



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 CO₂ 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-Fan Ding, *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: The chemical structure distinction of tripeptide chiral Isomers by ion mobility spectrometry**
Dr. Yinghua Yan, *Ningbo University, China*
- 15:10 - 15:35** **Title: Later temporal attention in computer aided medical diagnosis**
Dr. Jiaxin 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 CO₂ reduction to C₂ 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_x / α-TiO₂(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

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