



INTERNATIONAL CONFERENCE ON  
**EMERGING MATERIALS FOR SUSTAINABLE DEVELOPMENT - 2025**  
**ICEMSD-2025**

P.G and Research Department of Chemistry  
FATIMA MATA NATIONAL COLLEGE (Autonomous) KOLLAM

SCIENTIFIC SESSIONS

Venue: Bishop Jerome Hall

## DAY -1: FUNCTIONAL MATERIALS

### Session I

**Chair:** Prof. Manohar D Mullassery,  
Head of the Department of Chemistry, FMNC, Kollam

**Co-chair:** Dr. Apsara A P,  
Associate Professor, Department of Chemistry, FMNC, Kollam

Introducing the Speaker	
11. 00 am – 12.00 pm	Key -Note Address: Prof. BIJU V. RIES - Research Institute for Electronic Science, Hokkaido University, Japan Topic: Dynamic excitons in semiconductor quantum dots
12.00 pm - 12.10 pm	Interaction
12.10 pm - 12.20 pm	OP 1
12.20 pm - 12.30 pm	OP 2
12.30 pm – 12.40 pm	OP 3
12.40 pm – 12.50 pm	OP 4
12.50 pm - 01.00 pm	OP 5
01.00 pm- 02.00 pm	LUNCH BREAK



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## Session II

**Chair:** Prof. Manohar D Mullassery,  
Head of the Department of Chemistry, FMNC, Kollam

**Co-chair:** Dr. Apsara A P,  
Associate Professor, Department of Chemistry, FMNC, Kollam

Introducing the Speaker	
02.00 pm - 02.45 pm	Invited lecture I - Dr. U.S Hareesh (Sr. Principal Scientist, Material Sciences and Technology Division, CSIR- NIIST, Thiruvananthapuram) Topic: Advanced Materials for CO <sub>2</sub> Capture and Conversion
02.45 pm – 02.55 pm	Interaction
02.55 pm - 03.05 pm	OP 6
03.05 pm - 03.15 pm	OP 7
03.15 pm - 03.25 pm	OP 8
03.25 pm - 03.35 pm	OP 9
03.35 pm - 03.45 pm	OP 10
03.45 pm - 03.55 pm	OP 11
03.55 pm - 04.05 pm	OP 12
04. 05 pm - 04.20 pm	TEA BREAK
04.20 pm – 04.30 pm	OP 13
04.30 pm - 04.40 pm	OP 14
04.40 pm - 04.50 pm	OP 15
04. 00 pm - 05.00 pm	POSTER SESSION



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## DAY -2: : ENERGY MATERIALS

### Session III

**Chair:** Dr. Ani Deepthi,  
Assistant Professor, University of Kerala

**Co-chair:** Prof. Noeline B Fernandez,  
Dean of Science, FMNC, Kollam

Introducing the Speaker	
09.00 am – 09.45 am	Invited lecture II - Dr. Arvind H Jadhav Associate Professor Green and sustainable Catalysis Laboratory Centre for Nano and Material Science, JAIN (Deemed-to-be-university), Bangalore, Karnataka Topic: Advances in Catalytic Fixation of Carbon Dioxide (CO <sub>2</sub> ) into Value-added Products: Enabling a Low-Carbon Economy and Sustainable Energy Solutions
09.45 am - 09.55 am	Interaction
Introducing the Speaker	
09.55 am – 10.35 am	Invited lecture III - Prof. Rajan Jose Chair, Energy and Battery Technology Battery Research Center of Green Energy, Ming Chi University of Technology, Taiwan Topic: Zero Carbon Materials for Electrochemical Energy Storage
10.35 am - 10.45 am	Interaction
10.45 am – 11.00 am	TEA BREAK



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### Session III

**Chair: Dr. Ani Deepthi,**  
Assistant Professor, University of Kerala

**Co-chair: Prof. Noeline B Fernandez,**  
Dean of Science, FMNC, Kollam

Introducing the Speaker	
11.00 am -11. 45 am	Invited lecture IV - Dr K P Surendran Senior Principal Scientist& Professor CSIR-NIIST, Thiruvananthapuram, Kerala, India Topic: Printed Biomedical Sensors: From Materials to Devices
11. 45 am – 11.55 am	Interaction
11.55 am – 12.05 pm	OP 16
12.05 pm - 12.15 pm	OP 17
12.15 pm - 12.25 pm	OP 18
12.25 pm - 12.35 pm	OP 19
12.35 pm - 12.45 pm	OP 20
12.45 pm - 12.55 pm	OP 21
12.55 pm – 01.05 pm	OP 22
01.05 pm-01.15 pm	OP 23
01.15 pm-01.25 pm	OP 24
01.30 pm- 02.30 pm	LUNCH BREAK



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### Session IV

**Chair: Dr. Ani Deepthi,**  
Assistant Professor, University of Kerala

**Co-chair: Prof. Noeline B Fernandez,**  
Dean of Science, FMNC, Kollam

Introducing the Speaker	
02.30 pm -03.10 pm	Invited lecture V <u>Dr. Mahesh Padaki</u> Associate Professor Centre for Nano and Material Science, JAIN (Deemed-to-be-university), Bangalore, Karnataka Topic: Membranes for liquid-liquid separation
03.10 pm - 03.20 pm	Interaction
Introducing the Speaker	
03.20 pm – 04.05 pm	Invited lecture VI - Dr. Sakar Mohan Associate Professor Centre for Nano and Material Sciences Jain (Deemed-to-be) University Bangalore 562112, Karnataka Topic: Unary Metal Oxynitride Systems for Photocatalysis
04. 05 pm - 04.15 pm	Interaction
04. 15 pm - 04.30 pm	TEA BREAK
04.00 pm - 06.00 pm	POSTER SESSION
06.00 pm – 07.00 pm	CULTURAL ACTIVITIES
07.00 pm-08.00 pm	DINNER



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## DAY -3: : GREEN AND SUSTAINABLE MATERIALS

### Session V

**Chair:** Dr. Arvind H Jadhav,  
Associate Professor, Green and sustainable Catalysis  
Laboratory, Centre for Nano and Material Science, JAIN  
(Deemed-to-be-university), Bangalore, Karnataka

**Co-chair:** Prof. Noeline B Fernandez,  
Dean of Science, FMNC, Kollam

Introducing the Speaker	
09. 00 am - 09.45 am	Invited lecture VII Dr. Jobin Varghese Senior Scientist Fraunhofer IKTS, Dresden, Germany Topic: Sustainable Materials: ULTCs for Next Generation Electronic Packaging
09.45 am – 09.55 am	Interaction
Introducing the Speaker	
09.55 am – 10.35 am	Invited lecture VIII – - Dr. Bhoje Gowd E. Senior Principal Scientist& Professor CSIR-NIIST, Thiruvananthapuram, Kerala, India Topic: Hierarchically Architected Semicrystalline Polymer Aerogels for Multifunctional Applications
10.35 am – 10.45 am	Interaction
10.45 am – 11.00 am	TEA BREAK



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## Session V

**Chair:** Dr. Arvind H Jadhav,  
Associate Professor, Green and sustainable Catalysis  
Laboratory, Centre for Nano and Material Science, JAIN  
(Deemed-to-be-university), Bangalore, Karnataka

**Co-chair:** Prof. Noeline B Fernandez,  
Dean of Science, FMNC, Kollam

Introducing the Speaker	
11.00 am – 11 45 am	Invited lecture IX –Dr. R. Ratheesh Director, C-MET, Hyderabad, India Topic: Resource Efficiency and Circular economy through Urban Mining
11 45 am - 11 55 am	Interaction
11.55 am – 01.00 am	VALEDICTORY FUNCTION
01.00 pm- 02.00 pm	LUNCH

## VALEDICTORY FUNCTION

11.55 am- 12.00 pm	Prayer Song
12.00 pm – 12.05 pm	Welcome
12.05 pm – 12.15 pm	Presidential Address
12.15 pm – 12.30 pm	Chief Guest
12.30 pm - 12.40 pm	Report presentation
12.40 pm - 12.50 pm	Prize Distribution for best Oral and Posters
12.50 pm - 01.00 pm	Vote of Thanks