



International Conference On

"ADVANCEMENT IN SUSTAINABLE MATERIALS FOR ENERGY AND ENVIRONMENT" (ASMEE-2023)

October 6th &7th, 2023

Program Schedule

Day 1: 6 th October, 2023	
Registration 8:00 hrs onwards	
Inaugural Session 9:15-10:15 hrs	
Keynote Address: Prof. K. K. Pant, Director, IIT Roorkee	10:15-11:00 hrs
High Tea 11:00-11:15 hrs	

Session-I	
Venue (Hall-I, 3 rd Floor)	11:15-13:15 hrs
Session Chairperson: Dr. Prakash Biswas, Professor, IIT Roorkee	

Invited Talks	Time
Dr. D. S. Bag,	
Scientist-G, DMSRDE Kanpur	11:15-11:45hrs
"Smart and Self-healing Materials: Sustainable Materials Solution"	
Dr. Vimal Katiyar,	
Professor, IIT Guwahati	11:45-12:15 hrs
"Microplastics: Another Threat for Human Health?"	
Dr. Sanjib Banerjee,	
Associate Professor, IIT Bhilai, Raipur	12:15-12:45 hrs
"Functional Porous Polymers for CO2 Capture Applications"	
Prof. N.V. Ramana Rao	
Director, National Institute of Technology Raipur	12:45-13:15 hrs
"Recent Advances in Concrete and Sustainable materials for Construction"	
Lunch Break	13:15-14:00 hrs

Session-II	
Venue (Hall-I, 3 rd Floor) 14:00-16:20 hrs	
Session Chairpersons: Dr. D. S. Arya, Professor, IIT Roorkee Dr. Amit Keshav, Associate Professor, NIT Raipur	
Invited Talks Time	
Dr. Kumar Patchigolla, Reader, Carbon Capture and Storage Centre, Cranfield, Bedfordshire "Net Zero Engineering: Materials Perspective"	14:00-14:30 hrs
Dr. Naveen Navani, Professor, IIT Roorkee "An Efficient Recyclable Catalytic Nano Platform for the Detection, Removal and Disintegration of Xenobiotics in Water"	14:30-15:00 hrs

Contributory Lectures (Theme: Nano-composites & Smart Polymeric Materials)	15:00-16:20 hrs
Pranali Nikam, College of Dairy Science & Food Technology, DSVCKV, Raipur "Gold Nanoparticles based Sensing System for Colorimetric Detection of Hg ++ in Water and Milk Samples"	15:00-15:10 hrs
Dr. Bhawana Jain, Siddhachalam Laboratory, Raipur "Antibacterial and Photocatalytic Degradation via Zno-B-Cyclodextrin Nanocomposite"	15:10- 15:20 hrs
Dr. Sharda Bharti, NIT Raipur "Synthesis And Characterization of Bimetallic Cu/Zn Chitosan Nanocomposite for Enhanced Antimicrobial Activity"	15:20- 15:30 hrs
Dr. Shashi Kant Tiwari, Indira Gandhi KrishivishvaVidyalaya, Raipur, Chhattisgarh (C.G.) "Bound Rubber Properties of Chlorobutyl Elastomer Nanocomposites: Effect of Carbon Nano-Graphite Loading and Storage Time"	15:30- 15:40 hrs
Dr. Reecha Sahu, Amity Institute of Biotechnology, Amity University, Chhattisgarh "Fabrication of Keratin-ZnO Nanoparticle Nanogel as a Sustainable Wound Dressing Material"	15:40- 15:50 hrs
Sarvaree Bano, Rungta College of Engineering & Technology, Bhilai "Environmental and Medicinal Applications of Organically Synthesized Cu and CuO Nanoparticles"	15:50- 16:00 hrs
Akansha Singhai, Amity University, Raipur "Revolutionizing Wound Healing: Harnessing the Power of Nanogels"	16:00-16.10 hrs

Sapna Jain, College of Dairy Science & Food Technology, DSVCKV, Raipur "Nanotechnology Based Edible Packaging in Food Industry: A Sustainable Approach"	16:10-16:20 hrs	
Venue (Hall-III, 2 nd Floor)	14:00-16:10 hrs	
Session Chairpersons: Dr. Vimal Katiyar, Professor, IIT Guwahati, Dr. Smita Mohanty, Principal Scientist, CIPET:LARPM, Bhubane	shwar	
Invited Talks	Time	
Dr. O. P. Pandey, Professor, Thapar University, Patiyala "Waste Polymers – A Source for Energy Devices"	14:00-14:30 hrs	
Dr. Bhoje Gowd E, Senior Principal Scientist & Professor, CSIR-NIIST, Trivandrum "Hierarchically Architected Semicrystalline Polymer Aerogels"	14:30-15:00 hrs	
Contributory Lectures (Theme: Materials from Renewable Feedstock)	15:00-16:10 hrs	
Dr. K. A. Rajesh, CIPET:IPT, Kochi "Additive Manufacturing of Sustainable Products Based on Polylactic Acid/Thermoplastic Ployurethane Compatibilised Blends"	15:00-15:10 hrs	
Dr. Parv Nayak, College of Food Technology, IGKV, Raipur Chhattisgarh "Possibilities of Developing Biodegradable Packaging Film from Mango Kernel Starch: A Review" 15:10- 15:20 hrs		
Dr. Kush Kumar Nayak, Amity Institute of Biotechnology, Amity University Chhattisgarh "Eco-Friendly Tea Bag: Sustainable Paper-Based Sachets from Banana Stem and Grasses"	15:20- 15:30 hrs	

Baba Linkanmani Sahoo,		
CIPET: SARP-LARPM, Bhubaneswar	15.20 15.40 kmg	
"Sustainable polymeric films: Exploring the Effects of Chain Extender and Nucleating Agent on	Ims: Exploring the Effects of Chain Extender and Nucleating Agent on 15:30- 15:40 hrs	
Polylactic acid (PLA) and Polyhydroxybutyrate (PHB) based Blown Films"		
Khrsheed Ahmed,		
Indira Gandhi National Tribal University, Amarkantak, MP	15.40 15.50 has	
"Green Synthesis of Sno2 and Au Doped Sno2 Via Delonix Regia Flower, Characterization andiIts	wer, Characterization andiIts 15:40- 15:50 hrs	
Electrochemical Studies"		
Abhishek Chandel,		
Thapar Institute of Engineering and Technology 15:50- 16:00 hrs		
"Conversion of ZrO2 to ZrC using waste polymer as Carbon Source"		
Bhanendra Sahu,		
IIT Bhilai	16:00-16:10 hrs	
"Functional Diblock Copolymers with Dual Responsiveness Enabled by Recyclable photoRDRP"		

Session-III		
Venue (Hall-I, 3 rd Floor)	16:45-17:55 hrs	
Session Chairpersons: Dr. Bhoje Gowd E, Senior Principal Scientist & Professor, CSIR-NIIST, Trivandrum Mr. Sumit Kumar, Head, BIS, Raipur		
Invited Talks	Time	
Mr. Rajeev Dwivedi Director (TTRC), Lohia Corp, Kanpur "Plastics Waste recycling – Need for Standardization"	16:45-17:15 hrs	
Contributory Lectures (Theme: Waste Management & Recycling) 17:15-17:55 hrs		

Tea Break

16:30-16:45 hrs

Dr. S C Shit, Ex-Principal Director, CIPET "The Scientific Approaches to Mechanical Recycling of Plastics Waste"	17:15-17:25 hrs	
Dr. P. C Padhi, CIPET: IPT, Bhubaneswar "An Experimental Investigation of Wood Polymer Composite (WPC) for Manufacturing "LOUVERS" using Recycled Polypropylene (RPP) as Polymer Matrix"	17:25-17:35 hrs	
Mahendra Shrivastava, School of Energy and Environment Management, RGPV, Bhopal "Recent Development in Biomass as A Fuel: A Review"	17:35-17:45 hrs	
Selvi K, CIPET, IPT-Kochi "Conjugated Polymer Nanoparticles for Pathogen Detection for Real-time Monitoring of Water Quality"	17:45-17:55 hrs	
Venue (Hall-III, 2 nd Floor)	16:45-17:55 hrs	
Session Chairperson : Dr. Naveen Navani, Professor, IIT Roorkee		
Dr. Manisha Agrawal, Professor, RCET, Bhilai		
Invited Talks	Time	
Dr. G. L. Devnani, Associate Professor, HBTU Kanpur "Environment Friendly Natural Fiber based Green Composites: Future Materials for Sustainable Development"	stainable 16:45-17:15 hrs	
Contributory Lectures (Theme: Energy & Environment)	17:15-17:55 hrs	
Dr. Rajesh Panda, CIPET:IPT, Ahmedabad "The Influence of Phenalkamine on the Structural and Mechanical Properties of Epoxy Systems with a Focus on Tribological Behavior"	17:15-17:25 hrs	
Dr. G Nag Bhargavi, Govt. Pt. Shyamacharan Shukla College Dharsiwa, Raipur "Investigation of Structural, Optical And Dielectric Properties of Europium and Gadolinium	17:25-17:35 hrs	

Modified Barium Zirconium Titanate Ceramic"	
Kowsika Murugesan,	
CIPET: SARP- APDDRL, Bengaluru	17.25 17.45 has
"Super Capacitive Behaviour of Cuo/Polypyrrole Nanocomposite Decorated with Zinc Oxide	17:35-17:45 hrs
Nanoparticle"	
Kukil Sharma,	
NIT, Raipur	17:45-17:55 hrs
"Integration of Sustainable Materials and Architectural Design for Energy-Efficient Buildings"	

Venue (Hall-I, 3 rd Floor)	
Session on Positive Thinking Techniques by Dr. Jai Gopal Goel, Director, Indian Institute of Thinking Technology, Panchkula Haryana 18:00-18:45 hrs	
Sangeet Sandhya followed by Dinner	19.00 onwards

Poster Session (Hall-II, 3rd Floor) 14:00-17:30 hrs

Industry Connect (Hall-IV, 2nd Floor)

Panel Chairman: Dr. Sushil Kumar Verma, Former Director General, CIPET

12:00-13:00 hrs

Incubator / Start-up Meet (Hall-IV, 2nd Floor) Panel Chairman: Dr. Prakash Biswas, Professor, IIT Roorkee 15:00-16:00 hrs

Posters	
Name of Presenter	Title of Paper
Dr. Ravishankar Lanjhiyana <i>IGKV Raipur</i>	A Review on Waste Tyres Through Different Ways in Horticulture
Ankush Koundal CIPET:IPT, Ahmedabad	Replacement of Conventional Wood Pulp with Agricultural Waste for Rayon Fiber Production
Sarang D., Ginni Gitika, C. K. Paikra, Pophaly, A.K. Tripathi College of Dairy Science & Food Technology, DSVCKV, Raipur	Microbiological Safety of Edible Products: Sustainability of Food for Human Consumption
Harshvardhan Rajpurohit CIPET:IPT, Ahmedabad	Polymeric Based Biomaterial Used as Orthopaedics and Dental Applications: A Review
Jivan Jyoti Kalinga University	Enhancing the Property of Flexible Pavement (FP) With the Application of Waste Plastic Materials(WPM)
KRITIKA CIPET:IPT, Ahmedabad	Environmentally Sustainable Wastewater Treatment and Power Generation Utilizing Semi- Crystalline Copper Oxide/Sodium Alginate Grafted Polypyrrole Composite
Mayank CIPET:IPT, Ahmedabad	Extraction of Carboxymethylcellulose from Water Hyacinth as a Reinforcement for Bio Based Plastic
Ms. Payal Sahu Amity University Chhattisgarh, Raipur	Biochar Industry: The Tool of Climate Change Mitigation to Circular Bioeconomy Approach
Ruchi Tomar CIPET:IPT, Ahmedabad	Assessing the Influence of Calcium Carbonate in Recycled Glass Fiber-Reinforced Polypropylene (GFRPP) Composites
Vishwajeet Kshirsagar CIPET:IPT, Ahmedabad	To Manufacture a Biodegradable Film by Using Sugarcane Bagasse as a Raw Material
Sankalp Tiwari Kalinga University Raipur	Fabrication and Comparison of Wear Rate of Al ₂ O ₃ And ZrO ₂ Based Ceramic Composite Material
Ujala CIPET:IPT, Ahmedabad	Graphene Quantum Dots: Features of Photoluminescence (PL of GQD)

Tusharkanta Nayak,	Development and Property Analysis of Polyurethane/Strontium Titanium Oxide Composite for	
CIPET:SARP-LARPM, Bhubaneswar	Biomedical Applications	
Vargobi Mukherjee,	Exopolysaccharide (EPS) is an emerging tool for bioremediation in heavy metals absorption	
Amity University Chhattisgarh, Raipur	Exopolysaccharide (EFS) is an emerging tool for bioremediation in neavy metals absorption	

Day 2:7 th October, 2023		
Registration	8:00 hrs onwards	
Session-I		
Venue (Hall-I, 3 rd Floor)	9:00-11:00 hrs	
Keynote Address: Dr. Ajay K. Dalai, Professor, University of Saskatchewan, Saskatoon "Novel Activated Carbon from Spent Coffee Grounds: Effects of Textural Properties and Surface Chemistry"	9:00- 10:00 hrs	
Invited Talks/ Lectures	Time	
Session Chairpersons: Dr. D. S. Bag, Scientist G, DMSRDE Kanpur		
Dr. Sushanta Banerjee, Professor, IIT Kharagpur "High-Performance Polymer-Membranes for Clean and Sustainable Energy: Gas Separation and Fuel-Cell Applications"	10:00-10:30hrs	
Mr. Sanjeev Kumar Saxena, General Manager, NTPC Raipur "Sustainable Ash and FGD Gypsum Utilization in NTPC"	10:30-11:00hrs	
Tea Break	11:00-11:15 hrs	

Session-II

Venue (Hall-I, 3 rd Floor)	11:15-13:15 hrs
Session Chairperson: Dr. Sushanta Banerjee, Professor, IIT Kharagpur Dr. G. L. Devnani, Associate Professor, HBTU, Kanpur	
Invited Talks	Time
Dr. Babasaheb R. Sankapal, Professor, VNIT Nagpur "Smart Advanced Nanomaterials: Device Grade Colourful Solar Cell And Flexible Solid State Supercapacitor"	11:15-11:45 hrs
Dr. Smita Mohanty, Principal Scientist, CIPET LARPM, Bhubaneshwar "Plastics Carry Bags- A Preference or Choice:Life Cycle Assessment (LCA) in Indian Prospective and Methodological Decisions"	11:45-12:15 hrs
Dr. Samir Bajpai, Professor, NIT Raipur "Sustainable Technologies for Cement Manufacturing"	12:15-12:45 hrs
Contributory Lectures (Theme: Nano-composites & Smart Polymeric Materials)	12:45-13:15 hrs
Dr. Mehar Afroz Qureshi, College of Dairy Science and Food Technology, DSVCKV, Raipur "Application of Nanotechnology in Food And Dairy Processing:AnOverview"	12:45-12:55 hrs
Kamlesh Kumar Dhritlahre, ICAR-CIFE, Mumbai "Preparation of Chitosan Nanoparticles – A Novel Approach"	12:55-13.05 hrs
Sagar Kumar Rajak, NIT Raipur "Green Synthesis of MgO Nanoparticles and its Application in Degradation of Methyl Violet Dye"	13:05-13.15 hrs
Venue (Hall-III, 2 nd Floor)	11:15-13:15 hrs

Session Chairperson: Mr. Umesh Chitlangia, Ex. Chairman CII, Chhattisgarh Mr. B. Ravi, Director & Head, CIPET:SARP, ARSTPS, Chennai	
Invited Talks	Time
Ms. Bonya Mukharjee, General Manager, SAIL "Emerging Technologies for Confronting Environmental Impact by Steel Industries"	11:15-11:45 hrs
Mr. Krishna Joshi, Managing Director, Wavin Vectus, Orbia Group "Sustainable Plumbing & Infra"	11:45-12:15 hrs
Contributory Lectures (Theme: Materials from Renewable Feedstock)	12:15-13:15 hrs
Dr. Ganesh Prasad Shukla & Pranav Gupte, GGU, Bilaspur "Exploring the Relationship Among Drivers and Green Technologies: A Theoretical Study"	12:15-12:25 hrs
Dr. B. L. Sinha, Indira Gandhi KrishivishvaVidyalaya, Raipur "Energy Utilization Pattern Of Muskmelon (Cucumismelo) Production Under Drip Irrigation System"	12:25-12.35 hrs
Stephen Jose, CIPET: SARP- APDDRL, Bengaluru "Green Synthesize of ZnO Nanoparticles from Lemon Peel and its Photophysical Characteristics for Light Emitting Diodes (LEDs)"	12:35-12.45 hrs
Roshni Pattanayak, CIPET:SARP-LARPM, Bhubaneswar "A Sustainable Development of Modified Cellulose Acetate Formulation For Health and Hygiene Application"	12:45-12.55 hrs
Malaya Ranjan Parida, SARP-LARPM::CIPET, Bhubaneswar "Plasma Treated Bio Derived Fillers Reinforced Flame Retardant Thermoplastic Composites: A Study on Mechanical, Thermal, Morphological, Acoustic and Flammability Characteristics"	12:55-13.05 hrs

Session-III	
Venue (Hall-I, 3 rd Floor)	14:00-15:00 hrs
Contributory Lectures (Theme: Waste Management & Recycling)	
Session Chairperson: Dr. Swasti Sthapak, Associate Professor, NIT Raipur Dr. Anjali Oudhia , Professor, Govt Nagarjuna PG College of Science, Raipur	
Satyabrata Sahoo, Ravenshaw University, Cuttack	14.00.14.10.1
"Evaluating the Effects of Sterilization Techniques on Biomedical Plastic Wastes: Implication for Recycling"	14:00-14:10 hrs
Rakhi Pal, CIPET:IPT, Bhubneshwar "To Produce A Polyothylone Tenerbth alate (PET) from Polyothylone Tenerbth alate (PET) Waste	14:10-14:20 hrs
"To Produce A Polyethylene Terephthalate (PET) from Polyethylene Terephthalate (PET) Waste By Chemical Recycling Process"	
Tanu Nirwan, CIPET: IPT, Ahmedabad "Upcycling of Citrus Fruit Pomace Biowaste via Chemical Treatment"	14:20-14:30 hrs
Soumyadeep Bera, Centre for Interdisciplinary Sciences, (JISIASR), Kolkata "Effectiveness of TMTD in Selective Devulcanization of EPDM Wastes: An Energy Efficient Approach"	14:30-14:40 hrs

"Innovative Strategy for Environment Friendly Reuse of Food Packets"	2 116 V 26 10 V 1115
Venue (Hall-III, 2 nd Floor)	14:00-15:00 hrs
Contributory Lectures (Theme: Energy & Environment)	14:00-15:00 hrs
Session Chairperson: Dr. A. K. Tripathi, Dean, College of Dairy Science & Food Technolo Dr. R. Joseph BenSingh, Senior Scientist & Head, CIPET:SARP -A	
Mr. Rijan Sahu & Mr. Gaurav Tamrakar, Kalinga University, Raipur "Analysis of Renewable Source of Energy Which is Biodiesel Blended With Diesel"	14:00-14:10 hrs
Aanchal Chandrakar, S. V. College of Agril. Engg. and Tech & RS, IGKV Raipur "Design and Development of Solar Powered Smart Vertical Tower Hydroponics System using Nutrient Film Technique"	14:10-14:20 hrs
Manoj Kumar Mallick, SARP-LARPM:CIPET, Bhubaneswar "Randomly Embedded Quaternary Metal in Porous Activated Carbon As A Counter Electrode for Dye-Sensitized Solar Cells Under Dim-Light Effect"	14:20-14:30 hrs
Shailoneil Sahu, NIT Raipur "Blue-green Infrastructure— An Opportunity for Sustainable India"	14:30- 14:40 hrs
Pooja Priyadarsini, CIPET:SARP-LARPM, Bhubaneswar "Preparation and Characteristic Analysis of Extruded Blown Guargum Based PBAT/PLA	14:40-14:50 hrs

14:40-14:50 hrs

14:50-15:00 hrs

Composite Film"

Mrs. Ambika Joshi,

Dr. Jitendra Sinha,

IGKV Raipur

Assistant Professor, CIPET Raipur

"Elastomer (NBR/SBR)Based Sustainable Materials for Defense Applications"

Swati Kumari,

CIPET: IPT, Ahmedabad

 $\hbox{``Sustainable Carbon Filler for Rubber Compounds with Comparable Mechanical Properties to}$

Standard Carbon Black"

14:50-15:00 hrs

Poster Session (Hall-II, 3rd Floor)

11:15-13:00 hrs

Posters	
Name of Presenter	Title of Paper
Aditya Sharma CIPET: IPT, Ahmedabad	Thermo-Mechanical Exploration of PEEK and Surface Activated PI-Sized Carbon Fiber (PICF) with Atmospheric Dielectric Barrier Discharge (ADBD)
Vismay Pujari CIPET: IPT, Ahmedabad	Study of Hygroscopicity on the Mechanical Properties of Naturala Functionalized Sisal Fiber
Sudhanshu Kumar, Vinayak Shukla CIPET: IPT, Ahmedabad	Enhancing Mechanical, Thermal, and Morphological Properties of PP/POM Blend Nanocomposites Through Nanoclay Incorporation
Pranshula Panigrahi CIPET:SARP-LARPM, Bhubaneswar	Probing Diketopyrrolopyrrole (Dpp) Materials via Substitute Identity: A Comprehensive Electrochemical and Photophysical Study
Neha Singla CSIR-National Physical Laboratory	Synthesis of Hydrophobic and Electroactive PolyanilneBased Coatings for Anticorrosion Application
Rahul Saha CSIR-National Physical Laboratory	Synthesis of E-Waste Derived Self-Cleaning Coating Compositions
Pooja Mohapatra Burla Orissa	Synthesis and Analysis of PVDF/PANI Nanocomposites Enhanced with Mxene/F-SWCNT Hybrid Nanofillers for Electromagnetic Interference Shielding and Electrochemical Device Applications

Sumi Vincent CIPET:SARP-LARPM,Bhubaneswar	Sustainable and Antibacterial Chitosan-Cellulose-Based 3D Printable Composites for Potential Healthcare Applications
Yashwant Kumar Sahu CV Raman University Raipur	Plastics Waste Management:Threats and Opportunity: A Study with Respect to Bilaspur Municipal Corporation
Sanjana Das, Aman Kumar Gupta, Yagyadeep CIPET: IPT Raipur	Agronomic Sprayable mulch films by Biowaste
Atul Dubey, Astha Patel, Pushkar Tiwari CIPET: IPT Raipur	Conversion of Single Use Plastic (Thermocol) into Synthetic Fiber Using an Agro-waste
Nidhi Chandrakar Amity Institute of Biotechnology, Amity University Chhattisgarh	Biofilm: A Future Approach for Bioremediation on Environmental Adulteration
Ashish Raghavan, Smita Mohanty CIPET:SARP-LARPM, Bhubaneswar	Sustainable Energy Harvesting: Triboelectric Generators Utilizing Recycled PVC and PP from Biomedical Plastic Waste
Dilip Sahu, R S Singh, A K Singh Govt. V.Y.T. PG. Autonomous College, Durg	Reinforcement of Multiwalled Carbon Nanotube in Microcellular Silicone Elastomer: In Comparison with Nano-Graphite
Khilendra Ratre, Ojasvee , Domesh Kumar CIPET: IPT Raipur	Depolymerization of Waste Polyethylene Terephthalate in Supercritical Ethanol

Hall I (Seminar Hall) Valedictory Session
15:15-16:00 hrs