress are as –Avoid heavy work, Wear cotton clothes, always use safety gadgets such as shoes, gloves, helmet etc., maintain proper distance from the heat source, Drink plenty of water, Provision of cooling fans etc. In present days it is most important to conduct periodic medical examination of employees working in hot area and health education at shop floor.

Keywords: Heat, heat stress, T.L.V., steel industry, W.B.G.T.

ISCA-ISC-2018-7EEAP-EC-01-Oral

Study of Improvement in quality of merchant products by using additional instruments in existing system in Bhilai Steel Plant, India

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Abstract: Quality is among most important factors, when it comes to any product or services with high market competition in the steel industry. The need of the present study is to solve the problem of variation in Quality parameter of the merchant products. The merchant Mill, Bhilai steel plant produces merchant products like angles, channels and TMT Bars by hot rolling process and uses 12 number of mechanical stands. The quality assurance of these products is to be maintained by the 'process control instruments' during rolling in existing system. During this process, it is found that there is a "variation in quality" is due to high speed rolling and temperature differences -from standard process temperature at different rolling stands. High speed rolling is done for the purpose of high rate of production but its negative impact is variation in process temperature and hence degrade the quality of product. These results failure in quality parameters, loss of production and damages rollers along with mechanical equipment. Also the main objective of the project is "improvement of quality of the product without compromising with the production". To achieve this, measured the temperature difference and load generation on stand during rolling process. Pyrometer and Laser gun instrument is used for the required measurement and analyzed the collected data/information practically. After this, proposed suitable instruments to the management of organization for the implementation.

Keywords: Quality, process control instruments, hot rolling process, rolling stand, load generation, pyrometer, laser gun instrument.

ISCA-ISC-2017-7EEAP-Textile-01-Oral

Ecofriendly approach of biopolymer and natural dye (onion skin) to impart multi functionality to cotton fabric

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Abstract: The purpose of study is to explore and test eco-friendly dyeing with suitable biopolymer as they are non-toxic, non-pollutant, easy to handle in nature. Cotton is an excellent fiber for natural dyeing. For successful commercialization of natural dyes for cotton fabric, there is need to look the functional properties which are imparted to cotton fabric by natural dyed. It will not only add value to the dyed fabric but the same time the demand of natural dyed fabric will increase, due the additional properties which are provided to the consumer. If the functional properties are imparted to the fabric besides colour by the natural dyes, it will save the time, energy and other resources used. So there is pressing need to search the other aspects and benefits of using natural dyes rather than colouring of fabric. In the present study the effort was made to assess the other functional properties such as antibacterial property and ultra-violet protection property of natural dyed cotton fabric which are need of day to ever increasing environmental conditions. The results of study showed that cotton fabric dyed with natural dyed after biopolymer treatment showed the best results as comparison to alum treated natural dyed fabric against different natural properties as antibacterial and ultra violet protection properties.

Keywords: Cotton, biopolymer, onion skin, antibacterial, ultra violet protection properties.

8. Environmental Sciences

ISCA-ISC-2018-8EVS-Guest Speaker-01

Study on the status of environmental green inhibitors

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Abstract: Corrosion is one of the problems which are faced by every other industry in and around the world. Corrosion is defined as the obliteration of materials caused by chemical or electrochemical action of the nearby surrounding environment. In our day to day livelihood very often we experience corrosion. The corrosion word is resulted from the latincorrosus which means eaten away or inspired by temperature. The common examples of corrosion are rusting, discoloration and tarnishing. Corrosion is normal procedure and is a consequence of the intrinsic affinity of metals to relapse to their most even compounds usually oxides. Majority of metals originates in nature in the form of a variety of chemical compounds called ores. In refining process; energy is added to the ore to produce metal. It is commonly seen on metals in the form of oxide films. However alike processes also occur in non-metals, such as plastic, concrete and ceramics except the corrosion is not electrochemical. The actual basic aspect of increase in the economy would be changed if corrosion is prevented. The cost of corrosion shows that the direct cost of corrosion was approximately about 4.2% of their Gross National Product. To a great extent; this loss is due to the corrosion of iron and steel, even if many other metals can corrode as well. Hence there is a need to have a better control on corrosion and deposits by using good treatment system. Most of the metals can corrode due to scaling in the system. There could be various reasons for metals corrode; so we need to have full knowledge about metal and how corrosion can be overwhelmed by using green inhibitors which is considered to be one of the eco friendly technique instead of applying chemical inhibitors.

Keywords: Corrosion, green inhibitors, iron, steel, metals.

ISCA-ISC-2018-8EVS-01-Oral

Evaluation of *pseudomonas pseudomallei* as a potential candidate for degradation and decolorization of reactive blue MR dye used in textile industry

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Abstract: One of the major problems that world is facing is the restoration of the contaminated environment. Textile dyes contribute as the most important environment-polluting agents. A variety of synthetic dyes released by the textile industry posed a threat to environmental safety. Existing effluent treatment procedures are insufficient 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 dye 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.Biological methods represent more proper way of textile azo dye removal. Several microorganisms such as algae, yeast, filamentous fungi and bacteria individually or in consortium are shown to degrade the azo dyes in the presence of nutrients. Bacterial decolorization and degradation of dyes under certain environmental conditions has been found to be the a good 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 *Pseudomonas pseudomallei* showed higher decolonization capabilities after 36hrs of incubation. The complete Decolorization occurs within 45 hrs. So this bacterial isolate can be used as potential candidate for bioremediation of textile waste.

Keywords: Decolorization, textile dye, reactive blue, *Pseudomonas pseudomallei.*

ISCA-ISC-2018-8EVS-02-Oral

A comprehensive investigation of the vertical tropospheric ozone concentration profile over Bangalore, India

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Abstract: Increased pollution in Bangalore, India has resulted in higher levels of carbon and nitrogen oxides that subsequently lead to higher concentrations of ground level and tropospheric ozone. There is a significant dearth of objective physically measured data related to these ozone concentrations. This paper addresses the void by conducting a comprehensive investigation of the tropospheric ozone concentration vertical profile over Bangalore India – one of the fastest growing cities in India. This data is not only a significant contribution to the scientific repository but it could also significantly impact public policy related to urban planning, public health and epidemiology. This investigation was prosecuted in close partnership with SSERD (Society for Space Education Research and Development) and IIA (Indian Institute of Astrophysics). A customized payload was designed for the detection, measurement and data acquisition of ozone in the surrounding atmosphere. The payload was integrated into a weather balloon system, which was successfully launched from the IIA launch pad in Hoskote, Bangalore. The data for the first 10KM clearly demonstrates that the ground level ozone concentration in Bangalore is up to 65% higher than the acceptable standards stipulated by the Indian government and WHO. These results not only have profound implications for Bangalore and its future but are also relevant for other fast growing global cities that are subject to rapid urbanization and industrialization. Public policy makers will have to look deeply into their toolbox to develop innovative policies for reducing pollution levels that are the leading drivers for increasing tropospheric ozone levels. Future investigations will focus on more in-depth analysis by launching 1U CubeSAT in partnership with ISRO (Indian space Research Organization).
Keywords: Tropospheric ozone, health effects of ozone, Ozone in Bangalore, pollution, weather balloon.

ISCA-ISC-2018-8EVS-03-Oral

A study on saline water intrusion relevant to coastal environment

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Abstract: Coastal areas in the world are mostly dependent on local fresh groundwater resources because of intense urbanization and these water bodies are degraded by the saltwater intrusion which is considered as a major hazard to coastal communities. Saltwater intrusion is largely influenced by rising sea level into and it has been studied for decades; on the other hand the impact of human activities affect the extent of saltwater intrusion is inadequately tacit. Considering Actual sloping seaward boundaries of saltwater problems in unconfined aquifers is still in the prelude stages. Moreover the rise in sea level due to the climate change accelerates the saltwater intrusion into the aquifers which reduce the fresh groundwater resources. With the impact of sea level rise and over pumping combined together the problem becomes even more serious and requires fast solutions. It is observed that Qanat-well structure may be used to extract fresh groundwater to meet the water requirements in the specific community since shallow wells are unsuitable for low yields and the adoption of deep tube wells initiates the problem of upconing.
Keywords: Abstraction, desalination, recharge, salt water intrusion, sea level rise.

ISCA-ISC-2018-8EVS-04-Oral

Localities impact on the Corbett National Park, India

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Abstract: This study is based on the first national park of India, Corbett National Park, Ramnagar. Corbett national park is rich in floral and faunal biodiversity. This study highlight how the Corbett national park is facing many problems due to various human activities. The prime objective of this study is to investigate the human activities in neighboring areas of the Corbett national park. Corbett National Park is facing many issues like elevation on the dependence of local people on the park and their dangerous activity, like fire burning in the park. These activities are affecting the park environment severely. By good education, stick rule, awareness and providing job to the local community this pressure may be minimized in the Corbett National Park.
Keywords: Corbett National Park, local community, tourists, conservation, biodiversity.

ISCA-ISC-2018-8EVS-05-Oral

Water quality assessment of uranium and its physico-chemical parameters in drinking water samples, Thane District, Maharashtra, India

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Abstract: The project has been formulated to investigate the concentration of naturally occuring uranium levels, gross alphaand associated water quality parameters of drinking/groundwater sample from 12 talukas (Badlapur, Bhiwandi, Vasai, Palghar, Dahanu, Talasri, Ojhar, Mokhada, Jawhar, Wada, Shahapur, Kalyan) of Thane district of Maharashtra state for both pre-monsoon and post-monsoon period. This study is based on health hazard point of view. Systematic district-wise grid sampling plan was followed in the project and samples were selected on the basis of population density. The estimation of uranium was done by using LED fluorimeter. Along with uranium, its associated physico-chemical parameters such as temperature, total alkalinity, total hardness, magnesium hardness, calcium hardness, total dissolved solids, chloride, fluoride, sulphate, phosphate, nitrate, salinity, ORP, electrical conductivity were also processed and analyzed. Statistical tools were applied to analyze the data and its spatial distribution. Finally the variation were cross checked with respect to recommendation given by BIS/WHO limit. The parameters such as TDS, EC, TH, chlorides are exceeding the permissible limit in some areas whereas uranium, pH, Nitrate, TA are within the permissible limits. Uranium vary from <0.2-6.3 ppb in pre-monsoon and 0.2-3.4 ppb in post-monsoon which was well below the recommended permissible limits suggested from various organization. Therefore water in this region is fit for drinking purpose except for few areas where treatment is recommended.

Keywords: Uranium, groundwater, LED fluorimeter, water quality parameters, gross alpha.

ISCA-ISC-2018-8EVS-06-Oral

Monitoring of toxic metals contamination of groundwater in parts of District Ghaziabad, Uttar Pradesh, India

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Abstract: Toxic metals are potential groundwater contaminants and their occurrence generally associated with natural or anthropogenic sources. Their potential toxicity critically influences the ecological systems and cause severe health defects. The present study aimed at monitoring of groundwater quality in relation to toxic metals pollution. Groundwater samples were collected from different parts of Ghaziabad district and analyzed for toxic metals preferably, cadmium (Cd), chromium (Cr), nickel (Ni), and lead (Pb). The concentrations of selected toxic metals were assessed in the compliance with drinking water standards and found to exceed the permissible limits of BIS (2012). Heavy metal Pollution Index (HPI) was applied to investigate the contamination of groundwater based on the presence of toxic metals. The method computed the mean HPI value of 220.09 and about 53% of the total samples were beyond the HPI critical value of 100. It is a matter of great apprehension over groundwater quality as the effectsare apparent due to extreme pollution levels with respect to toxic elements. In order to avoid further environmental and health implications, a strict and timely monitoring is required for groundwater resources of the district.

Keywords: Groundwater contamination, toxic metals, heavy metal pollution index, Ghaziabad district.

ISCA-ISC-2018-8EVS-07-Oral

Site suitability evaluation of existing landfill site of Rohtak, Haryana, India

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Abstract: One of the most common economic method worldwide as well as in India for the disposal of municipal solid waste due to technical simplicity are non engineered landfills. In most Indian cities the dumpsites are arbitrarily selected as per convenience of land availability without any concern to its effect on humans and environment. The solid waste dumpsite of the Rohtak city having an area of 139.4 Km^2 is situated near Sunaria village and has been operational since 2008. The study has been undertaken to evaluate the suitability of this dumpsite on the basis of scientific selection based on criteria's and rules set by Central Pollution Contro Board and Central Public Health and Environmental Engineering Organisation CPHEEO using geographical information system (GIS) based site suitability modeling (Boolean and Index overlay models).

A site suitability map having seven suitability classes was generated by combining the layers of Boolean and index overlay models. The location of the existing dumpsite was found to be situated in class No. one which is the least suitable class. Nitrate content in ground water in the domain of dumpsite was found to be high (6-238mg/L).
Keywords: Landfill, municipal solid waste, boolean model, index overlay model, GIS.

ISCA-ISC-2018-8EVS-08-Oral

Foliar application of zinc oxide nanoparticles for fortification of wheat (*Triticum aestivum*)

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Abstract: Zinc (Zn) deficiency is the most widespread micronutrient deficiency in crop plants and humans. Low intake of Zn through diet appears to be the major reason for the widespread prevalence of Zn deficiencies in human populations. This investigation was initiated to explore the potential of using Zn oxide nanoparticles as a source to combat the nutrient deficiency by examining the effects of nanoscale zinc oxide particles on growth and development of Wheat (*Triticum aestivum*). Wheat seeds were sprayed with 0.5% and 1% (w/v) of nanoscale zinc oxide (ZnO) bulk ZnO and bulk zinc sulfate ($ZnSO_4$) suspensions, respectively and the effect this treatment had on plant growth and seed zinc content were studied. These particles proved effective in increasing overall plant growth over control and the seed Zinc content was also increased.
Keywords: Fortification, micronutrient, nanoparticles, deficiency, bulk.

ISCA-ISC-2018-8EVS-09-Oral

Assessment and conservation strategy for schedule - I and II animals with reference to selected development projects

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Abstract: The National Highways, Construction of check dams and Sand miningare vital developmental projects that are generally undertaken to improve the economic and social welfare of the people. At the same time, they also create an adverse impact on the surrounding environment. Environmental Impact Assessment of the Chennai Peripheral Road from Ennore to Mahabalipuram, Kattalai Bed Regulator and sand mining projects in River Cauvery, Mayanur Tiruchirappalli have revealed that the core and buffer zones of these projects supports diverse faunal elements falling under a wide array of status and schedule as prescribed by The Wildlife (Protection) Act (1972). The schedule I and II animals recorded in the core and buffer zone of the study area are Pea fowl (*Pavo cristatus), Osprey (Pandion haliaetus),* Monitor Lizard *(Varanus bengalensis),* Bonnet macaque *(Macaca radiata),* Jackal *(Canis aureus), and* Grey Mongoose *(Herpestes edwardsii)* which requires implementation of a conservation strategy. In the present study a detailed conservation plan has been proposedcovering enhancement of habitat features such as construction of nest platform for perching, roosting and nesting of Osprey, box type nests for Pea fowl, and conducting awareness programmes in village for the conservation of Jackal, Monitor Lizard and Grey mongoose. The Environmental Management Plan also includes design of nesting structures and a detailed budget.
Keywords: Conservation strategy, nest box, biodiversity register, osprey.

ISCA-ISC-2018-8EVS-10-Oral

Contribution of solid waste by eateries in selected location in Tiruchirappalli, Tamil Nadu, India

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Abstract: The present study was undertaken with the aim of assessing solid waste generation from a selected location in Tiruchirappalli city in February–March, 2018. The location selected was between Puthur-4-Road intersection and Irattaivaikkal. There were 12 established eateries and 18 non-established (make-shift) in the selected location. They generated an average of 21.42kg / eatery/day of solid wastes. Of the two types, non-established generated more quantities of solid

wastes when compared to that of established ones. The wastes generated by these eateries (both types) were placed to the nearby Community bins. Of the total wastes generated, biodegradable wastes constituted 42% in wastes from established eateries and 58% in wastes from non-established eateries. Next to biodegradables, plastics constituted 23% in wastes from established eateries and 10% in wastes from non-established eateries. Paper wastes constituted 20% and 23% in wastes from established eateries and that from non-established eateries respectively. It was also estimated that an average of 0.07g/day/eatery of CO_2 had been generated from solid wastes.

Keywords: Solid waste, eatery, biodegradable waste, CO_2, Tiruchirappalli.

ISCA-ISC-2018-8EVS-11-Oral

Ecological significance of the *Ficus sp.* in Ullandy Range, Anamalai Tiger Reserve, Pollachi, Tamil Nadu, India

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Abstract: *Ficus* from the family Moraceae has always been a genus which plays a significant role in the environment. This ubiquitous tree is often neglected in conservation strategies. Different species of *Ficus* exhibit the fruiting phase at different months of the year, thereby providing food for the dependant frugivores throughout the year. The main aim of this study is to bring out the importance of this species in an ecosystem, where several other fauna and avi-fauna depend on them for food and shelter, and thereby recommend the conservation of these species and also use them in restoration programmes. In this study, a survey was done in order to record the different species of birds and animals feeding on the *Ficus* trees. While these fruits attract many frugivores, it is notable that certain rare bird species like the Hornbills, and mammals like the Malabar Giant Squirrel, prefer the fruits of the *Ficus* to others. *Ficus* trees will be promising agents for effective forest restoration, if conserved.

Keywords: *Ficus*, ecosystem, frugivores, hornbill, conservation.

ISCA-ISC-2018-8EVS-12-Oral

Exploring to straighten the road between Tiruchirapalli and Chennai Extent (NH 45)

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Abstract: The automobile industry in India is currently rapidly growing with an annual production of over 4.6 million vehicles, with an annual growth rate of 10.5% and vehicle volume is expected to rise greatly in the future. Despite ongoing improvements in the transport sector, several aspects of transportation are still with problems due to outdated infrastructure and lack of investment in less economically active parts of the country. Studies suggested that a large percentage of road accidents are caused by presence of often curves in highways. Through this project, we aim to decrease the distance hypothetically between Tiruchirappalli to Chennai (NH45) extent by straightening the curves by using "AUTOCAD" 2007 software. Curves were present at certain locations like Padaalur, Siruganur, Asanur, and Paalar River. We straightened the path using "AUTOCAD" 2007 software. We took vehicle data at padaalur toll to calculate the total fuel consumption for travel to Chennai from Tiruchirappalli. Moreover, we concluded that 780 liters of non-renewable energy resource (fuel) can be preserve per hour from an average of 156 vehicles when we travel at this alternated straighten road. 9700.76g of CO_2 emission can be reduced per hour. 30-minute time will save per vehicle that runs 322.04 kilometers per hour.

Keywords: Straighten road, pollution, Tiruchirappalli-Chennai.

ISCA-ISC-2018-8EVS-13-Oral

Study of physio chemical parameters of ground water quality of Moshi Village, Pune, Maharashtra, India

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Abstract: The first step of conservation biology towards effective and efficient management of any freshwater body is to know physico-chemical and biological status of that particular water body at given. Today's burning issue is water pollution and contaminant present in water .So it may affect the ground water which drilled out as bore well water. A has been carried out to get its physico-chemical characteristics of bore well water which are collected from East and West zones of MOSHI village. The water samples were collected from 6 different locations of the village area of two different zones and analyzed

for temperature, pH, total hardness, total alkalinity, total dissolved solids [TDS] and dissolved oxygen [DO] in month of January 2017. The usefulness of these parameters in predicting ground water quality characteristics were discussed. Thus an attempt has been made to find the quality of ground water in MOSHI village which is used as drinking water purpose.
Keywords: Ground water-MOSHI village, physicochemical parameters.

ISCA-ISC-2018-8EVS-01-Poster

Change in ambient temperature due to urbanization

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Abstract: Using optical and thermal remote sensing data from various sources such as LANDSAT, IRS LISS-III, Cartosat-1, Moderate-resolution Imaging Spectro-radiometer for the month of March 2000, 2006, 2010 and 2014 various urbanization parameters such as Land Use, Land Cover, Normalized difference vegetation index, Emissivity, Land surface temperature and Urban heat island effects are studied for important locations of Udupi District, Karnataka state, India. About 19 land types were identified in the study area and the various urbanization parameters, their changes over the period is analyzed. A drastic increase in the built-up land area at the cost of crop land area is noticed. A drastic increase in the temperature at certain locations over the study period is observed. The decrease in NDVI and emissivity seems to be the reason for increase in the temperature, as the LU/LC changes towards urbanization. While urbanization is the common cause of enhanced temperature at all the study locations, there are two locations where the increase in temperature is also due to the commissioning of a thermal power station. The change is more vigorous from 2006 onwards. Though the result is quite obvious, the quantification of urbanization is the main advantage of this remote sensed data study. Based on the findings certain mitigation aspects are also discussed.
Keywords: Remote sensing, urbanization, land use, land cover, vegetation index, land surface temperature, emissivity, urban heat island, built-up land area.

ISCA-ISC-2018-8EVS-02-Poster

Adsorption of organic contaminants from sugar industry waste water by mango shell activated carbon (MSAC) and coconut shell activated carbon (CSAC)

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Abstract: With This study attempts were made to compare two activated carbons prepared from natural material [Magnifera indica] Mango shell and [Cocos nucifera] Coconut shell. Mango Shell Activated Carbons (MSAC) and Coconut Shell Activated Carbons (CSAC) both are used for the removal of different chemical parameter of sugar industry waste water. This study proves that both these material works as and adsorbent and the result of COD and BOD removal follow Freundlich and Langmuir adsorption isotherm. Coconut shell activated carbon removes 51.11% of COD at the dose of 50gm/L, whereas Mango shell activated carbon removes 41.49% of COD at the dose of 40gm/L and found exhausted for higher dosages. The BOD removal is 35.09% (Mango shell activated carbon) and 87.72% (coconut shell activated carbon). With increasing amount of both these material there found slight increase in pH, conductance and alkalinity, whereas hardness and chloride content do not affected at any dose.
Keywords: Adsorption isotherm, adsorption intensity (1/n), adsorption energy ($bx10^3$), adsorption capacity (K, Θ_0).

ISCA-ISC-2018-8EVS-03-Poster

An effective and cheap ecological approach for phytoremediation

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Abstract: Pollution of water and soil is a major environmental problem and day by day, this problem is increasing with the rapid growth of industrialization and urbanization in all parts of the world. Most conventional remediation approaches do not provide acceptable solution to pollution problem. The use of special plants for environmental clean-up is an emerging technology called Phytoremediation. This paper is an attempt to study the Phytoremediation efficiency of Water Hyacinth (Eichhornia crassipes). It has been concluded that this plant emerged is a potent tool for treatment of the municipal waste.
Keywords: Sewage water, aquatic weeds, Bhima River.

ISCA-ISC-2018-8EVS-04-Poster

Compositing: a sustainable method of waste management

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Abstract: The search for environmentally sound methods for treating waste, composting process has received much attention in recent years because of pollution concerns. Composting returns organic substances to the natural cycle by stabilization of waste for land filling, volume and mass reduction. Composting aims at recycling organic matter back into the soil to advance soil fertility and structure. During composting microorganisms such as bacteria and fungi break down complex organic into a dark rich substance, this substance called compost is a wonderful conditioner for soil. The composting process is being affected by factors like temperature, pH, moisture content and carbon nitrogen ratio (C:N) and are the main parameters that contribute to the effectiveness of the composting process. Compost land application completes a circle whereby nutrients and organic matter which have been removed in the harvested produce are replaced .Therefore, composting is the best low-cost alternative solution to overcome this problem. This paper reviews the composting process for treating waste as a means of addressing the environmental pollution concerns.
Keywords: Compositing, waste, compost, soil, pollution.

ISCA-ISC-2018-8EVS-05-Poster

Bentonite used as natural coagulant and adsorbent: a review

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Abstract: Water is one of the most essential natural resource. Due to industrialization, urbanization and anthropogenic activities large number of contaminants are added into water. The presence of natural organic matter, heavy metals, pesticides, dye and insecticides make the water unfit for human consumption. Waste water generation from various activity and its disposal off into water stream without treatment is an major problem of the every city. Various techniques are used to treat waste water but they are costly and cause various environmental problem. Bentonite is a natural clay mineral available locally at very low cost, eco-friendly and shows excellent adoption of toxic metal, organic matter etc from waste water. More focus has been done on modification methods so its adsorption capacity has been increased for pesticides, dye and heavy metals removal.
Keywords: Adsorption, clay mineral, eco-friendly, anthropogenic, toxic metals.

ISCA-ISC-2018-8EVS-06-Poster

Chemical and radiological risk assessment of uranium in groundwater water of Rohtak District of Haryana, India

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Abstract: Monitoring of the spatial distribution of uranium and associated water quality parameters in drinking water samples in Rohtak district of Haryana was carried out under National Uranium Project (NUP) of Bhabha Atomic Research Centre (BARC). In this study 48 water samples were collected and analysed for uranium and water quality parameters using BARC standard protocol. Radiological and chemical risks of the uranium in the ground water have been calculated. The mean electrical conductivity of the water samples was 2.6mS where as the mean Uranium concentrations were 38.8ug/L with range between 1.7 and 169ug/L. Eight samples out of 47 had uranium concentration higher than 30ug-l, while in 9 samples values were above 60ug/L.
Keywords: Uranium, hazard quotient, water quality.

ISCA-ISC-2018-8EVS-07-Poster

Removal of chromium from soil using groundnut husk and their effect on growth of mungbean plant

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Abstract: Chromium is found naturally in the earth. It become concentrated as a result of human caused activities and enter plant, animal, and human tissues via inhalation, diet, and manual handling. Cr(VI) concentration has also increased in soil

due to dumping waste from industries. Thus increase toxicity in food chain. Conventional methods of heavy metal remediation like chemical precipitation, membrane process, ion exchange, solvent extraction, electrodialysis, reverse osmosis and adsorption by activated carbon etc. are non economical. Low cost adsorbents such as groundnut husk, rice husk, maize leaf, tea waste etc. are present abundantly as they are agricultural by waste. Moreover they require short operation time and no chemical sludge is generated at the end of the process. In the present study the groundnut husk was used for removal of Chromium from soil and the effect of its application on Mungbean grown on Cr contaminated soil. The results concluded the application of groundnut husk positively increased the plant growth but the biochemical parameters were retarded. It can thus be concluded that use of groundnut husk is promising for removal of Cr from contaminated soil.

Keywords: Toxicity, adsorption, biochemical, conventional.

ISCA-ISC-2018-8EVS-08-Poster

Noise pollution sources in residential community of urban cities

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Abstract: Noise pollution is the noise beyond the permissible limits and is emerging as one of the major environmental hazards to public health in urban cities. Several health hazards of noise pollution includes irritation and annoyance, sleep disturbances, cardiovascular disease, risk of stroke, diabetes and hypertension. It also results in interference with communication, decreased work performance and can cause deafness and mental breakdown. The study aims to analysis the sources of noise pollution in three urban cities. It concludes that road traffic appears to be the major source of noise pollution in residential communities along with building construction and demolishing. Noises emerging from daily activities of the neighbours, religious places, fireworks, public address system, etc. somewhat affects the residential community which cannot be ignored. To reduce the noise pollution, it is suggested to make the public aware about its ill effects on human health wherein the significant role has to be played by government and NGOs.

Keywords: Noise, noise pollution, sources, road traffic, health hazards.

ISCA-ISC-2018-8EVS-09-Poster

Assessment of groundwater quality for drinking purpose in rural areas surrounding district Purnea, Bihar, India

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Abstract: The suitability of groundwater quality of 25 tube wells located in the rural areas surrounding Purnea district town, Bihar was assessed during March-June 2017 for drinking purpose and other anthropological uses based on the various water quality parameters. Standard methods for physicochemical parameter analysis of groundwater samples were employed. The results of analysis carried out showed the following concentration ranges: pH (7.61-8.34), EC (950-3120µS/cm), TH (410-1400mg/l), TDS (594-1913mg/l), F^- (0.15-1.43mg/l), NO_3^- (14-162mg/l), HCO_3^-(417-574mg/l), SO_4^{2-} (68-286mg/l) and Ca^{2+} (59-150mg/l), Mg^{2+} (49-250mg/l), Na^+ (38-290mg/l), K^+ (6-58mg/l). The inorganic species dominance for the selective cations and the anions respectively were in the order of $Mg^{2+} > Ca^{2+} >$ and $HCO_3^- > Cl^- > SO_4^{2-} > NO_3^- > CO_3^-$. Most of the samples analyzed were above the Guidelines set by both national (BIS) and international (WHO) bodies for drinking water. However, these sectors have existing concentrations of iron in ground water and on standing imparts reddish colour. Assessment of groundwater samples from various parameters indicates that groundwater in most part of the study area is almost unsuitable for drinking purpose.

Keywords: Water samples, physico-chemical analysis, inorganic ions and total hardness.

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9. Forensic, Medical, Dental and Nursing

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Molecular diagnostic applications in forensics

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Abstract: In common language "Forensic science" is the application of science to criminal and civil laws, primarily-on the criminal side-during criminal investigation, as governed by the legal standards of acceptable proof and criminal procedure. The mistreatment, torture, or killing of animals has often been associated with sociopaths who eventually graduate to serial murders. Unfortunately, the criminal justice community has been slow to implement an appropriate investigative support system for these cases. This is a niche field, where knowledgeable forensic support is often unavailable. The molecular Forensics tools are the need of the hour to increase the number of professionals trained in forensic investigation of human as well as animal cruelty cases. Now a days standards of investigations and of the science used in documenting what has happened to animals are much higher than few years ago. Conventional methods based on electrophoresis, chromatography, immunoassays and immunochemical techniques have limitations where the sample is degraded, too old, in scant quantity or of closely related species. To overcome these difficulties, superior, DNA based methods having manifold advantages have been developed. New technologies and molecular applications are constantly being embraced by the forensic biology community, consequential in regular and considerable improvements in the field's ability to generate information and to meet the throughput demands of law enforcement investigators and judicial system. Advances that now allow for the cost-effective sequencing of whole human genomes and the expansion of instrument platforms that can sequence single molecules of DNA have already had a transformative impact on the biomedical community. The forensic community now stands to be transformed by these advances as well. Various DNA isolation protocols for identification of species from different kinds of samples and further differentiation of wild species from closely related species were developed in our laboratory. Several quicker and non-hazardous protocols have been standarised. DNA based test had greatly reduced the problems associated with determination of origin of species in closely related species. Both nuclear and mitochondrial genes have been targeted for species identification by PCR, PCR-RFLP and sequencing. The present study would provide a broad overview of some of the convention and molecular tools in forensics along with applications.

Keywords: Forensics, DNA isolation, PCR, real time PCR, PCR-RFLP, sequencing.

ISCA-ISC-2018-9FMDN-01-Oral

Distribution and assessment of pesticide residue contamination level in fish from Indian rivers and their residual impact on environment: a review

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Abstract: Pesticides are major problem of environmental pollution in the river, lake, ponds, and many estuary ecosystems. Pesticides are used worldwide for the purpose of agricultural consumption and control the pest and insect. Previous widespread use of pesticides in the past and constrained current practice resulted in the river pollution. Most of the Indian rivers pass over a large number of villages, cities, agricultural fields and some of the industrial areas. Therefore, a large portion of wastes and sewages produced from these different areas goes into the rivers. The rivers get totally polluted due to discharge of hazardous substances, dyes, heavy metals, fertilizer and pesticides. Most of the toxic and hazardous chemicals do not degrade, therefore they stabilize in the aquatic system and have the ability to bio-accumulate in the food web which may be harmful to the environment. Almost all of the pollutants detected in river fish were mostly banned pesticides, which should be dealt legally.

Keywords: Pesticides, river fish samples, environmental health risk assessment.

ISCA-ISC-2018-9FMDN-02-Oral

A microalgal body, contribute the law enforcement agencies in solving forensic queries and ecological challenges

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Abstract: Diatoms are very common type of microalgae found both in fresh and marine water bodies. These aquatic eukaryotic algae is ubiquitous in nature. Diatom identification is one of the test that works as an important tool in diagnosis

of drowning deaths. Forensically diatoms are very important because of their determination role in ante-mortem and post-mortem study of deceased body. It contributes a great part in forensic pathology. Presence of diatoms in lungs, spleen, bone marrow, brain, kidney etc. helps the expert in making link between suspect and victim. Diatoms are also found in wet soil areas so we can also use them as an evidence from shoes, clothes, hairs etc. sources. In this way they are very helpful in solving the mystery of scene of crime. Diatoms also play a tremendous role in ecological studies also. Diatom population presence helps the environmental investigator or researcher in solving todays ecological challenges, specially the pollution rate and activities. They vary different from one water body to another water body according to their species level. In this way diatoms act as a good tool for identification of environment changes. Diatoms ecological study can help us to study the level of pollutant effect in ecosystem. Diatoms are really a very effective microalgae according to the purpose of research both environmentally and forensically.

Keywords: Diatom, ubiquitous, forensic pathology, pollutant, ecology.

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10. Family, Community and Consumer

ISCA-ISC-2018-10FCC-01-Oral

Green buildings: familiarity, extent of influence and its importance for builders of Vadodara City, Gujrat, India

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Abstract: Mounting concern for the environmental impact of real estate has necessitated the formulation of sustainable solutions. Sustainability has become increasingly important in the building industry in recent years. A movement has immerged in the building construction industry in more efficient and sustainable manner by reducing energy, water and resource use. This concern has led to the development of "Green Buildings". A Green building is one whose construction and lifetime of operation assure the healthiest possible environment while representing the most efficient and least disruptive use of land, water, energy and resources. Green buildings can have tremendous benefits, both tangible and intangible. A study was, hence, planned encompassing various aspects in relation to Green Building to find out its familiarity, extent of influence and importance for builders of Vadodara city. The study was descriptive in nature. A questionnaire was developed by the researcher as a tool for data collection from the builders. A list of builder's was obtained from Confederation of Real Estate Developers' Association of India (CREDAI). Out of 300 member builders of Vadodara City, seventy five were selected through systematic random sampling method.It was found that the mean age of the builders was 43.01 years. One half of the builders' belonged to age group of 36 to 50 years. More than one third of the builders had done diploma in civil engineering. Less than one half of the builders were working as builders since 11 to 20 years with a mean of 16.05 years. It was found that more than one half of the builders had low extent of exposure to the sources of information on green building. It was found that newspaper (56.0%), magazine articles (52.0%) and professional associates (52.00%) were the main source of information for more than one half of the builders. Most of the builders were somewhat familiar about the concept and methods of Green Buildings. More than one half of the builders were somewhat influenced by the concept of Green Building. Majority of the builders had incorporated Green Building element "Indoor Environment Quality" and "Water Efficiency" in their Private projects only. It was found that nearly two third of the respondents considered energy efficiency, indoor environment quality and water conservation aspects of green building as most important as other aspects. Material resources and sustainable site planning were considered most important by less than one half of the respondents respectively.

Keywords: Green buildings, builders, importance, familiarity, extent *of influence.*

ISCA-ISC-2018-10FCC-02-Oral

Risk assessment of musculoskeletal disorders among food processing workers

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Abstract: Musculoskeletal disorders (MSDs) are the most prevalent occupational health hazards in India. Workers in food processing enterprises are exposed to several risk factors which lead to the development of musculoskeletal disorders. Present study was conducted with the objective to assess the risk of developing musculoskeletal disorders faced by the workers engaged in food processing enterprises. Two medium, three small and six micro scale food processing enterprises were selected in Punjab and the activities performed were analysed. From these enterprises, 15 workers who were engaged in most hazardous activities were selected. Risk of developing musculoskeletal disorders was analysed with the help of standardized checklist named Quick Exposure Checklist (QEC). Results revealed that very high exposure level of neck (100.00%) was recorded while sorting, grading and cutting of vegetables in continuous standing posture. Highest exposure level of back (82.14%) was recorded while shifting the cut vegetables for processing by forward bending and twisting of spine. Whereas, that of shoulders (78.57%) was recorded while shifting the packed products for storage by flexion and consecutive extension of spine. It can be concluded that food processing activities place the workers in the workplace having high risk of developing musculoskeletal disorders. Therefore, there is a great need of ergonomic intervention in food processing enterprises.

Keywords: Food processing, hazard, musculoskeletal discomfort, QEC, workers.

ISCA-ISC-2018-10FCC-03-Oral

Assessment of psychological problems faced by institutionalized elders at Varanasi, India

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Abstract: The old age word is considered to be a series and ageing is a continuing process. In humans, the perception of old age varies with the purpose and attitude, as well as depends on gender, housing and environment. Age refers to the time during which a person or thing has lived or existed. Likewise "aging" denotes the process of growing old or developing qualities. In all societies, many approaches are associated with old age person such as biological, psychological, demographic and social. This research is about the current status of the older persons in old age homes of Varanasi. It provides a detailed analysis on the situation of institutionalized elderly people and psychological factors in terms of social, economic, social relationship, family relationship and physiological problems faced by elders in old age. The present investigation also generate issues upon which models of care for the elderly can be framed and proves that factors such as depression, isolation, dwelling place and care of elders along with other factors tend to influence such models of care for the elderly.
Keywords: Psychological problem, institutionalized elders, socio-economic status.

ISCA-ISC-2018-10FCC-04-Oral

Application of natural dyes on cotton fabric and its assessment for colour fastness

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Abstract: Natural dyes have better biodegradability and generally have higher compatibility with the environment. They are non-toxic, non-allergic to skin and carcinogenic, easily available and renewable. Eco-friendly dyes are gaining importance not only for the safety of health and environment but also for beautiful shades on different fabrics. Natural dyes are obtained through extraction from different parts of plants namely leaves, root, stem, fruits and a seed etc. hence proves to be pollution free. In the present study the dried onion skin and mango bark were used as source extracted for making natural dye. Simultaneous mordanting and dyeing of cotton fabric with the selected natural dye obtained was carried out using mordants combination with different concentrations at ratio of 1:1 were used. Extract of onion skin and mango bark mixture (50-50%) was used as dyeing agent, under varying dyeing conditions to optimized the dyeing process variables. Colour fastness to perspiration was tested by perspir-o-meter. From the results obtained, it can be concluded that the natural dye extracted from onion skin and mango bark are of textile importance. The obtained dyes combination show different soothing shades and over all colour fastness was found good.
Keywords: Natural dye, cotton fabric, mordants, colour fastness.

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11. Material Sciences

ISCA-ISC-2018-11MatS-01-Oral

Synthesis and characterization of spray deposited kesterite (copper zinc tin sulphur) as a solar cell application

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Abstract: The thin films of Cu_2ZnSnS_4 (CZTS) are a potential candidate for absorber layer in thin film solar cell because this has the maximum absorption ($10^4 cm^{-1}$) and majority charge carriers 10^{15}-10^{20} cm^{-3}. The constituent element of the CZTS are non toxic and rare earth element. The CZTS thin film has been successfully deposited by self designed spray pyrolysis technique on silicon glass substrates at temperature 400^0C. In this work, this film is characterised through SEM, EDS, UV-VIS and XRD. The surface morphology of the CZTS shows the cabbage type structure with 30nm to 40nm thickness leaves of the CZTS which is not reported worldwide. The cabbage type structure of the Cu_2ZnSnS_4 is a new prediction in the development of the CZTS based thin film solar cell by spray pyrolysis methods. Such structures may be suitable for enhanced efficiency of a CZTS solar cell.
Keywords: Cabbage type structure of CZTS, spay pyrolysis method, enhancement of CZTS solar cell.

ISCA-ISC-2018-11MatS-02-Oral

Investigations of influence of 4-hydroxycoumarin on morphology, thermal and wettability of chitosan based composite films

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Abstract: In this article, new chitosan/4-Hydropxycoumarin (CHC) composite films were prepared and characterized. In the present work, the influence of 4-Hydroxycoumarine on chitosan (CH) structures and their surface morphology, thermal behaviour and hydrophilic nature of the PVA films were studied. The experimental studies showed that surface morphology become uniform and surface roughness has descending order as the concentration of 4-HC in the chtiosan (CH) film. The thermal properties of the CH films slightly increased with incorporation of different concentration of 4-Hydroxycoumarine (4-HC). This suggests that there is compatibility among components indicating the appreciable intermolecular interaction among the CH and 4-HC which is confirmed by the FTIR study. In addition presence of single glass transition temperature in all CHC composite films suggests the miscibility among the components. The result of water contact angle study showed that contact angle deceased with addition of 4-HC onto the CH indicating the composite films were hydrophilic in nature and affinity towards water increased in CHC composite films when compared to pure CH. The use of biopolymers, especially natural polymers like chitosan and polysaccharides became highly perishable in food packaging industry. This has enabled the use of biopolymers due to their biodegradability, cost effective, ease of preparation, good mechanical and barrier properties. It can be expected that, the best properties of CHC composite films were recorded in the study may play a vital role in food packaging and biomedical applications.
Keywords: Chitosan, 4-hydroy coumarin, mechanical properties.

ISCA-ISC-2018-11MatS-01-Poster

Mechanical and morphological properties of green synthesized TiO_2 nanoparticles embedded polyvinyl alcohol nanocomposites films

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Abstract: In the current study novel PVA/TiO_2 polymer nano composites films have been prepared at room temperature via solutions blending and solvent evaporating technique. The tensile properties and phase morphology of the prepared neat PVA and PVA/TiO_2 polymer nano composites films were investigated using Universal testing machine (UTM) and Scanning electron microscope (SEM) respectively. Further, Water contact angle (WCA), Antifungal activity and interaction among the

composite films were evaluated by using Fourier transform infrared spectroscopy (FTIR). The results of UTM revealed that mechanical properties increased with increase in 0.06g TiO_2 nano particles. The addition of TiO_2 nano particles in the PVA matrix showed smooth and homogeneous phase morphology except 0.04g of TiO_2 nano particles. The water contact and antifungal activity confirmed the hydrophilic nature slightly increased and antifungal activity has shown significant rise in the composite films. The interaction among the composites was confirmed by the FTIR. The results of packaging study clearly suggest the composite film has good storage property and it can be used as a environment friendly material with slight modification. This could be applied as biodegradable plastics for food packaging and agricultural applications.

Keywords: Poly (vinyl alcohol), TiO_2 nano particles, phase morphology, tensile properties.

ISCA-ISC-2018-11MatS-02-Poster

Tensile properties of gum acacia modified chitosan/poly (vinyl alcohol) polymer blend films

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Abstract: The blending of polymers is one of the important means to obtain enhanced mechanical properties from the constituent polymers. The enhancement in the mechanical properties depends on the degree of compatibility or miscibility of polymers at molecular level. Biodegradable blend films chitosan (CS)/poly (vinyl alcohol) (PVA) in presence of gum acacia (GA) were prepared by solution blending and solvent evaporating technique. Mechanical properties of obtained films were assessed by tensile test. Adding gum acacia (GA) into the equal quantity of CS/PVA, blend shows slight improvement in tensile strength and young's modulus compared to pure PVA/CS (50/50) blend and then decreases a little with further addition of gum acacia (GA).

Keywords: Poly (vinyl alcohol), chitosan, gum acacia, mechanical properties.

ISCA-ISC-2018-11MatS-04-Poster

Ecofriendly synthesis of silver nanoparticles (*Ocimum Sanctum*) by reducing method and optical properties for organic pollutant degradation

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Abstract: In this research work, we report the synthesis of silver nanoparticles by using a plant extract (*Ocimum sanctum*) reducing method. The 25 nm sized AgNPs synthesized via this one-pot greener approach, can be used as a capable material in different fields such as cosmetics, foods, medicine as well as pollutant degradation, etc. This environment benign process did not use of any extra capping or reducing agent or template. As synthesized silver nanoparticles were evidenced by some advance analysis techniques like as: fourier transform infrared (FTIR) spectroscopy, UV-Vis spectroscopy, powder X-ray diffraction (PXRD) and transmission electron microscopy (TEM) etc. X-ray analysis exhibits that the pure silver nanoparticles were grown in a single phase. Particle size confirmed by the XRD and TEM images of the well dispersed sample. This method can also be facilitated for other metals such as copper (Cu), palladium (Pd), gold (Au) and platinum (Pt).

Keywords: Ocimum sanctum plant leaves, green synthesis method, capping agent, Bioreduction, AgNPs, etc.

ISCA-ISC-2018-11MatS-05-Poster

Utilization of industrial waste in producing natural fiber reinforced green composites

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Abstract: Oil-palm empty fruit bunches obtained from the industrial waste of the oil mills were processed to obtain oil-palm fibers. Fiber obtained being hydrophilic in nature are not directly usable. Hence the fibers were chemically treated and reinforced in phenol-formaldehyde matrix to obtain the composites. The effective thermal conductivity (ETC) and thermal diffusivity and specific heat of the composites are measured at room temperature and normal pressure by Transient Plane

Source (TPS) Method. ETC of the composites has also been evaluated using theoretical models and compared with the experimental values. Surface topology of the composites has been investigated by scanning electron microscopy (SEM). Chemical treatment changes the surface topology which plays an important role in altering the ETC of the composites.

Keywords: Oil-palm fibers, transient plane source method, effective thermal conductivity, thermal diffusivity, specific heat.

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12. Mathematics and Statistics

ISCA-ISC-2018-12MSS-Guest Speaker-01

Test for two distributions

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Abstract: Many often situation arises where parameter and population distribution changes during course of sampling due to known or unknown cause such as laboratory testing blood samples that all are performed in a day, or day by given tester, or method and are treated jointly as family depends on the situation. So testing the equality of parameter before and parameter after laboratory causes which occur during course of sampling due to known or unknown cause. Two brands of bulb lights have the same burn-out times. Environment in south and north pole is same. Two types of galaxies match. Visible stars distributed uniformly in the sky. In proper statistical language all mean that two data sets drawn from the same distribution function. Since no practical amount of data can distinguish between two distributions which differ only by one part in 10^{10} one can never prove that two data sets come from a single distribution. We can disprove, to a certain required level of significance, the null hypothesis (belief) that two data sets are drawn from the same population distribution. Disproving the null hypothesis (belief) infect proves that the data sets are from different population distributions. Failing to disprove the null hypothesis (belief), on the other hand, only shows that the data sets can be consistent with a single distribution function. Disproving null hypothesis (belief) will always provide strong conclusion because probability of error occur due to incorrectly disprove null hypothesis (belief) is in our control.
Keywords: Test, distributions.

ISCA-ISC-2018-12MSS-01-Oral

Comparative analysis of neuro fuzzy techniques for modeling of wind energy harvesting system

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Abstract: Many developing countries like India have shifted towards using renewable energy sources to satisfy the rapidly increasing needs of energy and solve the environmental problems created due to conventional energy sources. Wind energy is one of quickly developed energy sources throughout the world.Variable-speed wind power generation systems provide the opportunity to capture more power than fixed speed turbines.One of the problems in wind energy harvesting systemsis the fluctuation of wind that causes the problem of blackout and damage to the system. Hence, quality of produced energy becomesan important problem in wind energy harvesting systems. To improve these problems several control techniques have been applied topower generation system.In thisstudy, artificial intelligent techniques such as Fuzzy logic, Neural Network and Hybrid Neuro Fuzzy techniqueis proposed to control torque at speeds lower than rated wind speed and pitch angle control at higher wind speedsto regulate power.Below the rated wind speed, the pitch setting should be at its optimum value to give maximum powerand above rated wind speed, pitch angle control provides an effective method of regulating the aerodynamic power and loads produced by the rotor and saves the turbine from damage. The simulation has been done by MATLB/SIMULINK toolbox and the result of the three technique was compared and analyzed. The accuracy of the model is evaluated by comparing the result with the actual measured values at the wind far. The obtained result indicates that power output was successfully regulated during high and low wind speed region using ANFIS method and prevented the wind turbine from overloading.
Keywords: Wind energy harvesting system, fuzzy logic control, neural network, adaptive neuro-fuzzy inference system, pitch angle control, permanent magnet synchronous generator.

ISCA-ISC-2018-12MSS-02-Oral

Optimization of hybrid wind and solar renewable energy system by iteration method

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Abstract: Energy is one of the very crucial element for the development of socio-economic status of the society nowadays. All the activities related to information technology (IT) which becoming the driving force of awareness of the society all over the world uses energy. Among different sources of energies, we are using today, fossil fuel is the major.Because of depletion

of these fossil fuel, increasing energy demand, and increasing number of population, world has entered in to the new phase of energy extracting from alternating sources by giving gradual attention to renewable energy sources. Nowadays, the issue of global warming, increasing of environmental concerns and continuous increase in oil prices have got worldwide attention for the development and utilization of alternative energy sources. These renewable energy sources are abundant, free from greenhouse gas and will become an alternative of fossil fuel, but unreliable due to the stochastic nature of their occurrence. The need for combining two or more renewable energy sources like wind turbine and solar system as hybrid is to overcome the weakness of one source standalone by the strength of the other source at that time. In this paper iteration method was involved to optimize the designed hybrid Wind and solar renewable energy system. As a result, all the components are properly sized in order to meet the desired annual load with the minimum possible total annual cost and highest reliability.
Keywords: Energy, hybrid renewable energy, optimization, iteration method.

ISCA-ISC-2018-12MSS-03-Oral

Statistical investigations to milk yield data of Jersey and Holstein Friesian cross breeds

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Abstract: Monthly data of 4 cows of Jersey and 4 cows of Holstein Friesian crossbred cows on milk yield of seven lactations and for different months were analyzed for the present study which were collected from Dairy Farm of Dr. Yashwant Singh Parmar University of Horticulture and Forestry Nauni-Solan, Himachal Pradesh. Different variability parameters were estimated separately for both cross breeds and also the Bartlett's Chi-square test was applied to test the homogeneity of variances among different months of Jersey and Holstein Friesian crossbredcows for milk yield.
Keywords: Milk yield, jersey cross, Holstein Friesian cross, variability analysis.

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13. Pharmaceutical Sciences

ISCA-ISC-2018-13PCS-01-Oral

Green synthesis characterization and antimicrobial activites of silver nanoparticles from *Tephrosia Purpurealinn* extract

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Abstract: Nano sized drug delivery system of herbal drugs has a potential future for enhancing the activity and overcoming problem associated with plant medicine.Nanotechnology has emerged as integration between biotechnology for developing bioactive, biosynthetic and ecofriendly technology for synthesis of nanomaterials. Greatest value of nanotechnology will be in the development of new and affective medicinal treatment i.e., Nano medicines. Nanotechnology has developed ecofriendly process for the synthesis nanoparticles which is a building blocks to control various diseases. Silver nanoparticles (AgNPs) are one of the most vital and fascinating nanomaterials among several metallic nanoparticles that are involved in biomedical applications. *Tephrosia purpurea is* a plant with a variety of ethnic medicines. It is most precious because of the presence of biological important chemical and may be used for various medicinally activity. *Tephrosia purpurea* Linn, belonging to the family Leguminosae is claimed to be effective in many diseases likeasthma, diarrhea, gonorrhea, rheumatism, ulcer, and urinary disorders. The medicinal properties of the plant are due to the anti-oxidants present in the plant. The aim of this study was to synthesis nanoparticles using plant stem extracts of *Tephrosia purpurea,* characterize the synthesized nanoparticle using UV-Vis spectroscopy, XRD and FTIR techniques and to study antimicrobial activity of synthesized nanoparticle.
Keywords: Nanotechnology, *Tephrosia purpurea,* Silver nanoparticles, antimicrobial activity.

ISCA-ISC-2018-13PCS-02-Oral

Dietary intake and nutritional status in hemodialysis patients

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Abstract: The study was conducted on 50 CKD-5 patients during the year 2016-17, considered stable from, 3 months of regular dialysis at least 2 times in a week dialysis centre in MLB, Medical College Jhansi. Dietary intake was estimated by six 24-hour recall and analyzed after 30 days three times the average dietary intake of 1580.5±164 kcal/day; carbohydrate 204.3±19.0gm/day; lipid, 49.0±4.6gm/day, protein 54.0±4.8gm/day. Important prevalence of inadequacy was observed for the intake of calories and other nutrients. Patients had a low intake of fruit food group (77%) and vegetable servings (56%), dairy products (70%) and normal intake of food group of oils and fats (95%), sugars and sweets (97%). During this study, the result was concluded that the CKD disease and due to dialysis patients metabolic stress and loss of appetite the patients consumed (<0.005) low quantity and imbalance food groups so suffer malnutrition, poor quality of life and high rate of morbidity, mortality. Due to poor food habit and low intake parenteral nutrition can be generally recommended as nutritional therapy for malnourished HD patients.
Keywords: Eating, nutrients, dialysis, patients.

ISCA-ISC-2018-13PCS-01-Poster

Cyclodextrin complexation of certain nano-sized anti-inflammatory and antibiotics for better therapeutic efficacy

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Abstract: Nano sized cyclodextrin inclusion complex is one of the technique to enhance the solubility and bio-availability of the poorly aqueous soluble drugs improving the biocompatibility and safety in therapy. In this paper, few selected anti-inflammatory/antibiotics were chosen to form the inclusion complex with various-CDs in the size range 200-300nm. Various spectroscopic studies including, UV, IR, NMR, TG, DSC and X-ray analysis were carried out to identify the site of interaction between drug and cyclodextrin. A shift in the λ_{max} or ε_o in the UV, NMR signals (δ), new signals in IR evidence the type and site of interaction. The changed thermodynamic properties as evidenced by DSC, crystallinity by XRD support the formation of inclusion complex as new solid phase. Electron microscopy indicated the reduced size of the complex to

nano-scale. Computer molecular modeling helps to locate the exact position of interaction. The complex is tested for accelerated stability studies spectroscopically indicated better stability of the drug. The *in-vivo* pharmacokinetic study of the complexes in Wistar rats showed higher AUC compared to the plain drug. SBE-β-CDis found to be very effective compared to other cyclodextrins. The study concluded that particle size reduction and complexation could improve the efficacy of the drugs with reduced toxicity, cost and patient compliance.

Keywords: Anti-inflammatory, antibiotics, Nano-drugs-BCD complex, spectroscopy, bioavailability, computer molecular model.

ISCA-ISC-2018-13PCS-02-Poster

Study on heavy metals concentration in some herbal extracts, and health risk assessment

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Abstract: Ten herbal extract (*Piper chaba* Hunter*, Swertia chirayita, Smilax china* Linn.*, Cuminum cyminum* Linn.*, Hordeum vulgare* Linn., *Sesamum indicum, Cinnamomum tamala, Cinnamomum verum, Piper longum* Linn.*, Ficus riligiosa* Linn.) were tested for levels of heavy metals (Lead, copper, cadmium, iron, chromium, manganese, nickel and zinc). Herbal extracts 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. Iron was found in maximum quantities as compared to other heavy metals. The paper discusses the health risk 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. It was observed that the quantity of all heavy metals daily intake as per recommended medicinal dose are within the prescribed limits. Iron, Zinc and copper are classified as micronutrients, minimum level of these are required for good health. However, these metals have been reported to be deficient in the diet. The prescribed medication of tested Ayurvedic medicines provides the required intake of these micronutrients. The study concludes that the ten Ayurvedic medicines tested in their recommended dose have no health risk. Limits of heavy metals detected are safe and in addition provide for required micronutrient.

Keywords: Heavy metals, herbal medicine, daily dose.

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14. Physical Sciences

ISCA-ISC-2018-14PhyS-01-Oral

Effect of damping on thermal vibrations of circular plate

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Abstract: This present works are helpful in designing many scientific devices where uniform structures are use and operate under high intensity heat fluxes due to which properties of material undergo change in vibrating modes. This paper describes an damped vibrations of circular plates of uniform thickness with Winkler elastic foundation under thermal effect. Frobenius method has employed to determine the frequency of vibrations for first two modes using the functions based plates theory. The frequency parameter of the plate with elastically restrained edge conditions are presented for various values of foundation and temperature parameters. A comparison of the results with those available in the literature obtained by power series solution method and coordinate functions shows an excellent agreement.

Keywords: Young modulus, thermal gradient, foundation effect, frequency parameter.

ISCA-ISC-2018-14PhyS-02-Oral

Nano-size $Ni_{0.5}Zn_{0.5}La_xFe_{2-x}O_4$: synthesis and characterization

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Abstract: Ferrites are magnetic oxide particles and are very stable under normal conditions over long periods of times. The overall symmetry of oxygen ions is FCC (face centered cubic), there are two types of interstitial sites: 64 tetrahedral sites and 32 octahedral sites, with the metallic ions occupying the tetrahedral A (surrounded by four oxygen atoms) and octahedral B (surrounded by six oxygen atoms) interstitial sites for a unit cell containing 8 times the basic formula AB_2O_4. Only one-eighth of tetrahedral sites and half of octahedral sites are occupied by cations. $Ni_{0.5}Zn_{0.5}La_xFe_{2-x}O_4$ (with x = 0.00, 0.05, 0.10, 0.15, 0.20) nanoparticles were synthesized and the developed materials were characterized for structural properties from XRD, particle size from TEM, and frequency, doping concentration and temperature dependent electrical properties by impedance analyzer are presented.

Keywords: Ferrites; nano, X-ray diffraction, electron microscopy.

ISCA-ISC-2018-14PhyS-01-Poster

A theoretical perspective of controversy in rebound mechanism of Hydroxylatiom by Cytochrome P450: A Microreview

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Abstract: Hydroxylation process occurs in many enzymatic bioreactions which is often ubiquitous. Hydroxylation by Cytochrome P450 enzyme is very important and useful natural process. It is a multistep process that was believed to occur by initial hydrogen atom abstraction from the alkane, by the iron(iv)-oxo species followed by the rebound of the alkyl radical to form the iron(III) alcohol complexes. Later, radical-clock experiments deduced that the lifetime of radical is ultrashort, then how can the radicals be established to exist ? So a controversy arose. This microreview throws some light on the tale of controversy and its resolution proposed by various theories over the years. Theoretical model gives two-state reactivity (TSR), in which radicals are produced on two different spin state surfaces, so they react differently. On the low-spin surface, there is no rebound barrier and radical's lifetime is ultrashort, while on the high-spin surface the rebound barrier is high and radical's lifetime is sufficiently high. Radicals intermediates of low spin state either undergo rebound to form unrearranged (U) alcohol complex, keeping the original stereochemical information, or it can first undergo skeletal rearrangement and then rebound to give arearranged (R) alcohol complex. This reactivity scenario successfully explained and gave other useful insights in reaction mechanism of drug metabolism via heme enzyme.

Keywords: Cytochrome P450, Cpd1, Cpd2, heme enzymes, non-heme enzymes.

ISCA-ISC-2018-14PhyS-02-Poster

Transmission of liquid crystal based on molecular switching in 1D photonic crystal

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Abstract: Liquid crystals are anisotropic organic molecules having flow like liquid and crystalline properties like solid. Liquid crystals have nonlinear characteristics which helpto fabricate nonlinear tunable devices. Liquid crystals are used in displays, laser-beam steering and tunable photonic device applications. Liquid crystal devices operate on electric field, optical field, and thermal induced refractive index change to modulate and transmitthe light. To understand the electro-optical properties of liquid crystals, we have solved the nonlinear differential equation of LC directorunder electric filed numerically and stabilizethe relation between maximum director angles with intensity of light. The nature of the consideredresults is corresponding with experimental data. The calculated results of the director angles with light obtained us the switching representative of liquid crystal in 1D photonic crystal.
Keywords: Liquid crystal, modulate, nonlinear, periodic structure.

ISCA-ISC-2018-14PhyS-03-Poster

Odd-even effect observed in nO.m organic compound under the affect of electric field

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Abstract: In this work, we are report when the alkyl chain increases in the nO.m organic compound liquid crystal then odd-even effect observed in this series. The odd-even effect generate under the affect of electric field. The dipole moment, order parameter, birefringence, HOMO-LUMO gap and refractive index express the odd-even effect. Electric field is alternative of temperature to find out odd-even effect. The interaction between alkyl chain and molecular axis of the liquid crystal express the odd-even effect. When we are increases alkyl and alkoxychain then the odd-even effect observed in this organic compound.
Keywords: Liquid crystal, electric field, Odd-even effect, DFT (B3LYP).

ISCA-ISC-2018-14PhyS-05-Poster

A review on the interaction of various types of flavonoids with DNA

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Abstract: Flavonoids are natural polyphenolic compounds found in plants. They are secondary plant metabolites and are present in seeds, fruit skin, peel and bark of plants. Over 5000 different flavonoids have been described to date, and they are classified into at least 10 chemical groups and are categorized as flavones, flavonols, flavonones, anthocyanins, and isoflavones commonly found in our diet. Many studies showed that flavonoids have a wide range of biological activities such as antioxidants, anticancer, antitumor, antiviral, antiallergic and anti-inflammatory effects. They have recently attracted a great interest as potential therapeutic drugs against a wide range of free radical-mediated diseases. Flavonoids and their metal complexes show affinity towards DNA and bind with it showing anticancer properties. They are a new group of emerging anticancer agents. So it's very important to study the interaction of these biologically active low-molecular compounds with DNA. It will provide help in designing of new and potent drugs and enhance their further applications in pharmacology. This review highlights the interaction of various flavonoids and their metal complexes with DNA.
Keywords: Flavonoids, flavonols, DNA binding, metal complexes, stability, binding constants.

ISCA-ISC-2018-14PhyS-07-Poster

Important of computer technology in physics education through virtual experiment

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Abstract: Physics education is quite difficult task for any teacher. A use of computer is very important to overcome the explanation issue of physics education especially to explain fundamentals of experiment. A Virtual modeling of theory and

experiment by the computer software is one of the most efficient techniques of teaching and learning. The manuscript deal with the virtual modeling of the most difficult physics experiment said "calculation of magnetic susceptibility". A SCADA (Supervisory Control and Data Acquisition) software is used to make virtual model of this experiment. Authors prepared a computer program in visual basic language to create a virtual model of experiment which was identical to the actual experiment available in laboratory. The tabulation and calculation was placed within the experiment window for scientific performance of experiment. The virtual model of concept of magnetic susceptibility was also created by the author within the simulation program. Authors also studied effectiveness of virtual model with group of students by cunning their performance during the virtual and actual experiments. After this study it is conclude that the students who employ the virtual model can understood the concept of theory and experiments very well.

Keywords: SCADA, modeling, simulation, visual basic, software utility.

ISCA-ISC-2018-14PhyS-08-Poster

Study of kinetic parameters of poly (vinyl alcohol)/boswellic acid composite films

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Abstract: In this study pure polyvinyl alcohol (PVA) and polyvinyl alcohol/Bosewellic acid (PVA/BA) films were prepared by solvent casting method. The thermal behavior of pure PVA and its composites has been studied by thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC). From thermogravimetric study it was cleared that the decomposition behavior of PVA changed with addition of boswellic acid (BA). The DSC studies revealed that the increase in the composition of boswellic acid in PVA, slight decrease in the glass transition temperature (T_g), melting temperature (T_m) and decomposition temperature (T_d) was observed. Kinetic parmeters including activation energy of degradation has been calculated using Coat and Redfern method. From the XRD it is clear that percent of crystallinity decreases with increase in the percent of boswellic acid (BA) in PVA could be due to development of semicrystallinity in PVA structure.

Keywords: PVA, Boswellic acid (BA), DSC, TGA, XRD, kinetic parameters.

ISCA-ISC-2018-14PhyS-09-Poster

Influence of potassium hydrogen phthalate on mechanical behavior of chitosan-polyvinyl alcohol blend films

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Abstract: In this study, Potassium hydrogen phthalate (KHP) doped Poly (vinyl alcohol) (PVA) Chitosan (CS) blend films were prepared by using solvent casting technique. The mechanical properties of the prepared blend films were analyzed by using Universal testing machine. The mechanical properties revealed that with increased quantity of KHP onto the CS/PVA, tensile strength and Young's modulus was decreased but there is overall increase in elongation at break was observed. This indicates that addition of KHP slightly altered the properties of the PVA/CS blend films.

Keywords: Poly (vinyl alcohol), Chitosan, mechanical behavior.

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15. Physical Education, Sports and Yoga

ISCA-ISC-2018-15PESY-01-Oral

Comparative study of psychological and motor physical fitness components between selected national level basketball and netball school boys players in Gujarat, India

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Abstract: The main objective of the research study was compare the psychological and motor physical fitness components between basketball and Netball boys players who selected at national level school games in Gujarat. For this study 20 basketball players and 20 netball players who were selected for National level whose age was between 14-17 years were selected for the study. Motor Components like Muscular Strength, Agility, Explosive Strength, Speed and Flexibility were tested of the subjects. To test these variables North Caroline Motor Fitness Test was conducted on the subjects. The test consisted of Sit-Ups, Side Stepping, Standing Broad Jump, Modified Pull-Ups and Scout Trust. And psychological components were selected as anxiety and self confidence. It was hypothesis that there will be significant difference found in basketball and netball players those who selected for National level at School Games. Statistical analysis was done of the raw scores and Mean, Mean Difference and Standard Deviation was found using "T" test and analysis of variance was set at 0.05% level of significant, which is considered adequate for the purpose of the study. The result shown that anxiety between the players of basketball and Netball game with R. Martin's, it was found moderate level of anxiety, it was found basketball players have more self confidence comparatively netball players, it was found basketball players have more abdominal strength comparatively netball players, it was found basketball players have more side stepping ability comparatively netball players, it was found basketball players have more leg explosive strength ability comparatively netball players, it was found basketball players have more shoulder strength ability comparatively netball players and it was found basketball players have more thigh and quadriceps muscles strength ability comparatively netball players.

Keywords: Anxiety, self-confidence, abdominal strength, explosive leg strength, shoulder strength and thigh strength.

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16. Educational Sciences

ISCA-ISC-2018-16EduS-Guest Speaker-01

Some issues and challenges in contemporary women Education

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Abstract: Even in these days of twenty first century, when caste, class and gender equality is invariably accepted by almost all countries of the world concerned with UNO, in South East Asia in general and India, in particular some socio-economic and cultural variables are always playing a significant role to act as positive as well as negative reinforcing factors to advance and delimit extent of women education and empowerment, in various forms and ways. Shettar (2015) enumerated many hindrances on the way of women education like gender discrimination in social set up, lack of proper type and quality education, female infanticide, financial constraints, family responsibilities of women, low need and ambition for achievement, low ability to bear risk, social status, social system and customs like dowry, child marriage and marriage in same caste, atrocities on women etc. Since, education is the way of empowerment, it is obvious that entire social set up and view mayrequire to be changed in order to ensure better women empowerment, mobility, equality in treatment etc., on account of which socio-educational progress in life is often observed as restricted, to some extent in case of women. Decision making power as well as competency development among women to enhance self-efficacy, self -confidence and self- respect and dignity are desired for ensuring freedom of movement, education, employment and enhancing dignified status in society and community.Deprivation from any sort of achievement on account of gender bias may lead us back to eighteenth century when women were in chain in every walk of their life and living. An attempt has been made in this discussion paper to collect opinion and analyse various socio-cultural factors playing significant roles to determine access of women to education, employment, life and living and exposure to media and meet challenges of constraints concerned. A group of educated and enlightened subjects were selected for seeking their opinion and suggestions (N=100), randomly,in this regard, it was observed that in traditional type of communities and social groups more restrictions are being imposed on women in comparison of open and educated families and social groups. Education itself invariably used to raise liberal attitude and sense of equality and freedom for all family and society members leading women to enter and participate in discussion and making collective decision due to raising decentralisation tendency in power and ability development. Let us hope, that freedom, liberty and equality along with sense of socio-political justice in real sense may help to raise the level of women empowerment in near future, in our country.

Keywords: Women education, issues and challenges, social mobility and social change.

ISCA-ISC-2018-16EduS-01-Oral

Effect of beginning a physics topic with self-study based scientific textual and visual literacy on attitude of senior secondary students: An intervention study

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Abstract: An intervention study was undertaken with senior secondary students pursuing the CBSE physics course involving read-to-learn self-study skill by acquiring the textual and visual literacy prior to the classroom instruction by the teacher. The objectives of the intervention were: i. to develop the demonstration material in a template to introduce the skill; ii. to make st udents to master the skill in guided and individual practice sessions; and iii. to study the reactions of students to the interventi on. In all, two hours spread over three 40-minute sessions each were carried out by the investigator. The intervention was link ed to home study and development of reading habit among students to work as readiness to the topic to be taken up by the tea cher. The reactions of students (N=50, age: 15-17 years, residential school setting) to the intervention were significantly posit ive when analysed through chi-square non-parametric statistical test with two degrees of freedom. The dominant comment w as that the background to topics will be developed and habit of reading to access information will be formed.

Keyword: Intervention study, read-to-learn skill, scientific literacy, study skill, topic readiness, visual literacy.

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17. Commerce, Law and Management

ISCA-ISC-2018-17CLM-Guest Speaker-01

Study on sustainability and green economy

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Abstract: "*The natural environment sustains the life of all beings universally.*"- Dalai Lama. Global alarming regarding the environmental control and simultaneously sustainability in different issues right from healthcare to the employment is focused by the researcher in his study. India is facing acute problem in environmental issues as focused by the government and different environmentalist. The outcome of the ASIA and the PACIFIC have already focused regarding the green growth and its economy in the context of sustainable development and solution for the reduction of poverty. Different environment challenges and their solutions have already been taken in the regional U.N meeting. The researcher finds that the reused, remanufacture and recycled is one of the most important and present environmental challenge in the society. During the last year, the Asia-Pacific region accounted for 65% of global domestic material consumption. Ms. Armida Alisgahbana in her study reflected, though innovative action could help sustain economic growth and improve social development. It is also observed from ESCAP analysis indicates incremental improvements in resource efficiency of just 1% in Asia and the Pacific could generate $275 billion worth of saving. The researcher finds that there are various typical environmental problems in and around the country and the people are suffering of pollution which is severely not only affecting the health but also tremendous adverse impact in agricultural sector. Hence, appropriate time has come regarding green economic growth and sustainability in different aspects. Researcher finds that this will be imperative in policy making for the total solution of environment and pollution simultaneously.

Keywords: Sustainability, green economy, environment.

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18. Library Sciences

ISCA-ISC-2018-18LS-01-Poster

A study of the contribution of teachers in knowledge repository

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Abstract: Today is the age of Information. In every area of universe information is seen as a powerful authority. This article reports on a study of academicians contribution towards knowledge repository. According to online oxford dictionary repository is an archive of scholarly publications in a particular subject area. This study is based on the Hemchandracharya North Gujarat University, Patan, Gujarat. 3316 is a total number of teachers of HNGU Patan affiliated college and department. The scholar has been taken 25% sample for his study. The Findings and suggestion are based on the sample. This paper discussed about contribution of teachers in knowledge repository.
Keywords: Knowledge, repository, teacher.

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19. Language, Literature and Culture

ISCA-ISC-2018-19LLC-01-Poster

Adoring of nature and spirituality in Sanskrit literature

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Abstract: Sanskrit is the mother of almost all modern Indian languages. It is now a dead language. But it deserves mention that Sanskrit is the most scientific language of the world. The more Sanskrit words included in an Indian language, the more developed it has become. In ancient India all the literatures were written in Sanskrit. There were great poets like Balmiki, Kalidas, Bhavabhuti, Varbi, Banbhatta etc. If their creations are looked into, it is found that they were very fond of nature. They were highly conscious of environment pollution also. Mankind is afraid of darkness and coldness. So, the sun, premier source of heat and light, was described as God. Air and water are inevitable for human being and animal. So, there also came the concept of relevant God. In this way we have shown how much the Sanskrit literature is rich in naturalism and spiritualism.

Keywords: Naturalism, spiritualism, pollution.

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20. Social and Humanity Sciences

ISCA-ISC-2018-20SH-Guest Speaker-01

Reformative action of Jihad among Islamic Sharia

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Abstract: Islam means submission and peace (Salam); It originated early seventh century CE(610CE) in the Arabian old merchant, Muhammad Ibn Abdullah commonly received a series of revelations from God collectively known as Quran which direct and in alterable word, reflect views in its own words, the symbol and embodiment of intimate relationship between God and human kind. It was a guide to those in awe and fear (of God). Complementing the Quran is the voluminous record of Mohammad's life known as the Hadith which conveys the sunna or 'Traditions'. Sharia is the basis of Islamic law. In Quran, Jihad is understood as struggling in the name of, or in the defense of the faith of God. Two kinds of struggle or war are being referred, the internal struggle within community and external struggle outside community. The Quran and Hadith speak of the need, under such circumstances, for Muslim to take up "the sword in defense of the faith. The reformative actions were taken time to time. Many treaties directives were in forced to stop Jihad. The Government of all countries work as the directive of International Law of struggle. But some Islamic communities were still in forcing Jihad such as Taliban, ISIS, etc. This lecture is an effort to analyze and express the reformative summary of struggle time to time in accordance to Islamic Jihad to struggle for different countries as well as internal Jihad among Islamic communities.
Keywords: Reformative, Jihad, Islamic Sharia.

ISCA-ISC-2018-20SH-01-Oral

Queer sexuality: from secrecy to visibility: a study of Indian Cinema

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Abstract: The study seeks to examine the representation of queer sexuality in Hindi cinema during modern era. The visibility and inclusion of queer sexuality that shifted from secrecy and camouflage is the reclamation of the text. The departure from barring to insertion of queer sexualities is the essence of the study. This study investigates the potentiality of cinema and its representation, and how cultural identities are produced and maintained through performativity in heterosexual discourse. The main body of research consists of Hansal Mehta's *"Aligarh"*. This film is based upon real life story of Professor Ramchandra Siras who was a Professor of Modern Indian Language at Aligarh Muslim University who got suspended in Aligarh Muslim University on the ground of morality for being 'gay'. The study examined different space of queer and also how "imaginary" alternative sexualities projected before audience. In order to contextualise this study; this study has examined the relationship between different social institutions and alternative identities by focusing around the theoretical and historical debate. In adding to this, the analysis of different discourses and discussions around queer identity, an identity of queer became subject in twentieth century and the public sphere spin the issues virtually and visually both. This study investigates the potentiality of cinema and its representation, and how cultural identities are produced and maintained through performativity in heterosexual discourse. In other words, the purpose of the research is to ask: how does Hindi cinema depict an image of homosexuality and their problems and issues is shown to Indian audience.
Keywords: Sexuality, representation, Hindi cinema, homosexuality, queer.

ISCA-ISC-2018-20SH-02-Oral

What went wrong and why the strategy of tribal development failed in India?

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Abstract: Despite the growing importance attached by social scientists to the study of tribal development and the consequent prolific growth of literature on the subject, one has reasons to feel dissatisfied with the status of tribal research in India, which is marked, by and large, by a low level of sophistication. No serious attempts have been made even to conceptualize the term 'tribe', and social scientists have willy-nilly accepted a legalistic definition. For them tribes are those which are included in the Scheduled Tribes list in the Constitution of India. The review of several research articles on tribal development in India shows that even after more than seven decades we are no nearer to the solution of the problem related to tribal development in India The number of tribes listed following the 1956 Presidential Notification differ greatly in their habitats, modes of production, degree of isolation, degree of acculturation, level of development, social customs, beliefs and so on. The anthropologist's conception of a tribe as a small, culturally distinct and economically self-sufficient community

with a language of its own and an autonomous political organization is utterly inappropriate to the so-called tribal groups in India. Present article also discussed and raised the important question and quire about the developmental issues, even though several steps have been taken but things appear to be more muddled than before. Schemes after schemes have been conceived and implemented. Most of them have failed. In most cases the tribal life has worsened. What went wrong? Where did it go wrong? Is our definition of development at fault? Our perception of the problem is erroneous? The programmes we have conceived and implemented are at variance with the target we have set? Do we have a target at all? I think all these have contributed their mite to the muddle. We are unable to find a single statement as regards the strategy of tribal development in India. No policy paper exists on this important subject, though millions of rupees have already been spent in the name of tribal development!

Keywords: Tribal development, India, tribal research, schemes, tribal economy.

ISCA-ISC-2018-20SH-03-Oral

Socio economic analysis of women workers in India

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Abstract: In India there is a major role of women in working. Out of total population of female in India, 25.41% of the female are working in one or another sector. In India Unorganized or informal sector constitutes a pivotal part of the Indian economy. More than 90 per cent of workforce and about 50 per cent of the national product are accounted for by the informal economy. A high proportion of socially and economically underprivileged sections of society are concentrated in the informal economic activities. India is a traditional country and there is diversity in religions, culture and customs. Role of the women in India mostly is household and limited to domestic issues. Informal employment is generally a larger source of employment for women than for men in the developing world. The informal economy in India employs about 86 per cent of the country's work force and 91 per cent of its women workers. Many of these women workers are primary earners for their families. Their earnings are necessary for sheer survival. Majority of women work in unorganized sectors for low wages due to low level of skills, illiteracy, ignorance and surplus labour and thus face high level of exploitation. The social and economic profile of female worker is greatly affected by the nature of industrial sector where they work. This paper tries to know the status the female workers and their participation in working. The socio-economic status of the women workers are also miserable due to one or another reason. The Socio-Economic is also been interpreted by the results of the prior studies.

Keywords: Unorganized sector, status of female workers, socio-economic profile.

ISCA-ISC-2018-20SH-04-Oral

The study that cause depression on the student of medical by the usage of internet in national capital region of Delhi, India

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Abstract: The internet addiction refers to the excessive use of internet which in turn causes various problems in individual, social and professional aspects. The present study is an attempt to find out the relationship between Internet addiction and Depression among medical students in NCR. An analytical cross sectional study was done among 350 medical students from selected medical colleges in NCR. A self-administered semi-structured questionnaire was developed to collect socio demographic, academic and internet use related data. Internet addiction related data were collected by a closed ended, self-administered questionnaire, Young's Internet Addiction Scale (IAT), were used to collect research data from informants. Depression was assessed using the Beck's Depression Inventor. The data were analyzed by using the Statistical Package for Social Science (SPSS 16). Collected data were analyzed by descriptive statistics (frequency distribution, percentage mean and standard deviation) and Chi-square test were tried to find out the relationship between dependent and independents variables. Statistical significant was set at 90%Confidence Interval. 70.7 % (n=250) of the respondents were female and 29.3% (n=92) of the respondents were male participants. Mean age was 21, minimum age was 18years and maximum age was 25 years. 12.6 % 9.1%, 43.4%, 21.4%, 10% of the respondents had borderline depression, mild depression, moderate depression, severe depression, extreme depression respectively. Prevalence of internet addiction was 76.86%Other than depression internet addiction has significant association with good academic history, academic problem, spending time with family, time spending on internet use per day and purpose of internet use Depression has a significant association with time spending with friends.

Keywords: Cause, depression, student, medical, internet.

ISCA-ISC-2018-20SH-05-Oral

Changes in marriages and dowry among Islamic officers class women – a study

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Abstract: Islam refers the act of submission along with its consequences that is peace (salam). It origins to events that unfold in the early seventh century CE in the Arabian town of Mecca. The tradition teaches that a forty-year old merchant Muhammad Ibn Abdullah (Prophet or messenger of God), received a series of revelations from God beginning in 610 CE. These revelations collectively known as the Quran; is a guide there is awe and fear. Complementing the Quran is voluminous record of Mohammad's life known as Hadith, which conveys the sunna (tradition). Thus the Quran and Hadith function in synthesis and together serves as the central source of Islamic religions and legal guidance those interpreting known as Ulema; emerged a complex code of regulations called Sharia, which forms the basis of Islamic laws. In Islamic law, marriages (nikah) is treated as a contract between two parties usually two families. It entails oaths of loyalty, respect ad support on the part of both patterns and before God. Marriage contracts stipulate that the husband provide a dowry which becomes the wife's property. Due to advancement and modernization of society, whether changes in Islamic marriages and dowry system in respect to educational, values and believes, dressing, food or feeding and status among Muslim officers class women? The study was an attempt on afore mentioned issues. To analyze the degree of changes among Muslim officers class women in respect of five component as mentioned above. The study was carried at Officer's Colony Mahanagar and Dalibagh of Lucknow city. A total fifty sample families were selected for the purpose of study. It was observed from highest changes i.e. First order (i.e. in all components); observed avg.; 8%, Second (i.e. four components) 6%; Third (i.e. three components); 18%, Fourth order (i.e. two components); 28% and Fifth order (i.e. one components); 30% and no changes at all; 10%.
Keywords: Changes, marriages, dowry, Islamic officers.

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21. Supplementary abstract of all sections

ISCA-ISC-2018-2AVFM-06-Oral

Comparison of traditional and modern methods for identification of *Plasmodium* species

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Abstract: Malaria remains the most important parasitic disease. Early diagnosis of infectious diseases is essential to prevent the long-term effects of emerging public health threats and to reduce disease burden. However, any single institution may see only a very few cases, this is probably the reason why laboratory and clinical misdiagnosis may not be uncommon. Traditionally thick and thin Giemsa staining was used for the identification of *Plasmodium vivax*. Examination of Quantitative buffy coat after staining with acridine orange is also used now days. Rapid Diagnostic test (RDT) a rapid color immunochromatography assay for qualitative determination of malaria parasite is the most convenient method for the identification of different species of *Plasmodium*. The present study has been carried out to find out the accuracy and authenticity of different techniques for the identification of malarial parasites. The investigations were carried out in 104 patients suffering from malaria caused by *Plasmodium vivax*. Out of the 104 Patients, 94 patients were positive by the Giemsa staining, 85 patients showed positive result for Florescence Microscopy (QBC) and 101 patients gave positive result for Rapid Diagnostic Test.

Keywords: Malaria, *Plasmodium vivax*, Giemsa stain, Fluorescence Microscopy (QBC), Rapid Diagnostic Test (RDT).

ISCA-ISC-2018-3BS-19-Oral

The study of changes in digestive enzyme activities of Eudrilus eugeniae exposed to lower (11^0C) and higher (33^0C) temperature for 24 hr.

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Abstract: Earthworm is one of the most important biotic factor. Earthworm are ecologically important in field hence there is an economic in intesting side effect of environmental factors like temperature, salinity, pollutants etc. on biological aspects. The earthworm can be used as a key bio indicator organism to acess environmental quality. In this study, earthworm *E.eugeniae* were exposed to lower (11^0C) and higher temperature (33^0C) Changes in digestive enzyme activities of *Eudrilus eugeniae* exposed to lower and higher temperature for 24 hr. Amylase activity in the control earthworm *Eudrilus eugeniae* was found to be 1.3mls, at 11^0C was found be 1.4ml (6.15% increase) and at 33^0Cit was found be 1.5ml (16.15% increase). Lipase activity in the control earthworm *Eudrilus eugeniae* was found be to 6.3ml. At 11^0C was found be 6.67 (5.87% increase) and at 33^0C was found be 7.2 (15.4% increase). Protease activity in the control earthworm *Eudrilus eugeniae* was found to 8.14mls, at 11^0C was found be 8.56 (5.67% increase) and at 33^0C was found be 9.4 (15.4% increase). Overall effect of temperature on earthworm *Eudrilus eugeniae* indicates that there is an increase in enzyme activity after exposer to both lower and higher temperature. The increased rate of amylase, lipase and protease activities were statistically significant ($P< 0.05$) at 33^0C.

Keywords: Earthworm, temperature, amylase, lipase, protease.

ISCA-ISC-2018-3BS-20-Oral

A learned forensic ecologist could play a vital role in investigation of crime

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Abstract: The analysis of plants, insects, soil and other particulates from scenes of crime can be vital in proving or excluding contact between a suspect and a scene, targeting search areas and establishing a time and place of occurrence. In nature, organisms, part of organisms and their physio-chemical environments, all occur in infinite combinations. Ecosystem can overlap and merge one into another, and there are many transitional situations. Many organisms are capable of being retrieved from crime scenes and other relevant locations, exhibits and cadavers. They can, therefore provide valuable material evidence. Some organisms are highly specific in their ecological requirements, and may have restricted ecological distribution, while others are less demanding and have very wide distributions. This does not mean that they have no value in forensic investigation. Forensic ecology has been developing at a speed these days. The forensic ecologist must have a broad background with all knowledge of ecosystem processes. Scene of crime processing requires much knowledge about decomposition processes on the surface, within various soil types, and in still and flowing water. However, the forensic

scientist at the crime scene, must be able to highlight the potential of a wide range of organisms, involving estimation of body deposition time, demonstration of offender pathways and events at and around an offence. All science disciplines need to be integrated early during a criminal investigation.

Keywords: Forensic ecology, criminal investigation, decomposition, scene of crime.

ISCA-ISC-2018-3BS-09-Poster

Comorbidity and intersection of molecular pathways in TB and DM

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Abstract: Tuberculosis (TB) is a major health burden, especially in developing countries and the continuously evolving mycobacterium tuberculosis pathogen posses a challenge against the scientific community working towards its eradication. TB control is now further complicated by non-communicable diseases (NCDs). Diabetes mellitus is one of the major NCD which is positively associated with TB. Also, both the diseases have high prevalence among low to medium income countries. Several studies suggest that the severity of TB i.e. higher mycobacterial load was found more in DM-TB patients. Further, there is higher risk of T2DM with Latent TB (LTB) infection in endemic TB countries or risk of active TB from LTB patients with T2DM. Glucose and lipid metabolic pathways were most commonly explored by several researchers to link these two diseases. Recently, low grade inflammation (Metaflammation) has been suggested with immunometabolism as common features among the two diseases. As there are common intersecting molecular pathways which need to be explored for therapeutic intervention and efficient management of these diseases, and since, no concrete correlations of molecular markers among the two diseases have been established. There is an urgent need to explore the underlying pathways for curbing the TB-DM co-morbidity. Thus, pre-diabetic screening in TB endemic countries might shed light on the prevalence pattern of these diseases, and the molecular studies in these patients may help in understanding the pathways through which the occurrence of TB is facilitated in DM.

Keywords: NCDs, metaflammation, immunometabolism, LTB, T2DM.

ISCA-ISC-2018-4CS-07-Poster

6,6',8,8'-tetramethyl-7,7'-bi-1,3,5-triazocine-2, 2',4,4'(3H,3'H,7H,7'H)-tetraimine, a polymeric Schiff base and its derivatives with promising antimicrobial and DNA-Photo cleavage activities

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Abstract: Present study describes the synthesis, spectral and biological investigations of novel Schiff base ligand obtained in the form of a polymer (heptamer) by reaction of 3,4-diacetyl-2,5-hexanedione and hydrazine hydrate in ethanol. Its complexes with transition metals viz. Cu, Ni, Zn, and Co have also been synthesized the ligand and its metal complexes show effective DNA-Photo cleavage and anti-angeogenic activities. The structural identification of ligand and its metal complexes was carried out by advanced spectroscopic techniques. The free ligand and their metal complexes have been screened for their in-vitro biological activities against bacteria; *Staphylococcus aureus*, *Klebsiella pneumonia* and fungi; *Aspergillus niger*, *Trichophyton rubrum.* The metal complexes showed more potent activities as compared to Schiff base ligand.

Keywords: 3,4-diacetyl-2,5-hexanedione, hydrazine hydrate, DNA-Photo cleavage activities, antimicrobial activities.

ISCA-ISC-2018-7EEAP-04-Oral

Auroville: a living laboratory

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Abstract: The word innovation has always been involved with the human. For this thirst of innovation, human has performed many experiments. Most of these experiments may have resulted in failure but some of them have given us tremendous success and has helped us in the continuous development process. In a similar pattern, at the beginning months of the year 1968, Mirra Alfassa, also known as 'The Mother' did something which no one had done before. She founded an experimental city named as 'Auroville' in pursuit of human unity. Auroville also known as 'City of Dawn' is recognised as the first and only internationally endorsed (by UNESCO) on-going experiment in human unity and transformation of consciousness. This paper is an attempt to give an overview along with some of the key features of this experimental city of India and its link with

sustainable development goals (SDG). We have also tried to discuss how Auroville can prove to be a path defining experiment for the human race.

Keywords: Architecture, experimental town, living laboratory, planning, sustainability.

ISCA-ISC-2018-10FCC-01-Poster

Utilization of sacred marigold flowers for natural dye and its application

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Abstract: Marigold is a symbol of celebration. It has been in great demands during festivals and all kinds of social ceremonies for decoration. Besides, it is one of the most important offering flowers. The waste generated by decoration at social ceremonies is often disposed in the community waste bins but, the floral waste generated from the temples and tombs is considered as sacred and is seldom disposed off in community waste bins along with the rest of the garbage. People generally throw them in open land available nearby or into the water bodies, causing land and water pollution. Sustainable management of this floral waste is a challenge faced in many metropolitan cities and small towns as well. In the present study an attempt was made to utilize the sacred marigold flowers obtained from religious places for extracting the natural dye. The extracted natural dye was applied on cotton and wool to add value to the products to earn an extra profit by the entrepreneurs. It would be of immense importance to the home based handicraft enterprises and to the agencies working at the grass root level for training the rural artisans in the art of natural dyeing and product making. Value creation and innovation through enterprise based on locally available natural resource essentially provide a means for the alleviation of unemployment and poverty. Thus, it can be promoted as a potential mechanism to maintain the environmental sustainability and to promote green economy.

Keywords: Green economy, handicraft, natural dye, marigold, and sacred flowers.

ISCA-ISC-2018-12MSS-04-Oral

Multi stage flow shop scheduling model with equipotential machines

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Abstract: This paper deals with scheduling of n-jobs on three machines with k-parallel for the first machine. The cost matrix of all jobs on all parallel machines is given. The processing time of all the jobs on all the machines is given along with their probabilities. Our aim is to find an optimal schedule of jobs in order to minimize the total elapsed time of the jobs. The concept is made clear with the help of numerical example.

Keywords: Flow shop, Scheduling, parallel machines.

ISCA-ISC-2018-12MSS-05-Oral

Dynamical response of Laser pulse heating in micropolar thermoelastic cubic crystal

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Abstract: The deformation under the effect of laser pulse heating in a micropolar thermoelastic solid with cubic symmetry has been investigated. The expressions for components of normal displacement, temperature distribution, normal force stress and tangential couple stress for the considered solid have been obtained using normal mode analysis technique. The effect of anisotropy, microrotation and laser pulse heating on the derived components have been depicted graphically.

Keywords: Thermoelasticity, cubic symmetry, laser pulse, normal mode.

ISCA-ISC-2018-13PCS-03-Oral

Effect of Tulsi (ocimum sanctum) in metabolic related dis order resulting as adaptogen

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Abstract: Tulsi is indigeneus to the Indian continent whitin the ayurvedic and siddha medical system it have multiple therapeutic actions inculuding anti microbial cordio protective etc. effects. The Practicals Conducted to review of human

studies that reported on a Clinical out come after ingestion of tulsi. This practicals reported theraptic effects on metabolic dis order, cordio vascular disease, immunity etc. identified. All studies and practicals reported favourable clinical out comes with no studies reporting any singnificant adverse events the reviewed of our studies suggest that tulsi is an effective treatment for many diseases inculuding diabeties, metabolic syndrome and psychological stress. This Practicals and studies explore mechanisms of action of tulsi.

Keywords: Antimicrobial, cordio prodective, cardio vascular disease, diabeties, metabolic syndrome, psychological stress.

ISCA-ISC-2018-13PCS-04-Oral

Severity in rheumatoid arthritis: new insights and treatment strategies

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Abstract: Rheumatoid arthritis a progressive and disabling autoimmune disease, has significant economic implications for individual patients as well as for the society. Rheumatoid Arthritis affects three times more women than men. Progress in the treatment of Rheumatoid Arthritis in the last two decades has been remarkable, leading to substantial improvements in the quality of life for many patients. The advent of pathogenesis-led therapeutics has generated growing armamentarium of effective medicines available to the practitioner. Current strategies emphasize the need for early diagnosis and therapeutic interventions based on the use of disease modifying anti-rheumatic drugs. These newer medications have shown great promise at improving disease outcomes, but they come with notable side effects that can pose long-term treatment challenges and difficulties in the perioperative field. Development of newer biologic agents working on different pathways of inflammation is underway in different stages. Biological anticytokine agents, etanercept, infliximab and anakinra, are now available for use in rheumatoid arthritis. Early therapy requires early diagnosis which depends on early referral and criteria that allow recognition of early disease. This will have to be overcome with implementation programmes and supportive measures. Recent studies have indicated that a treatment delay of three to six months may already result in considerable joint damage, which is largely irreversible. Early treatment as a measure of prevention of disabling late disease seems to be within reach. Creating the right conditions for implementing this new principle is one of the great challenges of future medicine. With the above mentioned caveats in mind, extrapolating recent improvements in treatment, including data with biological agents to the future, it seems reasonable that treatment of rheumatoid arthritis as early as possible will become a standard procedure.

Keywords: Rheumatoid arthritis, auto-immune, anti-arthritic agents, TNF-α, interleukin.

ISCA-ISC-2018-14PhyS-03-Oral

Chemical characterization of atmospheric aerosol using Raman spectroscopy from the environment of Pune city, India

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Abstract: Raman spectral measurements were carried out using Raman spectrometer available in university of Pune. For these purpose, the atmospheric aerosol samples are collected on the glass plate on Tilak aerosols sampler. We have collected the aerosols samples from the Pune city and in the vicinity of industrial area of Bhosari. For the comparative studies of these two sites, aerosol samples Pune city is collected on the terrace of H.V. Desai College which is in the heart of the Pune city. Both the samples are collected for the period of 8 days by running the sampler continuously for 24 hours. Spectra is collected using the laser source of wavelength 633 nm and power of 25mW with the integration time of 10 sec. We used Raman spectroscopy to characterize variety of atmospheric aerosol particles based on Raman spectra which is collected using Raman spectrometer.

Keywords: Raman spectra, sampler, aerosol, industry, pune city.

ISCA-ISC-2018-17CLM-01-Oral

Identification of delay factors while implementation of projects (with specific reference to solar power projects in Dehradun, India)

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Abstract: Over 40% of Indian construction projects are facing time overrun ranging from 1 to 252 months; the reasons for which are being studied by researchers to find out most significant factors out of those. This paper identifies 20 attributes

responsible for impacting performance of the projects of EPC Organization. This study investigates those 20 factors by using Exploratory Factor Analysis to determine the factor that put a significant impact on the performance of an EPC organization. Under this study authors has examined 20 factors and tried to find out their impact on by the means of a self-designed questionnaire. Author has examined 200 potential respondents working in an EPC organization. We found that Delay due to Material and Manpower, Financial and Environmental delays, Delays due to changes, Legal delays were showing significant impact on performance of an EPC organization.
Keywords: EPC organization, exploratory factor analysis, self-designed questionnaire, material and manpower, financial and environmental delays, delays due to changes, legal delays.

ISCA-ISC-2018-17CLM-02-Oral

A comparative study of credit growth and NPA of all commercial banks groups in India

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Abstract: As an economic institution, the bank is expected to be more direct and more positively related to the performance of the economy than the most of non economic institutions. Bank can be described as the kingpin of the chariot of economic development. Banks are not merely dealers in money but are in fact dealers in development. Banks are very important instrument of micro-economic stability of an economy. As an instrument of credit creation as well as of credit control, commercial banks can check both inflation and deflation in the economy. In fact the central bank of the country depends on the commercial banks for the success of its monetary policy, keeping in view the different requirement of a developing economy.
Keywords: Credit, growth NPA, commercial banks.

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