



4th Global Summit on

# CATALYSIS & CHEMICAL ENGINEERING

July 16 & 17, 2026 (In-Person)

Hotel – Crowne Plaza Rome – St. Peter's by IHG, Rome, Italy

**Theme:**

“Unlocking Future Pathways through  
Catalysis and Chemical Engineering”

# SCIENTIFIC AGENDA

## DAY 1

July 16, 2026 (In-Person)

Hotel – Crowne Plaza Rome – St. Peter's by IHG, Rome, Italy

# Day 1

08:30 - 09:00 Onsite Registration & Seating Arrangement

09:00 - 09:30 Introduction & Opening Ceremony

## Keynote Presentation

09:30 - 10:00 **Title: Characterisation of Ir-based catalysts (Bi and tri-metal catalysts) for PEM electrolyser**

**Dr Shawn Gouws**, *Nelson Mandela University, South Africa*

10:00 - 10:30 **Title: The Strength-Ductile Trade-Off Model Under Friction of FCC Metals and Alloy**

**Prof. Lev S. Rapoport**, *Holon Institute of Technology, Israel*

## Refreshment & Coffee - 10:30 - 10:50

## Keynote Presentations Cont.....

10:50 - 11:20 **Title: Understanding CO<sub>2</sub> hydrogenation catalysts via operando IR**

**Dr. Marco Daturi**, *Caen-Normandy University, France*

11:20 - 11:50 **Title: Advanced Sinusitis Diagnosis Using Deep Learning and Heatmaps Combined with Enhanced 3D Image Segmentation**

**Prof. Shi-Jinn Horng**, *Asia University, Taiwan*

11:50 - 12:20 **Title: Systemic changes in blood parameters in patients with acquired skin hyperpigmentations. Impact on the prognosis of therapy outcomes and the likelihood of relapses**

**Dr. Maria Glushkova**, *Rostov State Medical University, Russia*

## Oral Presentations

12:20 - 12:45 **Title: The analysis of the isomers of disaccharides and trisaccharide's in different rice using Ion mobility spectrometry-mass spectrometry technology**

**Dr. Chuan-FanDing**, *Ningbo University, China*

12:45 - 13:10 **Title: Investigation of Plasmonic Nanohybrids for Enhanced Photocatalysis and Solar Energy Conversion, Hong Kong**

**Prof. Wing-Cheung Law**, *The Hong Kong Polytechnic University, Hong Kong*

## Memorable Group Photo & Tempting Buffet Lunch 13:10 - 13:55

## Oral Presentation Cont.....

13:55 - 14:20 **Title: Precision-engineered electrocatalysts via direct atomic ; layer processing for enhanced energy conversion**

**Dr. Ruchi Sharma**, *Atlant 3D, Denmark*

14:20 - 14:45 **Title: Suitability of modified TER samples with different porosity for osteochondral regeneration**

**Prof. Jana Frankova**, *Palacky University Olomouc, Czech Republic*

- 14:45- 15:10**     **Title: Enantioselective Construction of  $\alpha,\beta$ -Diamino Acids Using a Dinuclear Silver Catalyst**  
**Dr. Yuka Iizuka**, *Nagoya Institute of Technology, Japan*
- 15:10 - 15:35**     **Title: Later temporal attention in computer aided medical diagnosis**  
**Dr. Jiixin Cai**, *Xiamen University of Technology, China*
- 15:35 - 16:00**     **Title: A research road map approaching thin films of semiconductors electropulsing induced phase transformations in alloys and thin films of TCO and TE semiconductors**  
**Prof. Yaohua Zhu**, *The Hong Kong Polytechnic University, Hong Kong*

**Refreshment & Coffee - 16:00 - 16:20**

**Poster Evaluation and Best Poster Awards - 16:20 - 16:45**

- CS261**     **Title: Divergent urinary arsenic speciation profiles between mothers and preschool-aged children: shared dietary environments as the principal determinant of child arsenic exposure in a Korean birth cohort**  
**Prof. Ju Hee Kim**, *Kyung Hee University, South Korea*
- CS262**     **Title: Bio-inspired hydrophobic surface engineering of vibropressed concrete using fatty acid modifiers**  
**Wojciech Andrzejuk**, *PhD Eng. John Paul II University in Białá Podlaska, Poland*
- CS262**     **Title: Gas-phase dehydrodimerization of 4-Picoline with nitrous oxide under coherent synchronization conditions**  
**Prof. Tofik Nagiev**, *Azerbaijan National Encyclopedia, Azerbaijan*

**\*\*\*End of the conference\*\*\***

# SCIENTIFIC AGENDA

## DAY 2

July 17, 2026 (In-Person)

Hotel – Crowne Plaza Rome – St. Peter's by IHG, Rome, Italy

# Day 2

09:00 - 09:30 Onsite Registration & Seating Arrangement

## Keynote Presentation

09:30 - 10:00 **Title: A large-area sensor floor based on smart textiles**  
**Ms. Christl Lauterbach**, *Future-Shape GmbH, Germany*

10:00 - 10:30 **Title: Integrated continuous-flow organic synthesis enabled by highly active heterogeneous bimetallic nanoparticle catalysts**  
**Dr. Hiroyuki Miyamura**, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*

## Refreshment & Coffee - 10:30 - 10:50

### Keynote Presentations Cont....

10:50 - 11:20 **Title: Mechanistic Insights into defect-driven edge reconstruction of CuO nanoparticles for CO<sub>2</sub> reduction to C<sub>2</sub> products**  
**Dr. Jyh-Chiang Jiang**, *National Taiwan University of Science and Technology, Taiwan*

11:20 - 11:50 **Title: Organic-inorganic hybrid superlattices with perfect crystallinity, excellent ambient stability, and 2-D like electronic and optical properties**  
**Prof. Yong Zhang**, *The University of North Carolina at Charlotte, USA*

11:50 - 12:20 **Title: Involving rare earth elements in magnetic materials**  
**Prof. Annie K. Powell**, *Karlsruhe Institute of Technology, Germany*

12:20 - 12:50 **Title: X-ray atomic Imaging of redox-Induced changes for an oxide-supported monolayer catalyst: MoO<sub>x</sub> / α-TiO<sub>2</sub>(110)**  
**Prof. Michael J. Bedzyk**, *Northwestern University, USA*

12:50 - 13:20 **Title: Design and control of catalytic shells**  
**Prof. Monica Olvera de la Cruz**, *Northwestern University, USA*

## Memorable Group Photo & Tempting Buffet lunch - 13:20 - 14:05

### Oral Presentation

14:05 - 14:30 **Title: Bis(acetylacetonato)oxidovanadium(IV) as an uncompetitive inhibitor of protein tyrosine phosphatase-1B is a sensitive probe of cancer metabolism**  
**Dr. Marvin W. Makinen**, *The University of Chicago, USA*

14:30 - 14:55 **Title: Exploring the adsorption mechanism of two new organic agents on carbone steel: electrochemical, surface investigations and computational insights**  
**Prof. Hicham Fakhry**, *Ibn Tofail University, Morocco*

14:55 - 15:20 **Title: Nanostructured polymer membranes for gas separation**  
**Prof. Maria Giovanna Bonomenna**, *Ministry of Education, Universities and Research, Italy*

15:20 - 15:45 **Title: Enhanced photocatalytic removal of dyes using molybdate catalysis**  
**Dr. Rawia Nasria**, *University of Tunis El Manar, Tunisia*

15:45 - 15:10 **Title: Multifunctional closed-cell elastomeric foams: beyond thermal insulation toward integrated protective materials**  
**Dr. Peyman Ezzati**, *Science and Technology Center, China*

**15:10 - 15:35** Title: Application of solid waste materials for adsorptive removal of toxic phenol from wastewater to protect environment and also to generate circular economy

**Dr. Ashanendu Mandal**, *University of Calcutta/ONGC, India*

**15:35 - 16:00** Title: Removal of nickel from industrial wastewater by sunflower husks nanoparticle: optimization study

**Dr. Alaa Jasim Mohammed**, *Al-Karikh University for Science, Energy and Environmental Science College, Iraq*

## Refreshment & Coffee 16:00 - 16:20

## Oral Presentations Cont....

**16:20 - 16:45** Title: Advanced semiconductor heterostructures: charge-transfer mechanisms and photocatalytic applications

**Prof. Ramin Yousefi**, *R&D center of BMF Science Group, Germany*

**16:45 - 17:10** Title: Dynamic force spectroscopy in silico: exploring strength, deformability, toughness and mechanical fatigue of biological nanoparticles

**Prof. Valeri Barsegov**, *University of Massachusetts, USA*

\*\*\*End of the conference\*\*\*

## Our Partner Conferences 2026-27

★ Materials Science | Nanotechnology | Energy | Catalysis

### 2026 Conferences

 **Budapest, Hungary | 14–16 September 2026**

**Materials Evolution 2026**

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<https://materialscience.mindauthors.com/>

**Asian Nano Summit 2026**

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 **Bangkok, Thailand | 15–16 March 2027**

**Graphene Summit 2027**

<https://grapheneconferences.scientifink.com/>

**Nano World 2027**

<https://advnanotech.mindauthors.com/>

**Materials Innovation 2027**

<https://advancedmaterials.annualforums.com/>

 **Berlin, Germany | 25–26 March 2027**

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<https://materialsconferences.mindauthors.com/>

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 **Lisbon, Portugal | 5–7 April 2027**

**Materials Summit 2027**

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<https://functionalmaterials.annualforums.com/>

 **Bangkok, Thailand | 16–18 April 2027**

**Materials Series 2027**

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**Materials Arena 2027**

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 **Taiwan | 26–28 April 2027**

**Materials Core 2027**

<https://materials.tunedscience.com/>

**Advanced Catalysis 2027**

<https://catalysis.tunedscience.com/>



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# SCIENTIFIC AGENDA

## DAY 3

July 18, 2026 (Virtual)

Via Zoom Platform

# Day 3

07:50 - 08:00 Introduction & Opening Ceremony

## Plenary Presentation

08:00 - 08:30 **Title: Microbial electrocatalysis in plant bioelectrochemical systems for energy, remediation and biomass valorization**  
**Dr. Chung Yu Guan**, *National Taiwan University, Taiwan*

08:30 - 09:00 **Title: From DNA to genes and text to curricula: T-patterns, T-strings and T-societies, and two turning points in natural history**  
**Prof. Magnus S. Magnusson**, *University of Iceland, Iceland*

## Keynote Presentations Cont.....

09:00 - 09:25 **Title: Interface-driven hybrid materials for energy and environmental sustainability**  
**Prof. Sam Hyhsu**, *City university of Hong Kong, Hong Kong*

09:25 - 09:50 **Title: Structured catalysts of biofuels transformation into syngas**  
**Prof. Vladislav A. Sadykov**, *Boriskov Institute of Catalysis SB RAS, Russia*

09:50 - 10:15 **Title: Success in developing CVD Graphene coating on mild steel through catalytic process for remarkable corrosion resistance**  
**Prof. Raman Singh**, *Monash University, Australia*

10:15 - 10:40 **Title: Zinc Oxide Nanoparticles: A Promising Platform for Photocatalysis**  
**Prof. Paulo Cesar Morais**, *Catholic University of Brasília, Brazil*

10:40 - 11:00 (Eye Relaxation Break & Breakout Rooms - Greenwich Mean Time)

## Keynote Presentations cont....

11:00 - 11:25 **Title: Development methodology of multifunctionality materials**  
**Prof. Kenji Uchino**, *The Pennsylvania State University, USA*

11:25 - 11:50 **Title: Cradle to cradle design innovations**  
**Mr. Albin Kaelin**, *epeaswitzerland gmbh, Switzerland*

## Oral Presentations

11:50 - 12:10 **Title: Superior nanoscale photocatalysts by self-assembly**  
**Prof. Franziska Gröhn**, *University of Erlangen-Nuremberg, Germany*

12:10 - 12:30 **Title: Eliminating implant failure in humans with nanomaterials: 45,000 cases and counting**  
**Prof. Thomas J. Webster**, *Hebei University of Technology, China*

12:30 - 12:50 **Title: Dual memory characteristics and twinning detwinning reactions governing reversibility in shape memory alloys**  
**Prof. Osman Adiguzel**, *Firat University, Turkey*

12:50 - 13:10 **Title: Catalysis: a new horizon in catalysis**  
**Prof. Xumu Zhang**, *Southern University of Science and Technology, China*

13:10-13:30 (Eye Relaxation Break & Breakout Rooms - Greenwich Mean Time)

## Keynote Presentations

- 13:30 - 14:00** Title: In-situ generated superacids for the catalytic aqueous cationic polymerization of olefins  
**Prof. Stewart P Lewis**, *Pyramid polymers LLC, USA*
- 14:00 - 14:30** Title: Elementary composite materials  
**Prof. Stephen Tsai**, *Stanford University, USA*
- 14:30 - 15:00** Title: AI-grade catalytic reactor design  
**Prof. Gideon Samid** *Case Western Reserve University, USA*

## Oral Presentations

- 15:00 - 15:20** Title: A research road map approaching thin films of semiconductors electropulsing Induced phase transformations in alloys and thin films of TCO And TE semiconductors  
**Prof. Yaohua Zhu**, *The Hong Kong Polytechnic University, Hong Kong, China*
- 15:20 - 15:40** Title: Effect of carbon nano materials (Cnts) and processing variation of polyacrylonitrile (PAN) carbon fibre on the thermo mechanical behavior of short carbon fibre reinforced polymer composites  
**Prof. Vijay Kumar Srivastava**, *Department of mechanical engineering, India*

**\*\*\*End of the Conference\*\*\***



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