



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: Enantioselective Construction of α,β -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. 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 Presentation - 16:20 - 16:50

- CS261** **Title: Bio-inspired hydrophobic surface engineering of vibropressed concrete using fatty acid modifiers**
Wojciech Andrzejuk, PhD Eng, John Paul II University in Białą 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

Poster Presentation 17:10- 17:25

- 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

End of the conference

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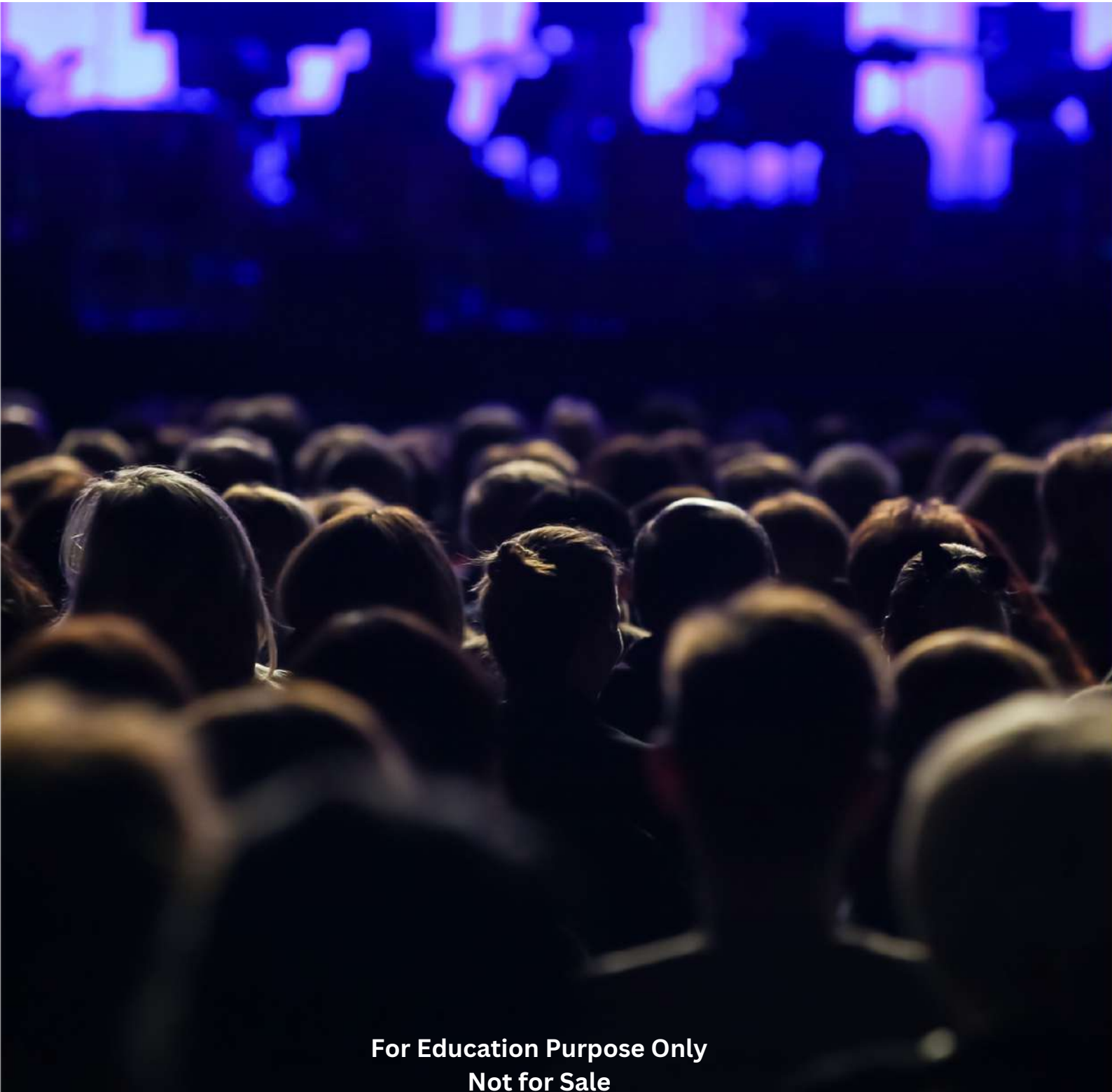
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CATALYSIS & CHEMICAL ENGINEERING

July 18, 2026 (In-Person)

Via Zoom Platform

Theme:

“Unlocking Future Pathways through
Catalysis and Chemical Engineering”

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**
Prof. 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, Boreskov 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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