9th International Science Congress

ISC-2019

8th & 9th December-2019

SOUVENIR

Focal Theme: Exploring the Transformations and Dynamics of Global Economy

organized by

International Science Community Association

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

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Durg, Chhattisgarh, India

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9th International Science Congress

ISC-2019

www.isca.in, www.isca.me

8th & 9th December-2019

Focal Theme

Exploring the Transformations and Dynamics of Global Economy

SOUVENIR

Organized by

International Science Community Association

(Registered under Ministry of Corporate Affairs, Government of India)
Krishnaashraya, 427, Palhar Nagar, RAPTC, VIP- Road, Indore-452005, MP, India

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Durg, Chhattisgarh, India

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ISC- 2019 Inaugural Ceremony

Sunday, 8th December 2019, Time 10:00 am

Inauguration By

Dr. M K Verma
Vice Chancellor
Chhattisgarh Swami Vivekanand Technical University,
Bhilai, CG, India

Dr. Mohamed Buheji
Founder of International Inspiration Economy Project & Institutes,
Bahrain University (Retired), Bahrain

Shri Vijay Gupta
Chairman, Board of Governor
BIT Trust, BIT, Durg, CG, India

Shri I. P. Mishra
The Member Secretary,
BIT Trust, BIT, Durg, CG. India

ISC-2019 Valedictory Ceremony

Monday, 9th December 2019, Time 03:30 pm

Felicitation By

Dr. Mohamed Buheji
Founder of International Inspiration Economy Project & Institutes,
Bahrain University (Retired), Bahrain

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Principal, BIT, Durg, CG, India

Dr. Ravi Sharma
Professor and Head
Department of Physics, Govt. Arts & Commerce Girls College, Raipur, CG, India

Dr. Alka Tiwari
Professor,
Govt. Vishwanath Yadav Tamaskar Post Graduate Autonomous College, Durg, CG, India

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ISC-2019 Souvenir Editorial Board

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Conference Coordinator
Professor, Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

9th International Science Congress (ISC-2019)

8th - 9th December 2019
at
Bhilai Institute of Technology
Bhilai House, Durg,
Chhattisgarh 491001, 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. 2019	Registration & Breakfast	Inaugural Ceremony	Plenary Sessions	Lunch & Interaction	Guest Lecture/ Oral Presentations	Oral Presentations	Tea
9th Dec. 2019	Breakfast & Poster Presentation	Oral Presentations	Oral Presentations	Lunch & Interaction	Oral Presentations	Valedictory Ceremony	Certificate Distribution & Tea

Note:

Date 8th December 2019

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 2019

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*

10th International Science Congress (ISC-2020)

Focal Theme: Global Research on Holistic Growrth and Integrated Development

8th and 9th December 2020

Organized by

International Science Community Association

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

in collaboration with

University of Science & Technology, Meghalaya, India

There are twenty sections namely: 1.Agriculture, Forestry and Horticulture, 2.Animal, Veterinary and Fishery, 3.Biological Sciences, 4.Chemical Sciences, 5.Computer and Information Technology, 6.Earth and Geology, 7.Engineering, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8.Environmental Sciences, 9.Forensic, Medical, Dental and Nursing, 10.Family, Community and Consumer, 11.Material Sciences 12.Mathematical and Statistical Sciences 13.Pharmaceutical Sciences, 14.Physical Sciences, 15.Physical Education and Sports, 16.Educational Sciences, 17.Commerce, Law and Management, 18.Library Sciences 19. Language, Literature and Culture 20.Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO.

Publication of Abstract in E-Souvenir with ISBN No., 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	:	30th November 2020
	Early Registration	:	31st May 2020
	Acceptance of Abstract upto	:	30th November 2020
	Last date of Submission of Full Paper	:	30th November 2020
	Late registration fees	:	From 1st June 2020

Registration Contribution

	Indian	**SAARC**	**Foreign**
Before June 1st, 2020			
Delegates	Rs. 2550/-	$ 45	$ 75
Research Scholar	Rs. 2050/-	$ 40	$ 50
Spouse/Others	Rs. 1550/-	$ 30	$ 50
From July 1st, 2020 to July 31st, 2020			
Delegates	Rs. 2750/-	$ 45	$ 100
Research Scholar	Rs. 2050/-	$ 40	$ 50
Spouse/Others	Rs. 1550/-	$ 30	$ 50
From August 1st, 2020 to August 30th, 2020			
Delegates	Rs. 3050/-	$ 60	$ 125
Research Scholar	Rs. 2250/-	$ 50	$ 75
Spouse/Others	Rs. 1550/-	$ 30	$ 50
From September 1st, 2020 to September 31st, 2020			
Delegates	Rs. 3250/-	$ 60	$ 125
Research Scholar	Rs. 2550/-	$ 50	$ 75
Spouse/Others	Rs. 1550/-	$ 30	$ 50
From October 1st, 2020 to October 31st, 2020			
Delegates	Rs. 3550/-	$ 75	$ 150
Research Scholar	Rs. 2750/-	$ 50	$ 100
Spouse/Others	Rs. 1550/-	$ 30	$ 50
From November 1st, 2020 and November 30th, 2020			
Delegates	Rs. 3750/-	$ 75	$ 150
Research Scholar	Rs. 3050/-	$ 50	$ 100
Spouse/Others	Rs. 2050/-	$ 30	$ 50

Registration contribution from December 1st to 7th, 2020 and on the spot, visit website

6th International Young Scientist Congress (IYSC-2020)

Focal Theme: Global biodiversity and Economic development

&

Workshop on Intellectual Property Rights

8thand 9th May 2020

Organized by

International Science Community Association

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

in collaboration with

Graphic Era Deemed to be University, Dehradun, Uttarakhand, India

www.isca.in,www.isca.net.co

There are twenty sections namely:

1.Agriculture, Forestry and Horticulture, 2.Animal, Veterinary and Fishery, 3.Biological Sciences, 4.Chemical Sciences, 5.Computer and Information Technology, 6.Earth and Geology, 7.Engineering, Energy, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8.Environmental Sciences, 9.Forensic, Medical, Dental and Nursing, 10.Family, Community and Consumer, 11.Material Sciences 12.Mathematics and Statistics 13.Pharmaceutical Sciences, 14.Physical Sciences, 15.Physical Education, Sports and Yoga, 16.Educational Sciences, 17.Commerce, Law and Management, 18.Library Sciences 19. Language, Literature and Culture 20.Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO.

Abstracts will be published in Souvenir E-Souvenir ISBN 978-93-86675-90-3 Paper Publication in "Research Journal of Recent Sciences" (ISSN 22772502).

Award: 20 International Young Scientist Award (Each Section)

Important Dates	
Conference & workshop Date	8th - 9th May 2020
Submission of Abstract (E-Souvenir with ISBN) upto	30th April 2020
Early Registration	31st January 2020
Acceptance of Abstract upto	30th April 2020
Last date of Submission of Full Paper	30th April 2020

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

From 1st Jan. to 31st Jan. 2020	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	2250/-	50
Spouse/Others	1550/-	50
From 1st Feb 2020 to 31st Feb. 2020	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	2550/-	80
Spouse/Others	1550/-	50
From 1st March 2020 to 31st March 2020	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	2750/-	80
Spouse/Others	1550/-	50
From 1st April 2020 to 30th April 2020	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	3050/-	100
Spouse/Others	1550/-	50
From 1st May 2020 to 7th May 2020	**Indian / SAARC**	**Foreign**
Delegates/ Students/ Research Scholar	3250/-	100
Spouse/Others	1550/-	50

Registration contribution from May 8th & 9th on the spot, visit website

Abstracts / Papers should be submitted at earliest by email:

iyscongress@isca.net.co , iyscongress@gmail.com

7th International Virtual Congress (IVC-2020)

Focal Theme: Global Research: Attitude, Skills, and practices

&

Workshop on Communication Skills

5th - 10th August 2020

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

Organized by

International Science Community Association

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

There are twenty sections namely:

1. Agriculture, Forestry and Horticulture, 2. Animal, Veterinary and Fishery, 3. Biological Sciences, 4. Chemical Sciences, 5. Computer and Information Technology, 6. Earth and Geology, 7. Engineering, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8. Environmental Sciences, 9. Forensic, Medical, Dental and Nursing, 10. Family, Community and Consumer, 11. Material Sciences 12. Mathematical and Statistics 13. Pharmaceutical Sciences, 14. Physical Sciences, 15. Physical Education and Sports, 16. Educational Sciences, 17. Commerce, Law and Management, 18. Library Sciences 19. Language, Literature and Culture 20. Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO

Benefits:

- ✓ Abstract will publish in E-Souvenir with ISBN 978-93-86675-55-2.
- ✓ Paper Publication in "Research Journal of Recent Sciences" (ISSN 22772502).
- ✓ 20 International Best Presentation Award (each section)
- ✓ Two certificates (conference and workshop)
- ✓ Contribution for Fellow Contributor: INR 750, USD 30

Important Dates	
Conference and Workshop Date	5th- 10th August 2020
Submission of Abstract (E-Souvenir with ISBN) upto	4th August 2020
Acceptance of Abstract upto	4th August 2020
Last date of Submission of Full Paper	4th August 2020

Abstracts / Papers should be submitted at earliest by email:
conferenceivc@gmail.com, conferenceivc@isca.net.co

Registration contribution for conference and workshop:

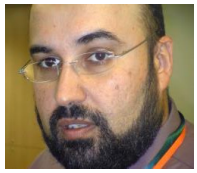
Upto May 31th, 2019	**Indian**	**SAARC**	**Foreign**
	Rs. 1050/-	$ 30	$ 40
From June 1st, 2018 to June 30th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 1350/-	$ 40	$ 50
From July 1st, 2018 to July 31th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 1650/-	$ 45	$ 80
From August 1st, 2018 to August 4th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 2000/-	$ 50	$ 100
From August 5th, 2018 to August 10th, 2018	**Indian**	**SAARC**	**Foreign**
	Rs. 2250/-	$ 50	$ 100

CONTENTS

Dr. Snehal Satish Shastri Memorial Lecture

ISCA-ISC-2019-Planery Session-01

Designing a Curious Life for Multi-Disciplinary Scholars



Dr. Mohamed Buheji
Founder of International Inspiration Economy Project and Institutes,
Bahrain University (Retired), Bahrain
buhejim@gmail.com

Abstract: In order to explore and sustain a multi-disciplinary unbiased scholar mindset we need to design our life to be full curiosity. This paper targets to help the multi-disciplinary researcher to identify and then choose the paths of what and why to be curious about in their life journey. Then to design a deeper curiosity stage to explore an integrated challenge with passion with different types of curiosity modes. Curiosity anatomy and psychology are discussed to give importance of 'why scholars should design and live a curious life?'. Then, 'what is the importance of curious life to the scholar learning and development?'. Then, the paper would conclude with focused recommendations on 'how the curiosity of the scholars would differ when they try to find the right problem, orthe right solution, but from multi-disciplinary perspectives?'.
Keywords: Designing, curious, life, multi-disciplinary.

Dr. Preeti Choudhary Memorial Lecture

ISCA-ISC-2019-Planery Session-02

Relevance of the Research Tool of *Vedic Rishis*, Today

Dr. S. Ramakrishna Sharma
Founder and Managing Trustee, Foundation for Indian Scientific Heritage Trust, Mangalore, Karnataka, India
vedic.conf@gmail.com

Abstract: *Veda Mantra* empowered, with *Yoga-Tantra* trained and developed Mind is the research Tool of the *Vedic Rishis*. This most environment friendly self-sustaining Tool can assure all round development of Humanity. Hence it is immensely relevant today. "What is Dead and What is Living in Indian Philosophy" – a left wing book perhaps paved the way for another killing remark, "Sanskrit is a Dead Language". Even authors like Dr S Radhakrishnan were not able to show the living pulse of this perennial language of Indian scientific heritage and cultural literacy. Fritz Stall who explored the "*AthirAtram*" *Vedic Yaga* in Kerala called the *Vedas* "Meaningless Bird Song". Indian researchers, with similar outsider mindset, failed in decoding the *Veda Vidya*. Keeping this crucial and suicidal blot in view, an International Conference (21-23rd January 2011) on Decoding *Veda Vidya* and Traditional Resources for Rediscovering Indian Scientific Heritage was coordinated by this speaker/researcher in Udupi, Karnataka. One of the highlights of this conference was this:The failure of the Indologists is due to the reason that before evaluating any knowledge discipline (*Vidya*) it is necessary to study the approach to it, as defined by the very discipline. In other words, the approach to the *Vedas* ought to be the approach of the *Vedas* to the *Vedas*. "Chanting of the *Veda Mantras*, *Vedocharanam*, is a unique oral discipline in India, Bharatam. It involves scientific applications of measured time scales, acoustics, trained memory, conscious and controlled efforts of the speech apparatus, brain and neural system, alert and steady mind, and the chanter's unbroken stream of consciousness. Hence to understand the scientific basis of *Vedic* chanting a multidisciplinary approach is necessary." The above observation on *Vedic*approach logically leads to the need for further research on the language of the *Vedas* which is the Tool of preserving and perpetuating the Intangible Heritage of humanity, namely the *Vedas* as declared by the UNESCO. It is intangible because no Script Language is involved and since thousands of years the *Veda Mantras* have been living in the consciousness of generations till this day through OralTradition. This perennial *Veda Bhasha* is essentially a series of sound sequences called the *Mantras* which are seen by the *Vedic Rishis*. A *Rishi* is one who saw the *Mantra* and articulated it orally, making it audible to the listeners.This speaker presented a paper in Karnataka Sanskrit University Conference, 13-14th July 2011.Bangalore, on the extraordinary experiential episodeof "*ChandOdarshanam*" in a commentary recorded by Kavya Kanta Vasishta Ganapathi Muni when his disciple Devarata Sharma of Gokarn had uttered a series of hitherto unknown *Mantras* during *samadhi*. (19th Century). Sri K.S Nithyananda of Veda VijnanaMandiram of Chikmagalur, Karnataka brought out a collection of 2000+ *Mantras* in *Gayathri Chandas*, which are hitherto unknown and unpublished. (21st Century). These two episodes point out to the fact that "*Vedic* Period" is a misnomer, a myth created by the vested interests who cannot digest what is valid and genuine in #BharateeyaParampara. This speaker had participated in the 28 Days long *VajapeyaYaga* (2013) in which these *Mantras* were applied by Sri K.S Nithyananda. A very significant aspect of the *Veda Bhasha* is that besides it

did not have Script Language, in the context of oral tradition, it has a dynamic Four Level System Language (*ChatvAri Vaak*) which can be intuited ONLY through the applications of *Yoga-TantraVidya*, the discipline of *Yoga* and *Tantra*. Again, these two disciplines are also intangible heritage of Bharat. The UNESCO did accept and declare that the *Yoga*/*Yogic* Science is also considered as intangible heritage. Of course, *Tantra* is popularly, wrongly labelled and listed as *Tantric* Sex, especially in and by the West. A discussion on this topic would be a digression here. A Capsule of Insights into Sanskrit as a Research Tool – a brief note, was handed over to Bharata Ratna Dr APJ Abdul Kalam by this researcher when Dr Kalam visited Sri JCBM College, Shringeri (26-02-2009). The note did not serve the purpose of follow up because of a few terms in Sanskrit which might be the reason. And translation of these terms into English would have killed the scientific meaning in the *Vedic* sense. This brings to fore the gap between modern science and *Vedic* science. It is not just the gap of language, but a matter of deep awareness and integrated applications (*Sadhana*) of the intricate discipline of *Veda-Yoga-Tantra Vidya.* www.ishaa.org.in is a website being developed by this researcher to put across relevant themes and topics for interdisciplinary and multidisciplinary research drawing the best from the Past and the best from the Present for better Future of humanity. Before proceeding further, it is necessary to refer to an oft quoted words of Albert Einstein on Religion and Science. "Religion without Science is Blind. Science without Religion is Lame." A close look at the metaphor of the blind and the lame, it makes as clear as day light that it is the "*Andha-Pangu-Nyaya*", of Maxims in Sanskrit. Religion and Science seem to be two exclusive platforms with innate limitations/debility, and it would go well with eternal mutual dependence. Like two parallel poles connected with rungs to make a ladder. However, *Sanatana Vedic Parampara* of Bharat doesn't have the issue of Religion v/s Science as in the West. The wholistic, unified platform of *Veda Vidya* has a way of life based on integral and integrated Value System. It is living close to Mother Nature, as a part, rather, as a living link in the scheme of things. This living is at once religiously scientific and scientifically religious. Having said this, here follows a statement by a UGC Physics Professor Emeritus which was published in the Newsletter a few years ago. It is from this statement that the direction towards research into the Tool of *Vedic Rishis* got triggered in the mind of this researcher. "Mind can measure with the help of tools. Without them it can only imagine." Although this is true in one sense for an ordinary human being without any *Yoga-Tantra-Sadhana*, for a *Yogic* Mind what is truer experientially, which is verifiable and repeatable, is that Mind is the Maker of All Tools, be it *Vedic* or modern. And as a Life Tool which Mother Nature has gifted to the human beings, the human mind is capable of measuring without the help of external tools. This valid postulate when verified through experiential learning and performance research would reveal the thesis statement as follows. *Veda Mantra* empowered, with *Yoga-Tantra* trained and developed Mind is the research Tool of the *Vedic Rishis*. Individually and collectively the *Vedic Rishis* were/are capable of networking to accomplish any task effecting World Peace, Prosperity and Progress which the modern scientists are yet to discern and apply. During the International Conference on *Yoga* Therapy for Stress Disorders (3-5th February 2015, Mangalore University), organized by the Department of Human Consciousness & Yogic Sciences and DharmanidhiPeetha, this researcher was invited to deliver a talk on SRD: A New Dimension to HRD – A *Yoga* Perspective. To train and develop the mind and to empower it with *Veda Mantra* it is necessary to upgrade the concept of HRD, that is human resource development, with SRD, that is spiritual resource development. This is the greatest and most significant of all potentialities of *Yoga*. As discerned by Swamy Vivekananda, "each soul is potentially divine." Unity in Divinity is the practical realizable basis of *VasudhaivaKutumbakam* – the Vision of global family of humanity. SRD as integrated by Maharshi Patanjali into Ashtanga Yoga based on the findings of the *Vedic Rishis* is the Key to National Education Policy as well. Thus, *Veda-Yoga-Tantra-Veda Bhasha - Samskrutam* are all interconnected and together constitute the research tool of the *Vedic Rishis*. √TAN+√TRA= *Tantra* means etymologically, the expansion and protection of human consciousness from the physical level of little confined "I" to the social level of "WE" and further to the cosmic level of "ALL" is accomplished through *Veda Vidya*, *Vedic* Science as is known today. "The gigantic Will-Powers of the world, the world-movers, can bring their Prana into a higher state of vibration, and it is so great and powerful that it catches others in a moment, and thousands are drawn towards them, and half the world think as they do." – Swami Vivekananda. This is exemplified by Swami Vivekananda himself. To achieve the higher state of vibration of the *Prana* this researcher has developed a device and it is under experimental stage. It is 43 Triangles Brain Toner – a Tool which comes under ISHAA® Trademark obtained by the Foundation for Indian Scientific Heritage Trust ® Surathkal, Mangalore. ISHAA is an acronym of Indian Scientific Heritage Awareness and Applications. Knowledge as information should get deeper into the consciousness and expand as awareness. Then it must grow and develop as applications. Although the *Veda Mantras* are all applications, they do not function without getting properly installed in the body-prana-mind-intellect system of the seeker/student/researcher. Hence, the *Vedic* injunction to listen, to contemplate and assimilate the instructions regarding spiritual resource development to every Bharateeya. *Dhanurveda* for Defence is a very strategic and sensitive area of research derived from the *Veda Mantras* by this researcher. Its relevance and paramount importance for national safety and defence empowerment is communicated to the Honourable Prime Minister by Param PujyaSwaminah of Udupi ParyayaPalimaru Mutt. The letter seeking appointment is lying with the Under Secretary as per the communication from PMO on 29-01-2019. May the national leadership wake up to discern the relevance of the research tool of the Vedic Rishis in the modern context of environmental hazards and unintelligent interference with the harmony of existence maintained by Mother Nature.

1. Agriculture, Forestry and Horticulture

ISCA-ISC-2019-1AFH-01-Guest Speaker

Effect of internal transcribed spacing (ITS) study and random amplified polymorphic DNA (RAPD) study in Winged bean (*Psophocarpus tetragonolobus* L. DC.)

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Abstract: Winged bean [*Psophocarpustetragonolobus* (L.) DC.] has assumed considerable importance as a protein rich multipurpose legume (Anon, 1975a, 1975b, 1981; Maesfield, 1973). This legume crop has been referred to as a 'new crop' because i) it possesses a broad range of genetic variability, ii) it can be grown in a wide range of agroclimatic conditions in the tropics and subtropics, iii) its seed protein profile is highly rich in basic amino acid contents. The winged bean was 'discovered' by an Academy Research Committee in 1974 during an extensive search for underexploited tropical plants. Out of three dozen possible crop plants the Academy researchers unearthed, the winged bean was considered so exceptional that a separate report was prepared extolling its potential as a tropical protein rich food source. In the meanwhile, it has analysed its basic nutrition values and components as well as its protein status in different parts of the plant, but, still it is unexplored of its Random Amplified Polymorphic DNA (RAPD) and Internal Transcribed Spacing (ITS) concepts. No know all details of biochemical status of this crop we shall have to perform a lot of research task to popularize this crop. Ten accessions of winged bean were procured from National Bureau of Plant Genetic Resources, Indian Council of Agricultural Research, New-Delhi – 110 011 in 2011 for carry out PhD research programme. These were grown in the research field of the Crop Research Farm (CRF) under the Department of Botany of the University of Burdwan for three consecutive years following Randomized Block Design (RBD) with four replications. All possible agronomic measures were provided uniformly in an adequate manners. Fresh leaves and harvested seeds were taken for conducting these chemical analyses in the laboratory. Following modified method of Doyle and Doyle (1990) was followed for analysing Random Amplified Polymorphic (RADP) and the method of Kimura (1980)Tamura et al.,(2011) was followed for analysing Internal Transcribe Spacer (ITS). The aims and objectives of this venture were to analyse different bio-chemical activities, genetic variability and pathways of this crop to screen out most suitable germplasm for this tropical plains in India.

Keywords: Genetic variability, RAPD, ITS, bio-chemical activities, pathways, suitable germplasm.

ISCA-ISC-2019-1AFH-01-Oral

Identification of most important genomic areas in regulating Nitrogen use efficiency in Rice through QTL meta-analysis and validation of MQTLs in Indian Rice germplasm

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Abstract: Nitrogen (N) is fundamental element for the plant growth, but its use efficiency from soil is low in rice (30-35%). Improving the N use efficiency (NUE) will save significant quantity of fertilizers and prevent environmental problems due to high mobility of N in soil. Several QTLs associated with NUE have been identified in rice with minor effects. Most of these are identified in different genetic backgrounds. Identification of most significant QTLs (meta-QTLs) would help us to target these QTLs for rice improvement. We have assembled 453 QTLs reported from 16 studies published since 2001. In the first step of the analysis, map data were integrated from 16 maps, into a final consensus map through a weighted least square method. The QTLs were projected on to the consensus map and significant QTL aggregating positions were statistically validated. By assuming a Gaussian (normal) distribution, the five QTL models were analyzed for the best fit using maximum likelihood estimates. Sixteen meta-QTLs (mQTLs) related to traits such as NUE and grain yield under N deficit were identified. Three mQTLs were found distributed on chromosome 1, five on chromosome 3, four on chromosome 4, two on chromosome 11 and one each on chromosomes 8 and 9. The 95% confidence interval ranged between 9.61 (mQTL9.1) to 0.03 (mQTL3.5). These mQTLs were associated to NUE and related parameters such as biomass, plant height and grain yield. In order to validate and study the diversity of the mQTLs in local rice germplasm, 65 genotypes were field evaluated under three N level N0, N50 and N100 for agronomic and N use related traits. The mQTLs linked marker were used to

genotype the same germplasm set used for field evaluation. The marker RM 202 which was linked to *mQTL11.2* was validated to be associated with two N use parameters such as grains number per panicle under N0 condition and N assimilation efficiency under N50 condition. The positive allele for this marker with 179 bp size was found distributed in genotypes such as, Acharmati, ADT 38, ADT 42, ASD 16, Chandrahasini, CR Dhan 310, Jaiphoola, Kamlesh, Nagina 22, Nidhi and Pusa 44.These N efficient genotypes can be further used as donors for NUE trait in breeding program.

Keywords: Nitrogen, N use efficiency, MQTLs, Rice, germplasm.

ISCA-ISC-2019-1AFH-02-Oral

Implementation of Ecto-mycorrhizal Inoculums and Nutrients on growth of *Shorea robuta. Gaertn* to overcome plantation challenges

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Abstract: The present investigation deals with the suitability of different mycorrhizal inoculums and fertilizer application on mycorrhiza formation and initial growth of *Shorea* seedling .The study revealed soil inoculums are more effective than the other inoculums which gave higher shoot length value (41.34 cm),followed by root inoculums and spore inoculums (32.70cm and 27.11 cm) respectively over control. Root length value was also higher in soil based inoculums over control (19.21 cm), followed by root inoculums (14.45 cm) and spore inoculums (12.09cm).The same trends were found in case of live and total mycorrhizal count because soil inoculums become highly in infective and its viability as well as suitability are more. The interaction effects of fertilizers and compost was noticed in *Shorea robusta*. In soil, the increase in root length was directly proportional to the fertilizer dosages. Significantly better root lengths were obtained in soil and compost (2:1) without fertilizer (33.6cm). In soil and compost (1:1) root length were poor and showed no significant differences at different fertilizer dosages though the tendency for increases in root length was observed at higher fertilizer dosages. Addition of compost to soil (1:1) was not significant in *Shorea robusta*, addition of two part of soil and one part of composed soil (2:1) significantly improved shoot height (12.9cm) in *Shorea robusta*. Addition of fertilizer at dosages 1N and above increased shoot height though such increase was significant only at 1N (14.6cm) and 4N levels (14.5cm) in *Shorea robusta.* The result shows that mycorrhizal development and dry weight of seedling was best in 1/2 normal NPK (63.75%) and moderate (26.60%) in 1/4 normal NPK and in treatment without P (22.5%).

Keywords: Mycorrhiza, inoculum, *Shorea robusta.*

ISCA-ISC-2019-1AFH-03-Oral

A case study of cow based organic farming system adopted by the farmer of Vadal, Junagadh, Gujarat, India

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Abstract: There has been a rise in consumer's demand for safe and healthy food due to increasing concerns over the quality of food, contamination due to chemicals, serious health hazards and environmental issues. This increasing demand has given way to a new stream of agriculture, popularly known as Organic Agriculture. Since the use of huge quantities of chemical fertilizers in the Indian farming has been stopped since the Green Revolution, it has changed the structure of our land. Today, the fast-growing agricultural land is changing in the wasteland. And millions of crores of rupees are being spent on the chemical fertilizers. The use of chemical fertilizers in the fields is also adversely affecting crop yield. Organic farming is being promoted to solve all these problems. Under organic farming, farmers have to take more yields by saying the resources available to them. Use more and more organic fertilizers instead of chemical fertilizers. This paper highlights the practices of organic farming adopted by the farmer of Vadal, Dist. Junagadh, Gujarat for the production of various Agriculture and Horticultural crops exclusively by using farm made compost, vermi compost, Jivamrut cow urine etc. with higher productivity and better return.

Keywords: Organic farming, organic fertilizers, chemical fertilizers, horticultural crops, vermi compost, jivamrut cow urine.

2. Animal, Veterinary, Fishery and Marine

ISCA-ISC-2019-2AVFM-01-Presidential Address

Estimation of alkaline phosphatase, glutamic-oxaloacetic transaminase and lactic dehydrogenase after extirpation of preen gland in growing Japanese quail (Cotarnix japonica)

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Abstract: An experiment was conducted to study some blood parameter after extirpation of preen gland in Japanese quail at 4 weeks of age. There was no significance ($p<0.01$) variation in plasma alkaline phosphatase, glutamic oxalo acetic transaminase and lactic dehydrogenase in post operative period upto 12 weeks of age compared with the control group.
Keyword: Preen gland, enzyme estimation, Japanese quail.

ISCA-ISC-2019-2AVFM-01-Oral

Doubling fish farmer income through blue revolution

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Abstract: Aquaculture sector provides Food, Employment and Prosperity to the people. The vast area of water resources available in the country provides huge scope for expansion of aquaculture for the production of finfish and shellfish. In order to enhance farmers' income, there is a need to increase farm productivity through technological interventions, improve market access, and also to develop the industrial and service sectors to support various farmer activities in terms of marketing and processing of their produce and other requirements in terms of self-employment/employment in farming sector. The farmers can realize the doubling of their income within a contemplated period of five years by implementing recommended technologies in the farming system and reap the consequent social and ecological benefits.
Keywords: Fish farming, productivity, doubling farmers' income, strategy, blue revolution, aquaculture.

ISCA-ISC-2019-2AVFM-01-Poster

Production of sour paste nematode in different substrates

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Abstract: Rearing larval organisms is a challenge in aquaculture. Live feeds should be acceptable to larval fish in size, shape and palatability. *Panagrellusredivivus,* an ovoviviparous nematode, with very high reproductive rateis used as live feed. They are small in size, can be produced by simple methods, can be applied in fresh and salt water. Potential of 3 different substrates viz., green gram, bengal gram and horse gram for production of *P redivivus* was assessed against yeast as control. Both sprouted and nonsprouted form was evaluated. Suspensions of both forms were filtered and employed. Culture trials were conducted in transparent plastic containers. Substrate was spread evenly on the bottom of the container. Pure culture was used as inoculum. Each treatment was tried in triplicate. The suspension (s) of the pulses was added to substratum once daily. In nonsprouted, the biomass developed in the order green gram-> yeast > horse gram > Bengal gram. In the case of sprouted pulses, the production was in the order green gram >yeast>Bengal gram > horse gram. Maximum biomass was recorded on day 9 of inoculation. Sprouted pulses led to faster developing and longer lasting cultures.
Keywords: Sour paste nematode, substrate, culture, biomass.

ISCA-ISC-2019-2AVFM-02-Poster

Density dependent responses in the production of *Moinamacrocopa*

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Abstract: Technology for mass culture of zooplankton has developed considerably, but effect of population density on propogation of cladocerans is less elucidated. Population density can have indirect effects, modifying feeding conditions, by releasing and accumulating metabolites or through behavioural signs. Density dependant population growth in

Moinamacrocopa was studied at three stocking densities, *viz*., 1 individual in 30 ml-SDI, 20 m1-SDII and 10 ml-SD- II respectively. Pure culture was used as inoculum. Suspension of cottonseed oilcake was used as feed substrate. Stocking density influences the growth performance of *Moina*. Initial growth is proportional to inoculum density. Mortality rate is higher in SD III, with decline being faster than in SDI and SDII.*Moina*can be successfully cultured in all the three stocking densities but SD II appears to be the most ideal stocking density. Peak in population production are followed by population decline, such peaks shift from late to early periods as densities increase. Value of first peak is higher than the second peak at all densities. After attaining peakgrowth, mortality rate increases and culture slowly declines. The peaking pattern in population growth is similar in all densities. Growth processes become density bound starting at 75 animals per litre related to competition for food, space and confinement.

Keywords: *Moinamacrocopa,* stocking density, growth, population.

ISCA-ISC-2019-2AVFM-03-Poster

Influence of feed on the production of Moinamacrocopa

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Abstract: *Moinamacrocopa* a cosmopolitan cyclic parthenogeneticcladoceran with ample morphologicaland ecological plasticity, has excellent potential as a live feed in larval rearing. They are small in size, with short, jerky hopping movement in water, which increases their visibility to larvae. It grows rapidly on a variety of materials and under varying conditions. They are very tolerant of poor water quality conditions. *M. macrocopa* is resistant to extremes in temperature and withstands wide variations. The nutritional quality of *Moinamacrocopa* depends on the type of feed received. In the present study, the feasibility of using fermented / non fermented oil cakes as food substrate for *M.macrocopa* was assessed. The oilcakes evaluated were groundnut oilcake, sesame oilcake and coconut oilcake. Oilcake suspensions were fed once a day. Yeast substrate was used as the control. Each of the three substrates were tried in triplicate. Pure culture was used for inoculating. Production was in the order GNOC.> yeast >SOC >COC in non fermented oilcakes, and COC >.yeast > SOC > GNOC in fermented oilcakes. *M. Macrocopa* developed were brown red in colour, with full digestive tract, indicative of a healthy culture (except in the case of coconut oilcake).

Keywords: Influence, feed, production, Moinamacrocopa.

ISCA-ISC-2019-2AVFM-04-Poster

Live feeds in ornamental fish culture– an appraisal

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Abstract: Feeding fish plays an important role for breeders, traders and hobbyists, right from the time people first started keeping fish. Successful fish keeping requires good techniques for the wellbeing of broodstock as well as raising offsprings. Larval phase of organisms are most sensitive. Have very specific nutritional demands, for growth and survival. They are a must at the onset of exogenous feeding. Small live feed organisms are required at first feeding. Live feeds also stimulate the digestive enzyme production. Organisms used as live feed include infusoria, microworms, Moina, Daphnia, Tubifex, rotifers, Artemia, grindal worms, microeels, blood worms etc. Live feeds need to be appropriate to the mouth size of the larvae especially in the very early stage. Motility of the live feeds is of advantage since the larvae have very limited locomotory, sensory and visual capabilities for the detection of prey. Detection of food is principally by colliding with the food organism. This emphasises the importance of maintaining sufficient food densities in the larval rearing tanks. The different live feed organisms employed, their features and their use in larval rearing are discussed.

Keywords: Feeds, ornamental, fish, culture.

ISCA-ISC-2019-2AVFM-05-Poster

Block chain technology for seafood trade- challenges and opportunities

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Abstract: Blockchain technology can be described as a technology that increases trust and transparency in a system by storing all transactions in a decentralised manner. Everyone in the system can check those transactions and verify their accuracy. Agricultural industries use the data to increase innovation and efficiency, but seafood industry is still lagging behind in this aspect. Seafood provides 12% of the global livelihood, has an annual export value of USD 150 billion. In last 50 years, food fish consumption has doubled @ 1.5% per year. But this industry unfortunately is often described as – illegal,

unreported, unregulated, inefficient, unsustainable and inefficient. In current scenario, people and governments want to know about their seafood in terms of its origin, supply, sustainability and health aspects. Through block chain technology, seafood industry is being incentivized with cryptographic tokens, to collect the data at every part of its supply chain. Key data elements like name, fish type, location, weight, are accepted by two parties and then through a smart contract, the product data is referenced on the block chain, along with the identities of the parties. As the amount of collected data increases on transparent and traceable network, efficiency of seafood goods will improve leading to sustainable, responsible and profitable seafood industry.

Keywords: Block, chain, technology, seafood, challenges and opportunities.

3. Biological Sciences

ISCA-ISC-2019-3BS- 01-Guest Speaker

Role of polyherbal formulation on alleviating diabetes through scavenging free radicals

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Abstract: An imbalance between the reactive oxygen species and free radicals leads to produce a condition known as "oxidative stress" that results in the development of pathological condition among which one is diabetes. Most of the studies reveal the inference of oxidative stress in diabetes pathogenesis by the alteration in enzymatic systems, lipid peroxidation, impaired Glutathione metabolism and decreased Vitamin C levels. Lipids, proteins, DNA damage, Glutathione, catalane and superoxide dismutase are various biomarkers of oxidative stress in diabetes mellitus.Diabetes is a serious endocrine disorder which has been reported to affect a majority of the human population worldwide. India, the diabetes capital of the world has witnessed a sharp increasing trend in the number of diabetics over the past decade. Several over-the-counter medications are available in the market to alleviate the complications associated with diabetes mellitus. The cost factor and the side effects associated with long term usage of these drugs have enthused researchers to explore new possible therapeutics. Herbal medicines have been documented to have improved therapeutic efficacy in reducing the complications of diabetes mellitus. The present study was thus designed to formulate a polyherbal mixture with few Indian medicinal plants in a specified ratio. In an acute oral toxicity test carried out on male wistar rats, the animals exhibited no signs of toxicity even at the highest administered dosage. *In vitro* and *in vivo* antioxidant studies demonstrated significant antioxidant modulating properties of the polyherbal formulation. The antihyperglycemic properties of the polyherbal mixture was evaluated by administering the extract at three different concentrations of 100, 250 and 500 mg/kg body weight to streptozotocin induced diabetic rats. At the end of the study period, there was a significant decrease in blood glucose level, glycosylated haemoglobin and an increase in body weight, liver glycogen content in treated groups as compared to the control group administered with standard drug glibenclamide. Treated groups demonstrated notable reduction in the levels of serum triglycerides, total cholesterol, low density lipo-proteins and very low density lipoproteins. Histopathological results of the treated hepatic and pancreatic tissues also confirmed the protective effects of the polyherbal formulation. Thus, the results display promising antioxidant, anti-hyperglycemic properties of the polyherbal formulation.

Keywords: Polyherbal, antioxidant, diabetes, streptozotocin, anti-hyperglycemic, free radical.

ISCA-ISC-2019-3BS-02-Guest Speaker

Catalytic nanoparticles in biomedical applications

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Abstract: Past few decades have witnessed tremendous efforts for the evolution of inorganic nanomaterials-based biological enzyme mimics (Nanozymes) displayingthe catalytic properties of natural enzymes. Nanozymes offer several advantages over biological enzymes such as low cost of synthesis, high stability beyond optimum temperature and pH, and tunable enzymatic reactions.In this talk, I would discuss about various nanomaterials displaying thecatalytic activities of natural enzymes such as peroxidase, oxidase, superoxide dismutase, and catalase. We have recently shown that the peroxidase activity of iron oxide nanoparticles (NPs) can be tuned to physiological pH from acidic pH and this strategy was used for the development of a quick, single step, and colorimetric detection of glucose in human blood serum. Additionally, the superoxide dismutase and catalase enzyme-like activities of cerium oxide NPs and their utilization in protecting glutathione and catalase deprived mammalian cells will also be discussed. Further, in the biological systems, multienzyme complexes are involved in catalyzing important reactions of essential metabolic processes such as respiration, biomolecule synthesis, and photosynthesis.In this context, we have developed a functional nanozyme depicting multienzyme like properties consisting of Gold (core)-CeO_2 (shell) nanoparticles exhibiting excellent peroxidase, catalase, and superoxide dismutase enzyme-like activities that are controlled simply by tuning the pH.

Keywords: Nanozymes, cerium oxide nanoparticles, peroxidase, oxidase, catalase.

ISCA-ISC-2019-3BS-02-Oral

Phytochemical screening to unveil the pharmacological properties of golden euryops

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Abstract: *Euryops pectinatus* 'Viridae' belonging to the family Asteraceae is commonly known as Golden Euryops or African daisy. Golden Euryops weed is endemic in nature and grows easily in full sun on well drained soil. Due to its spreading nature, it affects the growth of other agricultural crops by utilizing available nutrition and space. However, special attention is given nowadays to unwanted weeds as they possess some special properties that make them grow easily under the abiotic stress conditions. Plants are a rich source of phytoconstituents that provide unlimited opportunities for the development of new drug leads. Therapeutic drugs identified from natural products are now acknowledged throughout the world. Present investigation includes the preliminary phytochemical analysis of Golden Euryops for the presence of various secondary metabolites using solvent extraction procedure. Presence of various secondary metabolites was observed in Golden Euryops including phenols, flavonoids, alkaloids, steroids, saponins, glycosides, etc. These secondary metabolites are well known for their biological activities like antioxidation, anti-cancerous, anti-microbial, cardiovascular, and anti-aging. Thus phytochemical and bioactive potential investigations would open new doors to natural product research that would be cost effective and safe for the mankind.
Keywords: Golden Euryops, phytoconstituents, secondary metabolites, bioactives, natural products.

ISCA-ISC-2019-3BS-03-Oral

In vitro germination of fresh and stored pollen grains in *Manilkara zapota*, L.

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Abstract: The aim of present study is In vitro germination of the pollen grains in *Manilkara zapota*, (L.)**:** P. Royen Chiku by using "Hanging Drop Method".(Shivanna) Pollen grains are resting plant organs for In vitro germination uptake of water leads to swelling of the grains and their activation therefore Humidity is a first essential requirement for pollen germination. Other factors which have been found important for pollen germination and pollen tube growth are carbohydrate, Boron and Calcium. The effect of either sucrose or boric acid individually showed good result but sucrose in combination with boric acid and calcium promoted pollen germination as well as pollen tube growth development. Freezing temperature 6^0C and high relative humidity (RH) 55 to 80% seems to be the best method to maintain pollen viability of stored pollen grains for a long period (7 days) of time. The study indicates that low temperature and high relative humidity is better than the high temperature and low humidity with respect to pollen germination capacity.
Keywords: Chiku, Germination*, in vitro*, Palghar.

ISCA-ISC-2019-3BS-04-Oral

An inhibitive assay for the detection of mercury and copper based on the ginger protease

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Abstract: Extreme industrialization poses a major threat to the security of water bodies. The presence of toxic substances chiefly heavy metals are being recorded at a shocking level. Their detection and monitoring require expensive and sophisticated instrumentations that need skilled personnel to operate, along assay time and the inability to detect heavy metals in real time. A heavy-metal assay has been developed using ginger protease. The enzyme is assayed using casein as a substrate with Coomassie dye to track completion of hydrolysis of casein. In the absence of inhibitors, casein is hydrolysed to completion, and the solution is brown. In the presence of metal ions such as $Hg2^+$ and Cu^{2+}, the hydrolysis of casein is inhibited, and the solution remains blue. Nonlinear regression of the inhibition curve gave concentration of metal giving 50% inhibition of enzyme activity (IC_{50}) for Hg^{2+} at 0.0852 mg/L (95% CI from 0.132 to 0.242) and Cu^{2+} at 0.042 mg/L (95% CI from 0.07690 to 0.2812). The IC_{50} values for these heavy metals are comparable to several other assays such as papain and bromelain assays, immobilized urease, 15-min Microtox™, and rainbow trout assays. The potential of this inhibitive assay for monitoring heavy metals in the environment is discussed.
Keywords: Ginger protease, inhibitive assay, coomasie blue, toxicity.

ISCA-ISC-2019-3BS-05-Oral

Survey on medicinal climbers of convolvulaceae family in Gorakhpur District, Uttar Pradesh, India

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Abstract: Due to changing environmental conditions, and various factors as biotic and abiotic factors, destruction of habitat etc. some useful medicinal climber plant species are facing threats for their existence which were previously present in the district. One such species is Centellaasiatica (L.) which is a brain tonic but now it is towards extinction in this district. Conservation, enhancement and sustainable utilization of plant resources are recognized as one of the imperative segment in the natural resource management. In this paper we are concentrating only on members of Convolvulaceae family which are medicinally important and are present in Gorakhpur District. Survey was conducted in all area of Gorakhpur District during April 2015 to April 2019 to investigate the useful climber of Convolvulaceae family. The present study revealed available climbers of the studied area belonging to Convolvulaceae family. Mostly climbers were wild. Among all genera Ipomoea genus was found to be most abundant having 14 species. The results of the climbers their botanical name, common name families, medicinal uses, status are reported in the paper. The present study emphasizes the need of multipurpose medicinal climber plant species and their conservation and sustenance for future generation.
Keywords: Climbers, Gorakhpur, medicinal, conservation

ISCA-ISC-2019-3BS-06-Oral

Chromosomal anomalies in referred cases with suspected genetic disorders: a report from Jammu and Kashmir (J & K), India

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Abstract: Congenital anomalies refer to the abnormalities existing from birth. A congenital anomaly may be viewed as a physical, metabolic or anatomic deviation from the normal pattern of development that is apparent at birth or detected during the first year of life. These abnormalities arise in the embryo, persist in the developing fetus, if the later survive the abnormalities 'in-utero', the child is born with phenotypic abnormalities called as Congenital anomalies. A chromosome study was carried in total of 161 individuals of different age group presenting clinical profile like genetically uncertain syndrome, multiple congenital anomalies, short stature, facial dysmorphism, abnormal behavior, unclassified mental retardation and Down syndrome. The chromosomal abnormalities were detected in 91 (56.52%) individuals. Besides chromosome study, some non-cytogenetic factors like maternal age, male: female ratio, birth order and consanguinity have also been studied to find out the possible association of these factors with chromosomal aberrations in referred patients. Among a group of individuals with phenotypic abnormalities where the Karyotyping was done, the frequency of autosomal chromosomal aberrations was found to be much higher than sex chromosomal anomalies. Trisomy 21 was the most frequent. The precise delineation of a major autosomal Trisomy is only possible using clinical examination and cytogenetic tools. Recognition of parents with chromosomal abnormalities is important, as the risk of recurrence is high in some cases. This knowledge allows proper genetic counselling to be produced.
Keywords: Congenital anomalies, facial dysmorphism, down syndrome, consanguinity.

ISCA-ISC-2019-3BS-07-Oral

Development of immunochromatographic assay for rapid detection of rhizome rot in turmeric

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Abstract: Turmeric belongs to family Zingiberaceae are widely cultivated for their rhizomes which havegreat medicinal and economic significance. They are acceptable to the world] for their herbal, therapeutic and medicinal properties since times immemorial. However, the yieldis not satisfying to meet the world's growing demand. The loss of productivity due to fungaldiseases is a major concern. Rhizome rot disease, majorly caused by oomycetic fungi *Pythiumaphanidermatum* and

*Fusarium oxysporum*is one of the most destructive diseases that causesignificant losses in turmeric worldwide. These losses can be greatly reduced byproper disease management practices steered by accurate and early diagnosis of pathogens. Pathogen detection at an early stage of infection can also reduce the incidence of disease epidemics. Classical methods for the isolation of pathogens are normally deployed only after theappearance of disease symptoms. These processes are often time consuming, relying on culturingthe putative pathogens and the availability of expert taxonomic skills for accurate identification, which leads to the delayed application of control measures. Increasing concerns about the croploss in fields and also during storage have focused interest in the development of immunochromatographic tests (ICTs), considering important factors such as speed and ease of accessibility and cost effectiveness. Keeping the above factors in view, the present study was undertaken to develop ICTs forearly and rapid diagnosis of rhizome rot infection in turmeric. Antigens of *P.aphanidermatum* and *F. oxysporum* were isolated from the infected turmeric. Usingthese antigenic proteins polyclonal antibodies were raised. The specificity of the developedantibodies was assessed by indirect ELISA and western blot. The immunoreactive protein bandwas identified by western blotting. The 65 kDa antigen was selected as a diagnostic marker forboth, *P. aphanidermatum* and *F. oxysporum* and was subjected to MALDI-TOF analysis.Antigenic peptides were prepared and coupled to a carrier protein, KLH to generate antibodiesagainst the peptides. The diagnostic potential of the peptide-specific antibodies were further evaluated by ELISA and western blot.ELISA was found sensitive upto 1:2000 dilution of the antibodies (> 3 fold in absorbancevalues in infected samples compared to healthy) for specific detection of *P. aphanidermatum* and *F. oxysporum* in infected turmeric. ICTs of sandwich format were developed using thepeptide-specific antibodies. The performance of the ICTs was then compared with that of the indirect ELISA using *P. aphanidermatum* and *F. oxysporum* positive and negative samples. TheICT for *P. aphanidermatum* diagnosis showed 96.43 % sensitivity, 85.71 % specificity and 94.29% accuracy. The overall sensitivity, specificity and accuracy of ICT for *F. oxysporum* diagnosis were 92.59 %, 81.25 % and 90 %, respectively. The optimal detection time for reading the testline in the ICTs was 2–5 min.In conclusion, this is the first report on computational identification of antigenic peptidesof *P. aphanidermatum* and *F. oxysporum,* production of polyclonal antibodies against them andtheir successful use inimmunodetection. Findings from this study indicated that the test stripsprovided high sensitivity and specificity for the detection of rhizome rot antigens, even at lowantigen load. The assay was rapid, simple, cheap and does not require any sophisticated equipment. Thus, the ICTs developed in the study are suitable for the early detection of rhizomerot infection in field samples.

Keywords: Turmeric, rhizome rot, early diagnosis, ICTs, ELISA.

ISCA-ISC-2019-3BS-08-Oral

Biosynthesis of ZnO nanowires using the aqueous extract of *Scenedesmus dimorphus* and its photocatalytic properties

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Abstract: Biosynthesis of ZnO nanowires increases the interest of researchers for its variety of applications in several optoelectronic devices such as UV lasers, light-emitting diodes, solar cells, photocatalysts, etc. In this present work, we have synthesized ZnO nanowires from freshwater microalgae *Scenedesmus dimorphus*. The synthesized ZnO nanowires were characterized by different characterization techniques such as; UV-VIS spectroscopy, FT-IR spectroscopy, scanning electron microscopy (SEM) and X-ray diffraction (XRD) studies. The optical characterization of ZnO nanowires was done by UV-VIS absorption spectra, which gave the absorbance peak at 363 nm with an optical band gap 3.33 eV. XRD characterization technique verified the crystalline form of ZnO nanowire. The average crystallite size of ZnO nanocrystal was measured by the Debye-Scherrer formula and determined the mean crystallite size as 24.24 nm. The morphological characterization of ZnO nanowire was confirmed by the SEM technique and suggested that the diameter of the synthesized ZnO nanowire was 58.59 ± 10.83 nm. FT-IR characterization technique showed the transmittance peak of ZnO nanowire at a wavenumber of 412 nm and resulted that the presence of functional groups in the algal extract plays an important role in the synthesis and stabilization of ZnO nanowires. Their photocatalytic properties of synthesized ZnO nanowires were also evaluated by the degradation of methylene blue solution (10 mg L^{-1}) in natural conditions. The photodegradation of methylene blue in the presence of different concentrations of ZnO nanowires for different time intervals was measured by UV-VIS spectroscopy. The result suggests that the increased concentration of ZnO nanowires with an increasing irradiation period enhances the rate of photodegradation. The complete photodegradation was observed after 96 h with 100 mg L^{-1} of ZnO nanowires. So, from the results, it is very clear that the aqueous extract of *Scenedesmus dimorphus* has the potential for green synthesis of ZnO nanowire and can play an important role in the removal of the model pollutant methyl blue from various industrial wastes to protect the environment.

Keywords: Cyanobacteria, biosynthesis of ZnO nanowires, Characterization, Photodegradation.

ISCA-ISC-2019-3BS-09-Oral

Chronic administration of caffeic acid phenthyl ester and zinc may impart acrylamide induced toxic effects in rats

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Abstract: Acrylamide is one of public health problem, being produced naturally in cooking materials at high temperature. Caffeic acid phenthyl ester is one of important medicinal components of propolis used as phytochemical agent against various toxicants. This study demonstrate antioxidant activities of Rutin against acrylamide induced toxic injuries. In present work, female rats were administered with acrylamide (40 mg/kg) for 3 months, followed by the oral administration of Caffeic acid phenthyl ester (20 mg/kg) and Zinc for after induction of dose. Animals of all groups were sacrificed after 24 h of last treatment. Serum aspartate aminotransferase, alanine aminotransferase, lactate dehydrogenase, gamma glutamyl transpeptidase, urea, uric acid, creatinine, bilirubin, total cholesterol were found increased as compared to control. Simultaneous decrease is found in HDL whereas increase is observed in LDL level. Electrolyte concentration of Sodium, Potassium, Calcium, Chloride increases whereas $_{P}$H level were found decreased as compared to control. Lipid per oxidation level was found decrease and glutathione content were diminished after acrylamide administration. Histological studies were also performed for micro-observation of tissues. On the basis of our study, It can be summarize that, treatment of Caffeic acid phenthyl ester in addition with zinc could reverse all the deviated variables towards their respective control.
Keywords: Chronic, administration, caffeic acid, phenthyl ester, zinc.

ISCA-ISC-2019-3BS-10-Oral

Industrially important fungi and its application, isolated from Jogimara Cave of Surguja, Chhattisgarh, India

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Abstract: For this study Jogimara cave of Surguja district was selected. Jogimara cave in Surguja district of Chhattisgarh contains monuments of art of world importance - paintings and inscriptions. Microorganism attacks on these paintings for their foods for its growth and development. Caves paintings are the main source of food for fungi. The present study indicates that cave painting harbor most of fungal flora which responsible to destroy and deteriorated the precious paintings, simultaneously that flora is also responsible for prominent protease producing activity and important for biotechnological point of view. Both the test strains *A. flavus* and *F. roseum* have tremendous protease producing potential. It displayed the presence and importance of valuable enzyme for industrial purpose. Conclusively, it was noted that protease production in SmF took greater duration of time for both the fungi when compared to SSF. The enzyme titers were also much higher in SSF, with respect to SmF. Enzyme production by test fungal strains varies significantly with increase and decrease in incubation temperature.
Keywords: Jogimara cave, paintings, fungal flora, protease, SSF, SmF.

ISCA-ISC-2019-3BS-11-Oral

Potential risks of endophytic *Salmonella sp.* contamination associated with raw salad vegetables and their drug-resistant pattern

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Abstract: Raw salad vegetables are considerable ingredientsofvitalnourishment but have been associated in relevant days with a flourishing threat of food poisoning from bacterial pathogens for instance Salmonella sp.Even though this is reflectedsubstantial known health trouble, extremely little is recognized regarding the behaviorperformance of Salmonella sp. with raw salad vegetables. The contemporary effort estimates the microbiological excellence of raw salad vegetables consumed in Surat city, Gujarat, India. A total of 300 samples of 5 different largely consumed raw salad vegetables(Tomato N=60,Cucumber N=60,Cabbage N=60,Spinach N=60, Carrot N=60) from local vegetable markets were examined for overall endophytic Salmonella sp. in terms of aerobic counts after removing surface microflora. Salmonella sp. has been detected 11.3% of the total samples.Most Salmonella sp. isolated from above raw salad vegetables observed to have multidrug resistance. The investigation statistics reveal that raw salad vegetables may promote the durability of Salmonella sp. within

raw saladvegetables. Endophytic Salmonella cells from salad vegetables could not be removed by simple washing and intensely highlight the significance of confirming the microbiological safety of raw salad vegetables.
Keywords: *Salmonellatyphi* fitness, plant contamination, multidrug resistance, immune response, food safety.

ISCA-ISC-2019-3BS-12-Oral

Changes in total protein, soluble protein and protein oxidation in dehydrating Jamun (*Syzygium cumini*) seeds

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Abstract: A rapid loss of viability was recorded in Jamun seeds when dehydrated below 45.83% moisture content ,at ambient conditions seeds became nonviable at 30 days after harvest. Gradual decline in total protein content and soluble protein due to the oxidation of protein caused by drying induced AOS mediated oxidative stress preceded loss of viability. Almost (14 fold) loss of total protein was detected in the cotyledon and (11 fold) in the axis, similarly loss of soluble protein was (25 fold) in the cotyledon and (10 fold) in the axis during slow drying. Oxidative stress induces protein oxidation which results in the production of carbonylated protein. In natural ageing jamun seeds a massive increase in carbonylated protein was observed in the cotyledon as well as in the axis. Decline in total protein and soluble protein and enhanced level of carbonylated protein during dessication induce loss of viability in Jamun seeds.
Keywords: Recalcitrant, viability, total protein, soluble protein, carbonylated protein, *Syzygium cumini*.

ISCA-ISC-2019-3BS-13-Oral

A survey and study on ethno medicinal plant's used by tribal people in Pathalgaon block of Jashpur district, CG, India

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Abstract: The study was conducted to record the traditional uses and the utilization pattern of ethno-medicinal plants in pathalgaon block of Jashpur district. Jashpur district is located North-East side of Chhattisgarh and this side has rich diversity of medicinal plants. The Survey was conducted on Pathalgaon Block four villages where meeting with local medicine men Baiga, Vaidya and collect the data regarding to medicinal plants. Medicinal plants have been observed to be very effective in the treatment of various ailments. Ethno-medicinal plant species are described in which different parts of plants are used in different diseases. A large number of plant species have been collected which are used by the tribal's and the villagers for treatment of various ailments. The present paper deals with 21 plant species belonging to 17 families were recorded in which Tree and Shrub having same percentage Trees(38%), Shrub(38%), Hurb(14%), and Climber (10%). which are used by them ethno medicinally, collected plants are very important in this area. These plants are used in various ailments like: Sugar, Blood Pressure, Malaria, Piles, Asthma, Skin disease, Jaundice.
Keywords: Medicinal Plants, Disease, Ethno medicine, Tribal's, Ailments.

ISCA-ISC-2019-3BS-14-Oral

Impact of sewage water on behavioral response and oxygen consumption of fish Clariusbatrachus

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Abstract: In India domestic sewage from most of the big cities is allowed to be discharge into the rivers without any treatment, Thelarge amount of toxic and harmful chemicals are also mixed along with this, which carry harmful effects on the living things present in it, due to depletion of oxygen and change the physicochemicalcharacteristics of water. In the present study we would like to find out the physicochemicalcharacteristics of water (Ph, Temp, DO, BOD, COD, Sulphate, and Sulphite) and behavioral response of the fish due to lack of oxygen. We exposed the fish in the sewage water and observed the behavior of the fish in some time interval (24h, 48h, 72h, 96h and 120h, 144 and 168 hours). During the study we have find out erratic, fast and drastic movement of the organisms, decreased rate of the opercular movement, increased surfacing and inability with increasing exposure time.
Keywords: Toxicity, Physico chemical characteristics, OD, BOD, behavioral changes.

ISCA-ISC-2019-3BS-15-Oral

Antioxidant potential of bioactive compounds derived from edible mushroom

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Abstract: Reactive oxygen species are generated as metabolic by-products by biological systems and imbalance between production and accumulation of reactive oxygen species (ROS) and the ability to detoxify these reactive products that causes cell and tissue damage (oxidative stress).As they are capable of reacting with biological macromolecules which ultimately leads to cellular damage and causing diseases such as atherosclerosis, cancer, liver diseases, cardiovascular diseases, diabetes mellitus, renal failure, brain dysfunction and inflammation. Antioxidant containing foods may help to reduce oxidative damage and may contribute to oxidative homeostasis.Edible mushrooms are known worldwide and becoming a popular food in daily meal because of its good taste, low in calories, sodium, fat and cholesterol while high in protein, carbohydrate, fiber, vitamins and the important content of essential amino acids. It also contain various bioactive compoundssuch as phenolic compounds, flavonoids, tocopherol, terpenes and steroids recognized as potential antioxidant due to their ability to free radical scavenger. Out of 14000 (approximately)know species, almost 3000 species spread are considered as major edible mushrooms and 2000 are medicinal mushrooms with variety of health benefits in which 270 species are also considered as potential therapeutic. Thus mushroom may be used as potential antioxidant.
Keywords: Free radical, antioxidant activity, reactive oxygen species, phenolic compounds, mushrooms.

ISCA-ISC-2019-3BS-01-Poster

Study of Biddulphiaceae member along the coast of Gholvad and Tarapur, Maharashtra, India

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Abstract: A study of Diatom flora was carried from June 2016 to May 2018 from Gholvad and Tarapur coast of Maharashtra. Samples were collected once in a month before sunrise. Samples were preserved and treated by acid treatment method. Permanent slides were prepared from preserved samples. Photos of diatoms were taken using Nikon research microscope (E100) and Nikon Camera (D7200). Diatoms were identified with the help of standard books and monographs. Out of all species identified Biddulphiaceae members are presented in the current paper.
Keywords: Gholvad, Tarapur, Diatoms, Biddulphiaceae.

ISCA-ISC-2019-3BS-02-Poster

Study of diatom diversity of proposed Vadhvan port at Dahanu Taluka, MS, India

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Abstract: Diatoms were collected for a period of 1 year from June 2017 to May 2018.The aim of present work is to study the Diatoms flora of Vadhvan coast, Maharashtra. The Dahanu coast is situated in Dahanu Taluka of Palghar district and about 140km North from Mumbai between approximate longitude $19^0$99' North and latitude $72^0$74' East. The coast is full of live Molluscan species. In all 16 genera belonging to 26 species of central and pinnate diatom were identified and listed as: *Cyclotella, Coscinodiscus, Actinocylus, Biddulphia, Fragillaria, Auriculopsis, Licmophora, Cocconeis, Navicula, Pinnularia, Rhopalodia, Amphora, Cymbella, Okedonia, Surirella and Campylodiscus.*
Keywords: Diatom, Phytoplankton, Vadhvan, Centrales, Pinnales.

ISCA-ISC-2019-3BS-03-Poster

Extraction and purification of pectinase using citrus peel from isolated fungi

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Abstract: The use of microorganisms for the production of enzymes offers a promising approach for its large scale production and as a possible food supplement or in pharmaceutical industry. Our finding provide alternative cheaper source of substrate for microbial pectinase production. Most work of pectinase has been oriented in a direction of using pure pectin extract obtained from orange peel (citrus pectin). The *Aspergillus niger* showed a potential to convert pectinase into reducing sugars which could be readily used in many applications such as animal foods and a feed stock for production of valuable

organic compounds. Thus citrus peel could be and alternative and attractive and promising substrate in submerged fermentation for the production of pectinase by Aspergillus species. The *Aspergillus niger* grew with the highest yield of pectinase enzyme during the purification process. Therefore it can be employed in industries for hydrolysis pectin biomass to utilizable bio product.

Keywords: Extraction, purification, pectinase, isolated fungi.

ISCA-ISC-2019-3BS-04-Poster

Estimation of lipid from a cestode parasite, tylocephalum newasae N.SP. and its host trygon zugei (Marine Fish)

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Abstract: Present paper deals with Biochemical relationship between Host and Parasite.A Tylocephalum newasae is a Cestode Parasite of Marine water Fish Trygon Zugei**.** lipid act as an energy reserves in cestodes These Parasites absorbing most of nourishing from host and fulfilling its need and causing hindrance in the proper development of host. The present paper deals with the amount of lipids absorb by Cestode from their host.There is considerable variation in lipids from species to species and the degree of lipid content. Variation is also seen in the segments and regions of the worms being experimented.

Keywards: Cestode, glycogen, progloids, pieces.

ISCA-ISC-2019-3BS-05-Poster

Comparative study of raw and post bio-methanated spent wash bio-compost on the quality and yield of adsali sugarcane

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Abstract: A field experiment was conducted at research farm of Mula Sugar factory Sonai. Dist.- Ahmednagar (M.S.) with raw and post bio-methanated spent wash for preparation of bio-compost from the different organic sources such as press mud cake, baggasse, sugarcane trash, farm waste like pearl millet straw, chickpea straw and wheat cut straw etc. on adsali Sugarcane crop (*Saccharumofficinarum*) variety Co 86032 was planted with fourteen treatments, three replications and compare with control treatment. The quality parameters like brix %, purity %, CCS %, Sucrose %, CCS t ha^{-1} and yield t ha^{-1}, were also studied at harvest stage. The quality and yield parameters were found significantly higher in the post bio-methanated biocampost treatment as compared to the raw spent wash bio-compost under black cotton soil.

Keywords: Bio-compost, bio-methanated, spent wash, wheat cut straw.

ISCA-ISC-2019-3BS-06-Poster

Evaluation of bioactive compounds in fruit and vegetable wastes

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Abstract: The indiscriminate use of antibiotics for treatment of diseases has caused development and expansion multi-drug resistant pathogens. Therefore, the need of the hour is to find natural agents with novel mechanism of action against multi-drug resistant strains and emerging infectious diseases. Fruit and vegetable wastes are usually disposed off without realising their worth. These wastes can be efficiently used for generating various bioactive components. The present preliminary work was done to evaluate the presence of bioactive compounds in some fruit and vegetable wastes. Two fruit and three vegetable wastes were used, whose ethyl acetate and methanolic extracts were assessed for antimicrobial activities against 4 different multi-drug resistant human pathogens by agar well diffusion method. The present work states that methanol extracts of all five types of wastes tested showed effective antimicrobial activity against all the four test organisms (*Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Klebsiella pneumoniae*). Ethyl acetate extract of orange was more effective against all four pathogens but ridge gourd waste peel extracts did not exhibit any antimicrobial activity probably suggesting absence of bioactive compounds. It can be concluded that fruit and vegetable wastes can be used as substrates for exploiting potent bioactive compounds.

Keywords: Bioactive compounds, Multi-drug resistant strains, Fruit & vegetable waste.

4. Chemical Sciences

ISCA-ISC-2019-4CS-01-Guest Speaker

Confirmation of water soluble seeds polysaccharide structure from *Grewia oppositifolia* Roxb. plant by periodate oxidation studies

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Abstract: *Grewia oppositifolia* Roxb. plant belongs to the family- Tiliaceae and commonly called as *Bhimal*and occurs in Northern India, Medically the seeds are used in Ayurvedic system of medicine. Seeds yielded a water soluble polysaccharide as : D-galactose and D-mannose in 2:5 molar ratio by TLC, Column and Paper Chromatographic analysis. Present investigation mainly deals with the periodate oxidation studies of water soluble seeds polysaccharide. Periodate oxidation studies is one of the most important chemical reaction in the structural determination of polysaccharide. Seeds polysaccharide was oxidised with water and sodium metaperiodate at different intervals of time by usual manner by Flueryand Lange's method for more extensive use of periodic acid for the oxidation of glycol. It liberated 0.25 moles of formic acid per mole of polysaccharide with simultaneous consumption of 1.20 moles of periodate ions for each anhydrohexose sugar units after 40 hrs. Presence of (1→6)-α-type and (1→4)-β-type linkages are also confirmed by periodate oxidation results. Glycol groups undergoes cyclic ester formation with oxidant and reaction is considered to be dialdehyde type of oxidation. Water soluble seeds polysaccharide structure of *Grewia oppositifolia* Roxb. was obtained after methylation results was confirmed by the periodate oxidation studies.

Keywords: Periodate oxidation, periodate consumption, formic acid liberation, *Grewia oppositifolia* seeds polysaccharide.

ISCA-ISC-2019-4CS-02-Guest Speaker

New generation electrodes for quantification of pharmaceuticals

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Abstract: Electrochemical techniques are well suited for the determination of drugs in various samples i.e., in pharmaceutical dosage forms (tablets, syrups, creams, ointments), environmental samples (waste water and sludge) and even in biological fluids (serum, plasma and urine). A Chemically Modified Electrode (CME) is an electrical conductor that has its surface modified for different electrochemical functions. CMEs are modified using advanced approaches to electrode systems by adding a thin film or layer of certain chemicals to change properties of the conductor according to its targeted function. At a CME, an oxidation-reduction substance accomplishes electrocatalysis by transferring electrons from the electrode to a reactant, or a reaction substrate. Chemically Modified Electrodes (CMEs) comprise a relatively modern approach to electrode systems. Characterization of the developed electrode has been done by SEM, TEM, FAB, IR etc. In the present study, a CME has been fabricated with an aim to electrochemically investigate the properties of the compounds/pollutants under investigation. The method was validated and a very low limit of detection and quantification was obtained with a wide range of linearity.

Keywords: Generation, electrodes, quantification, pharmaceuticals.

ISCA-ISC-2019-4CS-01-Oral

Spectrophtometric study of catalysed oxidation of some cyclic alcohols by N-bromophthalimide

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Abstract: The spectrophotometric kinetic investigation of cyclohexanol and cycloheptanol catalysed by Keggin type anion $[PW_{12}O_{40}]^{3-}$ with N-bromophthalimide have been carried out in 30% acetic acid medium in absence of mercuric(II) acetate and in presence of sulphuric acid. The observed kinetic data was used for the justification of Beer-Lambert law. The reactions follow a fractional-order with respect to cyclic alcohols, PTA catalyst and first-order with respect to oxidant NBP. The added H^+ ion did not affect the reaction rate. Increases in percentage of acetic acid, increased the rate of reaction. The redox reaction fails to initiate polymerization with acrylonitrile (monomer) and free radical based mechanism is ruled out. A complex

mechanism with stoichiometric ratio 1:1 was proposed and order of reactivity was discussed. The rate law was formulated in good agreement with the observations and activation parameters.

Keywords: Justification, redox, complex, acrylonitrile, cyclic alcohols.

ISCA-ISC-2019-4CS-02-Oral

Transformations in chemistry in day-to-day life and national economy: special emphasize to surfactants

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Abstract: Chemistry as a discipline has been a significant contributor to the wealth, prosperity and health of humanity. Over the last 5,000 years, it is chemistry, more than any other discipline that has made our global civilization possible. Chemistry is the only fundamental science that has a specific industry attached to it. It is not possible to incorporate numerous heads of this discipline therefore Surfactants are mainly focused in this paper. Term is a compound of "surface acting agent". There are a wide variety of these products which work with oil, water, and an assortment of other liquids. Many companies manufacture a range of them for various purposes. From cleaning products to fragrances, in pharmaceuticals to Paints, in insecticides to adhesives none industry can be imagined without them. Economy, whether national or globalkeep on transforming with the changing scenario of the world of these substances. But the sad part of these is that sometimes these may be toxic to the living beings and their world if not used in proper ratio. The disposal of these to soil, water or air without treatment might cause serious harm to environment. Therefore they need to be treated before their disposal.

Keywords: Chemistry, surfactants, industries, economy, safe disposal.

ISCA-ISC-2019-4CS-03-Oral

Synthesis, characterization, Alpha-glucosidase and amylase inhibitor potential of bis (2, 2, 2-trifluoroethoxy-phenyl)-1, 3, 4-oxadiazole-derivatives

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Abstract: A series of nine novel bis (2, 2, 2-trifluoroethoxy- phenyl)-1, 3, 4-oxadiazole-derivatives (2a-2i) were synthesized and characterized by various spectroscopic technique such as ^{1}HNMR, IR and MASS. These compounds (2a-2i) were evaluated for their in vitro α -amylase, α-glucosidase inhibitory activity.The data suggested that, the compounds (2a-2i) showed varying degree of α -amylase, α-glucosidase inhibitory potential, among all compounds 2g, 2j and 2i were showing good α -amylase, α-glucosidase inhibition activity. Remaining all compounds were showing moderate α -amylase, α-glucosidase inhibition activity. The data established in the present research work may be used for developing potential hypoglycemic agents.

Keywords: Oxadiazole, α-glucosidase, trifluoroethoxy phenyl, α -Amylase, characterization.

ISCA-ISC-2019-4CS-04-Oral

Uptake of heavy metals from contaminated water by biosorption-an overall review

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Abstract: Decontamination of heavy metals in water has been a challenge for a long time. A number of efficient methods have been developed for the removal of heavy metals such as precipitation, evaporation, electroplating, ion exchange, membrane processes etc. However, these methods has several disadvantages such as high reagent requirement, generation of toxic sludge etc. The removal of heavy metals from our environment is now shifting from the use of conventional adsorbents to the use of biosorbents. The pollutants of concern include uranium, selenium, zinc, arsenic, cadmium, lead, chromium, mercury, gold, silver, copper and nickel. These toxic materials may be derived from mining operations, refining ores, sludge disposal, fly ash from incinerators, the processing of radioactive materials, metal plating, the manufacture of electrical equipment, pesticides, preservatives, paints, alloys, batteries. Hence, easy, effective, economic and ecofriendly techniques are required for wastewater treatment. Biosorption is an effective and affordable technological method used to remove metal pollutants from contaminated water. This technology is environmental friendly and potentially cost effective. In this present review investigates the biosorption mechanism and its necessity for the removal of heavy metals.

Keywords: Biosorption, heavy metals, conventional, wastewater, decontamination.

ISCA-ISC-2019-4CS-05-Oral

Phytochemical analysis of medicinal plant vitex negundo found in pathalgaon block district-Jashpur, CG, India

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Abstract: Medicinal plant have been observed to very effective and the treatment of various diseases. The rural Sendhwar plant has been used in maximum quantity in its daily life in the Pathalgaon block of Jashpur District, full of tribal population and important medicinal properties are also available in it, which are available in the highest quantity in the hedge and roadside. According to the statement of local vaidyaraj's of pathalgaon block region the leaf, stem, oil of vitex negundo plants is used for killing grain pests, asthma, joint pain, swelling and also the obtained wood by the villagers to build houses and burnt it. Vitex negundo plant is likely to be widely used in future.
Keywords: Pathalgaon block, medicinal plant, vitex negundo, local tribes.

ISCA-ISC-2019-4CS-06-Oral

Gravimetric, electrochemical, surface and theoretical study of some green corrosion inhibitors for mild steel in 1 MHCl

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Abstract: Spirogyra algae (SGAE), Cuscuta reflexa roxb. (CRRE) and Glycine max leaves (GMLE) plant extracts has been evaluated as green corrosion inhibitors for mild steel corrosion in acidic solution of 1M HCl using weight loss, electrochemical, surface and density functional theory (DFT) methods. The gravimetric and electrochemical results showed that the SGAE exhibited higher inhibition efficiency towards mild steel. Polarization study suggested that tested plant extracts acted as mixed type inhibitors with slight anodic dominance. Results of gravimetric measurements showed that effectiveness of the plant extracts enhances on enhancing their concentrations. Gravimetric measurements carried out at different temperature showed that adsorption of the plant extracts mainly involve physisorption mechanism. Investigated extracts behaved as interface inhibitors and their adsorption mechanism obeyed the Langmuir adsorption isotherm. Scanning electron microscope (SEM) analyses carried out in the association with electron dispersive X-ray spectroscopy (EDS) further supported the adsorption inhibitive mechanism. Density Functional Theory (DFT) study was carried out on major phytochemicals present in the extract in order to support the experimental results and explain the adsorption behaviour of phytochemicals.
Keywords: Mild steel, Acidic, Plant extracts, SEM-EDS, DFT.

ISCA-ISC-2019-4CS-01-Poster

Bright red emitting Eu^{3+} doped Y_2SiO_5 fiber synthesized by electrospinnig

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Abstract: A bright red light from Eu^{3+} doped Y_2SiO_5 fiber form were prepared by electrospinning method. The morphologies of the prepared fiber were investigated through FT-IR, FE-SEM, XRD measurements. The optical properties of the samples are carefully studied based on the absorption, fluorescent and decay time measurements. Under 254 nm excitation, the prepared material shows red emission. The emission lies at 614 nm. The radiative quantum efficiencies for the red emission band was estimated to be 87%. The color coordinates of the system were evaluated as a function of the dopant concentrations and plotted on a standard CIE index diagram. The change of band intensity dopant concentrations gives a promising potential of the current phosphor for lighting applications.
Keywords: Optical Materials, Photoluminescence Spectroscopy, CIE chromaticity, Y_2SiO_5 Powder, elctrospinning.

ISCA-ISC-2019-4CS-02-Poster

Comparison of pre and post monsoon uranium content of groundwater at Durg District, India

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Abstract: The important aspect of water security is the assessment of groundwater quality, which is the key to ensure sustainable development. Present investigation was carried out to compare the uranium level in groundwater of Durg district during pre and post monsoon and also detect the correlation of uranium with physicochemical parameters. Results showed that pre monsoon uranium level was found in the range of 0.64µg/l - 45.7 µg/l. However post monsoon values ranged between 0.53 µg/l -34.56 µg/l. The permissible limit of uranium in drinking water is 60µg/l recommended by Atomic Energy Regulatory Board 2004. A positive correlation of uranium with Electrical conductivity, total dissolved solids, total alkalinity, Chloride, sulphate, total hardness, calcium and magnesium hardness has been observed in both seasons, which influence the mobility of uranium.

Keywords: Groundwater, uranium, physicochemical parameters, pre monsoon, post monsoon.

ISCA-ISC-2019-4CS-03-Poster

New advance periodic table of chemical elements

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Abstract: According to Richard Van Noordenelements number113, 115, 117 and118completed the bottom7th row (Period) of the existing periodic table. Further discoveries would likely to add a new row in the periodic table from element number119,120…etc onward. But7th period is really last period, not extendable. In existing periodic table elements in the periods from 3rd onward are not in conformity with the formula$2n^2$ as given by the Bohr's model of electrons in the different orbital of atoms. Further it is not a single unified periodic table. 28 elements of Lanthanide and Actinide series are all put together abruptly in a single groupIIIB(3) outside of the periodic table which is unnaturalandimproper. It needs to be placed at proper place in a single unified table with proper group for each one of these. Now all these anomalies set right in the new advance periodic table where $2n^2$ is being satisfied by the 1st to 4th period. The new advance PT is based on the principle of 'paired periods', a universal natural trend of attachment in pairs from2nd to 6thperiod, leaving 1st and 7th as usual single row period. Moreover existingPT lacks54elements which requires to be added after 118-oganesson.Mendeleev once said in the yr.1906 'It promises extension and development". The New advancePT is a completePT of 172elements in which 54new elements added from element number119 to 172, a single unified complete Periodic Table for all the elements of our Brahmand covering 14galaxies including our Milky way and Andromeda galaxy and 12more nearby galaxies of our spherical Brahmand of the universe.

Keywords: PT- Periodic Table, Advance periodic table, Chemical elements, Principle of paired periods, single table, 54 new elements, Total 172 elements, unified PT, 7th really last, galaxies, spherical Brahmand, Universe.

5. Computer and Information Technology

ISCA-ISC-2019-5CIT-01-Oral

A solution approach to big data regarding parameter estimation problems in predictive analytics model

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Abstract: The existence of big data is everywhere because of social media and business organizations move forwards into online services. Big data is not just a considering volume of data, it is a concept which explains about the gathering, organizing, analyzing the data and extract information from those data sets. Big data analytics concept used in our daily life for various purposes such as weather forecasting, market trends and deals with heterogeneous data. The problem of parameter estimation in big data may be looked upon into three aspects volume, variety and velocity which are known as 3Vs. In big data environment, the users are receiving and sending variety of data (text, images, videos) over the Internet due to it is a challenging task to process and getting valuable solution with minimum data processing speed. In this paper we have picked big data parameters estimation problem and proposed a prediction model to estimate big data parameter based on sampling estimation technique. The model is applicable on dynamic nature dataset. In our proposed method we have applied stratified random sampling techniques for estimate those unknown parameters and compare the result with another sampling techniques.

Keywords: Big data, predictive analytics, big data parameters, data mining algorithms, stratified sampling.

ISCA-ISC-2019-5CIT-02-Oral

Fuzzy weighted Bayesian association rule mining: a theoretical framework

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Abstract: In this paper extension of weighted Bayesian Association rules using Fuzzy rules is proposed with the new concept of Fuzzy Weighted Bayesian Association Rules to construct Bayesian network which is an appropriate tool to work with the unpredictability and causality which arises in Clinical Domain. Weighted Bayesian Association rules to construct a Bayesian network is already being proposed. However, there is a so called "Sharp boundary" problem associated with quantitative attribute domains. In medical domain, many of quantitative attributes suffers from crisp boundary problem which may cause incorrect prediction of medicine and treatment. So to eradicate crisp boundary problem in medical field, fuzzy theory is applied in attributes to deal with real life situation. In this paper a new theoretical model is proposed to introduce new Bayesian belief network using the concept of Fuzzy Weighted Association rule mining.

Keywords: Fuzzy weighted Bayesian association rule, Bayesian network, weighted Bayesian association rule, fuzzy theory, weighted concept.

ISCA-ISC-2019-5CIT-03-Oral

Development of "RSA" encryption algorithm for secure data transmission

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Abstract: In this paper there are modifications in the RSA algorithm by using even numbers in the combination of public and private key by using this factoring complexity of variables is increased. This is a new technique to provide max security for data over the internet. In this technique we are using even numbers whose calculation increases the complexity which is not easily decomposed this technique provides more efficiency and reliability over the network. In this paper we try to increase the level of security by modifying the RSA Encryption Algorithm.

Keywords: RSA algorithm, even number, complexity, public and private key.

ISCA-ISC-2019-5CIT-01-Poster

A case study on image morphing through data hiding technique

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Abstract: Today very important issue is to hide our sensitive data which comes under data hiding which means hiding our sensitive data as well as information from outside world. Image will become an important and sensitive information when it contain any sensitive information in it for many reasons like communication owner identification etc. Many techniques have been introduces one of which is image morphing which means changes its form from one to another without changing its other parameter to make it more secure. For morphs between faces, the metamorphosis does not look good if the two faces do not have the same shape approximately. In this study, we implemented a morphing scheme which would combine cross-dissolve with warping methods to give good morphs. This is based on "Feature-Based Image Metamorphosis. The morph process consists of a warping stage before cross-dissolving so that the two images have the same shape. The warp is specified, in this case, by a mapping between lines in the first and second images. In the following discussion, the first image will be called the source image and the last image will be called the destination image. In this case study, we will learn different types of morphing algorithms, procedures and techniques which will help researchers to correlate both the concept and motivate them to work on the field of image morphing and data hiding. It will definitely able to provide a secure and reliable platform for the researchers.
Keywords: Morphing, warping, metamorphism.

ISCA-ISC-2019-5CIT-02-Poster

An application of machine learning in elephant rescue operation in Surguja District, Chhattisgarh, India

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Abstract: Elephant are one of the important creature of earth they have been friends of human being and help them in many ways such as lifting heaving objects from one place to other, Riding etc.. Today, there is a need to protect them we have survey the work done in direction, monitoring and recuing. We have used digital technique for monitoring elephant. Our work shows the application of machine learning in elephant monitoring. In first section of our work we have survey various corridors of elephants we have used sensor technique in our work, Machine learning was used to preprocess data. Data is collected in terms of corridors. Later, such corridors were identified which are not manageable and rescue operation were done. In our paper we have given introduce of forest, Elephant and Technique. In second section application of machine learning in corridor section in third section technique in rescue operation is discussed lastly, analysis and conclusion.
Keywords: Elephant**,** corridor, machine learning, rescue.

ISCA-ISC-2019-5CIT-03-Poster

Feature extraction techniques for extraction of features of insects of rice crop

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Abstract: In recent years few findings have been observed to reduce agriculture expenditure for rice crop. Pest and insects are one of the major causes of damage to important agricultural crops. As Chhattisgarh is newly born state of India, which is famous for its quality rice, so it is essential to develop a system to identify paddy field insect for sustainable agricultural development in Chhattisgarh. In my present study, the features of rice insects and different feature extraction techniques are being studied, which can be used for identification of rice insects. Features are attributes of an image, which can be derived from image data set. Feature extraction is highly subjective in nature and selection of feature extraction technique depends on what type of problem we trying to handle. There is no generic feature extraction scheme which works in all cases.
Keywords: Pest, insect, rice crop, identification, feature extraction.

6. Earth and Geological Sciences

ISCA-ISC-2019-6EG-01-Oral

Hydrochemistry of groundwater with special reference to fluoride contamination of Balangir and Puintala blocks of Balangir District, Odisha, India

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Abstract: Most of the arid and semi-arid zones of the Indian subcontinent experience serious health problems due to high concentration of fluoride in drinking water. Some parts of Balangir district suffer from high concentration of fluoride in water. The aim of the study is to identify the fluoride concentration in groundwater and their effect in the study area. The present study was carried out in Balangir and Puintala blocks of Balangir district, Odisha during pre monsoon, 2017. There are100 numbers of water samples were collected and analyzed for various physico-chemical parameters like pH, EC, TDS, TH, TA, Ca^{2+}, Mg^{2+}, Na^{+}, K^{+}, CO_3^{2-}, SO_4^{2-} ,HCO_3^{-}, NO_3^{-}, Cl^{-}, F^{-} etc. 27% samples exceeded the acceptable limit of pH. TDS value of 61% samples has exceeded their acceptable limit. As per TH classification, 84% samples are exceeded their acceptable limit. As per Ca^{2+} value, 43% samples had exceeded their acceptable limit. 40 and 3% samples exceeded their acceptable limit of Mg^{2+} and Cl^{-}. There is a positive correlation (r = 0.12) that exists between HCO_3^{-} and F^{-}. TDS of the study area correlated positively with fluoride. The F^{-} concentration of the study area ranged from 0.12 to 2.58mg/l. According to ISI (1983), the desirable limit of F^{-} in drinking water is 0.6–1.2 mg/l, which will be helpful in maintaining the dental and skeletal health. According to BIS (2012) standard the maximum permissible limit of fluoride in drinking water is 1.5mg/l. There are 70% of the groundwater samples were below 1 mg/l and 15 % of the samples were above the permissible limit of 1.5mg/l, while 10% of the samples showed the desirable range of 1–1.5 mg/l. This study shows that contamination was high in certain parts of Balangir and Puintala blocks of Balangir district and the quality of water must be maintained by resorting to appropriate treatment and management strategies.

Keywords: Hydrochemistry, fluoride, Balangir.

ISCA-ISC-2019-6EG-02-Oral

A record of late Permian megafloral assemblages from Himgir area, Ib river Basin, Odisha, India

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Abstract: The Ib River Basin, situated in the south-eastern part of the Son-Mahanadi Master Basin has always been in focus for its reserve of well diversified Lower Gondwana plant megafossils. A good number of plant mega fossils has been collected from Himgir Village, Sundargarh District, Ib River Basin, Odisha, India (21°45′47″N Latitude and 83°42′28″E Longitude). The collection of plant fossils from this locality represents the dominance of highly diversified Glossopteris flora (50 taxa) during the Late Permian time (Wuchiapingian age). The complete macrofloral assemblage incorporates 45 species of *Glossopteris* (Glossopteridales); along with equisetaceous stems, *Schizoneura gondwanensis* (Equisetales); *Trizygia speciosa* (Sphenophyllales); *Neomariopteris talchirensis* (Filicales) and stem casts. The existence of Late Permian floras and the absence of typical Triassic flora (*Dicroidium* flora) in the present fossil assemblage predict the age of fossiliferous horizon towards Lower Kamthi Formation. The investigated area is covered by fossiliferous ferruginous red shale, ferruginous red sandstone, clay and pebbly conglomerate. The combined study of megafossils and lithology of the area suggest the affinity of the fossiliferous horizon towards Lower Kamthi Formation of Late Permian time (Wuchiapingian age). The presence of well diversified fossil assemblages represent a thick swampy dense forest. The different morphological factors of plant fossils signify a warm, humid and temperate climate with intermittent rainfall at the time of deposition.

Keywords: Megaflora, glossopteris flora, lower Kamthi, Ib River Basin

ISCA-ISC-2019-6EG-03-Oral

Groundwater quality assessment for drinking purpose in Ramgarh town, Panchkula District, Haryana, India

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Abstract: Water is a precious natural gift to the planet Earth. It is stated that about two third on the planet Earth is water but the human useable water is very less. In the present fast developmental activities surface water and groundwater are highly

exploited for different uses. Groundwater is highly useable resource for agriculture, drinking and industrial purposes in all parts of the world. Understanding of groundwater quality is important for various uses like drinking, agriculture and industrial purpose. The present study has been carried out to assess groundwater quality for drinking purpose in Ramgarh Town in Panchkula district, Haryana, India. In the present study eight groundwater samples were collected in the month of June 2019 from different locations in Ramgarh Town. Groundwater samples were analyzed using Field Water Testing Kit prepared by Tamilnadu Water Supply and Drainage Board (TWAD), Chennai for chemical parameters-pH, hardness, chloride, fluoride, iron, ammonia, nitrate, nitrite, phosphate and residual chlorine. Chemical analysis of groundwater samples show that in the groundwater pH ranges-7 to 7.5, hardness 100 mg/l to 250 mg/l, chloride 40 mg/l to 110mg/l, fluoride 0.5 mg/l to 1 mg/l, iron 0 mg/l, ammonia 0 mg/l to 3 mg/l, nitrite 0.2 mg/l to 0.5 mg/l, nitrate 20 mg/l to 75 mg/l, phosphate 0 mg/l to 1 mg/l, residual chlorine 0 mg/l to 0.2 mg/l. In the collected groundwater samples in the study area as per BIS drinking water standards pH, chloride, fluoride, iron, nitrite, phosphate, residual chlorine is desirable in all the eight groundwater samples; hardness is desirable in four groundwater samples and permissible in four groundwater samples; ammonia is desirable in six groundwater samples and non-potable in two groundwater samples; nitrate is desirable in seven groundwater samples and non-potable in one groundwater sample. The study gives a view of groundwater quality for drinking purpose in the study area that can further be used for monitoring groundwater quality for drinking purpose.

Keywords: Groundwater, quality, assessment, drinking, Ramgarh, Panchkula.

ISCA-ISC-2019-6EG-04-Oral

Geochemical and petrographic appraisal of coal and carbonaceous shale samples from extra-peninsular Gondwana basin of Kalijhora, West Bengal, India

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Abstract: The present endeavour is concerned with evaluation of geochemistry and petrography of coal and carbonaceous shale samples entombed within the extra-peninsular Gondwana exposures of Kalijhora area located in Darjeeling District, West Bengal, India. While proximate analysis categorise the organic samples as dominantly bituminous medium volatile ones, elemental analyses display mostly para-bituminous species. Higher amount of ash content in the coal hints at their drifted origin. Rock-eval pyrolysis of coal samples has deciphered dominantly Type III kerogens which are highly gas-prone. Source was evaluated to be over-matured where oil generation chances are low. An over-matured source can be attributed to an effect of thrusting whereby the local geothermal gradient was drastically raised. The relatively low HI values are generally interpreted as increasing proximity to palaeo-shoreline. Marine influence is also highly supported by the presence of moderately high sulphur in coal samples from Kalijhora area which range in rank from medium volatile bituminous to low volatile bituminous varieties. Coal in the study area were deposited in a wet moor with intermittent moderate to high flooding condition representing a warm and humid climatic condition that helped in the advancement of the process of humification.

Keywords: Extra-peninsular Gondwana, geochemistry, petrography, coal, carbonaceous shales, Kalijhora basin.

ISCA-ISC-2019-6EG-05-Oral

Study of source rock potential and thermal maturity of Oligocene coals in the Laisong formation of the Barail group in the Naga Schuppen Belt, Medziphema, Nagaland, India

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Abstract: The coal occurrences in the Laisong Formation of the Barail Group is located at southwestern most part of the Naga schuppen Belt, exposed along the Dimapur-Kohima road.The study of hydrocarbon generation potential and thermal maturity of coals is carried out on the basis of Rock Eval pyrolysis. High Rock-Eval TOC (mean 54.24%), HI (mean 355mgHC/g) and GP (mean 198.42mgHC/g) indicate that the Laisong coals contain excellent quality organic matters to act as source of petroleum. The Hydrogen Index (HI) value with an average of 355mgHC/gTOC indicate presence of both type II and III kerogens. TheRock Eval maturity parameters such as Tmax, PI, PI versus Tmax plot are indicative of presence of immature organic matters in the Laisong coals.

Keywords: Coal, hydrocarbon potential, thermal maturity, Rock Eval Pyrolysis, Laisong Formation.

ISCA-ISC-2019-6EG-06-Oral

Geochemical characteristics of the ultramafic and carbonatite rocks of sung valley, Shillong plateau, North-East, India: constraints on their petrogenesis

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Abstract: Carbonatite in association with ultramafic rocks (pyroxenite and peridotite) of Cretaceous age are exposed in Sung valley, Shillong plateau, India which is coeval with Sylhet trap magmatism on the Southern fringe of the plateau. The magmatic activity for the rock complex took place under the influence of the Kerguelen plume. The carbonatites and ultramafic rocks of the Sung valley are petrologically and geochemically studied. Major, trace and REE studies are carried out on the carbonatite and ultramafic rock suits of the complex. Petrographically, the ultramafic rocks are predominantly orthopyroxenites and the carbonatites are mostly apatite-carbonatites and silico-carbonatites. Ultramafic rocks are comprised of moderately high SiO_2 (44.14-53.30 wt. %) and high MgO (9.74-16.44 wt. %) and the carbonatites are comprised of low to moderate SiO_2 (38.64-51.68 wt. %), high CaO (13.28-24.25 wt. %) and low MgO (2.20-12.16 wt. %) contents. Primordial Mantle (PM) normalized multi-elemental patterns for the ultramafic and carbonatite rocks show enrichment compared to PM. Both the LILE and HFSEs are of similar abundances and display roughly flat patterns along with negative anomalies at Ti and Y. The Chondrite normalized REE patterns display fractionated trends with LREE enrichment and HREE depleted suggesting generation of magma from a garnet bearing source in the deeper mantle.
Keywords: Carbonatite, ultramafic, sung valley, shillong plateau, petrography and geochemistry.

ISCA-ISC-2019-6EG-07-Oral

Assessment of groundwater quality with special reference to fluoride in Bichhiya Tehsil, Mandla District, Madhya Pradesh, India

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Abstract: The children of the entire study area are under the threat of dental caries, mottling of teeth, bending of spinal column and fluorosis due to high fluoride in drinking water sources. In order to determine the water quality with special reference to fluoride, the physicochemical parameters have been analyzed with respect to BIS and WHO standards. Gibbs diagram depicts that the groundwater samples fall in rock dominance field. The chemical parameters show weak correlation with fluoride. The linear arrangement of high fluoride samples and its striking parallelism to the existing southern fault system trending almost E-W indicates structural control on the occurrence of high fluoride in the study area. Nalgonda Technique is suggested in affected areas. The subsurface water quality should be assessed thoroughly to ensure good health to the villagers especially children, expecting and lactating mothers.
Keywords: BIS, fluorosis, Gibbs diagram, correlation, Nalgonda technique, spatial variation.

ISCA-ISC-2019-6EG-01-Poster

Distribution of uranium in ground water of western part of Chhattisgarh, India

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Abstract: In this study concentration of uranium and other geochemical parameters in ground water of Rajnandgaon District of Chhattisgarh state were evaluated. In winter season all the ground water samples were found under the safe limit (60 µg/L) prescribed by Atomic Energy Regulatory Board (AERB) while in summer 2% of ground water samples had uranium concentration above the AERB recommended limit. Positive correlation of uranium concentration with conductivity, total dissolved solid, total hardness, Ca^{2+}, chloride, sulphate, and, nitrate suggest that concentration of uranium in ground water depends on chemical characteristics of the ground water and on the uranium content of the host rock.
Keywords: Uranium, groundwater, geochemical parameters, Rajnandgaon District, Correlation.

ISCA-ISC-2019-6EG-02-Poster

Geophysical and chemical analysis of earth soil for possibility of tea (Camellia Sinensis) plant growing

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Abstract: -Naturally the earth soil endues the micromineral nutrients to the plants over it. Potentialcomposition of mineral elements present in soil is one of the materiality qualitiesfactors, on which growing of plants depend. The purpose of the present research was to analyze the geophysical and chemical properties of the soil of some specific suitablearea of Surguja division of Chhattisgarh, India forpossibility of tea (camellia sinensis) plant growing. Primarily it has been observed that the tropical and subtropical climatic condition, temperature status, elevation range of some hilly area of Surguja division are as similar to the tea garden of north east and south India. Soil samples were collected from study areas and analyzed for pH, soil type and composition mineral elements. This study of soil will be helpful in acquiring scientific knowledge among local authorities, investors, tea growers and local farmers.As tea (black and green) is the most consumable beverage after water all over the world and is cash crop therefore it will improve the economic graph of the locality and state.
Keywords: Geophysical, micromineral, composition, tropical, elevation.

7. Engineering, Energy, Architect and Planning

ISCA-ISC-2019-7EEAP-01-Guest Speaker

Reference evapotranspiration estimation using cropwat model at barman

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Abstract: This paper estimate reference evapotranspiration at Barman catchment, Madhya Pradesh (India) using CROPWAT model. Determination of Evapotranspiration (ET) is important for civil engineer in irrigation design, irrigation scheduling, water resource management, hydrology and cropping systems modeling. The Penman–Montieth formulation is regarded as a good estimator for a wide variety of climatic conditions. The United Nations food agriculture organization (FAO) adopted the Penman–Montieth method as global standard to estimate reference crop (ET_0) from meteorological data. Based on the intensive study of this paper, daily basis meteorological weather data recorded from 2004 to 2013 were used to obtain the result. The study detects that Penman–Montieth method is the best method to estimate ET_0 because of its inclusion of parameters in calculation.

Keywords: Barman catchment, Reference Evapotranspiration, CROPWAT, Penman–Montieth method**.**

ISCA-ISC-2019-7EEAP-02-Guest Speaker

Examining the Impact of various sources of power (energy) generation on the nations' economy

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Abstract: Electricity being a form of energy plays an important role in the economic growth and health of a nation. Hence the synergy in the supply of electricity and the measure of economic activities is vital in both large and small scales industries at both national and international. In the wake of a dire need to finding an alternative solution to the ever-recurring problem of power insufficiency in Nigeria, this work examines the effect of various power generation sources on the Nigeria's economy. It is aimed at methodically suggesting a more dependable power generator. Result from analysis using the nation's annual Gross Domestic Product (GDP) and amount of power generated annually from various sources reveals that a better and constant power generation could be achieved through dependence on gas as a primary generator of power. This result is an addition in favor of the ongoing debate to end gas flaring in Nigeria.

Key words: Energy, electricity, gross domestic product, economy.

ISCA-ISC-2019-7EEAP-01-Oral

Study on the hydrate based capture of acidic gases from mixture gases

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Abstract: The demand for energy in the whole world is mostly depend upon the fossil energies such as oil and natural gas. The fossil fuels are composed of hydrocarbons such as methane, ethane, propane etc but these fluids also contain some impurities such as carbon dioxide, hydrogen sulphide and nitrogen. There is need to find the new gas reservoirs which contains high concentration of acid gases to fulfill the demand of energy. Also there is need to develop the acid gas separation technologies for the separation of carbon dioxide and hydrogen sulphide from process gas streams which are included in hydrogen synthesis plants, natural gas upgradation, recovery of landfill gas and enhanced oil recovery. The present work studied the use of hydrate formation for the capture of acidic gases from mixture gases. Some additives have also been investigated, which can capture the acidic gases synchronously. It has been studied and concluded that the synergic additives change the equilibrium conditions of hydrate formation rate. The additives can also increases the selectivity of carbon dioxide and hydrogen sulphide over methane during the formation of hydrate and improve the rate of formation and storage capacity. The additives have excellent effect to promote the solubility and diffusivity of acidic gases. The hydrate technology can be used practically in the industry for the potential production of fuels.

Keywords: Hydrate, capture, acidic gases, mixture gases.

ISCA-ISC-2019-7EEAP-02-Oral

RFID: An implication in real life

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Abstract: RFID is that data from a tag are captured by a device that stores the data in a database. The base idea behind implementing RFID Based Toll System is to automate the toll collection process and their by reducing manual operation in toll booths and the long queues at toll booths using RFID tags installed on the vehicles. We can not only help the vehicle owners and system administrators from vehicle theft detection but also can track over speeding vehicles, and crossing the signals. The purpose is to find the avoidance of the fuel loss, saving of time in collecting toll, avoid financial loss, to monitor the traffic. The Electronic Toll Collection system in expressway based on RFID, a design scheme was put forward. It is low cost, high security, far communication and efficiency. It does not improve the passage ability of expressway but also improve the technology level of charge. Electronic toll collection system using RFID is an effective measure to reduce management costs and fees, at the same time, greatly reduce noise and pollutant emission of toll station. In the design of the proposed Electronic toll collection (ETC) system, real time toll collection and anti-theft solution system have been designed. This reduces the manual labour and delays that often occur on roads.

Keywords: RFID, ETC, Real time toll collection, database, tag.

ISCA-ISC-2019-7EEAP-03-Oral

Reuse of red mud as a construction material

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Abstract: Red mud or bauxite residue, is a side-product of the Bayer process, the principal means of refining bauxite to alumina. Bauxite tailings, also known as red mud is a highly alkaline waste product composed mainly of iron oxide. This slurry contains 15–40% solids and very fine particles and is difficult to settle in water or compact on land. The scale of production makes the waste product an important one. For every tonne of alumina produced, nearly 1 to1.5 tonnes of red mud are also generated. Annually it is estimated that approximately 118 million tonnes of red mud are generated in the world. With very less use of this waste product what represents an immense risk of pollution to environment through contamination. Even though there are researches that shows the suitability of using the waste product in the constitution of ceramic materials, there are no vast application. This study helps to evaluate the possibilities of red mud application in construction industry focusing on increasing the strength characteristics. Observation from other researchers were taken in to consideration and analyzed according to economic, technical and environmental suitabilities.

Keyword: Bayer, environmental, bauxite, alkaline.

ISCA-ISC-2019-7EEAP-04-Oral

Binaural auditory beats for reducing attention deficit disorder in autistic children

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Abstract: Audio Visual Entrainment is an operational and affordable treatment of special-needs children. The objective of this research project is to establish Brain Wave Entrainment as a remedial curing method for ADHD/ autistic children in society. It will be done by performing detailed analysis of EEG signals of same subject before and after listening to specially designed 14 Hz Binaural Beats. It is desired to technically prove that Beta wave brainwave entrainment provide real potential to really change psychological outcomes in case of ADHD/Autism patients. It will be done by the help of mathematical analysis using MATLAB software. This technology may be used later by doctors and psychotherapists as a treatment method for ADHD patients.

Abstract: Binaural beats, electroencephalographic signal, auditory impulses, frequency following response, Cortical Evoked Response.

ISCA-ISC-2019-7EEAP-Electronics-01-Oral

Routine investigation of heart sound signal

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Abstract: Phonocardiogram comprises graphical footage of feeblelife signal snooping with lots of related noise from several sources from the hominid heart. In the proposed work a real-time acquisition of heart sound signal has been accomplished using the self-designed circuit which is consisting of a amplifier in which heart sound signal is taken, using a modified stethoscope and filtered using the six-hertz filter which is designed in hardware. The acquired signal is then taken into software environment where a three hertz Butterworth filter and Chebyshev filter is used to again filter out the noise content in the signal. After filtering, it is observed that the output signal is quite clear and the noise had reduced considerably. In this present work comparison between the filtering property of Butterworth and Chebyshev filter is done for the real-time acquired heart sound signal.
Keywords: Phonocardiogram, butterworth filter, chebyshev filter.

ISCA-ISC-2019-7EEAP-Mechanical-01-Oral

Analysis for reduction in exhaust emissions from four stroke petrol engine automobiles using different blends of petrol and ethyl alcohol as a fuel

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Abstract: The level of air pollution has risen severely due to the harmful emissions from four stroke petrol engine automobiles. Exhaust emission have both local and global impact. This research paper is based on the exhaust emissions from a four stroke petrol engine fueled with blends of ethyl alcohol blends and petrol. The engine will be made to run at different loading conditions using different concentrations of petrol and ethyl alcohol using a suitable test rig. The expected outcomes of this research are reduced concentrations of exhaust emissions from the four stroke petrol engine.
Keywords: Blends, engine, ethyl alcohol, petrol, pollution.

ISCA-ISC-2019-7EEAP-Mechanical-02-Oral

Experimental analysis for minimizing the production cost of turning process

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Abstract: Turning process is widely used in industry for producing cylindrical jobs as per requirement. This research is based on experimentation for optimization of production cost of turning process considering cutting speed and feed rate as cutting parameters. The outcome of this research will help in finding the range of cutting parameters yielding the minimum production. This research will help the operators to save the cost of turning process by choosing optimum cutting parameters.
Keywords: Cutting speed, feed rate, optimization, turning.

ISCA-ISC-2019-7EEAP-Mechanical-03-Oral

Analysis of air pollution due to spark ignition engine automobiles and its treatment using nanotechnology

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Abstract: Air pollution from Spark Ignition engine automobiles has become a grave problem and its intensity is increasing every passing day. The exhaust gases vented from them have caused problems ranging from simple allergy to death causing cancer. So, it's high time to devise and implement effective methods to regulate the concentration of harmful exhaust gases vented from Spark Ignition engine automobiles. This research paper is based on analysis and control of air pollution from Spark Ignition engine automobiles using Nanotechnology.
Keywords: Automobiles, exhaust, nanotechnology, pollution.

ISCA-ISC-2019-7EEAP-Mechanical-04-Oral

A new integration system for combined power plant with heat recovery system and low emission

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Abstract: The combined power plant is characterized by its relatively low capital investment and environment advantages compared with the conventional power plant. The conventional power plants have lower efficiencies. Now a days for the new integration efficiency improvement system is the ‘‘combined cycle’’. In current situation the combined cycle is new technology and its offers superior efficiency to any of the competing gas turbine. In this paper comparing four different cycles to analysis optimization of waste heat Recovery: 1.Gas turbine, 2.Reheat steam turbine, 3.Steam turbine without Reheat, 4.Combined cycle gas turbine/steam turbine power plant. The new integration system combined cycle plant would produce 100 MW of power (67 MW from the gas turbine and 33 MW from the steam turbine). The gas turbine cycle is more effective using the combined cycle power plant and its higher efficiency. The initial way to adopted is the four cycle of the possible of the combined power plant. Now, the gas turbine is selected, the next step is to analysis the impact of the steam cycle design and parameters on the overall performance of the plant. Each alterative cycle was studied, aiming to find the best option from the standpoint of overall efficiency, installation and operational costs, maintainability and reliability for a combined power plant working in base load. Several schemes are proposed for investigation. In this paper to find out the overcome of the limitations of the conventional analyses and to increase our knowledge about a plant, advanced Heat Recovery Steam generator with low emission exergy have been developed. Resulting in the Gas turbine output is 67.8 MW, steam turbine output is 34.8 MW. Steam cycle efficiency is 22.5% and the overall efficiency is 53.2%. Net power output of plant 101.4 MW. Utilization rate of waste heat energy 62.4%.The results show that the greatest exergy loss in the gas turbine occurs in the combustion chamber due to its high irreversibility. As the second major exergy loss is in HRSG, the optimization of HRSG has an important role in reducing the exergy loss of total combined cycle.

Keywords: Thermal power plant, power enhancement, flue gas loss, combined cycle, gas turbine, reheat steam turbine, steam turbine without Reheat, gas turbine, steam turbine power plant, CO_2 removal.

8. Environmental Sciences

ISCA-ISC-2019-8EVS-01-Presidential Address

Photodegradation of organic pollutants by using nanocatalysts

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Abstract: Toxic organic pollutants from the domestic and industrial activities are main cause of water pollution. The release of organic pollutants containing effluents in water bodies creates a considerable threat to aquatic life as well as the environment. Now it is the subject of substantial concern of environmental remediation. Many researchers have revealed that toxic organic pollutants can be eliminated by phocatalytic method. Photocatalysis by nanomaterial is the most encouraging and inexpensive way for water purification. Present work rationalizes the preparation of nanomaterials and/or derivatives for their photodegradation efficiency of organic pollutants. Dyes degradation potential of synthesised nanomaterials under uv-visible light were studied by optimising various conditions such as effect of contact time, effect of dose, effect of concentration and effect of pH. The prepared nanocatalyst were characterized by using techniques such as x-ray diffraction, fourier transform infrared spectroscopy, particle size analyzer, scanning electron microscopy and transmission electron microscopy.

Keywords: Photodegradation, Uv-visible radiation, Nanomaterial, Charecterization.

ISCA-ISC-2019-8EVS-01-Guest Speaker

Study on status of lake water Navi Mumbai, Thane District: Maharashtra, India

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Abstract: Lakes are complex ecosystems with many species of animals and plants interacting with each other and their environment. Every lake is a unique body of water, reflecting many of the characteristics of the surrounding watershed and the climate, as well as the shape and volume of the lake basin. External factors such as sunshine, wind, air temperature and water inflows combine with internal forces such as evaporation rates, currents, nutrient release from sediments, nutrient uptake by algae, and plant-animal interactions to produce an intricate web of relationships.The present paper reflects on the effect of idol immersion on lake water. The study was followed by collecting the water samples from four lakes of Navi Mumbai i.e. Nerul, Juinagar, Koparkhairane and Vashiwas analyzed for various physico-chemical parameters. The physico-chemical parameters like pH, TDS, Conductivity, Total Hardness, Chloride, Dissolved Oxygen and Chemical Oxygen Demand shown a significant increase after the immersion of idols and then there was a drastic decrease in the parameters during the post immersion period. The materials released through idols immersed in the lake resulted in eutrophication of lakes.

Keywords: Lake, Idol, Physico-Chemical parameters, NaviMumbai.

ISCA-ISC-2019-8EVS-02-Guest Speaker

Water quality of wetland in Ratanpur in Chhattisgarh, India: A case study of Dulahra Pond

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Abstract: Wetland are knows as earth kidneys because kidneys play an important role of filtering water. As water moves through a wetland, the sediments and pollutants stick in the wetland, making water cleaner. It can reduce flooding and protect our shores from wave action absorb pollutants and improve water quality. Water pollution is a global issue and todays, all living being facing contaminated water. Dulaharapond is one of the largest pondsituated in Ratanpur nagar palika. The present study investigates the level of pollution and its health effects and solution among residing the people. The proposed investigation will enable us to assess the pollution status of water of pond and the suitability of water of these ponds for various domestic purposes including drinking. For large ponds three sampling sites at 100 meter distance in four across peripheral area have determined; simultaneously 100 meter inside from the margin three sampling sites at surface, middle and bottom region of water in four direction have determined during 2018-2019. High Secchi depth readings of 43±0.21 at S-3 South peripheral site during rainy season correspond to high water clarity. The objectives of this study are to analyse the surface water quality of Dulahra pond by water quality index. For calculating the water quality index (WQI), the following 12 parameters have been considered: transparency temperature, pH, calcium, magnesium, chloride, nitrate, phosphate

sulphate, total dissolved solids, total suspended solids and alkalinity. The WQI for these samples ranges from 42.21 to 60.56 in the peripheral sites and 39.63 to 58.25 in the inner sites. The high value of WQI has been found to be mainly from the higher values of Phosphate, nitrate, total dissolved solids, total suspended solids hardness, sulphate, bicarbonatecalcium and manganese in the pond water. Therefore there is a need of some treatment before usage and also required to protect that area from contamination.

Keyword: Wetland, water quality index, Contamination.

ISCA-ISC-2019-8EVS-02-Oral

Assessment of indoor and outdoor background gamma radiation levels and related radiological health hazards in Bemetara District of Chhattisgarh State, India

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Abstract: In this study, indoor and outdoor gamma dose ratios were calculated in order to determine the risk of cancer, originating from the natural radiation, in the region for the health of the public and tourists for the Bemetara District of Chhattisgarh State, India region. In order to determine the natural radiation rate in the region, indoor and outdoor measurements were made at 50 points. Polimaster PM-1405 measurement device based on the Geiger-Muller technique was used for measurement of gamma dose rate inside and outside. Measurements were made so that the detector was 1 m above the ground, parallel to the gonate area. The Minimum indoor gamma dose rate was measured as 136.00 ± 6.80 (nSv/h) in the Karchuwa region. Maximum indoor gamma dose rate was measured as 237.00 ± 11.85 (nSv/h) in the Bargaon region. Minimum outdoor gamma dose rate was measured as 101.00±5.05 (nSv/h) in the Kobiya region. Maximum outdoor gamma dose rate was measured as 223.00±11.15 (nSv/h) in the Bargaon region. Further, the data of Bemetara District was used for Statistical method for prediction of indoor gamma dose rate from outdoor gamma dose rate.

Keywords: Gamma dose rate, indoor and outdoor gamma dose rate, statistical method and Chhattisgarh region.

ISCA-ISC-2019-8EVS-03-Oral

Study of mobisliation of few toxic elements under strained environmental conditions in central India - a thermodynamic approach

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Abstract: Knowledge of trace element background concentrations is important not only for land application of wastes and making remediation decisions but also deciding the extent of distribution in the area, which too holds an important issue as far as mineral exploration is concerned. Among various trace elements normal background concentration of arsenic level is 1.0 mg kg $^{-1}$ in most parts of Chhattisgarh, soil arsenic concentration levels in few areas like Chowki and Kaurikasa show values far beyond the normal range of background levels. Present paper compares the arsenic distribution in few areas of eastern Chhattisgarh and prepares a mathematical model approach using thermodynamic explanation for demarcating between contaminated and non-contaminated zones of the region.

Keywords: Background concentration, natural and anthropogenic, arsenic, Kaurikasa.

ISCA-ISC-2019-8EVS-04-Oral

A review on comparative study of spectrophotometric determination of some pesticides

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Abstract: Pesticide can contaminate soil water turf and other vegetation. This paper reviews a comparative analysis of spectrophotometric determination of some pesticidesspecificallymalathion, carbendazim, and carbosulfan. For melathion three methods were reviewed. Modified spectrophotometric method, Decomposition of Malathion in the presence of alcoholic KOH, Malathion determination by potassium bromate. Malathion determination by potassium bromate obeys Beer lambert law up to 8 ppm at 415 nm. Similarly for carbendazim three methods were reviewed. Oxidation by complex formation product, Extraction of pesticide and potassium Ferricynide.Oxidation of MBC pesticide with Fe (III) ions in acidic medium.The method of oxidation of MBC pesticide with Fe (III) ions in acidic medium followedBeer law at 0.5-13ng mL-1

at 685 nm and in carbosulfan methods reviewed were The Novel oxidative coupling method, Alkaline hydrolysis of carbosulfan in to phenol, Novel spectrophotometric method. The method of Novel oxidative coupling method followed the Beer lambert law at 0.1 – 1.0 ppm at 430 nm.

Keywords: Spectrophotometric method, carbosulfan, carbendazim, melathion, pesticide.

ISCA-ISC-2019-8EVS-05-Oral

Estimation of ground water quality for pre and post monsoon season in physico–chemical parameters of Gorakhpur District, UP, India

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Abstract: - In this study ground water quality for physico - chemical parameters of premonsoon and post monsoon season of Gorakhpur district has examined. For this analysis ground water samples are collected from twenty sampling sites. It has been found that the conc. of all ground water parameters are higher in premonsoon season than post monsoon season .The physico- chemical parameters which are detected in study are Temperature, pH, EC, Turbidity, TDS, Total Hardness, Alkalinity, Nitrate, Fluoride, Arsenic.

Keywords: Ground water, pre monsoon, post monsoon, arsenic.

ISCA-ISC-2019-8EVS-06-Oral

A brief review on the various adsorbents used for the removal of hexavalent chromium

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Abstract: Hexavalent chromium (Cr(VI)) is a well-known highly toxic metal, considered a priority pollutant. Industrial sources of Cr(VI) include leather tanning, cooling tower blow down, plating, electroplating, anodizing baths, rinse waters, etc. This article includes a survey of removal techniques for Cr(VI) contaminated aqueous solutions. A particular focus is given to adsorption treatment method. Several adsorbents such as activated carbons, low cost biomaterials such as agricultural wastes, industrial wastes, living and non-living adsorbents tested for removal of chromium have been reviewed in the present study. It is evident from the past study that the removal effect of chromium depends on solution pH, contact time, adsorbent dosage, initial chromium concentration and adsorbent mesh size on adsorption was studied. The primary objective of this survey is to provide recent information about the most widely used techniques for Cr(VI) removal.

Keywords: Fate of hexavalent chromium, adsorption techniques, activated carbon, natural adsorbents, modified adsorbents.

ISCA-ISC-2019-8EVS-07-Oral

Macrophytes: losing its indigenous importance

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Abstract: Indigenous Medicinal practise are an important component of the traditional knowledge. Apart from their commercial value, the local community utilizes a good number of these plants for various curative purposes, which are unknown to the people at large. Macrophytes are one of such aquatic plants. Attempt has been made to document are of the little known medicinal properties of Macrophytes used by the local community living around.

Keywords: Medicinal use, importance, macrophytes, curative.

ISCA-ISC-2019-8EVS-08-Oral

Environmental peacebuilding and politics

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Abstract: Natural resources and other environmental factors are linked to violent conflict in a variety of ways often obscured by more visible issues, such as ethnic tension and power politics. Environmental peace building refers to all forms of cooperation on environmental issues, between distinct social groups, which aim at and/or achieve creating less violent and

more peaceful relations between these groups. Environmental peacebuilding represents a paradigm shift from a nexus of environmental scarcity to one of environmental peace. However, there is a lack of coherent environmental peace-building framework and evidence corroborating the existence of this environment-peace nexus. Building on a multidisciplinary literature review, this article examines the evolution of environmental peacebuilding into an emerging framework. It unpacks the concept and explains its main building blocks (conditions, mechanisms and outcomes) to develop our understanding of when, how and why environmental cooperation can serve as a peacebuilding tool. Finally, this article draws attention to the remaining theoretical gaps in the environmental peacebuilding literature concluding with the finding that although the formulation of a legislation in India remains to be a distant dream, there remains a hope that environmental cooperation will foster regional peace and stability and increased budgetary allocation of international funding to such initiatives should be raised.

Keywords: Environmental, peacebuilding, politics.

ISCA-ISC-2019-8EVS-09-Oral

Fly ash induced gill alterations in fishes

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Abstract: The major vice of modernisation is facing the vast production of fly ash, a bi product of coal fired electric production. Chhattisgarh being the major electricity producer, faces the major fly ash menance. These particles pollute every part of ecosystem at every level. Their entry in aquatic system creates havoc for fishes. The fishes were collected from the polluted water bodies and alterations in gills were studied. Then the fishes were exposed to fly ash in lab at different concentrations .The LD 50 was worked out. The gill alterations produced were compared with control fishes. Thus the alterations were recorded and the reasons of alterations were attributed to fly ash.

Keywords: Fly, ash, gill, alterations, fishes.

ISCA-ISC-2019-8EVS-10-Oral

Integrating sustainability science into higher education: concept and context

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Abstract: The education at all levels has been recognised as powerful tool to transform the society, to preserve natural resources and to achieve sustainable development. Higher education, specially seen as a measure catalyst towards sustainable development. During last two decades higher education institutions have implemented various sustainable development initiatives through their various activities including research, education, public service and campus operation. It is important that sustainable development goals can be achieved through incorporating economic, social and environmental aspects in teaching programs. Sustainability science has emerged as vibrant discipline, trans-disciplinary in nature and compasses more descriptive, analytical and basic science to achieve sustainable developmental goals. Present paper summarises journey, contributions, roles and responsibility of higher education for sustainable growth. It describes features and characteristics of sustainability science and its integration with higher education and evaluation of sustainability science as measure tool to solve challenges of sustainability.

Keywords: Higher education, sustainability goals, sustainability science, tran-disciplinarity.

ISCA-ISC-2019-8EVS-01-Poster

Sensor based drip irrigation using solar pump

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Abstract: Water and electricity are priced resources for agricultural production system, which correspond to each other because of parallel significance in this sector besides this around 40% of world population sustaining their livelihood on agriculture, some are living in poverty. Introducing of solar power to meet extra demand of electricity can boost the agricultural production and production system as well. This has became popular and increasing fast due to enhanced cost-competiveness, environmentally suitable, energy security, convenience, and applicable marketplace. Saurashtra, one of the major cotton growing regions in the Gujarat state. Scheduling of irrigation thus become important in cotton. Drip irrigation generally save 30% of the water for cotton. If mulch is conjointly adopted with drip system an additional 10% more water can be saved which is generally lost in evaporation from moisture bulb. Hence, this sound practice is adopted for Bt. cotton. In the present arena of climate change the temperature is going to be enhanced by 1°C which ultimately enhance water

requirement and frequency and on the other hand reduce the water availability to crops. So we are sand witched between low water availability and high crop water demand. This study was undertaken to address issues concerning the welfare of cotton growers in the Saurashtra state of Gujarat. In which, crop was irrigated with the help of soil moisture sensors based drip irrigation along with mulch. Renewable source of energy used to pump the irrigation water. Results revealed that around 60% irrigation water saved along with energy.

Keywords: Sensor, irrigation, solar power, electricity, Bt. Cotton

ISCA-ISC-2019-8EVS-02-Poster

Determination of some water quality parameters of water sample from the various part of Raigarh city, India

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Abstract: Water is most wonderful gift of nature. It is universal solvent. Without water nobody can think about life. Actually origin of life was occurs in water. Our planet is known as blue planet as one third part of it is surrounded with water. But today the whole world is facing water crises. It is very difficult to get sufficient pure water, because the demand of water is increasing every day. As population increases, it is very difficult to get pure water. The purity of water is determined with the help of parameters. In our work we collect the water from the various part of our city, and some other cities, near to our city, and analyse the different water quality parameters with the help of instruments available in our college lab. My work is very significant, because it helps people to understand the importance of pure water, it aware them about water pollution and develop the understanding in them to save the water if they want to save earth.

Keywords: Blue planet, pure water, universal solvent, water quality parameters,

ISCA-ISC-2019-8EVS-03-Poster

Adsorption of organic pollutants on agricultural waste: comparison of row rice husk and chemically modified rice husk

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Abstract: Many industries in southern Gujarat region introduces organic pollutants to nearby natural water sources which causes hazardous effects on environment and human health. Here technique adopted for decontamination of organic load is adsorption. The adsorbents used in this study is Rice Husk which basically inexpensive sorbent material obtained from agricultural waste, abundant in nature and has high potential for organic removal. The comparison of row powdered rice husk and chemically modified rice husk for their efficiency to remove chemical oxygen demand is the core of this research. Both this low cost materials are powerful adsorbent follow Freundlich and Langmuir adsorption isotherms. They removes COD upto 59.077 % (rice husk) and 73.743% (chemically modified rice husk).

Keywords: COD, Adsorption isotherm, Adsorption intensity (1/n), Adsorption energy (b x 10^3), Adsorption capacity (K, **Ɵ)**

ISCA-ISC-2019-8EVS-04-Poster

Terrestrial bark, a suitable bio-sorbent for the removal of radioactive element in aquatic environment

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Abstract: Many natural and artificial radionuclides have found in water. The concentration and composition of these radioactive constituents vary from place to place. Uranium is the most abundant naturally occurring actinides and widely distributed in the environment. A variety of remediation are available for the removal of uranium from water. The purpose of these study was to investigate the adsorption of uranium (VI) ion on some terrestrial tree bark (Eucalyptus citriodora, AzadirachtaIndica, Phyllanthus emblica). The result indicated the bio-sorption capacity is greatly enhanced after chemical oxidation. The use of barks could be considered as an affordable way to achieve the water treatment operations.

Keyword: Radioactive element, bio-sorption, bark, water, remediation.

ISCA-ISC-2019-8EVS-05-Poster

Preparation and characterization of a novel adsorbent from Aegle marmelos (Bael plant) leaf

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Abstract: A new and novel adsorbent was obtained by impregnation of medicinal plant Bael leaf. Prepared adsorbents were characterized using elemental analysis, proximate analysis and FT-IR, SEM analyses, respectively. The effects of operational parameters, i.e pH, moisture content, ash content, porosity and iodine number on these adsorbents were investigated and compared with those of commercial activated carbon (CAC). Proximate analysis results of Bael leaf have the highest percentage of fixed carbon (83%) and lowest percentage of ash, volatile matter and moisture content of all adsorbents studied Conclusively, the present investigation shows Bael leaf is a good alternative adsorbent that could be used in for recovery of dyes and heavy metal from aqueous solutions and other separation techniques.
Keywords: Adsorbent, characterization, impregnation, SEM, FTIR.

ISCA-ISC-2019-8EVS-06-Poster

Production of liquefiable fuel from sunlight by artificial photosynthesis

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Abstract: The word is presently confronted with the twin crises of fossils fuel depletion and environmental degradation search for an alternative fuel, which promises a harmonious correlation with sustainable development, energy conservation, efficiency and environmental preservation, has become highly pronounced in the present scenario. Biofuel is an alternative source of energy for present and future. Our idea is produced a fuel from leaf and bacteria in presence of sunlight. As we know that in leaf chlorophyll present which absorb sunlight and transfer the electron and proton for reaction between CO2 And H2O.inside we use gold nano partical that serve as a catalyst which work like chlorophyll. For speed up this reaction we use zinc oxide which increase the rate of reaction. the liquefiable fuel do not emitted the any type of gas. In this process carbon dioxide and water and visible light through artificial photosynthesis by converting carbon dioxide into more complexe molecules like propane. This technology is called Green technology. using excess carbon dioxide to solar energy in form of chemical bond for use when the sun is not shining and in times of peak demand. Overall will not only enhance combustion pf CO2 but also takel the problem of fuel depletion energy security, environmental pollution and greenhouse gas emission.
Keyword: Aritifical photosynthesis, propane, gold nano partical, fuel production.

ISCA-ISC-2019-8EVS-07-Poster

Effect of Rice mill effluent on aquatic organism

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Abstract: Parboiling is a premilling process for paddy which originated in India All industries have Social responsibility protect environment for future generation. Rice mill industries is one of the largest agrobased industries and important source of Indian economy. Studies reveled that physiochemical characteristic of rice mill waste water is slightly alkaline with pH-8 containing high concentration of organic and inorganic substance leading to significant source of water pollution . Effluent contain high concentration of Biological Oxygen Demand (BOD) , Chemical Oxygen Demand (COD), and Total Dissolved Solids (TDS) Due to use of fertilizer , pesticides insecticides and area where heavy metals are detected in soil ground water also effect aquatic living organism. When these paddy containing heavy metals in trace amount along with insecticides , pesticides goes through parboiling process that is soaking, steaming, drying and milling, the amount of waste water gets discharged either through municipal sewerage or adjoining areas untreated or partially treated gives long term effect to aquatic living organism mostly fishes. If effluent contain trace amount of heavy metal like arsenic, cadmium, or iron etc. can cause toxic effect to aquatic organism especially fishes which are highly sensitive to water bodies. However stagnant effluent on land also give adverse effect to natural growth of vegetation due to bad odor, also pose threat to public health. Due to high nutrient content in rice effluent, may facilitate growth of algae on surface of water bodies that lead to reduction

of dissolved oxygen. Rice mill waste water also contain rich amount of sodium, total phenol and silica. Thus waste from rice mill includes solid, liquid waste and gas. Husk and ash constitutes bulk of solids waste can damage respiratory organ who are working in industries. Gaseous emission includes carbon mono oxide (CO), sulphur dioxide (SO2) and nitrogen dioxide (NO2), Similarly after boiling rice waste effluent contain high concentration of organic and inorganic matter leading to unpleasant or foul smell due to anaerobic deposition of micro organism. Various studies revealed that effluent discharged from parboiled rice mill is alkaline in nature due to reaction of common salt with phenol released from rice. The area used to bring glaze of rice in boiler tank broken down to carbon dioxide and ammonia. Ammonia in turn react with water and phenol to form ammonium phenolate which is basic in nature. Beside this sodium ions of sodium chloride used in boiler tank to suppress the boiling point of water react with phenol forming alkaline sodium phenolate that increase the pH. Thus phenol imparts objectional odour to the receiving water, a well known disinfectants can resist biological activities are toxic to soil and aquatic organism. Similarly mercury one of the heavy metals also found in waste water in some areas that changes the morphological structure of *Channa punctatus* fish.There was inhibitory decrease in coloration an excessive mucous secretion. There was loosening of scales and bulging of eye – ball. Similarly clinical and hematological finding suggest harmful effect linked with rice husk dust. There was greater proportion of anemia and leukocytosis. Rice husk dust also cause kerato-conjunctivitis, irritation, corneal scars, chronic conjuctival inflammation, pterygium formation and pruritus. So care should be taken who are working in this area and effluent should be properly treated before discharging near by water bodies.

Keywords: Effect, Rice mill, aquatic organism.

9. Forensic, Medical, Dental and Nursing

ISCA-ISC-2019-9FMDN-01-Oral

Modicare vs Medicare

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Abstract: Public spending on healthcare in India is amongst the lowest in the world at just over 1% of gross domestic product (GDP), and the Indian health system is characterized by substantial shortcomings relating to workforce, infrastructure, and the quality and availability of services. Whereas, U.S. health care spending grew 3.9 Percent in 2017, reaching $3.5 trillion or $10,739 per person. As a Share of the nation's Gross Domestic Product, Health spending accounted for 17.9 percent. The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), approved by the Indian government in March 2018, is an ambitious reform to the Indian health system that seeks to provide financial health protection for 500 million of the most vulnerable Indians and halt the slide of the 50–60 million Indians who fall into poverty annually as a result of medical-related expenditure. There is a need for wide reforms across public and private providers of care if India is to meet its stated aims of providing universal health coverage (UHC) for its population. The success of the program will rely on a reformed and adequately resourced public sector to lead implementation, delivery, and monitoring of the scheme. While there are significant challenges facing the program, by providing the impetus for system-wide reform, AB-PMJAY presents the nation with a chance to tackle long-term and embedded shortcomings in governance, quality control, and stewardship and to accelerate India's progress towards the stated goal of UHC provision. Implementation and ongoing operation of the program need to be carefully monitored to ensure that it is meeting its aims in a sustainable manner and that negative unintended consequences are avoided.
Keywords: Medicare, health.

ISCA-ISC-2019-9FMDN-01-Poster

Development of an algorithm using machine learning in early diagnosis of dementia with the help of the clinical and multimodality structural and functional volumetric data

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Abstract: Dementia is the most prevalent degenerative disease in elderly whose progression can only be prevented or delayed by early diagnosis. In this study, we proposed a two-layer model algorithm using machine learning techniques. Clinical and multimodality structural and functional volumetric data were collected from patients who received dementia screening from May 2016 to May 2017 at our institute and were stored in the programme. Now, from June 2017 to October 2017, imaging data of clinically normal patients having strong risk of dementia were analysed and a predesigned questionnaire was applied on them. They were categorised by the machine as normal or abnormal according to the previously fed data. Bayes Network, Begging, Logistic Regression, Random Forest, and Multilayer Perceptron (MLP) using Precision, Recall and F-measure were used for analysis of the algorithm. Now, a year later, from June 2018 to October 2018 those people were again followed up for incidence of Mild Cognitive Impairment (MCI) and Dementia. It was found that using the proposed algorithm the program could diagnose 23.8% preclinical dementia cases, saving a year of lead time. Hence, this programme can save time and economic burden and can take a crucial role in early diagnosis of dementia.
Keywords: Algorithm, machine learning, artificial intelligence, early diagnosis, dementia and imaging.

10. Family, Community and Consumer

ISCA-ISC-2019-10FCC-01-Poster

Beneficial effect of roasted flax seed (Alsi): an ancient medicine on weight loss of type 2 diabetes patients

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Abstract: The purpose of the study is to observe effectof roasted flaxseed (alsi) over age-groupof 25-60 years300 (150 male patients and 150 female patients) type 2 diabetic patients in district hospital Raipur (Chhattisgarh).The study showsFlaxseed is emerging as an important functional food ingredient because of rich content in dietary fibre. One tablespoon of flax seeds contains 3 grams of fibre. Flaxseeds have nutritional characteristics and are rich source of ω-3 fatty acid: ALA, short chain PUFA, soluble and insoluble fibers, phytoestrogeniclignans, proteins and an array of antioxidants. The objective of the study is to find effect of roasted flaxseed (alsi) on blood sugar level andanthropometric changes in type 2 diabetic patients. Before and after 3 months anthropometric test of the patients were measured by standards method. In this research roasted flaxseed (alsi) is beneficial medicine to weight loss and to improve blood glucose level in type 2 diabetic patients. According to analysisPatients gain healthy BMI, WHR, and blood sugar level. So, in this study roasted flaxseed (alsi) is very effective medicine among type 2 diabetic patients.
Keywords: ω-3(Omega-3) fatty acid: α-linolenic acid (ALA), phytoestrogeniclignans, and dietary fibre.

ISCA-ISC-2019-10FCC-02-Poster

To study impact of nutritional rehabilitation centre on management of severally acute malnourished children

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Abstract: In Chhattisgarh nearly 15,000 children in Chhattisgarh die annually within the first week of their lives and one in every four children under three years of age suffer from wasting due to acute undernutrition.About 178,000 children in the 6-14 age group are out of school. Chhattisgarh's all India Early Development Index (EDI) rank at the primary level is an impressive eighth, but at the upper primary level the state ranks a low 25th. Present study has been undertaken at Nutritional Rehabilitation centre situated at Durg District Hospital and anganwadi centre. The study aims to assess the demo graphic profile of admitted children and awareness of mothers on issues of SAM and feeding practices. The mothers of SAM affected children were given the education and counselling on various aspect of feeding and eating habit pattern. Total 400 SAM children age between 2-4 years were selected by purposive random sampling. Data has been collected with the help of close ended and open ended questionnaire. The subjects under study were 248 are male and 152 were female. It was observed that about 60% of sample group were in the age range of 13 to 36 months. 360 children were analysed for the anthropometric indicators with a dropout rate of 10% during the period of study. Results were statistically significant for weight at admission and weight at discharge ($t=14.552$, $p<0.001$); similarly the study results for mid upper arm circumference (MUAC) were statistically significant ($t=9.548$, $P<0.001$). Study have found that the average weight gain during the period of stay at NRC Durg is 9.25 ± 5.89g/kg/day, further it was also observed that number of children affected from SAM were decreased during the period of study from 340 to 172 during their stay at NRC Durg ($x2 = 44.195$, $P<0.001$), Study also reveals that 48.80% of the children lost weight gain within 15 days of discharge from NRC. The mothers of the children lacked the knowledge of health issues and requirement of preparation of therapeutic diet. NRC plays a vital role in management of SAM affected children however the growth could be sustained following the discharge due to high drop-out rate and lack of adequate knowledge about the management of SAM affected children. There is an urgent need to link NRC with community based models for follow-up and sustained growth of children.
Keywords: Nutritional, rehabilitation, management, severally, acute, malnourished. children.

ISCA-ISC-2019-10FCC-03-Poster

Study on impact assessment on weekly iron folic acid supplementation (WIFS) and nutrition education among school going girls of Chhattisgarh, India

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Abstract: Government of India in collaboration with UNICEF has initiated the Weekly Iron and Folic Acid Supplementation (WIFS) program for adolescent girls to meet out the nutrient deficiency. Also it has been observed that nutrition deficiencies

occurred with lack of nutritional knowledge. This study has made an attempt to assess the impact of WIFS and Nutrition education imparted to school going girls of Chhattisgarh. To evaluate WIFS program for government school children. And to assess the effectiveness of nutrition education given to school going girls. It was a mixed-methods study design, where quantitative (survey of students) and qualitative (key informant interviews of teacher in charge of WIFS, health assistants, and auxiliary nurse midwife) methods were used. A predefined questionnaire was used to assess the as-is condition of school going girls and they were given nutrition education by way of power point presentation, brochure and pamphlet. The subjects followed up with 24 hour dietary recall method. It was observed during the study that nearly 85.8% of the students had consume four tablets of Iron folic acid (IFA) in the past 4 weeks. Absenteeism (55.1%), has been observed as one of the leading reason for non-consumption of tablets which is followed by powdery tablet (22.4%), and side effects (22.5%) respectively. Study also reveals that presence of teacher/supervisor has positive impact on regular consumption of IFA dosages. The study has observed that girls were not adequately aware of hygiene and nutritional values and nutrition education has positive impact on the subject. Study reported there are more than one factor that has played critical role in success of the program were benefits such as an improved sense of well-being, motivation by, teachers and friends, heath education by the local medical officer and health staff, regular supply of tablets. Study also reveals that feeling of side effects such as nausea, abdominal pain and extra workload on teacher as limiting factor in successful implementation of program. The study finds that adherence to weekly iron and folic is less due to absenteeism and this can be improved with continued health education sessions using different methods including the parents.
Keywords: Assessment, iron folic acid, supplementation, nutrition.

11. Material Sciences

ISCA-ISC-2019-11MatS-01-Oral

Physico-mechanical properties of Guar Gum enhanced poly (vinyl alcohol)/Chitosan/Ethyl vanillin blend films

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Abstract: In the present study biodegradable ternary polymer blend films were synthesized using poly (vinyl alcohol), chitosan, guar gum with ethyl vanillin as cross-linking agent using solvent-casting technique. Concentration of guar gum was varied while total quantity of poly (vinyl alcohol), chitosan and ethyl vanillin was kept constant. Prepared blend films were characterized for moisture content, moisture absorbance, solubility and swelling behavior and mechanical properties. It was observed that moisture content decreased while moisture absorbance and solubility increased with increased concentration of guar gum. The mechanical properties of prepared ternary blend films were studied by Universal Testing Machine (UTM). The results of mechanical properties showed improvement in the tensile properties such as tensile strength and Young's modulus.
Keywords: PVA, Chitosan, Guar Gum, ethyl vanillin, ternary blend, physical and mechanical properties.

ISCA-ISC-2019-11MatS-02-Oral

Influence of Gallic acid on physicochemical properties of poly (vinyl alcohol)/Tragacanth gum blend films

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Abstract: This present study aims to explore the influence of different weight percent of gallic acid (GA) on various physicochemical properties Poly (vinyl alcohol)/Tragacanth Gum blend films. The mechanical properties were tested using Universal Testing Machine and results suggested that more strengthened but less flexible films. The thermal properties of the composite films were analyzed using DSC and TGA. DSC studies affirmed that the composite films were compatible in the given composition range and TGA studies revealed an increased resistance to thermal degradation pattern. The morphological studies revealed an acceptable distribution of GA at lower wt% in the blend system. The change in structural properties of the composite films was studied using powder X-Ray Diffraction. The percentage of crystallinity decreased after doping with GA indicating composite films moved from crystalline to amorphous nature. The overall migration studies revealed that the prepared composite films were safe for food packaging applications. The resistance of composite films towards the Water Vapor Transmission Rate (WVTR) was improved after the incorporation of GA into the blend system. The hydrophilicity and water solubility of the blend system was decreased after the incorporation of GA. The prepared composite films could be an alternative to nonbiodegradable packaging materials.
Keywords: Tragacanth gum, Composite films, Gallic acid.

ISCA-ISC-2019-11MatS-03-Oral

Preparation and characterization of hydroxy citric acid cross linked PVA/Chitosan/Guar gum blend films

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Abstract: In the present work, Poly(vinyl alcohol) (PVA)/Chitosan (CH)/Guar gum(GG)/Hydroxy citric acid (HCA) blend films were prepared by solution casting technique. The films were characterized by using Fourier Transform Infrared (FTIR) spectroscopy, Thermogravimetric (TG)/Derivative Thermogravimetric (DrTG) analysis, UV visible spectrophotometry and Universal Testing Machine (UTM). The results show that addition of HCA in different weight percent of PVA/CH/GG films increased degradation temperature and improved the mechanical properties of blend films. FTIR spectra shows strong interaction among the components of blend films. From the UV analysis, the prepared blend films shows excellent barrier to UV light. With all of these results, fabricated blends can find potential applications in packaging material to extend the shelf life of foodstuffs.
Keywords: Chitosan, poly (vinyl alcohol), Guar Gum, Hydroxy citric acid, optical.

ISCA-ISC-2019-11MatS-04-Oral

Overview of solid waste: flue dust

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Abstract: Steel Industries works on the technology of Blast Furnace to produces "Pig iron" along with the byproduct like flue gas which is also considered as Blast furnace gas. This process also results in the production of solid waste such as Slag, Granulated Slag etc. Ifthese waste gases pass through the air pollution control equipment, it generates a byproduct called Flue Dust, Fine dust and sludge. Some amount of flue dust are used in cement industry for clinker production andalso as a injector into blast furnace but the remaining ample amount of flue dust are dumped in the open land near the industry's location. These are responsible for the generation of pollution such as air pollution during summer season by increasing the amount of SPM in surrounding area andsoil pollution during rainy season by leaching. The objective of this study is the assessment of flue dust and its utilization in present days through modern technology rather than dumping it in open land. The result positively shows that this flue dusts can be used for the generation of civil engineering materials which in turn will reduce the pollution level in the environment.
Keywords: Blast furnace, flue dust, sludge, leaching, SPM.

ISCA-ISC-2019-11MatS-05-Oral

Preparation and characterization of green grapheme for heavy metal ion removal from water and radioactive radiation protection

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Abstract: Several graphene composites have been prepared by a green method and characterized by Raman spectroscopy, infrared spectroscopy and scanning electron microscopy. Different concentrations of heavy metal were spiked in water and the heavy metal ion removal capacity has been tested using a UV-vis spectrophotometer. Graphene composites were also tested for the protection from radioactive radiations. Linear attenuation coefficient has been evaluated for different composites and has been found to work excellently.
Keywords: Graphene, heavy metals, radiation protection, linear attenuation coefficient.

ISCA-ISC-2019-11MatS-01-Poster

Effect of potassium sorbate on ternary blend films containing chitosan/Poly (vinyl alcohol)/Ethyl vanillin

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Abstract: In present study potassium sorbate incorporated chitosan/poly (vinyl alcohol)/ethyl vanillin blend films of various composition were prepared by solvent casting technique. Mechanical properties of obtained films were investigated using Universal Testing Machine (UTM) to assess tensile properties. Addition of potassium sorbate to the different weight percent of chitosan/poly (vinyl alcohol)/ethyl vanillin blend films showed improved tensile strength (Ts) and Young's modulus (Ym). FT-IR spectra confirms the interaction among the components of the blend films. Transparancy and Opacity of the blend films was determined by UV studies. Results of the UV studies revealed that blend films shows excellent barrier to UV light. These findings are of potential practical value in the production of packaging material in food industry.
Keywords: PVA, Chitosan, Ethyl vanillin, Blend films, UTM and Opacity.

ISCA-ISC-2019-11MatS-03-Poster

Characterization of tensile and thermal properties of oxidized maize starch/Polyvinyl alcohol blend films

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Abstract: In this study, Polymer blend films were prepared using glycerol (GLY) mixed oxidized maize starch (OMS) at different compositions and constant composition of polyvinyl alcohol (PVA) by solvent casting method. The prepared blend

films were flexible and transparent coded as PVA/OMS/GLY and characterized using Universal Testing Machine (UTM), Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), to known the tensile strength and elongation at break, glass transition temperature (T_g), and thermal stability of the blend films. Also, we have studied the water solubility of the blend films which indicates the prepared blend films are highly soluble in water compare to pure PVA.

Keywords: Polyvinyl alcohol, oxidized maize starch, tensile and thermal properties.

12. Mathematics and Statistics

ISCA-ISC-2019-12MSS-01- Guest Speaker

Eliminating multi-collirianearity in regression modeling: (study of the Nigerian gross domestic product)

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Abstract: This study is on modeling Gross Domestic Product (GDP) and some selected national economic variables in other (Indicators) to fit a linear Regression line. Gross Domestic product is considered as the response variable while Agriculture, Industry, Construction and other Services are explanatory variables. Collonearity test result shows that the variables are highly correlated which indicates the presence of multicollineareity. Two methods of reducing Collonearity were adopted to transform the data for the purpose of reducing high correlation. Log Transformation and Square Root methods were employed. The regression model of transformed data for Log Transformation reveals Mean Square Error (MSE) of 4.771, with all explanatory variables significant except GDP while that of square Root Transformation method ravels MSE of 130650.322 with all explanatory variables significant except for construction and other services. The overall compared methods show that Square Root method can better eliminate high correlation among variables of national economic indicators.

Keywords: GDP, correlation, log, square root, model, MSE.

ISCA-ISC-2019-12MSS-01-Oral

Statistical inference for one-truncation parameter family of distributions

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Abstract: One-truncation parameter family of distribution we mean any one of extremities of range of distribution invol parameter which violate one of Cramer-Rao regularity condition therefore also call non-regular parameter family of distributions. Due to involvement of parameter in range of distribution differentiation cannot go inside integral sign and differentiation carried out by Leibniz rule. Tate (1959) applied probability integral transformation and solved the integral equation (see Widder (1969) for method and Guenther (1978) for review of other methods) and obtained explicit the expression for the Uniformly Minimum Variance Unbiased (UMVU) estimator of any U-estimable differentiable parametric function. Krishnamoorthy and Rohatgi (1988) showed that exact variance of the UMVU estimator obtained by Tate (1959) can be computed directly but expression is complicated. Computation of exact variance of the UMVU estimator of the specific functions such as reliability, density, hazard rate are easy to compute. Amongst many author Tate (1959), Krishnamoorthy and Rohatgi (1988), Bhatt and Patel (1999), Beg (1980a, 1980b, 1980c, 1983), Beg and Singh (1979), Simonoff et al. (1986), Samuel et al. (2002), Rohatgi (1989) studied one-truncation parameter family of distributions. Let, $X_j; j = 1, 2, \dots, k$ and $Y_i; i = 1, 2, \dots, l$ be random variables. Let,$u_j(x_j) > 0; j = 1, 2, \dots, k$ and $v_i(y_i) > 0; i = 1, 2, \dots, l$ be continuous function integrable over (a, b).Then for $(\alpha_j, b) \subset (a, b); j = 1, 2, \dots, k$ and $(a, \beta_i) \subset (a, b); i = 1, 2, \dots, l$. Let us have $\xi_j^{-1}(\alpha_j) = \int_{\alpha_j}^{b} u_j(x_j)\, dx_j$

and $\zeta_i^{-1}(\beta_i) = \int_{a}^{\beta_i} v_i(y_i)\, dy_i$.

Then for $j = 1, 2, \dots, k$ one gets left truncation parameter families of distributions with probability density function (pdf) as

$w_{X_j}(x_j; \alpha_j) = \xi_j(\alpha_j) u_j(x_j); a \le \alpha_j \le x_j \le b$

with distribution function (df) as

$W_{X_j}(x_j; \alpha_j) = 1 - \frac{\xi_j(\alpha_j)}{\xi_j(x_j)}$

and for $i = 1, 2, \dots, l$ one gets right truncation parameter families of distributions with (pdf)as

$z_{Y_i}(y_i; \beta_i) = \zeta_i(\beta_i) v_i(y_i); a \le y_i \le \beta_i \le b$

with (df) as

$Z_{Y_i}(y_i; \beta_i) = \frac{\zeta_i(\beta_i)}{\zeta_i(y_i)}$

Note that

$$\begin{cases} \xi_j^{-1}(\alpha_j) \frac{d}{d\alpha_j} \xi_j(\alpha_j) = \xi_j(\alpha_j) u_j(\xi_j) = w_j(\xi_j; \xi_j);\ for\ j = 1,2, \dots, k \\ \zeta_i^{-1}(\beta_i) \frac{d}{d\beta_i} \zeta_i(\beta_i) = -\zeta_i(\beta_i) v_i(\beta_i) = -z_i(\beta_i; \beta_i);\ for\ i = 1,2, \dots, l \end{cases}$$

where $-\infty \leq a < b \leq \infty$ are known constants, q_j are positive absolutely continuous functions and h_j, for $(j = 1,2,3,4)$are everywhere differentiable. Assume that allX_j are independent and$\theta_j$for $(j = 1,2,3,4)$are not functionally related.

Keywords: Statistical, inference, one-truncation, parameter, family, distributions.

ISCA-ISC-2019-12MSS-02-Oral

Asymptotic inference for two pareto distributions

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Abstract: Variance of the estimator of U-estimable parametric function or in the case of biased estimation, Mean Square Error (MSE) is not available in general for two Pareto distributions in such cases the asymptotic theory arises. Pareto distribution used to study skewed pattern. Certain skewed pattern appear in socioeconomic quantities such stock price fluctuation, personal income, economic variation in reported income and under-reporting error. Pareto distribution also used to study empiric phenomena such as occurrence of natural resources, error clustering in commutation circuit, size of firm, city, population and reliability theory. In this article the asymptotic distributions for Pareto distributions are derived. They are used for some inferential problems such as asymptotic variance, MSE in the case of biased estimator, Asymptotic Relative Efficiency (ARE), Limiting Risk Efficiency (LRE) of the Uniformly Minimum Variance Unbiased (UMVU) estimator relative to Maximum Likelihood Estimator (MLE), (traditional competitor) of parametric function are derived. Generally such results for the inferential problems are not available in sampling from two - Pareto distributions.

Keywords: Asymptotic, inference, pareto, distributions.

ISCA-ISC-2019-12MSS-03-Oral

Discussing on real world applications of merging for some undirected similar k-regular graphs

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Abstract: As we know that the merging is possible for some undirected similar k-regular graphs and merging is not possible for some undirected similar k-regular graphs. Here we are working on the real world applications of the merging are not possible for some undirected similar k-regular graphs and beginning with smallest undirected similar k-regular graphs, where k is any nonnegative integer. Here first we are providing real world application of merging for smallest similar 0-regular graphs and latter we established another real world application of merging for smallest undirected similar 1-regular graphs. Also we are using our previous results for the final construction of real world applications. The conclusion part of the research paper is show that everything about the real world applications of merging for smallest similar 0-regular graphs and smallest undirected similar 1-regular graphs.

Keywords: Regular graph, undirected, smallest, merging, similar.

ISCA-ISC-2019-12MSS-04-Oral

Cryptanalysis of Sharif et al's. ECC-based mutual authentication and session key generation scheme for health care applications

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Abstract: Up till now, numerous mutual authentication and session key generation scheme have been proposed for the health care applications. In 2018, Sharif et al.'s, also proposed an ECC-based mutual authentication and session key generation scheme for health care applications. However, we found that Sharif et al.'s scheme is not appropriate for practical use as it has the following flaws: i. smart card lacks mechanism to detect wrong input inserted during the login and password change phases resulting in password guessing attack, user impersonation attack, denial of service (DoS) attack and network flooding with wrong login request, ii. it fails to provide protection against privileged insider attack and iii. it do-not provide the revocation and the re-register phase of lost or stolen mobile device.

Keywords: Cryptanalysis, ECC-based, mutual authentication, session key generation.

ISCA-ISC-2019-12MSS-05-Oral

Fixed point theorems for total asymptotically nonexpansive mappings in cat(0) spaces

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Abstract: In this paper, propose a new iteration process for total asymptotically nonexpansive mappings. Establish Δ-convergence and strong convergence theorems on a CAT(0) space which extend and improve many results in this literature and also provide numerical ex-amples to illustrate the performance of proposed iteration.
Keywords: Theorems, asymptotically, nonexpansive, mappings.

ISCA-ISC-2019-12MSS-06-Oral

Edge-theoretic coincidence and common fixed point results under (F-edge)-contractions

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Abstract: In this paper, we introduce the notion of (F-edge)g-contractions and utilize the edge theoretic F-contraction to prove some coincidence and common fixed point results in the setting of metric space endowed with directed graph. We furnish an example to validate the hypothesis of our main result. In the sequel, we present some results showing the existence of uniqueness of coincidence point and common fixed point under certain additional conditions. Our main result is viable, productive and has potential to apply in some other branches of mathematics. 2010 Mathematics Subject Classification: 47H10, 54H25.
Keywords: Fixed point, common fixed point, coincidence point, F-contraction, (F-R)-contraction, connected graph.

ISCA-ISC-2019-12MSS-07-Oral

A new fixed point theorem in modular metric spaces

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Abstract: In this article, I first give a brief introduction to the concept of Modular metric spaces with some fixed point theorems due to Chistyakov. After that I discuss some new concepts in the existence of fixed point results for the Reich contraction mapping in the modular metric spaces.
Keywords: Modular metric spaces, fixed point, contraction mapping.

ISCA-ISC-2019-12MSS-08-Oral

Existence of collinear equilibrium points in the elliptic restricted four body problem with oblateness coefficient

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Abstract: In this paper we study the existence of collinear equilibrium points in the elliptic restricted four body problem. The problem is restricted in the sense that the fourth body is of infinitesimal mass and the other two secondary are oblate spheroids. In this paper we have assumed that three bodies are moving in elliptical orbit around their common centre of masses fixed at origin of the coordinate system and they are always at the vertices of the equilateral triangle. We have obtained two collinear points and investigated the effect of oblateness coefficient on collinear equilibrium points. The stability analysis has been carried out these collinear points and later on fractal basin has been plotted to study the behavior of the system around these collinear points.
Keywords: Elliptic restricted, oblateness.

ISCA-ISC-2019-12MSS-09-Oral

Fertility level, trend and differentials in Nigeria: a multivariate analysis approach

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Abstract: We present an empirical approach to changes in some fertility measures using multivariate profile analysis to determine level, trend and differences in fertility measures in Nigeria. ASFR, TFR and MNCEB was studied with respect to residency for three time points. Results obtained showed strong evidence of mean differences in TFR across zones with both ASFR, TFR and MNCEB showing no interaction with respect to residency. Profile plots and tests showed evidences of parallelism for all the fertility measures considered. Some implications and suggestions are also given.
Keywords: Profile, changes, rates, profile analysis, fertility.

ISCA-ISC-2019-12MSS-10-Oral

Formulation of solutions of special class of standard cubic congruence of composite modulus

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Abstract: In this paper, the author considered a special class of standard cubic congruence of composite modulus for formulation of its solutions. The author's efforts has provided a formulation of solutions of the said congruence. The discovered formula is tested and verified true by solving different examples. Such formulation was not considered by earlier mathematicians and no effective method is found to find its solutions. Formulation is the merit of the paper. It is proved time-saving, easy and simple. Sometimes the solutions can be obtained orally. This is one more merit of the paper. This made the study of cubic congruence more interesting.
Keywords: Binomial cubic expansion, cubic congruence, composite modulus, formulation.

ISCA-ISC-2019-12MSS-11-Oral

Fixed point theorem with weak and strong convergence in Hilbert space

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Abstract: In this paper we first give a weak convergence theorem for pseudo nonspreading mappings and then we establish strong convergence for these mappings which is the generalization of the work recently done by Kurokawa and Takahashi.(2010). The results are the improvement of the work done by previous authors.
Keywords: Nonspreading mapping, fixed point, demiclosed principle, strong convergence, weak convergence.

ISCA-ISC-2019-12MSS-12-Oral

Application of quasi metric space in fixed point theorem

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Abstract: Point free geometry based on the notion of a quasi-metric in which the primitives are the regions and a non-symmetric distance between regions. Here we discuss the versions of the Boyd and Wong fixed point theorem and weakly contractive multi valued maps and w–distance on complete quasi-metric spaces. Our results in several directions, some well-known fixed point theorems.
Keywords: Application, quasi metric, theorem.

ISCA-ISC-2019-12MSS-13-Oral

New construction with application of optimal covariate designs (OCDs) in split plot design set up

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Abstract: Lopes Troya (1982a, 1982b) initiated the concept of optimum covariate designs (OCDs) in CRD set up. Das et. al. (2003) reinvestigated the topic and constructed Optimum Covariate Designs (OCDs) using Mutually Orthogonal Latin Squares (MOLS) and Hadamard matrices in the RBD set-up and also constructed some series of OCDs for BIBD. Thereafter many authors published articles on OCDs for different design set ups. Das et. al. (2015) also made an in-depth study on 'Optimal Covariate Designs' covering developments so far, in the topic of optimum covariates for different design set-ups. The present article is aimed at development of optimal/most efficient covariates in split plot design set up with p main plot factors and q sub plot factors in r randomized blocks. Such optimal covariate designs in a split plot design can be developed even when separate Hadamard matrix of order either p or q or r does not exist. Optimality refers to attaining the least possible value of individual variances simultaneously for all the estimators of the covariate parameters. Different sets of optimal covariates (one, two and three) are used in a field level experiment of 3x4 split plot design in two randomized blocks. The relative efficiencies (R.E. %) over common ANOVA model as well as usual ANCOVA model are listed.
Keywords: Hadamard matrix, optimum covariate design (OCD), mixed orthogonal array.

13. Pharmaceutical Sciences

ISCA-ISC-2019-13PCS-01-Oral

An ophthalmic in-situ gelling system of moxifloxacin HCl-preparation and evaluation

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Abstract: Solutions that undergo sol-gel transformations when they meet physiological conditions may serve as an in situ gelling drug delivery system, that is, an injectable parenteral formulation which transforms into a gel drug delivery system in physiologic conditions. Alterations in the pH, ionic strength, solvent or temperature can effect gelation of the formulation. Formation of in situ gelling complexes using polyethylene glycol (PEG) and polymethacrylic acid (PMA) or polyacrylic acid (PAA) as an injectable drug delivery system were also effective. The sol–gel transition of this solution occurred primarily due to the neutralization of the buffering action of lachrymal fluid. However, the buffer capacity of lachrymal fluid is relatively lower and the dilution by lachrymal fluid Moxifloxacin, a broad-spectrum antibacterial agent used in the treatment of ocular infection was successfully formulated as pH-triggered in situ gel- forming eye drops (0.5% w/v) using carbopol as a gelling agent in combination with Methocel as a viscosity enhancing agent. The formulation was liquid at the formulated pH (6.0) and underwent rapid gelation upon raising the pH to 7.4. The gel formed in situ afforded sustained drug release over an 8hours period. The formulations were found to be stable and hence can open new opportunities for ocular drug delivery.
Keywords: Polyacrylic acid, carbopol, methocel, antibacterial agent.

ISCA-ISC-2019-13PCS-02-Oral

An overview of oral cancer

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Abstract: There are probably 657,000 new cases of cancers of the oral cavity and pharynx each year, and more than 330,000 deaths. Oral cancers include the main subsites of lip, oral cavity, nasopharynx, and pharynx and have a particularly high burden in South Central Asia due to risk factor exposures. A comprehensive approach is needed for oral cancer to include health education and literacy, risk factor reduction and early diagnosis. In select regions with high incidence, oral cancer screening in high-risk individuals has been trialed. According to the American Cancer Society (ACS), around 53,000 Americans will receive a diagnosis of oral or oropharyngeal cancer in 2019. The average age at diagnosis is 62 years old, but around 25% of cases happen before the age of 55, say the ACS. The disease is more likely to affect males than females. Oral cancer appears as a growth or sore in the mouth that does not go away. Oral cancer, which includes cancers of the lips, tongue, cheeks, floor of the mouth, hard and soft palate, sinuses and pharynx(throat) can be life threatening if not diagnosed and treated early. Symptoms of oral cancer are swelling/thickening, lumps or bumps, losing of the teeth. Treatment will depend on the location, stage, and type of cancer, the individual's overall health and personal preferences. Its treatment basically includes radiation therapy, chemotherapy, hyperthermia and surgery.
Keywords: Cancer, Palate, Swelling.

ISCA-ISC-2019-13PCS-03-Oral

Hypertension: a global problem, cause, symptoms and treatment

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Abstract: Hypertension is a chronic disorder characterized by a persistently elevated blood pressure exceeding 140/90 mmHg or greater. An estimated of 1.13 billion people worldwide have hypertension, in low and middle-income countries. Fewer than 1 in 5 people with hypertension have the problem under control. According to WHOHypertension is also a major cause of premature death worldwide now a days. One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 25% by 2025. About 33% urban and 25% rural Indians are hypertensive in which 25% rural and 42% urban Indians are aware of their hypertensive status. Only 25% rural and 38% of urban Indians are being treated for hypertension. One-tenth of rural and one-fifth of urban Indian hypertensive population have their BP under control. Hypertension is called a "silent killer". Most people with hypertension are unaware of the problem because it may have no warning signs or symptoms.Many antihypertensive agents are used for treatment of hypertension like diuretics, beta blockers,

ACE inhibitors, Calcium antagonists Direct - acting vasodilators etc. Also eating a healthier diet with less salt, exercising regularly and taking medication can help lower blood pressure.

Keywords: Hypertension, sparing diuretics, adrenergic antagonist.

ISCA-ISC-2019-13PCS-04-Oral

Diuretics: the cardiology mentor

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Abstract: Diuretics, also called water pills, are medications designed to increase the amount of water and salt expelled from the body as urine. There are three types of prescription diuretics. They're often prescribed to help treat high blood pressure, but they're used for other conditions as well.Diuretics are drugs which cause a net loss of Na^+ and water in urine. Diuretics are mainly used in hypertension and oedema. Loop diuretics are inhibiting Na^+ K^+ $2Cl^-$ co-transport. Torsemide offers advantages of longer duration of action and once daily dosing (furosemide and bumetanide) and more reliable bioavailability (furosemide). Studies show that the previously employed high doses of thiazide-type diuretics lower BP more than furosemide. Loop diuretics appear to have a preferable side effect profile (less hyponatremia, hypokalemia, and possibly less glucose intolerance). Studies comparing efficacy and side effect profiles of loop diuretics with the lower, currently widely prescribed, thiazide doses are needed. Research is needed to fill gaps in knowledge and common misconceptions about loop diuretic use in hypertension and to determine their rightful place in the antihypertensive arsenal.

Keywords: Hypertension, diuretics, loop diuretics, furosemide, torsemide.

ISCA-ISC-2019-13PCS-01-Poster

Characterisation of secondary metabolites in calotropisgigantea by spectroscopic methods

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Abstract: Calotropis gigantea (Asclepiadaceae) is a laticiferous shrub commonly known as “milkweed”. In ancient Ayurvedic medicine the plant Calotropis gigantea is known as “SwetaArka”. The secondary metabolites in medicinal plants like alkaloids, tannins, saponins, steroids, terpenoids, flavonoids, phlobatanin and cardiac glycosides have been reported for anti-fungal, anti-bacterial and anti-inflammatory and various other medicinal properties. The present study involves the screening of these secondary metabolites in Calotropis gigantea in Bhilai region. Ethanol, methanol and petroleum ether extracts were investigated. The UV-Vis and FTIR spectroscopic techniques were employed to screen the phytochemicals. The comparative phytochemical analysis revealed the presence of alkaloids, saponins, tannins, flavonoids, terpenoids, glycosides, phenols group in varying concentrations.

Keywords: Secondary metabolites, alkaloids, terpenoids, flavonoids, saponins, tannins and phenolics.

14. Physical Sciences

ISCA-ISC-2019-14PhyS-01-Guest Speaker

Nanoscience: multi disciplinary science and their applications

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Abstract: Nanoscience and nanotechnologies incorporate exciting areas of research and development at the interface between biology, chemistry and physics and engineering. Nanoscience is defined as the study of phenomena and manipulation of materials at atomic, molecular and macromolecular scales, where properties of matter differ significantly from those at a larger scale; and nanotechnologies as the design, characterization, production and application of structures, devices and systems by controlling shape and size at nanometre scale. Much of nanoscience is concerned with understanding the properties of materials at the nanoscale and the effects of decreasing the size of materials or the structured components of materials. Nanoscale particles can exhibit, for example, different electrical, optical or magnetic properties from larger particles of the same material. Nanotechnologies are predominately used in the areas of characterization, precision manufacturing, chemicals and materials. At this early stage, these represent predominantly incremental advances, and in some cases, a re-labeling of existing technologies. However, it is clear to us that nanotechnologies have the potential to substantially affect manufacturing processes across a wide range of industries over the medium- to long term. They are widely seen as having huge potential, and are attracting substantial and increasing investments from governments and from industrial companies in many parts of the world. Nanoparticles are larger than individual atom and molecules, but are smaller than bulk solid; hence they obey neither absolute quantum chemistry nor laws of classical physics and have properties that differ remarkably from those expected. Presently, the nanoscience and technology represents the most active discipline all around the world and is considered as the fastest growing technology revolution in the human history had ever seen. Nanoscience is truly interdisciplinary, with an understanding of the physics and chemistry of matter and processes at the nanoscale being relevant to all scientific disciplines, from chemistry and physics to biology, engineering and medicine. Collaborations between researchers in different areas will enable the sharing of knowledge, tools and techniques.
Keywords: Nanoscience, multi disciplinary, science.

ISCA-ISC-2019-14PhyS-01-Oral

Theoretical study of IR, Raman spectra and electrochemical properties of nematic and smectic liquid crystals

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Abstract: The present article deals with a comparative quantum chemical calculations on liquid crystals namely; *p*-phenylene-4-methoxybenzoate-4-trifluoromethylbenzoate (Nematic), and 4-propyloxyphenyl-4-(4-trifluoromethyl benzoyloxy) benzoate (Smectic) by using the Density functional theory (DFT) and Hartree-Fock (HF) methods supplemented with basis set 6-31++G(d.p). The molecules show excellent chemical and thermal stability because of the strong, and unique physical properties of C-F bond, which contributes to the display, and photonic applications. The observed vibrational spectra has resolved and assigned in detail for comparision with the molecules. Further, the frontier molecular orbital analysis for both the molecules has been carried out. It has been observed that the DFT and HF values are slightly different as HF calculation does not include electron-electron interaction term. Furthermore, an increment in the alkyl chain length, thermal vibration increases which indicates low packing efficiency of the molecule with high electrical conductivity.
Keywords: DFT, and HF methods, vibrational spectra, frontier molecular orbitals.

ISCA-ISC-2019-14PhyS-02-Oral

Er^{3+}: YAG ceramic phosphor for visible to UVC upconversion

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Abstract: In present work the visible to ultraviolet (UV) upconversion Er^{3+} doped yttrium aluminium garnet (YAG) ceramic phosphor was developed by solid state synthesis reaction method. The structural characterization of the prepared phosphor was carried out by using X-ray diffraction analysis and transmission electron microscopy techniques. The up-conversion behaviour of the phosphor was studied by recording the emission spectra of the phosphor under 460 nm blue LED source. The emission spectrum was obtained in the UV region containing peaks centred at 217 nm, 256nm, 275 nm and 312 nm. The emitted UV radiation belongs to the germicidal UV wavelength; therefore this behaviour of phosphor was applied for the

inactivation of surface born microbes through the emitted radiation. The emission behaviour of the phosphor was further investigated by LED encapsulation. The emitted UV radiation belongs to the germicidal UV wavelength; therefore this behaviour of phosphor was applied for the inactivation of surface born microbes through the emitted radiation. The upconversion emission increases with increase in crystal size.

Keywords: Er^{3+} doped YAG, ceramic phosphor, visible-UV upconversion, LED encapsulation, antimicrobial activity.

ISCA-ISC-2019-14PhyS-03-Oral

A study of enhanced structural, microstructural and dielectric behaviour of aliovalent ions doped $BaZr_{0.05}Ti_{0.95}O_3$ ceramic

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Abstract: In the present manuscript the effect of Aliovalent dopant (Gd^{3+}) on Barium Zirconium Titanate ($BaZr_{0.05}Ti_{0.95}O_3$) ceramics have been studied in the light of structural, microstructral and dielectric properties. For this pure and Gd^{3+} doped polycrystalline $BaZr_{0.05}Ti_{0.95}O_3$ ceramics were prepared by the traditional high temperature solid state reaction method. Phase confirmation and structural analysis of the samples was done by X-ray diffraction (XRD) which confirmed the tetragonal structure at room temperature. In case of microstructural investigations in terms of scanning electron mjcroscopy (SEM) of the sintered samples it was observed there is a significant decrease in grain size with increasing Gd concentration from 6μm to almost 1μm. The temperature dependent dielectric studies showed structural phase transitions in the samples with respect to temperature. Three significant structural phase transitions were observed in pure sample while the doped samples showed a single phase transition. As an effect of doping the dielectric constant was found to decrease with the increasing Gd concentration. The dielectric loss as a function of temperature was also studied. Conduction mechanism in the samples was studied with the help of AC conductivity data as a function of temperature.

Keywords: Rare earth, X-ray diffraction, SEM, Raman spectroscopy, dielectric properties.

ISCA-ISC-2019-14PhyS-04-Oral

Existence of magic numbers in heavy nuclei

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Abstract*:* The nuclear shell model plays an important role in the pre-formation of alpha particles. It shows the existence of magic numbers, which predicts the nucleus to form a strongly bound closed shell. When the protons number (Z) or the neutrons number (A-Z) is equal to 2,8,20,28,50,82 or 126, which are known as the "Magic Numbers". We have developed a model which we named as S-potential by smoothening the potential well inside the nucleus to the top of the coulomb barrier at the outer side of the potential well. We have studied the alpha decay of some even-even heavy nuclei and the half-lives obtained were found to be in a very good agreement with the experimental data available. The pre-formation factor and the penetration probability were determined by modifying the Gamow's theory of alpha decay by varying the potential. We have studied the microscopic structure properties for $^{202\text{-}226}Ra_{88}$ and $^{210\text{-}232}Th_{90}$. It was observed that at N=126 the pre-formation factor and penetration probability decreases with increasing N which shows that the closed shell effects plays an important role in the alpha formation process. The S-potential was found to be a better model for obtaining the accurate half-lives of heavy nuclei.

Keywords: magic numbers, alpha decay, pre-formation factor, penetration probability, Half-lives.

ISCA-ISC-2019-14PhyS-05-Oral

A morphological study of single-shell carbon nanotube to multi-shell tube

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Abstract: Every material in the universe having their own characteristics, but only carbon nanotubes with blunder characteristics is existed in the universe till now. TEM images shown that the structure is cylindrical shaped coming with apex morphology on nano scale. The structure is also as a graphitic like, with the layers arranged perpendicular to the long axis of the rods. The average rod size is 0.3x5μ m. This paper reports the morphology of Single Walled Carbon Nanotube (SWCNT) provides a base for development of multi-shell nanotubes. Electron diffraction from a single-shell tube allows us to confirm the helical arrangement of carbon hexagons deduced previously for multi-shell tube. The bending morphology in carbon nanotube have been studied, experimentally and had indicated that under several bending the buckling is usual way

for nanotube to reduces its strain. The usual approach to the theoretical modelling of buckling phenomena has so far made use of classical potential. Hamiltonian, the scattering geometry of bent nanotube has been using classical potential. The relaxed procedure based on classical potential does not take into account the increased σ-π hybridisation as a result of bending, especially at a larger bending angles. The inter relation of electronic and mechanical properties of carbon nanotube give rise to a natural speculation for possible applications. We will study the morphological case of single-shell carbon nanotube, that provides a path for development of multi-shell tube. The theoretical obtained results will be compared with previous obtained theoretical and experimental results.

Keywords: Electron diffraction, nanotube, hybridisation, morphology, experimentally.

ISCA-ISC-2019-14PhyS-06-Oral

Deposition of undoped and Ho-doped Nanocrystalline CdS thin films and their characterization for solar application

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Abstract: Undoped and Ho doped CdS thin films were deposited on suitably cleaned glass substrate by modified chemical bath deposition method. The deposition temperature for the films was 80^0C in water bath for 1 hour. The thickness of the films changes with Ho doping in CdS. The structural and optical properties of the deposited films are characterized using X-ray diffraction and UV-VIS spectroscopy. The formation of cubic structure is confirmed from structural analysis. The other lattice parameters like interplanar spacing, lattice constant, crystallite size, micro strain and dislocation density of the deposited undoped and Ho doped CdS thin films were calculated by XRD. The crystallite size of the pure CdS thin films is found to be 2 nm, which increased to 24 nm with Ho doping. The micro strain and dislocation density of the films were found to be decreased with increasing Ho doping. The absorption edge of the films was observed to be blue shifted, which is confirmation of quantum confinement. The optical band gap energy of the films was found to be in the range 2.4-2.55 eV.

Keywords: CdS, thin films, X-ray diffraction, Optical absorption; band gap.

ISCA-ISC-2019-14PhyS-01-Poster

Investigation of thermal and surface properties of green tea extract incorporated polyvinyl alcohol/Chitosan blend films

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Abstract: The present study aims to investigate the thermal and surface properties of Green tea extract (GTE) incorporated Polyvinyl alcohol/Chitosan blend films (PCGTE). The films were prepared by solution casting method and characterized using different instrumental techniques. The interaction and miscibility of prepared blend films were confirmed by Differential Scanning Calorimetry (DSC) and Fourier Transform Infrared (FT-IR) Spectroscopic study. Thermogravimetric Analysis (TGA) indicated that GTE enhanced the thermal stability of Polyvinyl alcohol/Chitosan (PC) blend film. The surface wettability (or hydrophilicity) was studied by the drop method using a contact angle meter and surface roughness was analyzed by using Atomic Force Microscopy (AFM). After the addition of GTE into PC blend film, the increased hydrophilicity was observed and AFM results show smooth and homogeneous surface with increasing content of GTE.

Keywords: Polyvinyl alcohol, chitosan, green tea extract, thermal and surface properties, blend films.

ISCA-ISC-2019-14PhyS-02-Poster

Photoluminescence and thermoluminescence studies of Pure and Sm activated MgB_4O_7 phosphor

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Abstract: Pure and rare earth Sm^{3+} doped magnesium tetra borate (MgB_4O_7) phosphors was synthesized by solid state reaction method. The structural characterization of the prepared phosphors was done by X- ray diffraction (XRD), which showed the diffraction pattern, well matched with JCPDS file. Photoluminescence emission and excitation spectra of pure and rare earth Sm^{3+} doped MgB_4O_7 phosphor showed a characteristic emission band of the Sm^{+3} at 608nm along with a minor band of 565nm under 405nm excitation wavelength. The thermoluminescence studies glow curve was recorded for different UV exposure time. Maximum intensity of TL glow curve was obtained for 10 minutes UV exposure time, then TL intensity decrease with increase in exposure time.

16. Educational Sciences

ISCA-ISC-2019-16EduS-01-Presidential Address

Inclusive culture oriented higher education

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Abstract: Culture in common use is a term which means good manners and good taste of individuals and is creation of human beings to indicate civilized behavior. So, it is well known as socially transmitted and acquired patterns of human behavior. Indian culture is basically inclusive in nature which is permissive and incorporative of all and therefore, Indian higher education attempts to admit all learners irrespective of caste, status, abilities and attainments. As such, it is required to understand culture through educational endeavors at higher level along with characteristics of inclusive culture in Indian perspectives of education, much selective in nature and provides opportunities only for competent. For Ellwood, culture includes all of man's material civilization, tools, weapons, clothing, shelter, machines and even system of industry. Brown considered culture of a people as the way of life of that people, the things people values and don't values, habit of life, work of art, music, words, history….briefly, what they are, what they do and what they like. Thus, it is obvious that culture incorporates material and non-material elements where material element indicates the whole of man's material civilization, tools, weapons, clothing, housing, machines and industry etc., and the non-material element includes language, art, religion, morality, law, government etc.. On this line, Taylor (1924) defined it saying culture is that complex whole which includes knowledge, belief, art, morals, law, customs and any other capabilities acquired by man as a member of society. Brameld (1957) attempted to analyze this definition while clarifying that the first characteristics of it is a 'complex whole' or integrated form of many parts or units to raise a specific design or pattern**.** Secondly, faith, traditions etc., which embraces several psychological attainments as expression of mental and emotional life of people in the form of belief. Thirdly, it includes material objects of civilization manifested in the conduct of social group like family. Lastly, it puts emphasis on habits, capabilities and customs etc., which are acquired socially and neither by heredity nor individually. In a multi-cultural society like India, knowledge and belief indicates all philosophical thoughts, ideas, religions and even faith in superstitions but other capabilities indicate acquisition of proficiency in crafts, soft skills, techniques and technology delimiting to make higher education for 21st century very much selective in nature for committed and competent persons. Higher education having an inclusive set up, is supposed to prepare competency oriented resourceful generation depending upon their interest and abilities though its catch up area may require to cross all socio-cultural boundaries like ancient Gurukul system where there was no discrimination between a son of king and common man like Sri Krishna and Sudama. While crossing away the cultural boundaries, quality based higher education may not be completely non-selective in nature being a psychologically selective and socially meaningful process for which incompetents and those who are lacking of values and ethics may neither be permitted to enter. To analyze this opinion of experts, an attempt has been made in this paper to ascertain the feasibility of culture free selective and systematic nature of higher education as an essential need for this century and beyond**.**
Keywords: Inclusive, culture, oriented, higher education.

ISCA-ISC-2019-16EduS-02-Oral

Academic achievement of female students at High School level with respect to their locale and family environment

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Abstract: For the analysis of one's total capabilities and potentialities the key criterion is Academic achievement. To predict child's academic success which is considered as an outcome of family and learning environment, academic achievement has become a prime interest for the educationists, psychologists and parents. The current study intended at seeking the level of academic achievement of female students at high school level in relation to their locale and family environment. The research was conducted in the academic year 2017-18. total 200 female students were selected through random sampling technique from five different school of Raipur district of C.G. "Family environment scale (FES-BC) "by Bhatia and Chadha (2012) was used for data collection. Eight dimensions of this tool include Cohesion, expressiveness, conflict, acceptance and caring, independence, active- recreational orientation, organiznnd control and it was revealed from the study that most of the female students , through this study reflected academic achievement of average level.High level of academic achievement was found in very few female students. There was no significant difference in the level of academic achievement among female students in relation to their residential background, whereas significant differences were found in the family environment of female students with respect to the locality at the sub-scale "Acceptance and caring and active recreational orientation." The value of the coefficient of correlation at the sub-scale "Cohesion" of family environment scale was found to be low, positive but

significant at the 0.01 level of significance. It shows that academic achievement and cohesion in the family are positively related with each other, but the correlation is low.

Keywords: Female students, family environment, academic achievement.

ISCA-ISC-2019-16EduS-03-Oral

Development of an early care and learning center rating scale to assess quality in early childhood care and education

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Abstract: Globally, quality early learning experiences are gaining importance, as it is the viable strategy for closing learning gaps; achieving lifelong learning and increase the potential for learning in young children. The first six years of development is considered the most essential one, since the early experiences that a child receives will lay foundation for later developments. The Annual Status of Education Report (ASER, 2013, p.8) states that "in order to improve learning outcomes and sustain them in the long run, early years may be the best place to invest". The investment in early years can be through providing quality early experiences. A report on primary educational trajectories indicated that 53% of grade 5 children were not able to read grade 2 textbook and 52% had difficulty solving grade 2 math problems (ASER, 2015). This learning gap can be solved by providing quality foundation and achieving equality in the early education. This indicates a felt need for assessing early care and learning centers for quality aspects. Therefore, the present study focused on the development of an assessment scale. The developed scale is titled "Early care and learning center rating scale (ECLCRS) and it focuses on the process and structural quality of the center.

Keywords: Quality, early care and learning centers, early care and learning center rating scale (ECLCRS), assessment.

ISCA-ISC-2019-16EduS-01-Poster

The propects of Indian primary education

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Abstract: From ancient times, people think that knowledge is sacred. Lord Macaulay's theory is now outdated. Modern education system really needs radical changes in it. Mahatma Fule's views still proves right. It was his demand that primary education should be free and compulsory. The teachers should be encouraged to work in hilly and tribal areas. The primary education should be strengthened by providing basic life education in the primary schools. Primary classrooms should be well equipped. So that the attitude of upper classes about primary schools will be changed. The government should see that all these things are done effectively and nobody would be deprived of primary education. This is in the interest of society as well as of nation's development.

Keywards: Primary, remidies, percolation.

17. Commerce, Law and Management

ISCA-ISC-2019-17CLM-01-Presidential Address

Impact of internet on students in Bhilai, CG, India

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Abstract: Internet has created avenues for individuals to stay connected on a new level that does not depend on space or time. Internet has transformed the modes of communication, speed of communication and this has a great impact on the global relationships. Though the concept of globalisation is old, Internet has given rapid promotion for the concept of Globalization. On line business platform has penetrated the market so rapidly. Social Media networking is playing great role in promoting the proliferation of communication. 'Reliance JIO' has made each and everyone to access internet in their smart phone. Students are busy in searching Internet and are less aware of their social surroundings, missing new social interactions. The danger is that many people do not know when to turn off their Internet. As I have conducted a research on the effect of internet on the development of students, it revealed many facts that, Internet has made the Globe as a single platform and it has increased the scope for new educational as well as Employment opportunities for the students. The Dynamics of Communication has broken the limitations of Global Economy.

Keywords: Internet, globalisation, communication, economy, employment, dynamics.

ISCA-ISC-2019-17CLM-01-Guest Speaker

Utilization of managerial skill in public sector industry

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Abstract: In emerging country India, now a day's most of the government organizations are shutting down due to the huge losses which results in the cost cutting responses of these organization by the reduction of employees. The objective of this study is to determine the reasons behind this huge losses and the increase in attrition rate of employees. The information & data are collected by interviewing the industrial experts, observation and also by questionnaire method. The questionnaire is filled by managers of public sector industries. The sample size consists of 150 responses. It is found that,there is a lack ofdirect involvement of managers towards their subordinates as compared to the workmen of operation in industry. In public sector industry 70 to 80% of Managers are only supervising and controlling the problems but are not involved in the production process directly. Hence the utilization of managerial skills in the production phase comes out to be very less which is why the industries are facing losses. Also the numbers of managers are much more in government industry than private industry which also leverages the negative affect in public sector industry. The recommendation from this study is the proper and optimal utilization of managerial skills in the production process along with administration in the organization. As a result it will positively affect the industry by reducing the losses.

Keywords: Managerial skill, industry, managers.

ISCA-ISC-2019-17CLM-01-Oral

Impact of globalization on Indian agricultural produces

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Abstract: The present study is analytical in nature and an effort to acknowledge the changes occurred in the production of agricultural crops during the period of New Economic Reforms which took place in the year 1991. The Indian Agriculture used to be labour intensive and traditional in approach towards production techniques. However, the economical reforms changed it all up side down after its occurrence. The shift from labour intensive to capital intensive techniques, food grains to commercial crops and feeding approach to money making approach are the key reflectors of this economical change. The researcher in this study focuses to bring out the comparative picture of production change in Major Food Crops and Major Commercial crops. The work is confined in the boundary of four decades; the first two before globalization and the later two after globalization. With the help of data published by Reserve Bank of India and Ministry of Agriculture and Farmers' Welfare, the study purely depends on secondary sources of data. The work has its importance in the area of study as it presents a comparative picture between the eras before and after globalization and the impact it made on the major crops of Indian Agricultural sector.

Keywords: Globalization, new economic reforms, production, major food grains, major commercial crops.

ISCA-ISC-2019-17CLM-02-Oral

A study on customer's attitude towards systematic investment plan in HDFC

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Abstract: Investor has some mind set towards the investment opinions, either directly on investment or indirectly approach to investments. On superior of it, there are different new ways of making investment come up with the surplus and betterment of technology. This is particularly reality about the mutual fund industry in that there are new ways of investment in mutual funds by paying a rigid amount of cash on equal class of time duration, known as strategy which called cashless systematic investment plan (SIP). It criticizes to a recurring deposit scheme of a bank or post office schemes. The SIP has gained new trend popularity and hence a structured work in Indian market and for that it is also valuable to understand and think of the investor's perception and expectations and broadcast some important and valuable information to support financial decision making of cashless mutual funds. The aim and objective of the present paper include comparison of cashless SIP with lump sum investment plan while using data envelopment analysis .This type of such study has been conducted on comparing cashless SIP with lump sum in India. Hence the initiative effort in this motion will be a very valuable for the policy makers, regulators and fund managers for designing strategies for upcoming implications. Since a huge population is still using the traditional investment patterns and they are involved of the benefits of cashless SIP, the outcomes of the proposed research would be of immense advantages to the country.
Keywords: Cashless systematic investment plan, lump sum investment plan, cluster analysis, data envelopment analysis.

ISCA-ISC-2019-17CLM-04-Oral

Role of entrepreneurs in the transformation of global economy

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Abstract: Entrepreneurs are the powerful engine of economic growth. They have the capacity to change the economy for few decades .Earlier he was expected to bear the risk and uncertainty but now beside this he is required to coordinate the productive resources in varied ways, he is expected to take active role in introduction of innovations. Development of western economies is the result of Entrepreneurship. For development of economy lack innovative entrepreneurs so efforts should be made to produce innovative and imitating entrepreneurs. Entrepreneurship is an indispensible ingredient in transformation of global economy. Business people take financial risks and responsibilities. They make new forms of business organization on a commercial basis. Both small and medium business in the global economy had significantly increased over the past 30 to 40 years. Globalization has opened a window to the rest of the world. The introduction of international business played a vital role for the formation of a new generation of entrepreneurs by providing new technologies, global market is increased mainly in the field of telecommunications and computers. By discovery and exploration of new small business owners are breaking the existing barriers in international trade revealing the endless potential for their own growth and transforming the global economy today.
Keywords: Entrepreneurs, economic growth, transformation, global economy, business, technologies.

ISCA-ISC-2019-17CLM-05-Oral

E-commerce in our daily life

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Abstract: E-Commerce is the online buying and selling platform which is extremely important in our daily life. The foremost reason behind the growth of internet users is social media and E-commerce. E-Commerce is as important to business as a heart to human body. E-Commerce has evolved to make a product easier to discover and purchase through online retailers & market places. An E-Commerce website will give you the opportunity to reach out offer your products and services to customers around the world regardless of distance and time zone. Potential buyers are more likely to make purchases when they can place their order instantly, rather than waiting for a regular store to open. We spend our daily time more on the internet for work, study, marketing, business, learning and entertainment. Now all these commercial and social activities are connected to the internet and without E-Commerce, the world around the Internet is impossible and it will scare you to imagine. So, E-Commerce is an important part of our life.
Keywords: E-commerce, business, buyers, internet, commerce.

ISCA-ISC-2019-17CLM-06-Oral

A study on financial literacy among women of Bhilai, CG, India

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Abstract: As we know that a women are interested in financial matters, but less financial knowledge. Through the women face unique financial knowledge challenges to build a financially secure future. Financial literacy is a skill that is essential for everybody in today's economy. Low level of financial knowledge has far-reaching consequences, because financial literacy can be linked to important financial decision. A Minimum level of financial literacy is very essential for every woman so that they can live their life according to their own choices & can contribute to the healthy and prosperous life of their family as a whole. Women have enormous potential to contribute towards the growth of the economy hence a financially development women can be a great source of economic development. The purpose of this study was to give an overview about the financial literacy among women in an educationally advanced city like Bhilai.
Keyword: Financial literacy, financial decision, financial knowledge, skill, economic development.

ISCA-ISC-2019-17CLM-07-Oral

Self help groups-a tool for rural development and women economic empowerment

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Abstract: In India, Rural population comprises majority of the India's total population. Most of the people residing in rural areas are facing various problems related to their livelihood compared to those people living in urban areas because the development in rural areas is very low when compared to urban areas and it is evident that progress of the country cannot be achieved until our rural areas are developed. After Independence the government of India launched various programmes both at the national and state level out of which some failed while some partly succeeded. Self Help Group (SHG) is a programme which came into existence in the year 1992 by the combined efforts of government and non-government organizations aimed at alleviating poverty, through which rural development can be promoted. Self help groups not only promote development of rural economy but also uplift the socio-economic status of rural people. Since the past few years SHGs are successful in empowering women economically leading to their participation in rural economy. The main focus of this paper is to study the role of SHGs in rural development and how it is being helpful in the process of women economic empowerment.
Keywords: Self help group, economic empowerment.

ISCA-ISC-2019-17CLM-08-Oral

Agricultural productivity in Chhattisgarh state, India: pattern and need

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Abstract: The present research paper tries to trace a linkage between the productivity, technological and agricultural policy reforms, which pave the way of sustainable agriculture development and growth. Indian economy is an agricultural economy as the major part of our country's population is depended on agriculture and allied activities. Agriculture is the backbone of Indian economy. Agriculture sector also contributes a significant figure to the Gross Domestic Product (GDP). It was seen that there is a low growth of agricultural productivity due to traditional agriculture techniques and lack of finance. To analysis the trend and patterns of agricultural productivity of main food grains of Chhattisgarh state, to put light on causes of low productivity, policy implications on various schemes run by the government are the objective of the present study. Although the state has achieved a significant growth rate but still suffers from agricultural productivity distress. Hence this paper tries to show real picture of agricultural productivity and its future prospects. Comparative study of growth rate of agricultural produce and its productivity pattern has been discussed in this paper. Chhattisgarh state has achieved a significant growth in agriculture sector but in terms of productivity is far below then the global standards. In the absence of modern agricultural technique and farming in traditional ways, agriculture of the state is totally depended on rainfall. Modernization of agriculture is the greatest need of agriculture as it is the source of income for the 80% population of the state. For the overall economical development, poverty reduction and to generate employment opportunities there is need of rapid agricultural growth. My intention in this paper is to portray productivity pattern in the state and to explain how the rapid agricultural growth can accelerate the economy of the state. This study is based on secondary data released by the government of Chhattisgarh.
Keywords: Productivity pattern, food grains, sustainable agricultural development, infrastructure.

ISCA-ISC-2019-17CLM-09-Oral

Role of NABARD in socio-economic development of Chhattisgarh, India

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Abstract: One of the important segment of Indian Economy is rural sector which amounts to be 70% of Indian Population. The growth and development of rural economy is a key to overall growth and inclusive development of the country. The rural people are poor and need financial support to earn their livelihood. In this regard, microfinancing policy in India was adopted in the fifties and expanded in the sixties and seventies, culminated in the establishment of an apex institution at the national level in 1982 under the name National Bank for Agriculture and Rural Development (NABARD). Since NABARD is on the verge of completing two decades of existence, it is pertinent to assess its role in promoting rural development. Various studies have proved the role microfinancing programme of the NABARD has done extremely well in rural India in terms of its outreach, generating income, reducing poverty levels and empowering people both economically and socially. This study examines the impact of role of NABARD for its various services like microfinancing, development & supervision on socio-economic development of rural people of the state of Chhattisgarh carried out for ten years i.e. for the period from 2008 to 2017. The role of NABARD was assessed by its physical performance for its functions whereas the socio-economic development can be assessed by the development of its beneficiaries. Predictors of physical performance of NABARD was identified with the help of NABARD annual reports which includes microfinance, supervision & development functions whereas the predictors of socio-economic development was identified through Human Development Index Report (2010) which includes Education, Health & Income Index. The analysis of the study is based on the primary data collected from 402 beneficiaries of NABARD regarding their socio-economic development, whereas data for physical performance of NABARD was collected from its annual report. The findings of the study indicate that Chhattisgarh has developed economically as far as beneficieries of NABARD is concerned due to the significant services of microfinancing.
Keywords: Microfinance, human development index, economic development, socio-economic development, Chhattisgarh, NABARD

ISCA-ISC-2019-17CLM-10-Oral

A study on exploring the transformation and dynamics of an emerging economy

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Abstract: E-commerce is the boon in the modern business. E-commerce involves buying and selling of goods and services or the transmitting of funds or data, over an electronic network pre-dominantly the internet. E-commerce is a paradigm shift influencing both markets and the customers. Information technology is playing a vital role in the future development of financial sector and the way of doing business in the emerging economy. The advancement of communication and information technology has brought a lot of changes in all spheres of daily life of human being. E-commerce has a lot of benefits which add value to customer's satisfaction and their convenience in any place and enables the company to gain more competitive advantages over the other competitors. This study predicts some challenges in an emerging economy. The success of E-organization has been well reported in the news media in recent years.
Keywords: E-commerce, modernization, Information technology, Finance, Global emergence.

ISCA-ISC-2019-17CLM-01-Poster

The impact of consumer digital literacy on digital banking with special reference to Bilaspur district, India

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Abstract: Internet Banking has started in the last few years and has just been developed, but the banking system has begun long ago and the period of Internet Banking is not as old as it is still a lot of people who have the facilities provided by banks Cannot take full advantage of the reason why they have no information or lack of information or financially illiterate. Therefore, taking care of some basic things, we can take our banking experience to the next level and all this financial literacy will happen. We will study and analysis all these in our work and will try and make efforts that people get as much information about digital banking and they become financially literate.
Keywords: Digital literacy, digital banking.

ISCA-ISC-2019-17CLM-02-Poster

Employee perception towards green HRM in CG, India

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Abstract: An attempt has been made through this research paper to understand the perception of employees towards Green HRM practices of the organization. Green HRM practices are the HR practices concern with the policies and practices in such a way to promote sustainable use of work culture resources, in business organization to make 'eco – friendly' economical environmental sustainability practice to keep healthier environment by increasing employee awareness.There is a growing need for the integration of environmental management into human resources management.The recent interest in environmentalism globally has arisen by reducing carbon footprints like video recruitment, electronic file maintenance ,Tele-conferencing and, telecommunicating virtual interviews and test, using car sharing, online environmental training, and green initiative based reward, job-sharing, recycling,etc. A sample of 100 employees has been taken through purposive sampling and data is collected through pre-designed questionnaire by conducting face to face interviews with the sample respondents to know there opinion about Green HRM practices. The study shows that employees were less aware or no knowledge about such practices and there is a much need to develop proper awareness and training programs on Green HRM practices in the organizations of Chhattisgarh.
Keywords: Green HRM, sustainability, perception, training, attitude, environment, eco-friendly, carbon footprint, work culture.

ISCA-ISC-2019-17CLM-03-Poster

E-Banking

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Abstract: The number of digital payments has increased since the central government announced the demonetization. Cashless and digital payments have also become essential for everyday transactions. Under the policy of 'Digital India', people are beginning to use cashless payments instead of cash to pay for their daily business needs and products and services. Being a customer, Indian peoples switched towards cashless payments instead of cash payment. Many electronics tools and equipment used for as cashless payment by the customer. E-Commerce is providing the online trading system basically used to satisfy the needs. E-commerce provides a platform for people to buy and pay against it. After the demonetization, the Government of India is encouraging consumers and merchants to use non-cash digital payment methods in the business of selling and buying for any kind of payment. E-commerce is the act of trading through the Internet using electronic media and media. E-commerce includes buying, selling, advertising, distribution and paying through cashless options. There are many cashless applications for easy and quick payment without fail.
Keywords: E-banking, internet, cashless.

ISCA-ISC-2019-17CLM-04-Poster

Reverse performance appraisal–method for enhancing employees performance of selected privated organizations in Chhattisgarh, India

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Abstract: An attempt to know the impact of reverse performance reviews and system adopted by an organization over job satisfaction and organizational commitment of the employees. Managers and business owners typically conduct performance evaluations as a way to assess an employee's job performance and ability to meet goals. Traditionally, a manager or supervisor will sit down with each employee and discuss the strengths and weaknesses of her job performance over a predetermined period, often a year. In a reverse appraisal, employees can evaluate the effectiveness of their managers. Such practices improves the working practice of the supervisors and managers and make them work for the welfare of employees and well-being of the organization leading to high level of job satisfaction of the employees and much deeper level of commitment towards the organization. A sample of 100 employees from Bhilai Engineering Corporation (BEC) has been selected using convenience sampling technique and data is collected through structured questionnaire. It was found that reverse performance appraisal has a significant impact on job satisfaction and commitment of the employees. Suggestions has been given to the top management for proper implementation of such performance appraisal system.
Keywords: Reverse performance appraisal, job satisfaction, employees commitment, BEC fertilizers.

ISCA-ISC-2019-17CLM-05-Poster

Gender crimes and relevant factors

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Abstract: Despite nationwide protests against the Unnao, Kathua and the Nirbhaya cases, India has become the most dangerous country for women. According to the 2018 study by Reuters, considering factors such as healthcare, discrimination etc., India has topped the list for countries most dangerous in the World. In spite of stricter rules against sexual crimes, we see a steady increase in these crimes. While factorslike sex ratio, education, employment and economic status have been found to be relevant, there are other factors at play. Over the past 3 decades, research in the west suggests mental health as a relevant factor also.Lack of meaningful research in India highlights a serious lacuna in knowledge required to extrapolate the factors at play. Temperature (riot temperatures), time of the day, eg.night-timehave been found to be directly proportional to such crimes to an extent. More often than not, it has been noted that rape instead of attraction or lust is rather an expression of power. Due to cultural and societal shaming of women about their sexual experiences, rape becomes a powerful tool to shame women in our society. This also has led to a lack of safe spaces for survivorsto share their traumatic experiences. With the #MeToo movement, there has been a considerable shift in the axis with cases against powerful men using rape and other forms harassment as a tool of domination. This brings the question how much are the previously mentioned factors relevant to these increasing numbers because applying the same model considering education and economic status in the upper echelons of the society, we find similar such cases. The researcher intends to dig deeper into the statistics of the rapes in the rural areas of India to construct a formulaof a curve explaining the relevant factors and their coefficients and apply the same formula to the upper echelons in urban developed areas and find the difference between the curves and the quantifiable factors leading to that. These results can help providing the government with a much clearer idea regarding the relevant factors and the relevant steps that should be taken especially in regards to Women's Safety Division of the Ministry of Home Affairs.

Keywords: Rape, gender crimes, economic status, education.

ISCA-ISC-2019-17CLM-06-Poster

A review of energy model for managing municipal solid waste

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Abstract: In this new era of modernization and globalization, Municipal Solid Waste (MSW) management still an issue for the Urban Local Bodies (ULBs). "concept of 5-R" – Reduce, Reuse, Recover, Recycle and Remanufacture – and through integrated Municipal Solid Waste Management, derive energy and other useful products and ensure safe disposal of residual waste. Proper waste management is a fundamental key to environmental sustainability. In this study, the municipal solid waste management energy model method is presented. The characteristics and composition of these wastes and the environmental issues associated with its management are also investigated. Environmental and health issues arising from the unsustainable management of the wastes. The composition of the wastes in the metropolis is heterogeneous because it contains both biodegradable and non-biodegradable materials such as e-wastes, plastic, polythene materials, hospital wastes, and hair designers wastes amongst others. Municipal solid waste management (MSWM) has emerged as a big challenge not only because of the health and environmental concerns but also due to huge quantities of waste generated. It is observed from many research documents that most urban local bodies (ULBs) in India are unable to handle such huge quantities of solid waste due to financial and institutional debilities. Furthermore, ULBs rarely have sufficient funds, resources, infrastructure and appropriate strategies for improved solid waste management. The current study also deals with the challenges of solid waste management recycling or disposal. The non-compostable wastes can be left for recycling and re-use by the concerned authorities.

Keywords: Solid waste management (SWM), Urban solid waste (USW), Electrical conductivity, Urban Local Bodies (ULBs).

18. Library Sciences

ISCA-ISC-2019-18LS-01-Oral

Academic library reference services: researchers' information behaviour and expectations in staff mediated search

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Abstract: Reference work in most libraries generally are known for the provision of personalised and targeted information services. In academic libraries, the services are relatively enormous and quite engaging. This paper discusses experiential involvements of the authors over the years in direct reference kind of service, in University of Uyo (UNIUYO) library. The ways by which the library/ librarians support their users to meet varied research information needs across disciplines is the thrust of in this paper. In this regard, practical insights into professional guidance accorded a student/ researcher seeking information to actualise expected academics goals and needs, are highlighted. This paper also examines the standpoint of authors particularly information literacy experts with regard to their conceptual approach in the light of this paper. It is equally noted that the tendency to falter in information search process ironically becomes a challenge even among advanced library users including postgraduate students. This paper nonetheless posits that some these setbacks encountered can ultimately be redressed in view of electronic reference platform. Based on the forgoing, a more hands-on and user-oriented reference and information services is advocated for.
Keywords: Academic, library, behaviour and expectations.

ISCA-ISC-2019-18LS-01-Poster

Teacher's contribution in knowledge repository: A study

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Abstract: We are living in age of information. Today information becomes fifth need of human life. Whole world become a global village by the use of information and knowledge. Every area of universe information is seen as a powerful authority. According to online oxford dictionary repository is an archive of scholarly publications in a particular subject area. Today Information is a knowledge. This study is regarding to Hemchandracharya North Gujarat University, Patan affiliated colleges' teachers. The principal aim of the study is to find role of teachers in knowledge repository. In this study scholar had take only research article which published in international journal. 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.

19. Language, Literature and Culture

ISCA-ISC-2019-19LLC-01-Oral

ई–कामर्स और उपभोक्ता निर्णयन

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सारांशः भारत एक विकासशील देश है। भारत में ई–कामर्स बाजार अभी उछाल पर है। यहॉ ई–कामर्स का उपयोग करने वालों की संख्या दिन प्रतिदिन बढ़ रही है। इस अध्ययन का मुख्य उद्देश्य है। भारत में उपभोक्ता इंटरनेट शापिंग के प्रति क्यों आकर्षित हो रहे है, तथा उन कारकों के बारे में पता करना जिससे प्रभावित होकर वे ई–कामर्स के प्रति आकर्षित हो रहे है। प्रस्तुत शोध पत्र ई–कामर्स तथा उपभोक्ता निर्णयन के कारणों की जांच करता है। इस अध्ययन से पता चलता है कि वस्तु की उपलब्धता, उत्पाद की प्रस्तुती, घर पहुंच सेवा तथा 24x7 खरीदारी की सुविधा इन सभी कारणों की वजह से उपभोक्ता ई–कामर्स के प्रति आकर्षित हो रहे है।

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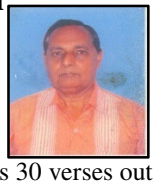
20. Social and Humanity Sciences

ISCA-ISC-2019-20SH-01-Guest Speaker

Muslim Jihad among past, present and future Islamic civilization



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Abstract: Jihad is the only Arabic and Islamic words undoubted recognize by virtually virtually among Islamic countries. Holy quran does indeed contained different Arabic forms of the Arabic word Jihad that forms 30 verses out of a total 6236 verses. Few of them relate to legitimate armed was fair. Therefore jihad can indeed refer to lawful war time almost all discussions of the term emphasize the following: Term jihad is the means by which to serve God and that were essential component of the struggle is internal, and spiritual. The Profit was retruning from a Jihad a military component quoted in one Hadith a saying we have returned from the lesser jihad to greater jihad, to conduct jihad internal and external. Some Muslims have choose to interpreted jihad in more military terms. Key complex jihad is Egypt and Quida network Osama Binladen, ISIS, Laskare toiva jais and many other residing in Pakistan, Bangladesh, syrea, Turkie, Afghanistan etc. They have a large network carrying atangwadi activity in different countries our India is also a victims of such activities. Recently, Mr. Kamlesh Tiwari Murder case in Lucknow is also a example of such activities time to time some such group performed military operations that killed humanity and public becomes victims of such Jihadi operations. Different Treaties and International Law prohibited such type of activities to jihadi militants aforesaid militant activities. Therefore, question arises that what is the scenario of Jihad among Muslims in past, present and future Islamic civilization.
Keywords: Muslim, Jihad, past, present, future, Islamic civilization.

ISCA-ISC-2019-20SH-01-Oral

Effect of Raja Yoga Meditation on psychological and functional outcomes in spinal cord injury patients

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Abstract: To explore new dimensions for healing through RYM in SCI patients along with their caregivers in order to increase quality of life with inner strength. This is pre-post observational study with two arms (1) Patients with Conventional rehabilitation with RYM (2) Patients with only conventional rehabilitation. Caregivers also assessed pre-post intervention to find effect of RYM. A total of 100 SCI patients and 100 caregivers were recruited based on eligibility criteria and ready to give consent for the study. The age of SCI patients ranged from 16 years to 60 years.50 subjects were assigned in each group. The duration of study was 4 weeks. The sessions were conducted for 6 days per week. Meditation practice was done for 20 minutes through a guided commentary and motivation was given through Brahma Kumaris spiritual knowledge for 25 minutes. Pre and post assessment was done using standard tools namely Perceived stress Scale(PSS), Hospital Anxiety and Depression Score(HADS), Scale (HADS), Spinal Cord Independence Measure (SCIM), WHO Quality of Life BREF (WHOQOL-BREF), Numeric Pain Rating (NPR).Out of all parameters studied, PSS ($p<0.001$), HADS ($p=0.001$), QOL-BREF($p<0.001$), showed statistically significant changes for patients measured before and after the intervention in both the arms. SCIM ($p=0.513$) and NPR ($p=0.055$), significant changes were observed within the arm measured pre - post assessment, however they did not show the significant difference between intervention and control arm. Caregivers parameter studied PSS ($p<0.001$), HADS ($p=0.004$) and observed significant changes in both the arms. Significant differences were observed in psychological scales before and after Raja yoga meditation for patients and Caregivers. It suggests the use of RYM might help SCI patients for better and early recovery.
Keywords: Functional parameters, meditation, psychological, RYM, SCI, rehabilitation.

ISCA-ISC-2019-20SH-02-Oral

Social, psycological and nutritional factors, epidemiological consenses guidline of irritable bowel syndrome (IBS)

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Abstract: Irritable Bowel Syndrome isa gastro intestinal disorder characterized by abdominal pain, bloating and changes in social habits by using meaning criteria Rome 1 and 2 prevalence estimate ranges 2.5 to 37%. Which require prevalence of around 10% as a mean. An international group of experts in functional GI motility disorders Consered to develop system based criteria know as the Rome criteria 1, 2 and 3 to define and provide tools for diagnosis. Different test should be carried

such as CBC, FOBT, ESR, Serum Chemistry, TSH, Stool O and P for the treatment of IBS. Step wise consciences Guidelines and Step wise approach to IBS management (Rome III) along with education reassurance, healthy life style, diet, Psychological issues may be useful to manage the IBS. The IBS is much more common among elderly diabetes patients that's why researchers attempt to carrying this study. This study was carried on a elderly diabetic patients those registered for treatment in private clinics the validation cohort 50. It was found that among diabetic patients IBS around average 80% ranges from 60 to 90% with age groups 60 to 80 years.

Keywords: Irritable bowel syndrome (IBS), gastrointestinal, (GI), elderly diabetes etc.

ISCA-ISC-2019-20SH-03-Oral

Geographical history of wind energy in India

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Abstracts: History of the Energy gives the graphic reference for Development of the human civilization. Man has used energy from his origin. In the modern era, man is using the renewable source of the energy as the Solar, Nuclear, bio fuel and wind energy. Wind energy is most efficient. First historical reference of the wind energy is put in Scotland in July 1887 by the Prof. James Blyth. After it was developed in the Denmark. From the period of the 1950, there is modern electrical generator, the efficiency for the electricity.U.S.A. had made the NASA wind turbine in the 1980. In the 21st century had developed the wind farm for to stop the global warming. India started for wind electricity from the 1952 under the research of CSIR. IMD provides wind velocity data for the wind farm. Large scale of electricity formation is started from the 1986 at Ratnagiri coastal area. Now for the more production of electricity there is MNRE and MIWE. Maharashtra Energy Development Agency established in 1983-84. In Maharashtra total formation of the electricity is 4000 Mw. Major Windmill are made by Suzlon, Vestas, Gamesa, Regen, Leither, Shriram. Ahmednagar is one of large production of the wind electricity from 2001. Wind farm of DaulaWadgaon and Kuslum-Savatada are located on the boundary of Ahmednagar and Beed district.

Keywords: Geographical, history, wind energy.

ISCA-ISC-2019-20SH-04-Oral

Food adulteration in India

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Abstracts: Food adulteration is one of the serious challenges in the Indian society. Despite various measures and penalties, the problem continues to remain a big challenge for the country. Consumers around the country are increasingly more stringent laws besides demanding information on the source and reassurance of the origin and details on reprocessed food. Food adulteration is an act of adding or mixing of poor quality, inferior, harmful, substandard, useless or unnecessary substances to foods. The most commonly cited adulterants in food were inexpensive oils in costly oils (especially groundnut oil with castor oil or argemone oil), red gram with kesar dal (*Lathyrus sativus*), milk with water, tea with iron filing and chilli powder with chalk powder or colour. Some more adulterants such as mineral oil in pepper, coattar dyes in kesari dal (*Lathyrus sativus*) were also reported (Sudershan et. al., 2008). The Annual Public Laboratory Testing Report for 2014-15 brought out by the Food Safety and Standards Authority of India (FSSAI) says that of the 49,290 samples of food items it tested, 8,469, nearly one-fifth, were found adulterated or misbranded.

Keywords: Food, adulteration.

ISCA-ISC-2019-20SH-05-Oral

Role of women in surrealist movement

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Abstract: In this paper we intent to look at the role of women in the surrealist movement. The surrealist movement is an artistic movement that dealt with visual artworks and writings of the members of that group, that depicts the elements of unforeseen concurrence, aspects of astonishment and non sequitur which emerged as the direct result of the publication of Andre Breton's first Le Manisfesto du. Surrealisme (Manifesto of Surrealism) 1924. This topic has not been exploited well by researchers. In the past feminist have critiqued that the surrealist movement is basically male movement and there was only a subordinate role for women to perform. However these criticisms are more of Avant-garde and need further research,

as delving into the history we can find that although women have had to work hard to prove themselves; but their roles cannot be undermined. In this paper we will look at the role of women and how they were portrayed in the surrealist movement and what are their contributions. In this connection many critics like Colvile, Eburne, Mahon, Lusty, Robins Sharpe, Monahan, Sherman, and Carruthers have played very important role in bringing forward the importance of these authors as thinkers not simply creating in a surrealist idiom.

Keywords: Surrealism, women, André Breton, disillusionment, Colvile.

ISCA-ISC-2019-20SH-06-Oral

Effective leadership: emotional intelligence at workplace

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Abstract: Leadership is the most vital and fundamental requisite among the employability skills in today's work culture. As often considered, it is not just about leading a team; but also about self-motivation and disciplined dedication. A leader is to be equipped with intellectual capability and technical skill; but to be a good and effective leader one has to be emotionally intelligent. In order to achieve organizational goals and to get better outcome from the employees, a leader should be able to comprehend his cadence and also of his team. What distinguish outstanding leaders from average ones are balanced rationale and the sense of mutuality. A good leader has to be proficient inrecognizing one's own and others' emotional state and fruitfully utilize that understanding to motivate and then to drive behaviour of oneself and others towards goal attainment. Emotional Intelligence is this ability to understand and regulate one's emotional state while also being able to gauge and manage other's feelings as well. It goes much beyond the administrative nuts and bolts of leadership and upholds how one's emotional state constructively influences others in order to create positive outcomes, both personally and with others.

Keywords: Emotional intelligence, effective leadership, positive outcomes.

ISCA-ISC-2019-20SH-07-Oral

Flip class and applied method in Social Science as a tool to Inspire students

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Abstract: Classical education system used to enhance class to be run by teacher theoretically, in classroom and focus on the module speciality, which may graduate educated student, whom may not be inspired and linked to the real life. This paper tray to show how to inspire student by using different way can make teaching to be within, it is built on author experimental with different classes over the years with social science undergraduate student. The paper show how simple techniques, such as flip class and applied practices, can inspire student and have positive impact during education and in their future life. As it helped student to link their applied practice with organisations outside university and lecture about it and some turned it to be entrepreneurial project, this help student to be ready for the market and become job creators rather than job seekers after graduation and make better understanding of socio-economy issues that can be solved by inspiration economy methods. The study concludes with a proposed learning framework and a recommendation for future researches to come. The limitation of the paper mainly is that it was conducted only by author.

Keywords: Inspiration, education, flip class, social science, socioeconomic, inspiration economy.

ISCA-ISC-2019-20SH-08-Oral

Effective treatment and barrier to pain management of cancer patients and their caregivers

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Abstract: To study the effect of age and barrier to pain management in anxiety and depression of cancer patients and their caregivers. Multiple regression method is used for 80 samples. Basically we used pathanalysis, with multiple regression. Result about this study we will able to say that, age has an impact on the health of cancer patients and their carers. Secondly, it has an impact on the cancer patients and their carers and on the economic basis, the main reason is their education and lack of awareness about the disease. Significant differences will be found in pain management barriers and age-related barriers to cancer patients' depression and anxiety. Thus based on this study, we can say that we should not feel ashamed of cancer. And should not be afraid of addiction to cancer drugs. Taking the information about the basic facts of cancer pain management, prevention and prevention measures should be adopted. Fear of cancer can be overcome by bringing awareness to cancer and its depression and anxiety can be avoided. Cancer awareness will increase in cancer patients with the help of various

awareness programs for cancer and at the same time, awareness of cancer will develop in the general public(Majumdar S, 2017). Cancer patients will be told that cancer is not a result of pre-birth nor belongs to any particular caste. Cancer patients will be educated about the daily challenges and their sadness, anxiety, and depression will be reduced.

Keywords: Effective treatment, barrier, pain management, cancer patients.

ISCA-ISC-2019-20SH-01-Poster

Effectiveness of multigrain Panjiri in management of iron deficiency anaemia and cardiovascular efficiency in tribal women

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Abstract: The present study was undertaken to assess the effectiveness of Multigrain Panjiri Supplementation in iron deficiency anaemia and cardiovascular efficiency. To conduct the study 100 tribal women were selected. The age range of selected subjects was 19-25 years. The inclusion criteria for selection of subjects was WHO classification for anaemia. Purposive sampling was used for selection of subjects. Estimation of haemoglobin levels of the samples was estimated by cyanmet haemoglobin method while the cardiovascular efficiency was assessed by modified Harvard step test. Pre -post randomized group experimental design was preferred to conduct the study. First of all 100 anaemic tribal women between 19 to 25 years of age from rural areas of Raipur District were selected as per inclusion criteria. The formation of two groups experimental and control group respectively with equal number of subject was carried out with random assigning the subjects in two groups. Subject of experimental group were supplemented with Multigrain Panjiri .An iron rich nutritious Multigrain Panjiri was prepared for the purpose of Supplementation to the experimental group 75gm (1 small katori) of Multigrain Panjiri was measured on electronic weighing machine and packed for each sample per day. The haemoglobin estimation of subjects was again carried out after the completion of 3 months study period. On the basis of WHO classification for anaemia, frequency distribution was calculated. On the basis of result it may be concluded that Dietary Supplementation in the form of Multigrain Panjiri can be added in Management of anaemia in tribal women along with other measures as well as enhancement of their cardiovascular efficiency.

Keywords: Haemoglobin, iron deficiency anaemia, WHO criteria, dietary supplementation, soya multigrain panjiri, cyanmet haemoglobin method, cardiovascular efficiency, modified Harvard step test.

ISCA-ISC-2019-20SH-02-Poster

Impact of yoga in Adult women

Nandita Gurwara and Nafisa Parveen*
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Abstract: This study investigated the impact of yoga in 100 adult women in age group of 20-28 years out of this 50 females were practicing yoga and other 50 were non yoga practicing. Data analysis was conducted and result reveals the higher percentage of female from non yoga practicing group reported fatigue. It was conducted that yoga is good for physical condition of female for maintaining anaerobic fitness in adult female.

Keywords: Physical condition, anaerobic fitness, yoga.

ISCA-ISC-2019-20SH-03-Poster

Impact of diet in type 2 diabetes mellitus

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Abstract: Present study was undertaken to assess the impact of diet on type 2 (200) diabetic patients. Objective was to study the dietary habits and food intake of the patients. The study reveals that obesity grade 1 is seen, and dietary intake of fruits were less prevalent was found.

Keywords: Diabetes Mellitus type 2, Dietary Intake, Obesity Grade 1.

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