



APA-EPNOE-GFL International Conference on  
**Polymers for Advanced Technology**  
16-18 October, 2024 | Jaipur, India

Day-1 | 16<sup>th</sup> October, 2024 | Programme

**08:00-onwards | Registration**

**Inauguration** (Venue: Ashoka Hall) | Time: 09:00-10:20

**Bouquet Presentation/ Lamp Lighting**

Time: 09:00-09:05

**Welcome Address**

**Manohar V. Badiger** (Conference Chair)

Time: 09:05-09:10

**APA Address**

**Bhuvanesh Gupta** (APA, President)

Time: 09:10-09:15

**EPNOE Address**

**Pedro Fardim** (EPNOE President)

Time: 09:15-09:25

**GFL Address**

**Vijay Kumar Soni** (GFL)

Time: 09:25-09:35

**Guest of Honor Address**

**Shishir Sinha** (Director General, CIPET, Chennai)

Time: 09:35-09:50

**Inaugural Address**

**Didier Letourneur** (Chief Guest, INSERM Paris, France)

Time: 09:50-10:10

**Memento Presentation**

By Conference Chairs

Time: 10:10-10:15

**Vote of Thanks**

**Susheel Kalia** (IMA, India)

Time: 10:15-10:20

**Inaugural Tea | 10:20 -11:00**

### Session 1 | Venue : Ashoka Hall

#### Plenary Lectures

Chairs: Anup K. Ghosh, IIT Delhi, India & Sanjay K. Nayak, Ravenshaw Univ., Cuttack, India

#### Plenary Lectures-1

**Didier Letourneur**, INSERM, Paris, France

Polymers for biomedical applications : Three examples of the Journey from Research to Patients

Time : 11:00-11:30

#### Plenary Lectures-2

**Már Másson**, University of Iceland, Iceland

Innovations in Chitosan Research: From Antimicrobial Properties to Advanced Drug Delivery Systems

Time : 11:30-12:00

#### Plenary Lectures-3

**Suprakas Sinha Ray**, DSI-CSIR Nanotechnology Innovation Centre, South Africa

Sustainable Polymer Blend Nanocomposites - A Perspective on Morphology Evolution and Property Expression

Time : 12:00-12:30

#### Plenary Lectures-4

**Virendra Kumar Gupta**, Reliance Industries Ltd, Mumbai, India

Emerging Directions in High Performance Polymers and Composites Materials for Smart Applications

Time: 12:30-13:00

### Lunch Break | 13:00 - 14:00

### Session 2 : EPNOE Symposium on Polysaccharides

Chairs: Már Másson, Reykjavík, Iceland &  
Joëlle Amédée, INSERM, Bordeaux, France

Venue: Ashoka Hall

Time	Lecture	Title/Author
14:00-14:25	KN	Engineering Chitosan Biohybrid Hydrogels for Advanced Wound Healing <b>Pedro Fardim</b> KU Leuven, Belgium
14:25-14:45	IL	Transparent cellulosic composites- fabrication and applications <b>Archana Samanta</b> Indian Institute of Technology Delhi, New Delhi, India
14:45-15:05	IL	Functional Designing of Tragacanth Gum Nanogels for Anticancer Drug Delivery <b>Deepak Pathania</b> Central University of Jammu, Jammu, India
15:05-15:25	IL	Antibacterial and Hemostatic Polymeric Hydrogels <b>Jayakumar Rangasamy</b> Amrita Vishwa Vidyapeetham, Kochi, India

### Session 3 : GFL Symposium on Hydrogen Energy

Chairs: Bruno Ameduri, ENSCM, Montpellier, France &  
Günther G. Scherer, PSI (Formerly), Switzerland

Venue: Gulmohar Hall

Time	Lecture	Title/Author
14:00-14:25	KN	TBA <b>Kapil Malhotra</b> GFL, Noida, India
14:25-14:45	IL	Advances in Hydrogen-Based Polymer Electrolyte Fuel Cells: Innovations and Challenges <b>Santoshkumar D Bhat</b> CSIR-Central Electrochemical Research Institute Madras Unit, Madras, India
14:45-15:05	IL	Surface and interface engineering for enhanced solar-to-H <sub>2</sub> conversion <b>Bhavana Gupta</b> UPES, Dehradun, India
15:05-15:25	IL	Solid Oxide Electrolysis Cells for Efficient CO <sub>2</sub> Reduction: Materials and Mechanisms <b>Neetu Kumari</b> Malaviya National Institute of Technology, Jaipur, India

### Session 4 : Reliance Microsymposium on Sustainability

Chairs: Prabhjot Sodhi, CEE New Delhi, India &  
Smita Mohanty, CIPET, Bhubaneswar, India

Venue: Tulsi Hall

Time	Lecture	Title/Author
14:00-14:25	KN	Closed-loop circular economy in ABS Vitrimers <b>Suryasarathi Bose</b> IISc, Bangalore, India
14:25-14:45	IL	New Dimensions of Bio Polyols to be used for specific performances <b>Jayant khadilkar</b> Jay Elastomers Pvt Ltd, Navi Mumbai, India
14:45-15:05	IL	Compostable Polymer Nanocomposites Films for Flexible Packaging <b>Jayita Bandyopadhyay</b> Council for Scientific and Industrial Research, South Africa
15:05-15:25	IL	Polymers in Circular Economy: An approach to sustainability for Indian Industries <b>Anil Kumar Satapathy</b> Finolex Industries Limited, Ratnagiri, India

**Tea Break | 15:25 -15:40**

### Session 5 : APA Microsymposium on Biomaterials

Chairs: *Didier Letourneur, INSERM, Paris, France & Amit Jaiswal, IIT Mandi, India*

Venue: Ashoka Hall

Time	Lecture	Title/Author
15:40-16:00	IL	Polysaccharides-nanoparticle hydrogels for biomedical applications <b>Havazelet Bianco-Peled</b> <i>Technion - Israel Institute of Technology, Israel</i>
16:00-16:15	OL	Moringa oleifera Enriched Carrageenan-PEG-Lecithin Hydrogel Membrane as an Advanced Wound Dressing Material <b>Pratibha Singh</b> <i>Indian Institute of Technology Delhi, New Delhi, India</i>
16:15-16:30	OL	Dissolvable microneedles for the rapid delivery of drugs: Development and evaluations <b>Rosemary</b> <i>HLL Lifecare Ltd., Trivandrum, India</i>
16:30-16:45	OL	Integration of homeopathy and biomedicine: Development and Evaluation of nanofibrous matrices loaded with homeopathic mother tincture of Syzygium cumini for wound healing applications <b>Bhisham Singh</b> <i>Manipal School of Life Sciences, Manipal, India</i>
16:45-17:00	OL	Surface-modified Polysulfone Ultrafiltration Membrane-Antibacterial and Antifouling Analysis <b>Uttam Kumar Mandal</b> <i>Guru Gobind Singh Indraprastha University, New Delhi, India</i>

### Session 6 : Functional & Smart Materials

Chairs: *Ashwini K. Agrawal, IIT Delhi, New Delhi, India & S. Bose, IISc, Bangalore, India*

Venue: Gulmohar Hall

Time	Lecture	Title/Author
15:40-16:00	IL	4D Biomaterials: Beyond three dimensions <b>Amit Nain</b> <i>Indian Institute of Science, Bangalore, India</i>
16:00-16:15	OL	Evaluation of anti-corrosion properties of mild steel coated with dead clay-reinforced epoxy-based polymer matrix composite <b>Kunal Borse</b> <i>Malaviya National Institute of Technology, Jaipur, India</i>
16:15-16:30	OL	Microwave-assisted bio-vitrimer/rGO framework for Anti-corrosion applications <b>Sarvendra Rana</b> <i>UPES, Dehradun, India</i>
16:30-16:45	OL	Improving the performance of thermal liner of fire protective clothing with aerogel technology <b>Rochak Rathour</b> <i>Indian Institute of Technology Delhi, New Delhi, India</i>
16:45-17:00	OL	Redox responsive folic acid conjugated PLA-PEG nanoparticles for co-delivery of pirarubicin & salinomycin: Targeted breast cancer therapy in-vitro and in-vivo <b>Ankushi Bansal</b> <i>Indian institute of Technology Delhi, New Delhi, India</i>

### Session 7 : APA Microsymposium on Nanomaterial & Nanocomposites

Chairs: Suprakash Sinha Ray, CSIR, Pretoria, South Africa &  
Virendra K. Gupta, RIL, Mumbai, India

Venue: Tulsi hall

Time	Lecture	Title/Author
15:40-16:00	IL	Modification of Lignin and Development of its Polymer Composites <b>Satyendra Mishra</b> NMU, Jalgaon, India
16:00-16:15	OL	Role of Different Layered Double Hydroxides (LDH's) on the Properties of PMMA nanocomposites: A Comparative Study <b>Manish Kumar</b> Harcourt Butler Technical University, Kanpur, India
16:15-16:30	OL	Enhanced dye rejection studies using nanocomposite zeolite infused PPSU membranes <b>Vijesh A. M.</b> Payyanur College, Payyanur, Kannur, India
16:30-16:45	OL	Phytosynthesis of Iron oxide Nanoparticle for Evaluating its Antibacterial Susceptibility <b>Giriraj Tailor</b> MLS University, Udaipur, India
16:45-17:00	OL	Effect of surfactants on dispersion of SWCNT in N-methylmorpholine N-Oxide for dissolution of cellulose <b>Geetanjali Mishra</b> The Bombay Textile Research Association, Mumbai, India

**Tea Break | 17:00 -17:20**

### Session 8 : APA Distinguished Award Plenary Lectures

Chairs: Kapil Malhotra, GFL, Noida, India &  
Pedro Fardim, KU Leuven, Belgium

Venue: Ashoka Hall

Time	Lecture	Title/Author
17:20-17:50	PL	On the Overall situation of Poly- or perfluoroalkyl substances (PFASs) and Recycling of Fluoropolymers <b>Bruno Ameduri</b> ENSCM, Montpellier, France
17:50-18:20	PL	Composite Polymers for Bone Tissue Engineering: Why and how to stimulate vascularization and innervation of the bone tissue? <b>Joëlle Amédée</b> University of Bordeaux, France

**19:00-22:00 | Conference Dinner, Cultural Programme & APA Award Presentation (Green Lawn)**



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Day-2 | 17<sup>th</sup> Oct, 2024 | Programme

Session 9 : Biomaterials & Bioengineering

Chairs: Havazelet Bianco-Peled, Haifa Israel &  
R. Jayakumar, AU, Cochin, India

Venue: Ashoka Hall

Time	Lecture	Title/Author
09:00-09:20	IL	Quaternized Pullulan-Based Nanoplatfoms: A Multifunctional Solution for Antimicrobial Therapy, Wound Healing, and Preventing Implant-Associated Infections <b>Amit Jaiswal</b> <i>Indian Institute of Technology Mandi, India</i>
09:20-09:40	IL	An Industrial Method to Produce Biocompatible Polymers, Nanocomposites and Immunomodulatory Macromolecules towards Next Generation Medical Devices and Vaccine Technology <b>Lakshminarayanan Ragupathy</b> <i>HLL Lifecare Limited, Thiruvananthapuram, India</i>
09:40-09:55	OL	Direct 3D Printing of Decellularized Matrix with Thermoplastics for Osteochondral Regeneration <b>Sumit Murab</b> <i>Indian institute of Technology, Mandi, India</i>
09:55-10:10	OL	Development of smart piezoelectric strain sensors for Breath Monitoring and Pulmonary Function Analysis <b>Debashish Nayak</b> <i>CIPET:SARP-LARPM, Bhubaneswar, India</i>

### Session 10: Functional & Smart Materials

Chairs: Mudrika Khandelwal, IIT Hyderabad, India &  
Arun Kumar Patra, UPTTI, Kanpur, India

Venue: Gulmohar Hall

Time	Lecture	Title/Author
09:00-09:20	IL	Eco-friendly Smart Self-healing Multifunctional Polyurethane Coatings and Composites <b>Vikas Gite</b> Kavayitri Bahinabai Chaudhari North Maharashtra Univ., Jalgaon, India
09:20-09:40	IL	Fabrication of Ecofriendly Polymeric Materials and Their Applications <b>Balbir Singh Kaith</b> Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, India
09:40-09:55	OL	pH-Responsive Bio-based Materials for Enhanced Agricultural Fertilizer Efficiency <b>Mehdi Khoulood</b> UM6P, Morocco
09:55-10:10	OL	Polymer nanocomposite based low-cost flexible sensor for room temperature ammonia detection <b>Kamlendra Awasthi</b> Malaviya National Institute of Technology, Jaipur, India
10:10-10:25	OL	Synthesis and Modification of NBN-Integrated Vinyl Polymer to Explore High-Performance Rubber Materials: Design, Synthesis and Application <b>Subrata Dolui</b> Hiroshima University, Japan

### Session 11: Springer Student Oral Contest

Chairs: Jyoti Chaudhary, MLSU, Udaipur, India &  
Deepak Pathania, CU, Jammu, India

Venue: Tulsi Hall

Time	Lecture	Title/Author
09:00-09:10	OL	One-pot synthesis of terpolymer derived from propylene oxide, carbon dioxide and L-lactide using Salcomine complexes. <b>Akanksha Ranade</b> Thapar Institute of Engineering and Technology, Patiala, India
09:10-09:20	OL	Moisture-activated oxygen scavenger based on Acacia catechu for active food packaging: A plant-based alternative <b>Prachi Jain</b> Indian Institute of Technology, Roorkee, India
09:20-09:30	OL	Antibacterial Alginate Hydrogel-Coated Osteogenic & Angiogenic Bone Cement Beads <b>Arthi Chandramouli</b> Amrita Vishwa Vidhyapeetham, Ponekkea, Kochi, India
09:30-09:40	OL	Effect of Carbon nanotube functionalization on mechanical, tribological, and biological response of ultra-high molecular weight polyethylene-based bio-composites <b>Pooja Rani</b> Indian Institute of Technology, Kanpur, India
09:40-09:50	OL	P(NIPAm-Co-AAc)-AEMR integrated PVA hydrogels: Insights into RAFT polymerization, responsive features, and cytotoxicity studies <b>Parvathy P A</b> CSIR-NIIST, Thiruvananthapuram, India

09:50-10:00	OL	Bioreactor stimulated PCL-dECM based electrospun scaffolds with Umbilical Cord MSCs initiate tenogenesis and reinforce mechanical integrity <b>Amrutha Datla</b> <i>Indian Institute of Technology, Hyderabad, India</i>
10:00-10:10	OL	Enhancing Immune Efficiency Through Amino Acid-Based Polymeric Nanoparticles <b>Divya Pareek</b> <i>Indian Institute of Science, BHU, Varanasi, India</i>

**Tea Break | 10:10-10:45**

**Session 12: Advanced Materials**

Chairs: JK Rathour, GFL, Dahej, India & Anupama Kumar, VNIT, Nagpur, India

Venue: Ashoka Hall

Time	Lecture	Title/Author
10:45-11:05	IL	Rice husk ash waste as effective reinforcement in the polymer matrix composites/nanocomposites for electronic applications <b>Rajendra Kumar Goyal</b> <i>Malaviya National Institute of Technology, Jaipur, India</i>
11:05-11:25	IL	Development of Polypropylene Homopolymer for Monofilament Applications with Enhanced Gas Fading Resistance <b>Priyanka Singh</b> <i>HPCL-Mittal Energy Ltd., (HMEL), Noida, India</i>
11:25-11:45	IL	Metal Salts as Catalysts in Ring-opening Polymerization of Cyclic Esters <b>Payal Malik</b> <i>Sant Longowal Institute of Engineering and Technology, Longowal, Punjab, India</i>
11:45-12:05	IL	Tuning the physicochemical and dielectric properties of chitosan/graphene nanocomposites <b>Sidharth Sirohi</b> <i>Bhaskaracharya College of Applied Sciences ( University of Delhi), New Delhi, India</i>
12:05-12:25	IL	Effects of Polymer Physicochemical Properties on the Dissolving Microneedles (DMN) for Transdermal Drug Delivery <b>Sudip K. Pattanayak</b> <i>Indian institute of Technology Delhi, New Delhi, India</i>



### Session 13: Polymers for High technology

Chairs: Satyendra Mishra, NMU, Jalgaon, India &  
Manohar V. Badiger, NCL, Pune, India

Venue: Gulmohar Hall

Time	Lecture	Title/Author
10:45-11:05	IL	Synthesis of Nanodiamonds and Their Applications on Polymers and Textiles <b>Ashwini Kumar Agrawal</b> <i>Indian institute of Technology Delhi, New Delhi, India</i>
11:05-11:25	IL	Synthesis and characterization of sulfur-containing polymers: An overview <b>Susanta Banerjee</b> <i>Indian Institute of Technology, Khargpur, India</i>
11:25-11:45	IL	Piezoelectric Nanofibers for Textile-based Wearable Electronics <b>Kaushik Parida</b> <i>Indian Institute of Technology, Roorkee, India</i>
11:45-12:05	IL	Continuous Flow Synthesis of Conjugated Polymer Nanocomposites as Photocatalysts <b>Prem Felix Siril</b> <i>Indian Institute of Technology, Mandi, India</i>
12:05-12:25	IL	Electroconductive Graphene-crosslinked-Collagen hydrogel Modulate Inflammation in Spinal Cord Regeneration <b>Akshay Srivastava</b> <i>National Institute of Pharmaceutical Education and Research, Ahmedabad, India</i>

### Session 14: Wiley Student Oral Contest

Chairs: Susheel Kalia, IMA, Dehradun, India &  
B. S. Kaith, NIT Jalandhar, India

Venue: Tulsi Hall

Time	Lecture	Title/Author
10:45-10:55	OL	Mineralized Himalayan Sheep Wool Based Composite 3D Printed Scaffolds with Curcumin for Osteosarcoma Management <b>Himanshi Diwan</b> <i>Indian Institute of Technology, Mandi, India</i>
10:55-11:05	OL	Pectin/PVA composite films reinforced with sporopollenin for food packaging application <b>Diksha Lingait</b> <i>Visvesvaraya National Institute of Technology, Nagpur, India</i>
11:05-11:15	OL	Biofunctional Polyethylene terephthalate Surface by CO <sub>2</sub> plasma Activation <b>Rohini Verma</b> <i>Indian Institute of technology Delhi, New Delhi, India</i>
11:15-11:25	OL	Polysaccharide-based Biopolymer Composite for Sustainable Packaging <b>Kalpna Rathore</b> <i>Indian Institute of Technology Kanpur, Kanpur, India</i>

11:25-11:35	OL	High-performance functional fibers from the Bacterial Cellulose hydrogel <b>Anurag Kumar</b> <i>Indian Institute of Technology, Hyderabad, India</i>
11:35-11:45	OL	PVDF-HFP based proton-conducting composite polymer electrolyte for next generation electrochemical devices <b>Asish Kumar Sahu</b> <i>Ravenshaw University, Cuttack, Cuttack, India</i>
11:45-11:55	OL	Isolation, Modification and Characterization of Sago Starch <b>Sakshi Gupta</b> <i>Dr. S.S.B UICET, Panjab University, Chadigarh, India</i>

12:25-13:00

**Wisdom Contest** (Session 15): (Green Lawn)

*Coordinators: Chetna Verma, IIT Delhi, New Delhi, India & Pratibha Singh, AIIMS, New Delhi, India*

**Lunch Break | 13:00 -14:00**

### Session 16: Biomaterials & Bioengineering

*Chairs: Manju Saraswathy, SCTIMST, Thiruvananthapuram, India & Manohar V. Badiger, NCL Pune, India*

Venue: Ashoka Hall

Time	Lecture	Title/Author
14:00-14:20	IL	Bacterial Cellulose- a tunable matrix for drug delivery <b>Mudrika Khandelwal</b> <i>Indian Institute of Technology Hyderabad, Hyderabad, India</i>
14:20-14:40	IL	Ploxamer based Nanoformulations for enhanced brain delivery <b>Sabitha M</b> <i>Amrita School of Pharmacy, Kochi, India</i>
14:40-14:55	OL	Dextran and its Derivatives as Fouling-resistant Polymers for Surface Modification of Cotton Gauze <b>Debirupa Mitra</b> <i>BITS Pilani Hyderabad Campus, Hyderabad, India</i>
14:55-15:10	OL	Designing of Infection-Resistance Polyurethane Films <b>Manali Somani</b> <i>Indian Institute of Technology Delhi, New Delhi, India</i>
15:10-15:25	OL	Novel polymeric hydrogel mimics the cellular microenvironment and promotes neurite growth with protection from oxidative stress <b>Pradeep Paik</b> <i>Indian Institute of Technology (BHU), Varanasi, India</i>

### Session 17: APA Microsymposium on Packaging

Chairs: Jayitha Bandopadhyay, Pretoria, South Africa &  
Jyoti Chaudhary, MLSU, Udaipur, India

Venue: Gulmohar Hall

Time	Lecture	Title/Author
14:00-14:20	IL	Recent advances in nonedible oil-based polyurethane polymers: Synthesis, characterization, and coating applications in the food packaging <b>Rakesh K. Sharma</b> <i>The Maharaja Sayajirao University of Baroda, Vadodara, India</i>
14:20-14:40	IL	Value addition of Pomegranate Peels: From Healthcare to Energy Applications <b>Anupama Kumar</b> <i>Visvesvaraya National Institute of Technology, Nagpur, India</i>
14:40-14:55	OL	Polyolefin/pistachio shell biocomposites: Mechanical, rheological, thermal and morphological properties <b>Manjeet Singh</b> <i>Bhabha Atomic Research center (BARC), Mumbai, India</i>
14:55-15:10	OL	Development and Characterization of Eco-friendly, Active Food Packaging Films based on Strach/k-Carrageenan Blends Reinforced with Flyash and Functionalized by Eucalyptus oil <b>A. B. Hemavathi</b> <i>SJCE, JSS STU, Mysuru, India</i>
15:10-15:25	OL	Sustainable production of Nitrogen-Doped Carbon dots for electrospun fibrous packaging films <b>Ankit Tyagi</b> <i>Indian Institute of Technology, Jammu, India</i>

### Session 18: Advanced Materials

Chairs: RK Goyal, MNIT, Jaipur, India &  
Kaushik Parida, IIT Roorkee, Saharanpur, India

Venue: Tulsi Hall

Time	Lecture	Title/Author
14:00-14:20	IL	Germicidal textiles - novel ways of applying Copper nanoparticles <b>Arun Kumar Patra</b> <i>Uttar Pradesh Textile Technology Institute, Kanpur, India</i>
14:20-14:40	IL	Plasma mediated Dyeing of Cotton Fabric from Temple Flower (Hibiscus rosa sinensis) Waste <b>Shamayita Patra</b> <i>SVITT, SVVV, Indore, India</i>
14:40-14:55	OL	The development of germicidal textiles based on Mxene <b>Subhankar Maity</b> <i>Uttar Pradesh Textile Technology Institute, Kanpur, India</i>
14:55-15:10	OL	Alkaline Resistance Polymer Coating on Polyester for Geosynthetic Applications <b>Shyam Sainik</b> <i>The Bombay Textile Research Association, Mumbai, India</i>
15:10-15:25	OL	Advanced technologies for controlling pests <b>Rathna Vn Gundloori</b> <i>CSIR-National Chemical Laboratory, Pune, India</i>

### Session 19

**15:25-17:30 | Tea & Poster Presentation (Green Lawn )**

Chairs: Susheel Kalia, IMA, Dehradun, India & Manali Somani, IIP, New Delhi, India



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Session 20: Biopolymers & Biomaterials

Chairs: Siddharth Sirohi, Bhaskaracharya College, New Delhi, India &  
Vikas Gite, NMU, Jalgaon, India

Venue: Ashoka Hall

Time	Lecture	Title/Author
09:00-09:20	IL	Antioxidant, Tensile Strength and Biodegradation Behaviour of Quercetin Incorporated Soy Protein Isolate Films <b>Rakesh Kumar</b> Central University of South Bihar, Gaya, India
09:20-09:40	IL	Design and 3D printing wollastonite reinforced PLA/PCL composite scaffolds for bone tissue engineering <b>Himansu Sekhar Nanda</b> PDPM-IIITDM, Jabalpur, India
09:40-09:55	OL	Transport of Diclofenac from Chitosan and Chitosan-albumin nanoparticles: A Comparative In Vitro Analysis <b>Goutam Thakur</b> Manipal Institute of Technology, MAHE, Manipal, India
09:55-10:10	OL	Mechanical Properties of semi-IPN nanocomposites consist of carbon black loaded natural rubber and sodium carboxymethyl cellulose <b>Mohanan A.</b> Nehru Arts and Science College Kanhangad, Padnekat, India

### Session 21: Functional & Smart Materials

Chairs: *Susanta Banerjee, IIT Kharagpur, India & Jaspreet Kaur, IIT Mandi, India*

Venue: Gulmohar Hall

Time	Lecture	Title/Author
09:00-09:20	IL	Cellulose nanomaterials for advanced applications: Approach towards a sustainable and circular ecosystem <b>Pradip Kumar Maji</b> <i>Indian Institute of Technology Roorkee, Saharanpur, India</i>
09:20-09:40	IL	Development of Plasticizer Free polymer matrix using reactive nanogel additives for Biomedical application <b>Manju Saraswathy</b> <i>Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, India</i>
09:40-09:55	OL	Fabrication and Development of Smart Polymer Composite Based on Low Density Bulk Moulding Compound for Automotive Reflector <b>Amol Tarachand Naikwadi</b> <i>Uno Minda Ltd, Pune, India</i>
09:55-10:10	OL	Introduction to Team Wiley and Wiley Journals <b>Subhabrata Mukhopadhyay</b> <i>Wiley, India</i>
10:10-10:25	OL	Patterned bacterial cellulose patches for multi-drug release in wound management <b>Arif Khan</b> <i>Indian institute of technology, Hyderabad, India</i>

### Session 22: Miscellaneous Applications

Chairs: *Prem Felix Siril, IIT Mandi, India & Pradeep Paik, IIT BHU, Varanasi, India*

Venue: Tulsi Hall

Time	Lecture	Title/Author
09:00-09:20	IL	Mechanically robust, Stretchable and Adhesive Anti-freezing Polymer Hydrogel Materials for multifunctional applications <b>Rajat Kumar Das</b> <i>Indian Institute of Technology, Kharagpur, India</i>
09:20-09:40	IL	Modeling Polymers for Sustainable Energy Generation: Quantum Mechanical and Density Functional Theory Approach <b>Anant D. Kulkarni</b> <i>Somaiya Vidyavihar University, Mumbai, India</i>
09:40-09:55	OL	Effect of polyolefin elastomer (POE) variants on mechanical, heat-shrinkable, electrical and morphological properties of LLDPE-POE blends <b>Rohini Agarwal</b> <i>Bhabha Atomic Research Centre, Mumbai, India</i>
09:55-10:10	OL	Visible-Light-Mediated and Chlorophyll Catalysed Ultrafast Oxidation of Thiols <b>Neetu Kumari</b> <i>Mohanlal Sukhadia University, Udaipur, India</i>
10:10-10:25	OL	Self-stratified Multifunctional Hybrid Coating with Self-Healing ability for Superior Adhesion Strength and Hardness <b>Debaprasad Mandal</b> <i>Indian Institute of Technology Ropar, Punjab, India</i>

**Tea Break | 10:25 -10:40**

### Session 23: Polymers for High technology

Chairs: Rakesh Kumar, CUSB, Gaya, India &  
Pradip Kumar Maji, IIT Roorkee, Saharanpur, India

Venue: Gulmohar Hall

Time	Lecture	Title/Author
10:40 -11:00	IL	Study of Rheological and Thermo-dynamical Properties of Phosphorylated Phthalonitrile Resin matrix (2c) for Aerospace Applications <b>Jeetendra Kumar Banshiwal</b> DMSRDE, Kanpur, India
11:00 -11:20	IL	Value Addition of Agro-waste Derived Functionalized Biopolymers for Sustainable Food Application <b>Tabli Ghosh</b> Tezpur University, Sonitpur, India
11:20-11:35	OL	Propane-1,3-bis(hexadecyldimethylammonium bromide)-bentonite-based novel hybrid material for the elimination of textile dyes <b>Ajmal Koya Pulikkal</b> National Institute of Technology Mizoram, Aizawl, India
11:35-11:50	OL	Study on Effects of the Multifunctional TPE mat on the Thermal Performance of Wireless Charging Systems <b>Ikhlas Chandkoti</b> Uno Minda Ltd, Pune, India
11:50-12:05	OL	Effect of regenerated cellulose derived from coconut shell powder on functional properties of poly vinyl alcohol based biocomposites <b>Pradeepa K. G.</b> Sri Jayachamarajendra College of Engineering, JSS Science and Technology University, Mysore, India
12:05-12:20	OL	Design and Fabrication of Polymeric Substrates For Flexible Optoelectronic Devices <b>Uday Shankar</b> Indian Institute of Technology (BHU), Varanasi, India

### Session 24: Miscellaneous Applications

Chairs: Anil Kumar Satapathy, Finolex Industries Limited, Ratnagiri, India &  
Dinesh Yadav, MLSU, Udaipur, India

Venue: Tulsi Hall

Time	Lecture	Title/Author
10:40-11:00	IL	The curing kinetics of novel phthalonitrile resin system by model-based and iso-conversional kinetic model <b>Ajit Shankar Singh</b> DMSRDE (DRDO), Kanpur, India
11:00-11:20	IL	Highly versatile electrospun nanofibers for piezoelectric, pyroelectric and photocatalytic applications <b>Jaspreet Kaur Randhawa</b> Indian Institute of Technology, Mandi, India
11:20-11:35	OL	Effect of addition of PLA as tolerant on the thermomechanical and compostability behaviour of PBAT/TPS Blend <b>Rahul Dubey</b> Ravenshaw University, Cuttack, Odisha, Cuttack, India

11:35-11:50	OL	Modelling the Preferential Conformations and Infrared Spectra of Poly (L-Lactic Acid) Homopolymer by L-lactic Acid Oligomer: Quantum Chemical and Density Functional Theory Investigation <b>Sagar Marathe</b> <i>S K Somaiya College, Somaiya Vidyavihar University, Mumbai, India</i>
11:50-12:05	OL	Surface phases and the interfacial dilatational response of the supramolecular complex of the poly(styrene)-b-poly(4-vinyl pyridine) and 3-n pentadecyl phenol at interfaces <b>Padmanabhan Viswanath</b> <i>Centre for Nano and Soft Matter Sciences, Bengaluru, India</i>

### Valedictory Session (Ashoka Hall) | 12:00-13:30

#### Conference Address

**Bhuvanesh Gupta**, *Conference Chair*

#### Vision Address

**Anup K Ghosh**, *Conference Co-Chair*

#### Guest of Honor address

**Deepak Pathania**, *HSCA President*

#### Guest of Honor Address

**Mayank Dwivedi**, *Director, DMSRDE, Kanpur*

#### Chief Guest Address

**Günther G Scherer**, *PSI, Villigen, Switzerland*

#### Award ceremony

*Oral/ Poster/Wisdom awards*

#### Vote of Thanks

**Susheel Kalia**, *Conference Secretary*

### Lunch | 13:30 -14:30

**14:30 - CONFERENCE ENDS**