

Organized by



CRE 2026

2nd Edition of

CATALYSIS AND REACTION ENGINEERING

February 23-25, 2026 | San Diego, CA

February 26, 2026 | Virtual

In Collaboration with



Publishing Partner



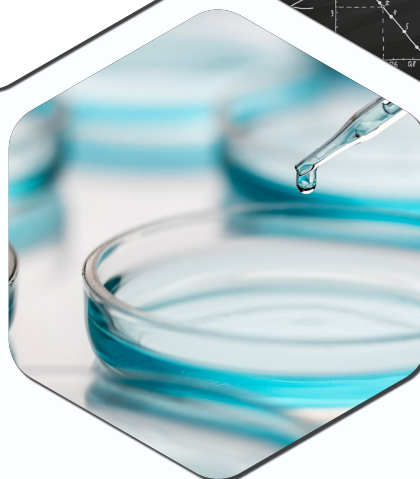
Supported by



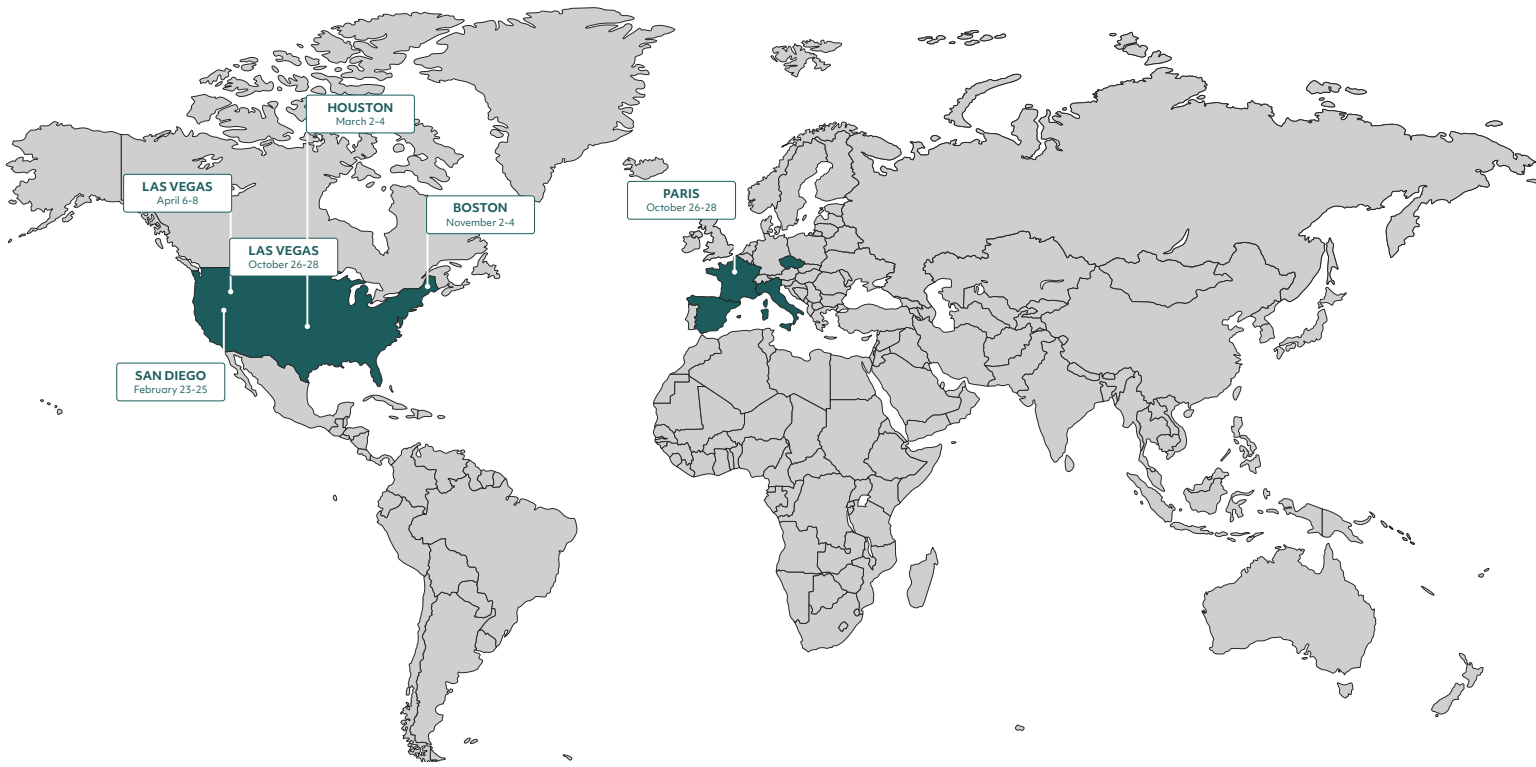
Doubletree by Hilton San Diego Mission Valley

7450 Hazard Center Drive, San Diego, CA

 <https://reactionengineerings.com/>



2026 CO-IN Summits World Wide



CO-IN Symposia Establishes Dynamic Platforms Across Various Engineering and Science Disciplines, Bringing Together Like-Minded Individuals and Experts for Knowledge Exchange, Partnership Building, and Mutual Support.

Upcoming Conferences



Join Zoom Meeting

<https://us06web.zoom.us/j/89137296891?pwd=aip3xyHONRK78feSWc6VM7ABzImvOy.1>

Meeting ID: 891 3729 6891

Passcode: 505272

In collaboration with

MICROTRAC

a **VERDER** company

Microtrac is a leading provider of advanced analytical instruments specializing in particle size & shape analysis, BET surface areas, and pore-size measurement for the catalysts industry. Our innovative solutions enable precise characterization of catalyst materials using dedicated dynamicflow chemisorption systems for pulse chemisorption, metal dispersion analysis, TPD/TPR/TPO/TPReaction, single-point BET and Breakthrough curve measurements. With cutting-edge instruments like BELCAT II, we support research, development, and quality-control of catalysts and help customers optimize performance, enhance process efficiency, and maintain stringent industry standards. Our expert support and robust product portfolio empower clients to achieve reliable and reproducible results, driving advancements in catalytic processes.

Associated Partners of CRE 2026

Publishing Partners



Supported By



SESSION CHAIRS



Prof. Astrid M. Müller

University of Rochester,
Rochester, NY

Astrid M. Müller is an Assistant Professor of Chemical Engineering at the University of Rochester. With a PhD from the Max Planck Institute, her research uniquely bridges ultrafast laser science and electrocatalysis. She pioneers pulsed laser synthesis to create nanomaterials for sustainable energy, green chemistry, and PFAS destruction.



Dr. Richard H. Fish

LBNL
Berkeley, CA

Dr. Richard H. Fish is a Senior Scientist at Lawrence Berkeley National Laboratory, renowned for his pioneering work in bioorganometallic chemistry and catalysis. His research spans fluororous biphasic catalysis, templated polymers for metal ion removal, and enzyme-inspired models for converting alkanes into alcohols. A global educator, he has held visiting professorships to teach advanced organometallic chemistry.



Prof. Mannar R. Maurya

IIT Roorkee
India

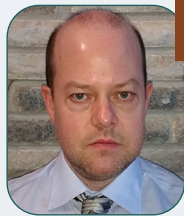
Prof. Mannar Ram Maurya is a distinguished Professor of Inorganic Chemistry at IIT Roorkee, where he has also served as Department Chair and Dean. His research focuses on creating sustainable catalytic systems, developing models for vanadium enzymes and immobilizing metal complexes for recyclable oxidation catalysts.



Prof. Elisabeth E. Jacobsen

Norwegian University of Science
and Technology, Norway

Dr. Elisabeth Jacobsen is an Associate Professor of Organic Chemistry at the Norwegian University of Science and Technology (NTNU). Her research specializes in green, enzymatic synthesis to create enantiopure, biologically active compounds and drugs. She serves as the Treasurer for the European Society of Applied Biocatalysis (ESAB) and maintains extensive international collaborations.



Dr. Stewart P. Lewis

Pyramid Polymers LLC,
Zanesville, OH

Dr. Stewart P. Lewis is a world-leading expert in sustainable cationic polymerization, renowned for inventing multiple groundbreaking methods to conduct these reactions in water. His innovations include unique heterogeneous initiator systems and the first truly catalytic approaches, offering significant cost and environmental benefits.



Prof. Ricardo Jose Chimentao

Universidad de Concepcion
Chile

Dr. Ricardo Jose Chimentão is an Associate Professor at the Universidad de Concepcion, Chile. A chemical engineer by training, he earned his PhD from Universitat Rovira i Virgili (Spain) and built extensive international expertise through postdoctoral research at institutions including CNRS (France), Purdue University (USA), and Ghent University (Belgium). His research focuses on catalytic processes and materials science.



Prof. Hui Yan

University of Louisiana at
Lafayette, Lafayette, LA

Dr. Hui Yan is an Associate Professor of Chemistry at the University of Louisiana at Lafayette whose research applies advanced synchrotron surface analysis to study fundamental interactions in heterogeneous catalysis and environmental chemistry. She earned her Ph.D. in Environmental Chemistry from the University at Albany, SUNY, following M.S. and B.S. degrees from Yangzhou University in China.



Book of Abstract

07:30–08:00 Check-In & Badge Pickup

@Shutters Foyer

08:00–08:10 Moderator's Opening Remarks by **Prof. MANNAR R. MAURYA**

Plenary Presenters

@Shutters East I&II

Moderated by: **Prof. Mannar R. Maurya**, IIT Roorkee, India



08:10–08:50

William A Goddard III
California Institute of Technology
Pasadena, CA

Quantum Mechanics Based Reaction Mechanisms for Catalysis



08:50–09:30

Joseph Wang
University of California
San Diego, CA

Catalytic Propulsion of Microscale Robots



09:30–10:10

Debbie C. Crans
Colorado State University
Fort Collins, CO

Metal based Anticancer Compounds; Vanadium Compounds SAR and an Application of Carbon based Nanoparticles in Drug Delivery



Speed Networking & Morning Break (10:10–10:25)

@Shutters Foyer



10:25–11:05

Richard Zare
Stanford University
Stanford, CA

Can Water Act as a Catalyst?



11:05–11:45

Tobin J. Marks
Northwestern University
Evanston, IL

Toward a Circular Plastics Economy. Mechanism-Based Catalyst Design and Evolution for Waste Polymer Recycling



11:45–12:25

Judith P. Klinman
University of California
Berkeley, CA

Shifts in Our Understanding of Enzyme Catalysts: The Role of Long-range, Site-specific Thermal Energy Networks in Enzyme Activation



12:25–13:05

Arieh Warshel
University of South California
Los Angeles, CA

Nobel Talk

Combining Molecular Simulations and AI in Enzyme Design

Life Time Achievement Awards



Tobin J. Marks, Northwestern University, Evanston, IL

The CO-IN Symposia is proud to announce that its 2026 Lifetime Achievement Award will be presented to Professor Tobin J. Marks, Vladimir N. Ipatieff Professor of Catalytic Chemistry at Northwestern University (Evanston, Illinois), in recognition of his transformative and enduring contributions to the chemical sciences.

Prof. Mannar R. Maurya, IIT Roorkee, India

The CO-IN Symposia is pleased to announce the conferment of the Lifetime Achievement Award upon Professor Mannar R. Maurya, Professor of Chemistry, Indian Institute of Technology Roorkee, in recognition of his distinguished career and outstanding contributions to the field of chemical sciences.



Russel J Reiter, UT Health San Antonio, San Antonio, TX

The CO-IN Symposia is proud to announce that its 2026 Lifetime Achievement Award will be presented to Prof. Russel J. Reiter is Professor of Cell Biology in the Department of Cell Systems and Anatomy at the UT Health, San Antonio, Texas, USA. Dr. Reiter as a Highly Cited Scientist (top 1%) and listed him as one of the World's Most Influential Scientific Minds in 2014.

Group Photo & Lunch (13:30-14:20)

@The Deck

Serves as an informal setting for participants to continue discussing conference topics, exchange ideas, and build connections in a more casual environment.

Keynote Presenters

@Shutters East I&II

Moderated by: Prof. Astrid M. Müller, University of Rochester, Rochester, NY



14:20-14:50

Mannar R. Maurya
Indian Institute of Technology
Roorkee, India

Catalytic Role of Metal Complexes in One-Pot-Multicomponent Reactions Producing Biologically Active Molecules



14:50-15:20

Sidney Hecht
Arizona State University
Tempe, AZ

The Roles of Elongation Factor P as a Catalyst in Protein Biosynthesis



15:20-15:50

Craig L. Hill
Emory University
Atlanta, GA

Light-driven Water Oxidation and C(sp³)-H Cleavage by Polyoxometalate Complexes



15:50-16:20

Horia Metiu
University of California
Santa Barbara, CA

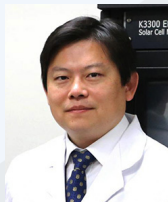
Hydrogen Production Without CO₂



16:35-17:05

Hyoyoung Lee
Sungkyunkwan University
South Korea

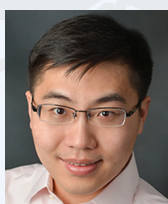
Eco-Catalysts for Electrolyzer Cell in Carbon Neutrality



17:05-17:35

SU-IL IN
DGIST
South Korea

Radiation-Activated Catalysis for Future Energy: Solar Fuels and Beyond Batteries



17:35-18:05

Shu Hu
Yale University
New Haven, CT

Photo-Thermal Catalysis at Dynamic Semiconductor/Electrolyte Interfaces



Poster presenters


- CRE P-1** **Hyun Jeong Song**, Seoul National University, South Korea
Nitrous Oxide Reduction Over Pd/CeO₂ Catalysts by H₂-SCR
- CRE P-2** **Kyeongmin Baek**, Seoul National University, South Korea
Selective Ammonia Oxidation over Pt-Cu/ZSM-5 Catalysts Prepared by Ball-Milling
- CRE P-3** **Candice Schlabach**, Western Kentucky University, Bowling Green, KY
Reactivity, Kinetics, and Mechanistic Studies of Metal-Oxo Phthalocyanine Species
- CRE P-4** **Jesse Thomas**, Western Kentucky University, Bowling Green, KY
Reactivity, Kinetics, and Mechanistic Studies of Metal-Oxo Phthalocyanine Species
- CRE P-5** **Hyungdon Yun**, Konkuk University, South Korea
Two-step Enzymatic Production of Diverse Capsaicinoids from Ferulic Acid
- CRE P-6** **Angesom A Gebretsadkan**, University of Nevada, Reno, NV
Hydrothermal Destruction and Defluorination of PFAS with Simultaneous Regeneration of Activated Carbon
- CRE P-7** **Pokhraj Ghosh**, Southern Methodist University, Dallas, TX
Bioinspired Molecular Copper Catalysts for CO₂-Reduction
- CRE P-8** **Rieko Nagase**, Doshisha University, Japan
Partial Oxidation of Methane with Oxygen over Highly Dispersed Copper Catalysts on Zeolites
- CRE P-9** **Trinity Riggins**, Clark Atlanta University, Atlanta, GA
Exploring Size Effects of MoS₂ and MoSe₂ on Electronic Properties
- CRE P-10** **Tomohiro Nobeyama**, Kyoto University, Japan
Regulation of Bio-macromolecule Droplet with Butterfly-shaped Gold Nanorod toward Catalytic Reaction

Catalysis Breakthroughs: From Molecules to Energy


@Shutters East I&II

Chairs: **Prof. Hui Yan**, University of Louisiana at Lafayette, Lafayette, LA
Prof. Elisabeth E. Jacobsen, Norwegian University of Science and Technology, Norway

- 08:00–08:20 **Hiroyuki Miyamura**, AIST, Japan
Continuous-flow Organic Synthesis Using Heterogeneous Bimetallic Catalysts and Its Application to Integrated Reaction Systems
- 08:20–08:40 **Gnanamani Elumalai**, Indian Institute of Technology Roorkee, India
Single-step Formation of Pharmaceuticals and Microdroplet Applications in Organic Synthesis
- 08:40–09:00 **Moshe Portnoy**, Tel Aviv University, Israel
Selective Targeting of Apolar vs. Polar Alcohol Sites in Amphiphilic Diol Reactions: Novel Nucleophilic Catalysts vs. Amine Base Promoters
- 09:00–09:20 **Hui Yan**, University of Louisiana, Lafayette, LA
Applications of *in situ* VT-DRIFT in Heterogeneous Catalysis Reactions with CO and H₂O
- 09:20–09:40 **Astrid M Müller**, University of Rochester, Rochester, NY
Electrocatalytic Defluorination of Forever Chemicals
- 09:40–10:00 **David T. Wu**, Academia Sinica, Taiwan
Catalytically Optimal Intermediate States in MgO ↔ Mg(OH)₂: Mechanisms from DPMD
- 10:00–10:20 **Rui Zhang**, Western Kentucky University, Bowling Green, KY
Probing High-valent Transition Metal-oxo Complexes through Photochemical Approaches

 **Speed Networking & Morning Break (10:20–10:35)** @Shutters Foyer

- 10:35–10:55 **Brooke Otten**, Troy University, Troy, AL
A DFT Exploration of Spectroscopic and Electronic Properties of Gold(I) Carbene Compounds and Their Effects on Photoactivated Addition Reactions with Small Organic Molecules
- 10:55–11:15 **Duo Song**, Pacific Northwest National Laboratory, Richland, WA
Water Structure and Fe(II) Adsorption at the Spin Ordered Hematite/Solution Interface
- 11:15–11:35 **Armando Cordova**, Mid Sweden University, Sweden
Assembling Cellulosic Frameworks for Heterogeneous Catalysis
- 11:35–11:55 **Joseph Moran**, University of Ottawa, Canada
Electric Fields and the Metabolic Origin of Life
- 11:55–12:15 **Albert Poater**, University of Girona, Spain
From Predictive Chemistry to Machine Learning in Applied Chemistry
- 12:15–12:35 **Juan R. Granja**, CIQUS, Spain
Cyclic Peptides for Supramolecular Catalysis
- 12:35–12:55 **Dinadayalane Tandabany**, Clark Atlanta University, Atlanta, GA
Mono and Bimetallic Sulfides Activity towards Ammonia Oxidation Reaction

 **Networking Lunch (12:55–13:35)** @The Deck

Chairs: **Dr. Stewart P. Lewis**, Pyramid Polymers LLC, Zanesville, OH
Prof. Ricardo Jose Chimentao, Universidad de Concepcion, Chile

- 13:35–13:55 **Mailde S. Ozório**, University of Copenhagen, Denmark
Uncovering the Role of Surface Strain in the Stability and Activity of Binary Alloy Catalysts
- 13:55–14:15 **Jin Liu**, UNT Health Fort Worth Fort Worth, TX
Toward Rational Engineering of CRISPR Catalysts: Integrating Generative AI, Structural Informatics, and Quantum Mechanistic Modeling

- 14:15–14:35 **Elena A. Rozhkova**, Argonne National Laboratory, Lemont, IL
Bio-Inspired Photocatalytic Architectures for Chemical Transformations
- 14:35–14:55 **Ricardo J Chimentao**, Universidad de Concepcion, Chile
Direct carbonylation of glycerol with CO₂ over CeO₂: Effect of the Reaction Conditions and Study of the Kinetics of the Initial Reaction Rate
- 14:55–15:15 **Ellen B Stechel**, Arizona State University, Tempe, AZ
Designing Redox-Active Perovskite Metal Oxides for Thermochemical Water and CO₂ Splitting
- 15:15–15:35 **David Lynn**, Emory University, Atlanta, GA
Biomolecular Condensates: Nature's Conformational Computer
- 15:35–15:55 **Elisabeth Jacobsen**, Norwegian University of Science and Technology, Norway
Chemo-Enzymatic Synthesis of Enantiopure Betablockers
- 15:55–16:15 **Kanchan Chauhan**, Universidad Nacional Autonoma de Mexico, Mexico
Advancing Cancer Therapies with Biocatalytic Nanoreactors



Evening Break (16:15–16:25)

@Shutters Foyer

- 16:25–16:45 **Nigel G. J. Richards**, Foundation for Applied Molecular Evolution, Alachua, FL
Chemoenzymatic Chitin Depolymerization: From Shells to Saccharides
- 16:45–17:05 **Stewart P. Lewis**, Pyramid Polymers LLC, Zanesville, OH
Dramatic Improvements to the Aluminum Chloride Initiating System for Polymerization
- 17:05–17:25 **John Pezacki**, University of Ottawa, Canada
Adding New Catalytic Sites into Proteins using Genetic Code Expansion
- 17:25–17:45 **Barry Dunietz**, Kent State University, Kent, OH
A Polarization-Consistent Framework to Describe Photoinduced Charge and Energy Transfer Processes
- 17:45–18:05 **Urszula K. Komarnicka**, Colorado State University, Fort Collins, CO
Catalytic Oxidation of Biomolecules (NADH, GSH, Asc) as a Driver of Biological Activity in Ir/Ru Phosphine-alkaloid Complexes
- 18:05–18:25 **Chae Un Kim**, Ulsan National Institute of Science and Technology, South Korea
Metal Ions and Active-Site Water in Carbonic Anhydrase Catalysis
- 18:25–18:45 **Shih-Yuan Chen**, AIST, Japan
Data-Driven Thermochemical Synthesis of Turquoise Hydrogen and Fibrous Carbon over Nanostructured Fe-Al Composite Catalysts

Next-Gen Catalysis

@Shutters East I&II

Chairs: Dr. Richard H. Fish, LBNL, Berkeley, CA
Prof. VSR Rajasekhar Pullabhotla, University of Zululand, South Africa

- 07:40–08:00 **Mohammad Asadi**, Illinois Tech, Chicago, IL
Electrify Chemical Production Using Advanced Manufacturing and Catalyst Design
- 08:00–08:20 **Charles Coronella**, University of Nevada, Reno, NV
Catalytic Hydrothermal Destruction and Defluorination of Pfas Molecules
- 08:20–08:40 **Jonathan M. Larson**, Baylor University, Waco, TX
Nanoscale Sensing of Vibrational, Electrical, and Electrochemical Properties at Interfaces
- 08:40–09:00 **Xiaoyan Jin**, University of Seoul, South Korea
Defect-Engineered 2D Inorganic Nanosheets for Improved Electrocatalysis
- 09:00–09:20 **Maria Rocio Alfaro Cruz**, Universidad Autónoma de Nuevo León, Mexico
Adsorption and Removal of Heavy Metals by using TiO₂ Semiconductor Surfaces
- 09:20–09:40 **VSR Rajasekhar Pullabhotla**, University of Zululand, South Africa
Efficient Removal of Organic Pollutants via Peroxymonosulfate Activation with Spinel Ferrite Photocatalysts
- 09:40–10:00 **Gayani Pathiraja**, University of North Carolina at Greensboro, Greensboro, NC
Controlled Fabrication of Nanomaterials for Phosphorus Adsorption and Sensing from Water
- 10:00–10:20 **Qing-Bin Lu**, University of Waterloo, Canada
Reaction Kinetics of Halogen Catalytic Reaction Cycles Responsible for Atmospheric Ozone Depletion



Speed Networking & Morning Break (10:20–10:35)

@Shutters Foyer


Keynote



10:35–11:05
Fudong Liu, University of California, Riverside, CA
From Materials Design to Mechanistic Insight: Toward Rational Catalysis for Environmental Sustainability

- 11:05–11:25 **Richard H. Fish**, LBNL, Berkeley, CA
Bioorganometallic Chemistry: The Synthesis of Chiral S-Alcohols from Reaction with Prochiral Ketones Utilizing the Reducing Agent, [Cp*Rh(bpy)H](OTf), in the Presence of the HLADH-Zn(II) Enzyme, for *insitu* Generated Biomimetic 1,4-NADH Co-factors, Including Hybrid Computational Mechanistic Studies, and Oxidation Studies, utilizing the Hybrid Cytochrome P450 BM-3 enzyme, with *insitu* Generated Biomimetic 1,4-NADH Co-factors
- 11:25–11:45 **Alexandre Goncalves**, Saint-Gobain NorPro, Stow, OH
Catalyst Carriers as the Hidden Engine of Industrial Catalysis
- 11:45–12:05 **Joshua Young**, Matlantis, Inc., Cambridge, MA
Accelerating Discovery of High Entropy Alloy Catalysts for Nitrate Reduction to Ammonia with a Universal Machine Learning Interatomic Potential
- 12:05–12:25 **Yangzhi Zhu**, Terasaki Institute, LosAngeles, CA
The Eye as a Window to the Mind: A Tear-Based Platform for Non-InvasiveMental Health Assessment

12:25–12:45 **Rama Krishna Peddinti**, Indian Institute of Technology Roorkee, India
1,7-Annulated Indole Architectures through Domino Protocols

 **Networking Lunch (12:45–13:30)** **@The Deck**

13:30–13:50 **Guiyan Zang**, Washington State University, Pullman, WA
Techno-economic Analysis and Life Cycle Analysis on Synthesis Fuel Production

13:50–14:10 **Yiteng Zheng**, Princeton University, Princeton, NJ
Visible-Light-Enhanced Hydrogen Production via Catalytic Ammonia Decomposition on Plasmonic Ag–Ru Bimetallic Nanoparticles

14:10–14:30 **Min-Ho Kim**, University of California, Los Angeles, CA
Ultrafast Electrochemical Synthesis of Homogeneous Alloys Beyond Thermodynamic Immiscibility

14:30–14:50 **Chao Ma**, Arizona State University Tempe, AZ
Binder Jetting 3D Printing of Monolithic Zeolites

14:50–15:10 **Eunkyung Cho**, DGIST, South Korea
Enhanced P-type Conductivity in Sb_2Se_3 Through Alkali and Alkaline Earth Metal Doping

15:10–15:30 **Patrick Kwon**, San Diego State University, San Diego, CA
Minimalistic Processing Framework for Hierarchical and Multifunctional Ceramic-based Microchemical System

15:30–15:50 **Andranik Andrew Aprikyan**, Stemgenics, Inc., Seattle, WA
Novel Class of Lipid-free Targeted Multi-specific Multi-payload Nanotherapeutics

15:50–16:10 **Tomohiro Nobeyama**, Kyoto University, Japan
Small Nano-butterfly Let Droplets Emerge and Dissipate as a Reaction Fields Formed by Liquid-liquid Phase Separation

16:10–16:30 **Taejung Lim**, RIKEN, Japan
Cation-Dependent Water Structuring Modulates Chloride Diffusion and Selectivity in Acidic Water Electrolysis

Virtual Scientific Program (Remote Access)

Accessible via the conference portal for global participation

Live-Streamed Keynotes

Watch the main stage presentations in real-time

Pre-Recorded Oral Sessions

View presentations on-demand, followed by a dedicated "Live Chat with Author" time slot

Virtual Roundtables

Small-group discussions on niche topics, facilitated via zoom platform

Networking Lounges

Topic-based chat rooms for remote attendees to connect with each other

REMINDERS

A series of horizontal dashed lines providing space for reminders.

Catalysis and Reaction Engineering

PST Time Zone

Join Zoom Meeting

<https://us06web.zoom.us/j/89137296891?pwd=aip3xyHONRK78feSWc6VM7ABZlmvOy.1>

Meeting ID: 891 3729 6891

Passcode: 505272

Keynote



05:30–06:00

Subrata Roy, SurfPlasma, Inc., Gainesville, FL
Rapid Catalysis of Ozone for Plasma-based Flow Control and Decontamination Applications

- 06:00–06:20 **Uwe Burghaus**, North Dakota State University, Fargo, ND
Graphene as a Metal-free Catalysts for Gas-surface Reactions
- 06:20–06:40 **Ionut Tranca**, Vrije Universiteit Brussel, Belgium
Catch the Heat : In Porous and Non-porous Materials
- 06:40–07:00 **Haozhe Wang**, Duke University, Durham, NC
Engineering Surface Terminations of MXenes
- 07:00–07:20 **Miriam Mathea**, BASF, Germany
From Molecules to Models: Accelerating Chemistry with AI Automation
- 07:20–07:40 **Lucia Tonucci**, Gabriele d'Annunzio University, Italy
Wool-supported Pd and Rh Nanoparticles for Selective Hydrogenation in Batch and Flow Systems
- 07:40–08:00 **Chiara Zagni**, University of Catania, Italy
Rational Design of Porous Polymer-Supported Palladium Catalysts for Sustainable Suzuki–Miyaura Cross-Coupling
- 08:00–08:20 **Gorka Salas**, IMDEA Nanociencia, Spain
Iron Oxide Nanoparticles Obtained by Recycling a Steel Waste for the Degradation of Azole Pesticides
- 08:20–08:40 **Anna Hehn**, Christian-Albrechts University of Kiel, Germany
Reshaping the Research Landscape for the Description of Excited States in Solids
- 08:40–09:00 **Ivo Leito**, University of Tartu, Estonia
Collection of Quality-evaluated pKa Values in Polar Aprotic Solvents
- 09:00–09:20 **Kristian S. MØLHAVE**, Technical University of Denmark, Denmark
New Capabilities for Catalysis Studies with Microchip based Transmission Electron Microscopy
-  **Break (09:20–09:30)**
- 09:30–09:50 **Søren B Simonsen**, DTU Energy, Denmark
In Operando Transmission Electron Microscopy for Electrocatalytic Studies in Solid Oxide Cells
- 09:50–10:10 **Beata Lesiak-Orłowska**, Polish Academy of Sciences, Poland
Reactivity-based Cytotoxicity of Ag Nanocomposites Prepared in a Green Synthesis
- 10:10–10:30 **Joanna Drzezdzon**, University of Gdansk, Poland
Water-Based Polymerization of Methyl Methacrylate on Modified TiO₂ Nanotubes
- 10:30–10:50 **Martin Nielsen**, Technical University of Denmark, Denmark
Hybrid Function in Catalytic Valorization of Biomass and CO₂

- 10:50–11:10 **Hugo de Lasa**, Western University, Canada
The CREC Fluidized Riser Simulator. A Unique Tool for Catalytic Process Development
- 11:10–11:30 **Sara Mahshid**, McGill University, Canada
Translational Application of Nanostructured Biosensors: Diagnostics at the Point of Care

Keynote



11:30–12:00

Michael S. Strano, MIT, Cambridge, MA
Methane to Formaldehyde Conversion using a Tandem Enzymatic/Fe-Zsm-5 Catalyst: Implications for Reactor Design

 **Break (12:00–12:20)**

- 12:20–12:40 **John P Tharakan**, Howard University, Washington, DC
Teaching Kinetics and Reactor Design Through Integration of Open-Ended Design Project Based Learning
- 12:40–13:00 **Yuri L. Lyubchenko**, University of Nebraska, Omaha, NE
Surface Catalysis for the Self-assembly of Amyloidogenic Proteins: Cholesterol as a Catalyst
- 13:00–13:20 **Risheng Wang**, Missouri S&T, Rolla, MO
Fabrication of Biomaterial Integrated Nanoplatfrom: Application from Plasmonic Enhancement to Catalysis
- 13:20–13:40 **Rahat Javaid**, University of South Carolina, Columbia, SC
Catalytic Ammonia Synthesis as a Hydrogen or Energy Carrier
- 13:40–14:00 **Colin Lam**, Merck & Co., Inc., Rahway, NJ
Applications of Computational Chemistry and Machine Learning in Reaction Development
- 14:00–14:20 **Albert Ardevol**, CSIRO, Australia
Exploiting Machine Learning and Enhanced Sampling in drug discovery
- 14:20–14:40 **Kambiz Hamadani**, California State University, San Marcos, CA
The Energy Released During Catalysis by Enzymes Catalyzing Exergonic Reactions Transiently Disrupts Quaternary Structure
- 14:40–15:00 **Rahat Javaid**, University of South Carolina, Columbia, SC
Catalytic Ammonia Decomposition for Hydrogen Production
- 15:00–15:20 **Dongming Mei**, University of South Dakota, Vermillion, SD
From Ultra-Low-Background Germanium Detectors to Quantum Sensors: A Unified Platform for Low-Energy Physics and Imaging
- 15:20–15:40 **Arjun Saha**, University of Wisconsin Milwaukee, Milwaukee, WI
Exploring the Proteolysis and Covalent Inhibition Mechanisms of 20S Proteasome with Computational Biophysics Techniques
- 15:40–16:00 **Kunichi Miyazawa**, Tokyo University of Science, Japan
Gas Sensor Application of Fullerene Nanowhiskers
- 16:00–16:20 **Zhang Yichi**, The Hong Kong University of Science and Technology, Hong Kong
Navigating the Electronic Grand Potential Surface with Analytical Nuclear Derivatives of Grand-canonical Density-functional Theory

Save the dates and
we'll save you a seat at

CRE-2027

February 22-24, 2027 | Los Angeles, CA

Organized By



CO-IN Symposia LLC

📍 # 5900 Balcones Dr Suit 100
Austin, TX 78731

☎ +1-512-270-2990

✉ contact@catalysisreaction.com

🌐 <https://reactionengineerings.com/>