



European Materials Research Society

2025 Spring Meeting

May 26 – 30 | Strasbourg Convention Centre

SYMPOSIUM Jbis

Engineered nanomaterials for energy and environment:
from synthesis to applications

Oral sessions : LUXEMBOURG – GROUND FLOOR

Symposium Organizers:

Alberto VOMIERO (Main organizer), Luleå University of Technology, Sweden

Elisa MORETTI, Ca' Foscari University of Venice, Italy

Sanjay MATHUR, Department of Chemistry, University of Köln, Germany

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Thursday May 29

Jbis12 Oral session

Chairperson(s): BALAGNA Cristina

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|-------|------|--|
| 08:30 | 349 | Electrical conductivity as a platform for area-selective deposition and developement of photoconversion devices HORWAT David (Invited) |
| 08:50 | 3140 | Ceramic-to-Metal Joining via Robocasting Deposition for High Temperature Oxygen Separation Applications DE LA PIERRE Stefano (Invited) |
| 09:10 | 1284 | Engineered Nanomaterials for Thermal Energy Harvesting PAKDEL Amir |
| 09:25 | 1538 | The influence of morphology and heterojunctions of CeO ₂ -based nanoparticles on their sensor properties CIOLA AMORESI Rafael Aparecido |
| 09:40 | 721 | Chemical Storage of Elemental Fluorine in Nanostructured Cerium Fluorides GUIET Amandine |
| 09:55 | 671 | Highly Durable Electrocatalyst for Ammonia Oxidation Reaction: Pt on NiFe Layered Double Hydroxide/Ni Foam LEE Jiwoo |

Thursday May 29

Jbis13 Oral session

Chairperson(s): BALAGNA Cristina

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|-------|------|---|
| 10:30 | 1686 | Advanced in-situ soft X-Ray insights into Copper-Based Catalysts: stability, selectivity, and synergistic effects for CO ₂ Reduction NAPPINI Silvia (Invited) |
| 10:50 | 805 | Flexible synthetic pathways for the production of polypyrrole-co-polyketone based anion exchange membranes LANERO Francesco (Invited) |
| 11:10 | 276 | A Dual-Function Electrocatalytic Janus Membrane for CO ₂ Capture and Reduction SADHUJAN Sumesh |
| 11:25 | 198 | Sustainable Electrochemical Fixation of N ₂ , NO _x and CO ₂ to Value-Added Products using Manganese Phthalocyanine based Catalysts Adalder Ashadul |
| 11:40 | 1029 | Structural architecture of MXene-based nanomaterials for CO ₂ reduction PARIDA Manas Ranjan |

Thursday May 29

Jbis14 Oral session

Chairperson(s): SHIFA Tofik ahmed

[View session abstracts](#)

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|-------|------|---|
| 13:30 | 550 | Advanced photocatalytic nanocomposites for wastewater remediation IMPELLIZZERI Giuliana (Invited) |
| 13:50 | 1166 | TiO ₂ Hollow Spheres: Pushing Boundaries with Doping and Defect Engineering LICCARDO Letizia (Invited) |
| 14:10 | 2470 | Membranes of 2D mesoporous silica nanostructures for size selective nanofiltration BATOOL Nadia |
| 14:40 | 1294 | Nanocrystals for Hot Electron-Enhanced Photocatalysis CHEN Jennifer |
| 14:55 | 1488 | Efficient removal of polycyclic aromatic compounds and other pollutants of concern from water environments by designing magnetic graphene/iron oxide nanoadsorbents VAZ-RAMOS Joana |
| 15:10 | 2503 | Photoproduction of green hydrogen using doped Cu-BDC MOFs MOHD Sher |
| 15:25 | 1550 | Exploring the sensing capabilities of nanoribbons NAVALE Sachin Tatyasaheb |
| 15:40 | 1859 | Introduction of Defect-States in Phenyl Carbon Nitride through Boron doping for Highly Selective Photocatalytic Reactions HAZRA Moulika |

Friday May 30

Jbis16 Oral session

Chairperson(s): POLO Federico

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|-------|------|--|
| 08:30 | 1835 | Novel Catalysts for Water Splitting: Strategies for Performance Enhancement SHIFA Tofik Ahmed (Invited) |
| 08:50 | 1079 | Stabilization of transition metal hydroxides for photocatalytic applications GRECO Rossella (Invited) |
| 09:10 | 1607 | Freeze-casted ceramic with vertically-oriented pores for water transport applications PATTARO Sara |
| 09:25 | 616 | TTF-Self Assembled Monolayer Derivatives for Oxygen Evolution Reaction GHARBI Samar |
| 09:40 | 1746 | Turning Trash into Treasure: Upcycled Carbon Foam with Copper Chalcogenides for Solar Desalination and a Circular Economy HUSSAIN Muzammil |

Friday May 30

Jbis17 Oral session

Chairperson(s): POLO Federico

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|-------|------|--|
| 10:30 | 3129 | Nanostructured Antiviral and Antimicrobial Coatings for Air Filters: From Co-Sputtering Synthesis to Scalable Applications BALAGNA Cristina (Invited) |
| 10:50 | 3146 | Designing multifunctional constructs for tissue regeneration using nanostructured ceramic biomaterialsand advanced fabrication techniques MONTALBANO Giorgia (Invited) |
| 11:10 | 2240 | Mechanistic insights into the antibacterial property of MIL-100 (Fe) MOF and its application in arsenic remediation KARMAKAR Sankha |
| 11:25 | 740 | Advanced Transition Metal Vanadate Catalysts for Efficient Aqueous Electrochemical NRR GOYAL Naina |