National Research Foundation

AMITY UNIVERSITY JHARKHAND

INTERNATIONAL CONFERENCE

on

ENERGY, MATERIALS AND INFORMATION TECHNOLOGY

(ICEMIT 2024)

December 19- 20, 2024 | Auditorium, Amity University Jharkhand

Abstract Book

Amity University Jharkhand Campus (HEC Core Capital Area, Near Railway Crossing, Pundag, Ranchi)

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Amity University Jharkhand Organizing…

INTERNATIONAL CONFERENCE ON ENERGY MATERIALS AND INFORMATION TECHNOLOGY (ICEMIT)

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December 19th- 20th 2024, Hybrid Mode

Amity University Jharkhand

Amity University Jharkhand, Ranchi, is a private university located in Ranchi, Jharkhand, offers various undergraduate and postgraduate courses. Amity University Jharkhand is a part of 20-year-old, leading education group of India, Amity to revolutionize the Indian higher education Sector by providing globally benchmarked, research and employment-oriented education.

About Conference

The Main Objectives of the International Conference is to bring together Professionals, Academicians, Industry Experts, Researchers, Students and Enthusiasts to discuss various emerging trends and innovations, share research results and new directions in the field of next generation technologies.

Salient Features of the Conference

1. To offer Scopus indexed publication for the quality papers.
2. To listen from the national & international speakers from internationally acclaimed reputed organizations/ universities.
3. To get associated with the part of India's leading education group, Amity Education Group having two decades of excellence in education.
4. To provide a forum to exchange views, ideas & the latest innovations in the field of Material Science, Mechanical Engineering, Computer Science & Information Technology.
5. To offer learning on basics & advanced emerging trends & challenges in the field of Science and Technology.
6. Best Paper award (certificate) from each technical session of the conference.

THEMATIC AREAS: Tracks of ICEMIT 2024

Track 1: Advanced Materials Science and Applications
Track 2: Advanced Energy Technologies and Systems
Track 3: Emerging Trends in Information Technology and Its Application in Materials Science

Details of Abstracts for ICEMIT 2024

Track 1: Advanced Materials Science and Applications			
Abstract No.	**Registered Authors**	**Category**	**Title of Abstract**
ICEMIT-MAT103	Binay Prakash Akhouri Rajeev Ranjan Deo Pandey	Oral	Equations of State Method for Contact Angle Interpretation
ICEMIT-MAT105	Prithwi Raj Nayak Binay Prakash Akhouri	Oral	Study of Virial Coefficients of Polymer Solutions: Osmotic Pressure
ICEMIT-MAT106	Sudhir Kumar Dr. Rajeev Ranjan	Oral	Impact of Vibration on Weld Quality, Properties and Microstructure in Vibration Assisted Tungsten Inert Gas (TIG) Welding: A Review
ICEMIT-MAT107	Sudhir Kumar Dr. Rajeev Ranjan	Oral	A Review on Recent Advancement in Gas Tungsten Arc Welding (GTAW)
ICEMIT-MAT112	S. Denamsetti, N. Mandal, R.D.S Nishanth	Oral	Revolutionizing Medical Education and Research: The Role of Virtual Dissection Tables in Biomaterial Evaluation
ICEMIT-MAT115	Chandan Kumar, Vivek Chaudhary, Zahid Ali Ansari, Paramveer Kumar, Saurabh Priyadarshi	Oral	Thermal Buoyancy-Driven Vortex Shedding Behind a Porous Circular Cylinder at Low Reynolds Numbers
ICEMIT-MAT118	Sandhaya Kumari, Prabin Kumar Mahato, Prashanta Patra, Swarat Chaudhuri, Saroj Kumar Singh	Oral	Development of Eco-Friendly Corrosion and Wear Resistant Ni-Graphene Nano-Composite Coating via Electroless Deposition Technique for Mild Steel Substrate
ICEMIT-MAT125	Sona Kumari, Shweta Sinha, S.K. Sinha, R.K. Chaudhary	Oral	Impact on Dielectric Properties of Gd^{2+} Modified Lead Titanate Nanoceramics Prepared by High Energy Ball Milling Method
ICEMIT-MAT127	Kamalika Tiwari, Subhasis Datta, Santigopal Pain	Oral	Metal-Oxide Modified Electrode for Floral Identification of Honey Using Electronic Tongue
ICEMIT-MAT130	Aditya Kushwaha, Shalini Vardhan, Pradeep Kumar, Neeraj Goel	Oral	Ion Beam Deposition of Ag Nanoclusters on $MoTe_2$: A Computational Study of NO_2 Sensing
ICEMIT-MAT131	Pradeep Kumar, Ruchi, Michael Augustine Arockiyadoss	Oral	Efficient Helmet Detection Based on YOLO-V7 for Real-Time Safety and Monitoring System
ICEMIT-MAT132	Ankita Yadav, Mukesh Kumar, Ashutosh Sharma	Oral	Synthesis and Characterization of Hexagonal Boron Nitride for Gas Sensing Applications

Keywords: *Graphene; Nanocomposite; Coating; Corrosion.*

ICEMIT MAT125

Impact on Dielectric Properties of Gd^{2+} Modified Lead Titanate Nanoceramics Prepared by High Energy Ball Milling Method

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Our expectation is that these modifications will be more dependent on the ionic radii difference. Such type of studies has hardly been reported as such lead titanate having perovskite structure has been selected as host lattice gadolinium has been selected as the source of guest ions. Ceramic powder has been fabricated by using High Energy Ball Milling (HEBM) method. Keeping these things in mind experimentations have been done in a systematic way. Dielectric constant is minimum for undoped lead titanate sample and increases by about five percent (5%) for gadolinium doped samples. It also appears from the figures that for five percent (5%) gadolinium samples Tc shift to higher temperature side.

Keywords: *Lead titanate, high energy ball milling, dielectric constant, Curie Temperature and dielectric loss etc.*

ICEMIT MAT127

Metal-Oxide Modified Electrode for Floral Identification of Honey Using Electronic Tongue

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This work investigates a metal oxide-modified carbon paste electrode as a voltammetric sensor in an electronic tongue. A novel application of nanotechnology in the fabrication of tin oxide nanoparticles (SnO/Nps) serves as a modifier in carbon paste electrode for the floral classification of honey. The cyclic voltammetry technique is applied to study the electrode's behavior. The transient responses of the developed electrode for 40 samples of four different floral origins of honey have been treated with principal component analysis (PCA). Fig. 1 (a-b) shows the steps of SnO/Nps synthesis and cyclic voltammogram of SnO/Nps modified carbon paste electrode for four different floral type of honey respectively. The PCA score plot in Fig.1(c) shows the PC1 and PC2 total accumulative variances for the forty samples of SnO/Nps electrode. The score plot explains 93.67% of the variations in the data set for SnO/Nps electrode.

Thus, the score plot explains the discrimination capability of the tin oxide