

**International Conference
on
Recent Developments in Humanities, Business,
Environment & Social Sciences (ICRDHBESS-2024)**

12 - 13 October, 2024

Online Conference

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Organized by:

G.A.V. Degree College, Patauda, Jhajjar, Haryana, India

In Association with

Research Plateau Publishers, Jhajjar, Haryana, India

(An academic publisher of scientific and technical journals)



e-Abstract Book

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About Conference

Aims:-

- To offer a competitive venue for academic researchers and industry professionals to showcase and discuss cutting-edge advancements in their respective fields.
- To provide attendees with a unique opportunity to share their experiences, knowledge, and ideas on a global stage.
- To establish research or business relations as well as to find international linkage for future collaborations in their career path.
- To address the key challenges faced by academic researchers and industry professionals in the fields of Humanities, Business, Environment, Social Sciences, and others

Outcomes:-

- Exposure to International Research & Development.
- Opportunity to collaborate with leading researchers around the globe.
- Opportunity to learn from the leading researchers in your research area.
- Full-length quality research papers will be published in the double blinded, peer reviewed, open- access, Google Scholar Indexed Journals of Research Plateau Publishers.
- Proceedings of all abstracts will be published online.

Themes of Conference (but not limited to)

Humanities: Economics, Psychology, History, Political Science, Geography, Law, Media Studies, Entrepreneurship, Physical Education, Fashion Studies, Fine Arts, Informatics Practices, Human Rights and Gender Studies, Philosophy, Sociology, Art, Cultural Sustainability and Cultural Geography, Literature and Eco-criticism.

Business Management: Finance and Accounting, Marketing, International Business, Strategic Management, Human Resource Management, Insurance and Risk Management, Information systems and Technology Management, Quality Management, Productivity and Business Excellence, E-Business and E-Commerce, Corporate Social Responsibility, Public Management, Business Law and Business Education.

Environmental Science: Environmental Health, Environmental Planning, Environmental Management Systems, Ecology, Biological Resources, Water Resources, Energy Resources, Air Pollution and Management, Water Pollution and Management.

Social Sciences: Law and Economics, Public Administration, Marketing, Management, Human Resources, Anthropology, Ethics, Family Studies, Geography, History.

About Us

G.A.V. Degree College, Patauda, Jhajjar, Haryana, India

G.A.V Degree College, a premier higher education institution, imparts holistic Professional and vocational education. The College provided a dynamic environment for its students to pursue excellence, gain knowledge and acquire skills to achieve their goals. It was established in 2014 as a co-educational institution and is situated in Haryana, India. Situated about 1 km off NH 71 B in the village of Patuda near Pataudi, this affiliated college offers several undergraduate programs.

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Email: gavdegreecollege@gmail.com

Contact No: +91-9466879611, +91-9466879622

Chief Patron Message



I am honored to extend my warmest greetings to all participants, esteemed speakers, and distinguished guests attending the *International Conference on Recent Developments in Humanities, Business, Environment & Social Sciences (ICRDHBESS-2024)*. This prestigious conference is a beacon of interdisciplinary collaboration, bringing together brilliant minds from diverse fields to address some of the most pressing challenges of our time.

In today's rapidly changing world, the intersections of humanities, business, environment, and social sciences are vital in shaping sustainable solutions that address both global and local concerns. This conference serves as a unique platform to explore these intersections, encouraging critical discourse and fostering innovation that transcends traditional academic boundaries.

As we embark on this intellectual journey, I encourage all participants to engage with an open mind, share their insights, and explore new possibilities for collaboration. It is through these collective efforts that we can build a more resilient, equitable, and sustainable future.

I would like to express my deepest appreciation to the organizing committee for their dedication and vision in making this event possible. I am confident that ICRDHBESS-2024 will provide invaluable contributions to the body of knowledge and inspire solutions that will have a lasting impact on our societies and the world at large.

Wishing you all an engaging and successful conference.

Warm regards,

Ashok Sharma

(Founder, GAV Degree College) &

Chief Patron

ICRDHBESS-2024



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Patauda, Jhajjar - 124108 (Haryana) India

Email: gavdegreecollege@gmail.com

Contact No: +91-9466879611, +91-9466879622

Patron's Message

It is with great pride and enthusiasm that I welcome all delegates, scholars, and guests to the *International Conference on Recent Developments in Humanities, Business, Environment & Social Sciences (ICRDHBESS-2024)*. This gathering represents a unique opportunity to engage with leading thinkers from various disciplines, united by a shared commitment to addressing complex issues at the intersections of humanities, business, environment, and social sciences.

The challenges faced by modern society require innovative, interdisciplinary approaches, and I am confident that this conference will serve as a dynamic forum for the exchange of ideas and the development of collaborative solutions. The fusion of perspectives from these diverse fields will no doubt inspire new ways of thinking about sustainable development, social progress, and the future of business in an increasingly interconnected world.

I commend the organizing committee for their hard work and dedication in curating such an exceptional program. I also wish to extend my sincere thanks to the speakers, presenters, and attendees who have contributed their expertise to make this event a success.

I am certain that the discussions and outcomes of this conference will leave a lasting impact, fostering both academic growth and practical solutions to real-world challenges.

Wishing you all a productive and thought-provoking conference.

Warm regards,

Dr. Sandeep Kaushik

(Registrar, GAV Degree College) &

Patron

ICRDHBESS-2024



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Convenor's Message

It is with immense pleasure that I welcome you to the *International Conference on Recent Developments in Humanities, Business, Environment & Social Sciences (ICRDHBESS-2024)*. This conference represents a remarkable opportunity for scholars, practitioners, and thought leaders from across the globe to come together and explore the latest advancements in these vital fields.

The theme of this year's conference highlights the ever-growing importance of interdisciplinary collaboration in addressing the complex challenges facing our world today. By combining insights from the humanities, business, environmental studies, and social sciences, we can foster innovative solutions that not only enhance our understanding of the issues at hand but also provide practical pathways for societal development and sustainable progress.

I am deeply grateful to all our keynote speakers, presenters, and participants who have generously shared their knowledge and research. Your contributions are integral to making this conference a success, and I am confident that the exchange of ideas and perspectives will pave the way for fruitful collaborations and impactful outcomes.

I would also like to extend my sincere appreciation to the organizing committee and sponsors, whose tireless efforts have made this event possible. Together, we are creating a platform that will leave a lasting impact on the academic and professional communities alike.

Wishing you all an enriching and stimulating conference experience.

Warm regards,

Dr. Devender Kumar

Head, Department of Botany &

GAV Degree College

Convenor

ICRDHBESS-2024



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(Approved by DHE, Panchkila & Affiliated to M.D. University, Rohtak)

Patauda, Jhajjar - 124108 (Haryana) India

Email: gavdegreecollege@gmail.com

Contact No: +91-9466879611, +91-9466879622

Co-Convenor's Message

It is a great honor to welcome all esteemed delegates, speakers, and participants to the *International Conference on Recent Developments in Humanities, Business, Environment & Social Sciences (ICRDHBESS-2024)*. This conference serves as an exceptional platform for scholars and professionals from a variety of fields to exchange ideas, share research, and explore new trends that are shaping the future of these critical areas.

In today's global landscape, the interconnections between humanities, business, environment, and social sciences are becoming increasingly evident. These disciplines must collaborate to address the multifaceted challenges we face—from environmental sustainability to business ethics and societal well-being. I am confident that the insights gained from this conference will inspire new ways of thinking and innovative solutions that contribute to both academic advancement and practical impact.

I would like to extend my heartfelt thanks to our speakers and participants for their invaluable contributions. Your commitment to excellence and knowledge-sharing is what makes this conference a success. Additionally, I express my deep appreciation to the organizing committee for their hard work and dedication, which have been instrumental in bringing this event to fruition.

I hope that this conference will not only foster intellectual growth but also build lasting connections and collaborations among participants from around the world.

Wishing everyone a stimulating and fruitful conference experience.

Warm regards,

Dr. Manju Hooda

Head, Department of Humanities &

GAV Degree College

Co-Convenor

ICRDHBESS-2024

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Keynote Talks

Perspective of the use of *Sinapis alba* L. and *Brassica juncea* L. (Czern) in phytoremediation and their further recycling

Repkina N.S.* , Kaznina N.M., Voronen V.P., Murzina S.A.

Institute of Biology of the Karelian Research Centre of the Russian Academy of Sciences,
Petrozavodsk, Russia

Abstract

Soil contamination with heavy metals is global concern. Phytoremediation is a cost-effective and promising technology using plants to remove pollutants. Not all species are suitable for such procedures, however, many species of the Cruciferous family demonstrate a high ability to accumulate metals and soil clean-up. At the same time, the question of subsequent processing of such plants remains open. The aim of this study was to investigate the phytoremediation potential of two mustard species and their further processing.

The experiments were carried out under vegetation period in 2022 and 2023 years. The high concentrations of zinc (Zn) were used as a pollutant.

It was found that both species (white mustard – *S. alba* and oriental mustard – *B. juncea*) accumulate high concentrations of Zn in down- and aboveground parts. Along with this, the concentration of Zn in the substrate decreases, thus the studied plants can be recommended for phytoremediation. However, these species differed in the physiological and biochemical mechanisms of resistance. In particular, in white mustard, after 4 weeks of growing on a contaminated substrate, the content of saturated fatty acids in the aboveground part increased, while in oriental mustard the content of unsaturated fatty acids increased. In the white mustard, the rate of photosynthesis significantly decreased at high metal concentrations. In contrast, in the oriental mustard there was a decrease in photosynthesis parameters to a lesser extent. Differences in the activity of antioxidant enzymes were also found; enzyme activity increased to a greater extent in white mustard. In white mustard, seed productivity and seed quality decreased more than in oriental mustard. Based on the data obtained, it can be concluded that white mustard can be used as a feedstock for biofuels due to its high content of saturated fatty acids. Oriental mustard can be used as a feed additive for livestock food and raw materials for oil production, as a source of unsaturated fatty acids.

The study was carried out with the financial support of RSF (project No. 22-24-00668) Keywords: Mustard; zinc; fatty acids; biodiesel; oil.

Exploring the Multifaceted Potential of Moringa (*Moringa oleifera* L.): A Sustainable Solution for Health, Agriculture and the Environment

Axay Bhuker

Department of Seed Science & Technology
CCS Haryana Agricultural University, Hisar-125004, India

Abstract

Moringa (*Moringa oleifera* L.) belongs to Moringaceae family, also known as horseradish, benzolive, or ben oil tree, is a deciduous tree that grows quickly and can reach up to 12 meters in height with a trunk diameter of 45 cm. Numerous studies published in national and international journals highlight moringa's nutritional, medicinal, environmental and industrial benefits. This plant has garnered global attention for its diverse applications, with every part such as leaves, flowers, seeds, roots, bark, gum, oil and fruit serving various medicinal, nutritional, and industrial purposes. It is renowned for its abundant nutrition, medicinal properties and natural energy-boosting benefits. It has gained popularity among vegans and vegetarians worldwide due to its impressive nutritional value. Moringa is a fast-growing, drought-resistant plant rich in antioxidants, nutrients, and immune-boosting compounds. Moringa oleifera has been reported to possess various medicinal properties viz., antidiabetic, anticancer, antitumor, antioxidant, anti-inflammatory, antimicrobial, and anti-obesity properties. Furthermore, its biopesticidal and anti-pathogenic properties enhance agricultural productivity in an eco-friendly manner. Moringa can also contribute to environmental protection by removing toxic heavy metals, purifying water, and mitigating climate change through reduced greenhouse gas emissions. Moringa oleifera is also considered one of the most nutritious plants, providing ample fodder for ruminants during the dry season. Despite the enormous potential of this plant to provide raw material for the medical, food and cosmetic industries, its breeding program is not so much emphasized. Agronomic practices/package and production practices should be developed to increase moringa production. Moringa is mainly propagated by seeds, and therefore there is a need to develop both seed and field standards for the production of quality seed and the export of moringa seeds for international trade.

Keywords: Moringa oleifera, medicinal plant, ruminants feed, Climate change, industrial uses, water purification.

**Faculty / Scientist
(Invited) Talks**

Improvement in vital body parameters using music therapy with real time emotion recognition

Dr. Deepti Chaudhary

University Institute of Engineering and Technology,
Kurukshetra University, Kurukshetra, India

Abstract

Emotion recognition from audio and speech signals has become a worldwide interest for researchers. Recognizing emotions from speech using machine learning algorithms has become an active research topic lately as a result of the demand for human interactive applications. The emotions detected by this process can be used by naturopathies to treat the patients suffering from various lifestyle diseases. Naturopathies also makes use of music therapy to cure and heal the diseases. In this paper a combination of music therapy with real time emotion recognition algorithm is proposed. A branch of naturopathy called “facial and vocal diagnosis” will be used to diagnose the vocal expression clues. Machine learning algorithm is used to classify the recorded audio on the basis of emotion. The audio features are extracted for the database collected from subjects. Classical music is used by naturopathies to cure and heal the patients. In this proposed work the body vital parameters such as blood pressure, respiratory rate and pulse rate are monitored during the healing process and are improved by using music therapy.

Keywords: Emotion, Music therapy, Machine learning, body parameters, vocal expressions.

On Work-life Balance and the Bhagavad Gita

Dr. K.S. Sivakumar

Assistant Professor

Department of Sanskrit and Indian Culture

Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya
(SCSVMV) Enathur, Kanchipuram, Tamil Nadu

Abstract

The pandemic and its resultant uncertainty have impacted the private and professional domains of individuals. Hence, there arises a need to revisit the work-life balance. Of the three dimensions of work-life balance, namely, the individual's psycho-physical environment, the work/professional environment, and the family/private life environment, our focus is on the psycho-physical environment of individuals, the vital dimension of the work-life balance. Since the Bhagavad Gita is a comprehensive spiritual manual that expounds the intra-personal dimensions of individuals, we resort to its spiritual perspectives. We are able to observe six dominant view-points that characterize work-life balance.

The paper deliberates on enriching the psycho-physical dimension of individuals work-life balance in the light of the Bhagavad Gita's spiritual perspectives.

The method of the concept-based paper involves deducing and presenting: (a) the four factors that are vital/central to the work-life balance, namely, efficiency and satisfaction, priorities and time management, conflict and bonding, and control of multiple roles, (b) The appropriate spiritual perspectives of the Bhagavad Gita, namely, the middle path, karma-yoga, discriminating renunciation, constant practice, emotional stability, same sightedness, senses, desire, anger and the mind management, and (c) The takeaways for enriching the work-life balance.

The spiritual perspectives of the Bhagavad Gita not only enriches the individual's psycho-physical environment, but also the work/professional environment and the family/private life environment. It has the potency to visualize a paradigm shift from a state of work-life balance to a comprehensive work-life synthesis, which is very much essential during the present times.

Keywords: Work-life Balance, Bhagavad Gita, Spiritual Perspectives, Psycho-physical Environment, The Work-life Synthesis.

Prevalence of Post-traumatic Stress Disorder (PTSD) and appearance concerns in Maxillofacial trauma patients at Central India Maxillofacial surgery department - An Observational, Longitudinal study

Dr. Varsha Sunil Manekar¹, Miss Ridhi Kumari²

¹Associate Professor, Oral & Maxillofacial Surgery, Government Dental College and Hospital, Nagpur, MS, India

²Third BDS student, Government Dental College and Hospital, Nagpur, MS, India

Abstract

The need was established for potential psycho-social sequelae of traumatic facial injury. Face being important part in personal & social wellbeing of a person.

Objective: To Study (1) Prevalence of PTSD, and (2) Concern of appearance in Maxillofacial trauma cases by using The Mini International Neuropsychiatric Interview (M.I.N.I) and Derriford Appearance Scale (DAS59): as major instruments.

Methodology: Type Of Study - An Observational Longitudinal study.

Study Settings: Department of Oral & Maxillofacial Surgery

Selection Criteria:

(1) Inclusion Criteria -

- (a) Over 18 years old .
- (b) Capable of providing informed written consent.
- (c) Had received outpatient medical treatment for a facial injury suffered within the previous 2 months
- (d) Patients willing to participate in the study.

(2) Exclusion Criteria:

- (a) Suffered severe head injury .
- (b) loss of consciousness of more than 15 minutes or of undetermined time at the time of facial injury .
- (c) If facial injury was due to tumour .
- (d) Deliberate self harm ,
- (e) Other medical (i.e , no traumatic) etiology.

All the potential participants will be given verbal and written information about the study and given sufficient time to consider whether they wanted they wanted to participate in the study. Written informed consent will be taken from each willing participant .

Data collection:

1. Structured interviews carried out comprising information about socio demographic and injury data and psychometric measures .
2. The interviews e at two time intervals 0-30 days of injury, time (T1) 3-4 months of injury time (T2).
3. Potential diagnosis of PTSD to be made inaccordance with Mini-International Neuropsychiatric Interview (MINI) and Derriford Appearance Scale (DAS59) .
4. In case needed psycho educational materials given , and referred to Psychiatric department. Differential statistics of data carried out.

Conclusions: Although most people recover from facial injury without associated psychological difficulties, a significant minority experience psychological difficulties that require intervention in the immediate aftermath and beyond.

Keywords: Pschycological trauma, Maxillofacial Trauma, Trauna, Facial Fractures, Traumatic stress disorder, stress.

Neuromorphic Computing in Human Cognition

Dr. Debabarta Singh

Associate Professor, Dept of CA, ITER
Siksha O Anusandhan University, Bhubaneswar, Odisha, India

Abstract

Neuromorphic computing combines computing fields such as machine learning and artificial intelligence with cutting-edge hardware development and materials science, as well as ideas from neuroscience. In its original incarnation, “neuromorphic” was used to refer to custom devices/chips that included analog components and mimicked biological neural activity. Neuromorphic computing is a method of computer engineering in which elements of a computer are modeled after systems in the human brain and nervous system. Neuromorphic computing tries to mimic way human brain works and it is much better candidate for next-gen computation. It uses neuromorphic computing are directly modeled after human brain it uses special artificial neural network methodology called Spiking Neural Networks (SNN).

This is not to be confused with software-based algorithms such as Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), or Generative Adversarial Networks (GAN). Neuromorphic chips which powers neuromorphic computers may not replace conventional computational chips such as CPU GPU or application-specific ICs. However neuromorphic computers have ability to add to existing computers that performs deep learning for artificial intelligence. It has more energy efficiency, execution speed, robustness against local failures and the ability to learn. Moreover it uses new algorithmic approaches that emulate how the human brain interacts with the world to deliver capabilities closer to human cognition.

Keywords: Neuroscience; Convolutional Neural Networks (CNN); Recurrent Neural Networks (RNN); Generative Adversarial Networks (GAN); Spiking Neural Networks (SNN).

Interwoven Realms: Nature in Indian Literature and Culture

Dr. Komal Yadav

Assistant Professor, Zakir Husain Delhi College, DU, India

Abstract

From the Vedas to Folklore, Mythology to ancient classical texts, Indian Literature and philosophy are profoundly connected with nature. Indian literature as a catalyst has extended its influence beyond the realm of art and has directly influenced environmental activism, working on the motto of art for society's sake. Chankaya's Arthshastra describes the country as being in the Himalayas and oceans, and Abhijaansakuntalm foregrounds the duties of the kings and sages to protect nature, to name a few. Literature in the hands of writers has emerged as a space to appeal and deliver sustainable ways of living.

Keeping the rich repository of Indian literature and nature narratives in mind, the paper attempts to look at the relevance and significance of nature and literature in contemporary times. The paper will scrutinize Anita Desai's *Clear Light of Day* from an eco-critical perspective. Eco-criticism as a theoretical tool underscores the nuanced relationship between human and their environment, particularly with the changing landscape in Post-Independence India. The paper envisages that Desai's novel provides a glimpse into how contemporary novelists have interwoven story-telling, setting and narrative to inquire into lacunas and partake in environment consciousness and sensitization. The paper argues that Anita Desai uses the lens of the family and its disintegration to critique human interference with nature. It attempts to decode Anita Desai's symbolism and characters to understand the individual role in communal well-being.

Keywords: Eco criticism, Narrative, Disintegration, Post-Independence, nature narrative.

Characterization of environment friendly surfactant and solvent systems for their use in domestic and industrial applications

Ashwani Kumar Sood

Associate Professor, Department of Chemistry, Guru Nanak Dev University, Amritsar-143005

Abstract

Surfactant (surface-active agents) has the outstanding wettability, emulsification, decontamination, dispersibility which has been used as an essential industry additive. The micellar characteristics of surfactants largely rely on the solvent system in which they are utilized. Therefore, various additives as well as co-solvents are incorporated to the surfactant preparations to enhance their surface characteristics. Mixing two kinds of surfactants is one of the strategies to reduce disputes of environmental hazards of such systems. Addition of co-solvents to the surfactant solutions bring out many changes in the micellar behavior, which mainly occurs due to use of greener solvents. The development of micelle mostly relies on the hydrophobic nature of surfactants as well as solvent. Due to this, it is very significant to analyze the role played by solvent media in order to fine-tune and optimize the properties of these micellar systems for specific purposes. By carefully selecting and adjusting the composition of mixed micelles, scientists can manipulate parameters such as solubilization capacity, interfacial tension reduction, and aggregation behavior. This not only eliminates the need for toxic organic solvents but also aligns the processes with green principles. This tunability extends the applicability of mixed micelles across a wide range of domains, including food, pharmaceutical, cosmetic, detergent and paint processes.

Herein, the interactions of different types of eco-friendly surfactants in the presence of solvents including deep eutectic solvents and electrolytes have been discussed along with various micellar, thermodynamic and physicochemical parameters using different techniques at varying temperatures.

Keywords: surfactant; Critical micelle concentration; mixed micelles; solvents; mixed micellar parameters.

Comparative Study of Conducting and Antimicrobial Behaviour of Graphene and Silver based Nano-Materials

Praveen G.^{1*}, Akshay B.², Joshi Veena³, Bhardwaj S.K.¹, Agarwal S.¹

¹Department of Chemistry, SSV College, Hapur, Chaudhary Charan Singh University, Meerut, U.P., INDIA

²Department of Chemistry, National Institute of Technology Srinagar, Hazratbal, J and K, INDIA

³Department of Chemistry, Hemvati Nandan Bahuguna Garhwal University (Central University), Srinagar Garhwal, Uttarakhand, INDIA

Abstract

Instantaneous and rapid developments in nanotechnology stimulated innovative ideas across many fields of day-to-day life. Carbon-based nanomaterials have developed many platforms for an extensive range of applications due to their unique mechanical, electrical and biological properties. Nanoparticles of noble metals and their compounds are also playing an enormous role in many aspects of our life i.e. medical devices, pharmaceuticals, polymer industry, biomedical field, coating of kitchen appliances, food packing, clothes and gifts. Silver and carbon-based nanoparticles are being used diversely in food, fitness and health care, therapeutic, manufacturing and optical devices industries due to their distinctive chemical and physical characteristics. This study provides a short review of antibacterial and conducting activities of graphene and silver nanoparticles (AgNPs) both. These are well known conducting nanomaterials applied in many areas and a wide literature is available on these characteristics. Thermal conducting behaviour of both materials also has a noteworthy standing. Thus, it becomes interesting to utilize these features to create new composite materials with improved electrical, thermal and antimicrobial properties; comparative study is also an interesting field to do innovations.

Keywords: Graphene, silver nanoparticles (AgNPs), antibacterial agent, conductivity.

Jana Sanskriti's Theatre of the Oppressed: Recent developments in theatre towards Inclusivity and Action

Dr. Shubhra Ghoshal

Assistant Professor in English at Vellore Institute of Technology (VIT-AP), India

Abstract

Theatre, primarily a medium of entertainment and propaganda, has presently turned into a potential platform for social development and community empowerment. The developmental theatres since the 1970s have taken initiatives in engaging people with theatre to address individual and community concerns. In India, many Social Action Groups (SAGs) have employed developmental theatre forms to engage with the people and find out ways to address some of the target issues and concerns. The most common forms of theatre used by the SAGs include Playback Theatre, Theatre for the Disabled, and Theatre of the Oppressed (TO).

The Theatre of the Oppressed methodology has been explored to newer dimensions by the theatrical organization called Jana Sanskriti (JS). Jana Sanskriti is the single largest exponent of TO practices, operating in rural West Bengal from the last four decades. Under the guidance of Sanjoy Ganguly, Jana Sanskriti's Theatre of the Oppressed has reached another dimension of inclusivity. Jana Sanskriti realizes the power of interaction and dialogue between the actors and the spectators to effect developmental goals, and ventures to give shape to an intrinsically participatory theatre.

The present paper intends to explore how the unique methodology of Jana Sanskriti provides a dialogic platform to question and discuss the various socio-economic concerns of the communities. It illustrates how Jana Sanskriti relies on the voicing of 'collective concerns' of everyone transforming spectators to spect-actors. The study also dwells on the post performance phase of Jana Sanskriti, which manifests its off-the-stage responsibilities, thereby synergising spectators, spect-actors and spect-activists.

Keywords: Participatory theatre; spect-actors; spect-activists; socio-political oppression; synergism.

Reviving Our Soils: Boosting Microbial Action to Break Down Sulfamethoxazole in Agriculture

Saranya Kuppusamy^{1*}, Aishweryaa Shri P¹, Sham Kumar V¹, Dhevankumar MS¹

¹Centre for Environmental Studies, Department of Civil Engineering, College of Engineering Guindy, Anna University, Chennai 600025, India

Abstract

The widespread use of antibiotics, particularly sulfonamides, in aquaculture and animal husbandry has resulted in significant environmental contamination. This study aimed to isolate and characterize sulfonamide-degrading bacteria from long-term animal manure amended agricultural soils in Tamil Nadu, with a focus on their potential for bioaugmentation in sulfonamide-polluted environments. Soil samples were collected from organic farms, leading to the successful isolation of three bacterial strains (SA1, SA2, and SA3) capable of degrading sulfonamides. Among these, the SA3 strain exhibited the highest degradation efficiency, degrading approximately 65% of sulfamethoxazole (SMZ) at an initial concentration of 25 mg L⁻¹ within 15 days when inoculated at a 1% rate. Notably, strain SA3 thrived in neutral to alkaline pH conditions, achieving over 80% removal of SMZ in the same timeframe when initial concentrations ranged from 0.1 to 10 mg L⁻¹. Characterization of strain SA3 revealed it belongs to the genus *Pseudomonas*, known for its versatility and metabolic capabilities. Further experiments showed that the overall removal of SMZ in soils inoculated with strain SA3 was enhanced by 38% compared to uninoculated controls. These results underscore the potential of isolated sulfonamide-degrading bacteria, particularly *Pseudomonas* sp. SA3, for effective bioremediation of sulfonamide-contaminated agricultural soils. This study highlights the importance of harnessing native microbial communities in developing sustainable bioremediation strategies to mitigate the environmental impacts of veterinary antibiotics, ultimately contributing to soil health and agricultural productivity. Future research should focus on optimizing the conditions for bacterial activity and exploring the application of these strains in larger field trials.

Keywords: Sulfonamides, Bioremediation, Sulfamethoxazole, *Pseudomonas*, Agricultural Soils, Bioaugmentation.

Nanofluids for Clean Environment: An Application for Carbon dioxide Absorption

Supreeti Das

Gargi College, Delhi University

Abstract

The present research is a small step towards the achievement of The Sustainable Development Goal (SDG) 13 which focusses on the climate change mitigation by the reduction of green -house gas (GHG) emissions in the environment, ultimately leading to zero emissions by 2050. Dependence on fossil fuels for meeting the burgeoning demand of energy for industries and domestic consumption, is the major cause of the high content of GHG in the environment. COP 28 conference held in Dubai last year, has strongly recommended expediting the transition to renewable energy sources to achieve the goal of Paris agreement of restricting the global increase of temperature below 2°C. This has posed a multi-dimensional problem as it is imperative to continue with the industrial development to ensure an accelerating economic growth. To combat the climate change, and yet progress economically, capturing carbon di oxide at the source of production, can be adopted as an important step for reducing GHG emissions in the environment. It will serve as a multi-purpose tool since it can reduce the carbon content and therefore clean the environment. The captured carbon di oxide can further be diverted for useful applications such as in oil recovery industry and chemical industry. This work will therefore study carbon capture at the source, using novel materials. Past research has indicated that augmenting base fluids with nanoparticles of metals, metal oxides or ceramic nanoparticles results in the enhancement of thermal energy transfer. Such fluids, termed nanofluids, have also found applications in different energy management systems.

Taking a cue from these energy transfer applications, the current research has the objective of focussing on the absorption of carbon di oxide using nanotechnology and designing innovative techniques to reduce the carbon content in the environment. This study shows that the absorption of carbon di oxide is dependent on the volume fraction, size and shape of the nanoparticles added to the base fluid. Smaller the size of nanoparticles dispersed, better is the absorption. Effects of using different base fluids have also been evaluated. Thus, our conclusion is that nanofluids can be an effective medium for the absorption of carbon di oxide reducing its content in the environment.

Keywords: carbon mitigation; carbon absorption; environment; nanofluids; energy management, sustainable development.

Global Warming due to climate change in India an Emerging Issue

Dr. Vandana¹, Dr. Trilok Singh²

¹Assistant Professor in Geography Govt. College Jatauli Haily Mandi Gurugram, Haryana, India

²Assistant Professor in Geography Govt. College Jatauli Haily Mandi Gurugram, Haryana, India

Abstract

Climate change is one of the complex problems facing mankind today in India. But now global warming not only is felt many decades from now it is already happening and its impacts are clearly visible. “Global warming is for real. Every scientist knows that now, and we are on our way to the destruction of every species on earth, if we don't pay attention and reverse our course.” Theodore C. Sorensen. Global warming and climate change refer to an increase in average global temperatures. Natural events and human activities are believed to be contributing to an increase in average global temperatures. This is caused primarily by increases in greenhouse gases such as Carbon Dioxide (CO₂) etc. But Before embarking on a detailed analysis of Global warming and its impacts on Indian climate, we should first know what climate, green house effect and global warming actually mean.

प्रागैतिहासिक काल में उपकरण प्रौद्योगिकी: एक संक्षिप्त विश्लेषण

डा॰ कविता राठी

सहायक प्राध्यापक, इतिहास विभाग
राजकीय महाविद्यालय, बडौता (सोनीपत)

Abstract

पुरापाषाण युग लगभग 3.3 मिलियन से लेकर लगभग 12,000 साल पहले तक चला। लेकिन पुरापाषाण युग का क्या मतलब है? प्राचीन ग्रीक में, पैलियो का मतलब पुराना होता है, और लिथिक का मतलब पत्थर होता है। इसलिए, पुरापाषाण युग की परिभाषा पुराना पाषाण युग है। पुरापाषाण युग की शुरुआत होमिनिन द्वारा पत्थर के औजारों के इस्तेमाल से होती है। होमिनिन प्राइमेट्स का एक समूह है, जिसमें शुरुआती मानव पूर्वज और आधुनिक मानव, गोरिल्ला और चिंपांजी शामिल हैं। पुरापाषाण युग में, लोग पत्थर, लकड़ी, और जानवरों की हड्डियों से औजार बनाते थे। इस काल में, पत्थरों से बने औजारों का इस्तेमाल शिकार करने, जानवरों की खाल उतारने, और सब्जियां काटने के लिए किया जाता था। पुरापाषाण युग के औजारों के लिए इस्तेमाल किए जाने वाले पत्थरों में चकमक पत्थर, ओबसीडियन, चर्ट, और क्वार्ट्जाइट शामिल थे। पुरापाषाण काल में मानव ने औजारों एवं हथियारों का प्रयोग करना आरम्भ किया चिम्पांजी अथवा मानववत् प्राणी भी गड्ढे खोदने के लिए छड़ी का प्रयोग करते थे अथवा गड्ढे खोदकर कीड़े-मकोड़, कन्दमूल इत्यादि खाते थे। इसके अलावा वे छड़ी की सहायता से फल भी तोड़ते थे। कई बार वे इन कार्यों के लिए पत्थरों का प्रयोग भी करते थे। इस युग के प्रारम्भिक चरण में भोजन प्राप्त करने के लिए मानव ने इसी प्रकार के प्राकृतिक औजारों का उपयोग किया होगा। कुछ इतिहासकारों का मत है कि आरम्भ में मानव ने वृक्ष की शाखाओं व लट्टों का उपयोग उपकरणों के रूप में किया होगा, परन्तु इनसे वह छोटे एवं निर्बल पशुओं, जैसे-खरगोश, हिरण, सुअर, परिंदे इत्यादि का ही शिकार करता होगा। भयंकर एवं बड़े पशुओं के शिकार के लिए उसे मजबूत औजारों की आवश्यकता महसूस हुई होगी। इसलिए उसने पत्थर के औजार बनाने आरम्भ कर दिए। औजार बनाने के लिए वह नदियों में मिलने वाले गोल पत्थरों का उपयोग करते थे, जिन्हें बटिकाशम (Pebbles) कहा जाता है। मानव बड़े बटिकाशम से क्वार्ट्ज अथवा छोटे बटिकाशम पर चोट मारकर शल्फ (lakes) प्राप्त करता था, जिसे वह औजार का रूप देता था।

Future of English Language: A Linguistic Perspective

Dr Surender Singh

Assistant Professor of English, Government College, Birohar (Jhajjar) Haryana, India

Abstract

In recent years, the rapid growth and unprecedented dominance of the English language has transformed the world's linguistic ecology and promoted anxiety and debates about its future. Change is a natural law that applies to all living things, including the constantly-changing human language. Living languages are then in a constant state of change because "one of the eternal truths about living languages is that they all change". Thus, "It's no secret that languages change over the years". Change in a language is inevitable, and all its linguistic aspects are subject to change because linguists report that "All parts of the grammar are subject to change over the course of time—the phonological, morphological, syntactic, and semantic components may be affected".

The language has developed into a leading international lingua franca used by millions of speakers in different linguistic and cultural contexts worldwide. This paper examines an applied linguistic conceptual interest concerning the future of English and its varieties in light of its current status, the challenges it experiences, and the conspicuous threats to half of the world's languages. The paper draws on the significance of broadening the study of the English language history by examining the linguistic consequences associated with its changes and the users' experience, expectations and attitudes. The study also calls for a better understanding of the features of lesser-known English varieties and the less researched domains of its use.

Keywords: Global English, language change, the future of English, varieties of English.

A Systematic Review of Human Resource Management Systems and Their Measurement

Dr. Geeta

Assistant Professor (Commerce), Govt. College Barota, Gohana (Sonipat) Haryana, India

Abstract

In the strategic human resource (HR) management literature, over the past three decades, a shared consensus has developed that the focus should be on HR systems rather than individual HR practices because the effects of HR practices are likely to depend on the other practices within the system. Despite this agreement, the extent to which the fundamental assumption in the field of interactions and synergy in the system holds true is unclear. We present a systematic review of 495 empirical studies on 516 HR systems in which we analyze the development of HR systems research over time and identify important trends, explicitly linking conceptualization and measurement of the HR system. Our findings suggest that the increasingly broad conceptualization and measurement of HR systems and the lack of clarity on the HR systems construct at different levels have hampered research progress. Much of the research to date does not align with the fundamental assumption of synergies between HR practices in a system, the measures have problems and increasingly confound HR systems with related concepts and outcomes, and insufficient attention is paid to the HR system construct at different levels. Overall, we thus still know little about the “systems” element and how synergies and interactions in an HR system operate. We offer actionable suggestions on how to advance HR systems research towards conceptual clarity and construct refinement, focusing both on how to conceptualize, measure, and combine practices in systems and on studying such systems at different levels of analysis.

Student Talks

A Comprehensive Analysis of the Multifaceted Significance of the Kumbh Mela in India: an Epicenter of Global Hindu Religious Tourism

Ashok Kumar Kanaujiya M.Tech.^{1,*}, Dr. Vineet Tiwari Ph.D.¹

¹Department of Management Studies, Indian Institute of Information Technology Allahabad, Prayagraj, Uttar Pradesh (India)

Abstract

In Hinduism, the concept of Tirth (pilgrimage) grew from the Vedic reverence of rivers in the hymn, the nadistuti, associated with water. It is believed that the religious rites conducted at tirth will inevitably yield spiritual benefits. Tirth in Hinduism is a transcendental or deepest quest of all human beings in form of self actualisation and in that sense it is regarded as being at the apex of our hierarchy of needs. The Kumbh Mela occupies a distinct place in the worldwide panorama of religious tourism. In 1906, the pilgrim's participation was 2.5 million and it reached to 240 million in 2019 Kumbh Mela and are expected to increase in the next Kumbh Mela in 2025. The 2019 Kumbh Mela attracted almost a million international attendees, representing a 35% increase in foreign visitor visits. In recent years, the Kumbh Mela has evolved as a significant tourism event, attracting people for its spiritual importance as well as its cultural, social, and economic appeal. The Kumbh Mela, based on ancient Hindu mythology and Hindu scriptures, is a sacred pilgrimage. Spiritually, the Kumbh Mela represents purification and liberation by ceremonial bathing in sacred rivers. It promotes unity among different Hindu sects and strengthens cultural identities. Economically, it stimulates local economies by creating job opportunities and business growth, particularly in hospitality and retail sectors. Socially, it serves as a focal point for philanthropic activities, providing free services to millions. The Kumbh Mela draws foreign researchers, journalists, and spiritual seekers, boosting cultural interaction and strengthening India's soft power. This research delves into the transforming aspect of the Kumbh Mela, which has grown beyond its religious roots to become an epicenter of global Hindu religious tourism. This paper examines the changes in current policy framework about the Kumbh Mela that how the medium of transport, hospitality management, infrastructural development, world class amenities, proper planning and management etc. changed the earlier concept of traditional religious pilgrimage to religious tourism during Kumbh mela. It also examines the Kumbh Mela's historical, cultural, socioeconomic, and religious components, as well as its importance as a spiritual pilgrimage, cultural phenomenon, and significant tourism event.

Keywords: Kumbh mela; Religious tourism; Mass gathering; Spiritual pilgrimage; Socio-cultural impact; Socio-economic impact.

Reading Arundhati Roy's *The God of Small Things* as a Saga of Internally displaced Beings

Praveen Kumar (PhD, Research Scholar)

Department of English, School of Arts and Humanities, Singhania University, Pacheri Bari,
Jhunjjhunu- 333515, Rajasthan

Abstract

When South Asian women's writings are discussed, the diaspora appears to dominate their concerns that seem to engulf the issues experienced by people in home towns. Internal migration and a sense of uprootedness within the home country is an area that remains unexplored in academic spaces. The element of home and alienation are another characteristic that characters experience and find a solution by journeying to their homes. Many researchers have explored how character experience alienation caused due to uprootedness and travelling to a different space due to socio-economic reasons or running away from ethnic or religious persecution. But the internal diaspora perspective seems to have not attracted the attention of many researchers. This paper attempts to bridge that gap by concentrating on a south Asian women writer and how her text contextualizes the question of diaspora in Indian context.

This paper proposes to read Arundhati Roy's *The God of Small Things* within the diasporic tradition that helps to elucidate the concept of internal migration due to various socio-cultural and ethnic reasons. This paper content that such representation of internal migration reflects the dire reality of Indian state where people migrate for multiple reasons and it has becomes a dark reality of their lives. It would attempt to chart different kinds of diasporic elements that are experienced and represented by the characters in different contexts that reflect the diverse reality of Indian culture.

Keywords: Diaspora, internal migration, ethnic, Bi-sexual, transgender.

Laser speckle imaging reveals low temperature thermal exchange between system and the surroundings

Pramila Yadav, Mohammad Zaheer Ansari

School of Basic and Applied Science, Raffles University, Neemrana, Rajasthan 301705, India

Abstract

We have presented a cost-effective laser-based optical imaging tool for quantifying and monitoring the moderate expansion and contraction of fluids. The system comprises the steps of recording a stack of electronic speckle patterns of the liquid illuminated with coherent light, generating a stack of temporal sequences of speckle intensity patterns, evaluating the speckle grain size of the temporal sequence. The test evaluated speckle grain size as a potential measure for monitoring the liquid's moderate thermal expansion and allowed for the measurement of thermal exchange between the system and its surroundings at very low temperatures (4°C). Additionally, it was possible to assess the physical process of density changes in the liquid. The assay demonstrates the effectiveness of the laser speckle imaging at molecular dynamics levels. The proposed laser imaging technique opens a new door to studying the molecular dynamics of liquids at low very temperatures. The apparatus comprises a high-resolution digital video camera, a laser source, and a processor arranged to operate the camera to record electronic speckle-grams.

Keywords: speckle imaging, optoelectronic, liquid, molecular dynamics.

Geotechnical Investigation of Landslide Affected Areas

Tamna^{1*}, Arunava Poddar², Akhilesh Kumar³

¹Research Scholar, School of Core Engineering, Shoolini University, Solan, Himachal Pradesh - 173229, India

²Assistant Professor, School of Core Engineering, Shoolini University, Solan, Himachal Pradesh - 173229, India

³Department of Civil Engineering, Chitkara University Institute of Engineering & Technology, Chitkara University, Punjab, India

Abstract

Landslides are a prevalent geological hazard in hilly regions worldwide including Himachal Pradesh, India. This study focuses on the Solan district where landslides pose significant threats to infrastructure and human life. The research investigates landslide-prone areas along National Highway-707 with an emphasis on the geotechnical properties of soil. Soil samples are analyzed using sieve analysis, liquid limit test, and standard proctor test. Samples were collected from two locations and the values of the tests were compared. The values obtained from the tests will identify effective mitigation strategies including early warning systems and sustainable land use practices, to ensure long-term safety and resilience in the region. The research will identify effective mitigation strategies including early warning systems and sustainable land use practices, to ensure long term safety and resilience in the region.

Keywords: Landslides, Soil moisture, Heavy rainfall.

Effects of Dating Apps on Self Esteem and Loneliness Among Young Adults

Swapnil V. Shinde

University of Mumbai, Karmaveer Bhaurao Patil College, Vashi (Empowered autonomous)

Abstract

The pervasive influence of dating apps on the romantic lives of young adults has prompted a growing concern about their psychological implications. This study delves into the intricate relationship between dating app usage, self-esteem, and loneliness among individuals aged 18-25. Grounded in Social Comparison Theory and Uses and Gratifications Theory, the research investigates how these platforms shape self-perception and social connectedness. By comparing dating app users and non-users, while considering gender differences, this study aims to uncover the nuanced effects of these digital platforms on mental well-being.

Employing a comparative cross-sectional design, the research collects data through the Rosenberg Self-Esteem Scale, UCLA Loneliness Scale, and a tailored survey. Statistical analyses, including ANOVA, correlation, and moderation analysis, will be conducted to examine the hypothesized relationships between variables. The study seeks to contribute significantly to the understanding of the psychological impact of dating apps, providing valuable insights for developing interventions to mitigate negative consequences and foster healthy relationships in the digital age.

Keywords: Dating Apps, Self-esteem, Loneliness, Social comparison, Uses and Gratifications.

Role of Managerial Ability in hiring decisions and relationship between FRQ and LIE

Leela Joshi¹, Soma Dey²

¹Research Scholar, Faculty of Management Studies, University of Delhi

²Professor, Faculty of Management Studies, University of Delhi

Abstract

Financial reporting quality has been recognized as a very important and emerging issue in finance and accounting. This paper discusses that the potential role of financial reporting quality (FRQ) remains intact in affecting investments in labour, even after including managerial ability. Using a sample consisting of 366 Indian non-financial firms over the period 2007–2019, we find that the influence of FRQ on Labour Investment Efficiency (LIE) is above and beyond the ability of managers. This result is consistent with the view that better disclosure quality results in a better monitoring of managers and associated with higher corporate transparency, which makes it easier for firms to enhance labour investment efficiency. Findings of this study show that financial reporting quality has a pivotal role in mitigating information asymmetry for emerging market like India.

Keywords: Financial reporting quality, labour investment efficiency, managerial ability, information asymmetry.