



Mind Authors
INNOVATING MINDS FOR EXCELLENCE

Scientific Agenda



4th Global Summit on

CATALYSIS & CHEMICAL ENGINEERING

April 13-14, 2023 | Rome, Italy

Venue:

Hotel – NH Roma Villa Carpegna,
Rome, Italy

Theme:

“Contemporary Innovations
and Emerging Novel Research in
Catalysis and Chemical Engineering”

Chemical Catalyst 2023

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

Sessions & Tracks:

- Catalytic Materials
- Catalytic Mechanisms
- Catalysis and Energy
- Catalysis for Chemical Synthesis
- Nanocatalysis
- Organocatalysis
- Plasma Catalysis
- Environmental Catalysis
- Chemical Kinetics
- Reaction Engineering
- Polymer Engineering
- Separation Processes
- Simulation & Modeling
- Thermodynamics
- Surface and Colloidal Phenomena
- Biocatalysis
- Material Sciences
- Enzymes and Biocatalysts
- Photocatalysis
- Nanochemistry
- Fluid dynamics & its Phenomena
- Catalysis for Renewable Sources
- Organometallics Chemistry
- Catalysis and Zeolites
- Catalysis in Industry
- Catalysis and Pyrolysis
- Physical Chemistry
- Catalysis in oil and gas
- Industrial Catalysis
- Quantum Chemistry
- Chemical reaction engineering
- Photochemistry, Photobiology, and Electrochemistry
- Electro-catalysis
- Autocatalysis
- Biochemical Engineering
- Molecular Catalysis
- Computational Catalysis
- Organometallics, Organo-catalysis and Bioinorganic Chemistry
- Petrochemical Engineering

Board Members:

Antonio Monopoli

University of Bari Aldo Moro, Italy

Prof. Antonia Iazzetti

University of the Sacred Heart, Italy

Prof. Laura Scrano

University of Basilicata, Italy

Prof. Guillard Chantal

Université de Lyon, France

Dr. Lucia Steenkamp

CSIR, Chemicals Cluster, South Africa

Day 1 - Room 1 - Atlantis

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

08:30 - 09:00 Introduction & Open Ceremony

Session 1 - Atlantis

Keynote Presentations (Duration: 1hr)

09:00 - 09:30 **Sharmila M. Mukhopadhyay**
University of Maine Orono, USA **Hierarchical Biomimetic Nanocatalyst Architectures**

09:30 - 10:00 **Hugo de Lasa**
University of Western Ontario, Canada **The CREC Fluidized Riser Simulator a Unique Tool for Catalytic Process Development**

10:00 - 10:20 (Refreshment & Coffee - Duration: 20min)

Keynote Presentations Cont.. (Duration: 1hr)

10:20 - 10:50 **Alessia Ciogli**
Sapienza University of Rome, Italy **Multifaceted use of mass spectrometry in catalysis: from selection of organocatalyst to the investigation of reaction mechanism and related intermediates**

10:50 - 11:20 **Püntener Kurt**
F. Hoffmann-La Roche Ltd, Switzerland **Highlights & New Insights in Asymmetric Hydrogenation of Keto (Enol) Esters**

Session 2 - Atlantis

Oral Presentations (Duration: 1hr 40min)

11:20 - 11:45 **Katia Martina**
University of Turin, Italy **A highly efficient and sustainable route for nitro benzene reduction with Copper Nanoparticles and Glycerol**

11:45 - 12:10 **Ricardo Rodríguez**
CSIC – Universidad de Zaragoza, Spain **Rhodium-Centered Stereogenic Complex with a Tripodal Tetradentate Ligand**

12:10 - 12:35 **Alessandro Sacchetti**
Politecnico di Milano, Italy **Polyethylenimine-based materials: novel heterogeneous catalysts for sustainable organic transformations**

12:35 - 13:00	Saim Emin <i>University of Nova Gorica, Slovenia</i>	Sustainable electrocatalytic processes using iron phosphide thin films
Memorable Group Photo & Selfie		
13:00 - 13:45 (Tempting Buffet Lunch - Duration: 45min)		
Session 3 - Atlantis		
Oral Presentations Cont.. (Duration: 2hr 30min)		
13:45 - 14:10	Juqin Zeng <i>Politecnico di Torino, Italy</i>	Engineering copper nanoparticle electrodes for tunable electrochemical reduction of carbon dioxide
14:10 - 14:35	Elena Pastor <i>University of La Laguna, Spain</i>	Electrocatalysis on carbide and graphene-based materials for electrochemical devices
14:35 - 15:00	Giorgio Della Sala <i>University of Salerno, Italy</i>	Phase-transfer catalysts for sustainable stereoselective synthesis of amino acid and lactone derivatives
15:00 - 15:25	Dario Allevi <i>University of the Sacred Heart, Italy</i>	Gold (I)-catalyzed an efficient and mild synthesis of 3,8-Diarylidene-2,7-dioxaspiro[4.4]nonane-1,6-diones
15:25 - 15:50	Maria Eugenia Rabanal Jimenez <i>Universidad Carlos III de Madrid, Spain</i>	Effect of lithium co-doping on structural, morphological and photocatalytic properties of RE-doped ZnO
15:50 - 16:15	Adalyz Ferreiro Fernández <i>University Carlos III of Madrid and IAAB, Spain</i>	Structural and morphological evaluation of Gd-Li co-doped ZnO system with improved photocatalytic activity
16:15 - 16:35 (Refreshment & Coffee - Duration: 20min)		
Session 4 - Atlantis		
Oral Presentations (Duration: 1hr 40min)		
16:35 - 17:00	Beata Tryba <i>West Pomeranian University of Technology in Szczecin, Poland</i>	Thermo-photocatalytic decomposition of VOCs on TiO₂
17:00 - 17:25	Yun LI <i>Paris Sorbonne University, France</i>	Formate Dehydrogenases Mimics as Catalysts for Carbon Dioxide Reduction
17:25 - 17:50	Davor J. Korcok <i>Abela Pharm d.o.o., Serbia</i>	Biophotons and their application in pharmacy

17:50 - 18:15	M. Arturo Lopez-Quintela <i>iMATUS, University of Santiago de Compostela, Spain</i>	Wet-chemical synthesis and catalytic properties of metal clusters of small atomicity without protecting ligands
---------------	---	--

Day 1 - Room 2 - Khalifa

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

09:00 - 09:30	Introduction & Open Ceremony	
---------------	---	--

Session 1 - Atlantis

Keynote Presentations (Duration: 1hr)

09:30 - 10:00	Yuri Grin <i>Max-Planck-Institut für Chemische Physik fester Stoffe, Germany</i>	Catalysis on Intermetallic Compounds: Perspectives and Challenges
---------------	--	--

10:00 - 10:30	Ge Wang <i>University of Science and Technology Beijing, China</i>	Element Doping Strategy for Highly Efficient Catalyst
---------------	--	--

10:30 - 10:55 (Refreshment & Coffee - Duration: 25min)

Session 2 - Khalifa

Oral Presentations (Duration: 2hr 05min)

10:55 - 11:20	Giulia Mazzocanti <i>Sapienza University of Rome, Italy</i>	Synthesis of copper-functionalized amide-linked covalent organic framework and its application as a heterogeneous catalyst in click reactions
---------------	---	--

11:20 - 11:45	Matthieu RIVALLIN <i>Université de Montpellier, France</i>	Treatment of biorefractory organic pollutants in water with titanium suboxide reactive electrochemical membranes
---------------	--	---

11:45 - 12:10	Ravishankar G. Kadam <i>CATRIN-RCPTM, Palacky University, Czech Republic</i>	Intermetallic Copper-Based Electride Catalyst with High Activity for C-H Oxidation and Cycloaddition of CO₂
---------------	--	---

12:10 - 12:35	Marco Sirignano <i>University of Salerno, Italy</i>	Synthesis of propiolic acids by silver-catalyzed insertion of CO₂ to terminal alkynes
---------------	---	---

12:35 - 13:00	Karolina Kietbasa <i>West Pomeranian University of Technology in Szczecin, Poland</i>	From nonporous carbon spheres derived from molasses through mesoporous spheres to microporous carbons for CO₂ adsorption
Memorable Group Photo & Selfie		
13:00 - 13:45 (Tempting Buffet Lunch - Duration: 45min)		
Session 3 - Khalifa		
Poster Presentations (Duration: 15min)		
13:45-14:00	Dheeraj Kumar <i>Indian Institute of Technology Delhi, India</i>	Top-down synthesis of nonpolar graphene quantum dots
	Sweetey Rani <i>Indian Institute of Technology Delhi, India</i>	3D printed value-added products from polypropylene waste
Oral Presentation Cont.. (Duration: 2hr, 05min)		
14:00 - 14:25	Philippe Pierrat <i>University of Lorraine, CNRS, France</i>	From Biomass Wastes toward Luminescent Graphene Quantum Dots
14:25 - 14:50	Eliska Mikyskova <i>J. Heyrovsky Institute of Physical Chemistry, Czech Republic</i>	The effect of high air flow velocity on the photocatalytic degradation of Nox
14:50 - 15:15	Ianasi Catalin <i>Coriolan Dragulescu" Institute of Chemistry, Romania</i>	New materials based on bismuth carbonate with directed properties for precious metals recovery
15:15 - 15:40	Jiri Rathousky <i>J. Heyrovsky Institute of Physical Chemistry, Czech Republic</i>	Smart materials for the environmentally friendly cleaning and protection of cultural heritage artifacts
15:40 - 16:05	Miguel Rocha <i>CeNTI – Centre for Nanotechnology and Smart Materials, Portugal</i>	Solutions for medication monitoring through the application of flexible electronics and smart materials
16:05 - 16:25 (Refreshment & Coffee - Duration: 20min)		
Session 4 - Khalifa		

Oral Presentation Cont.. (Duration: 1hr 15min)

16:25 - 16:50	Jongwook Park <i>Kyung Hee University, South Korea</i>	Three-color white electroluminescence utilizing perovskite quantum dots and organic emitters
16:50 - 17:15	Sarah Bogas <i>CeNTI – Centre for Nanotechnology and Smart Materials, Portugal</i>	Printed electronics for pharmaceutical and food packaging
17:15 - 17:40	Tomasz Panczyk <i>Jerzy Haber Institute of Catalysis and Surface Chemistry, Poland</i>	A Smart Carrier of Carmustine Anticancer Drug. Properties And Mechanism of Action Predicted by Molecular Simulations
17:40 - 18:05	Samane Maroufi <i>University of New South Wales, Australia</i>	Synthesis of Flexible Mn_{1-x-y}(CexLay)O_{2-δ} Ultrathin-Film from end-of-life Ni-MH batteries

***** End of Day 1 *****

Day 2 - Room 1 - Atlantis

08:30 - 09:00 Introduction & Open Ceremony

Session 1 - Atlantis

Keynote Presentations (Duration: 1hr)

09:00 - 09:30 **Antonio Monopoli**
University of Bari Aldo Moro, Italy **Pd-catalyzed oxidative homo-coupling of alkenes for the conjugated diene synthesis in ionic liquids**

09:30 - 10:00 **Antonia Iazzetti**
University of the Sacred Heart, Italy **Advances in transition metal-assisted synthesis and functionalization of heterocycles**

10:00 - 10:20 (Refreshment & Coffee - Duration: 20min)

Keynote Presentations Cont.. (Duration: 1hr 30min)

10:20 - 10:50 **Lucia Steenkamp**
CSIR, Chemicals Cluster, South Africa **Industrial Biocatalysis in South Africa**

10:50 - 11:20 **Laura Scrano**
University of Basilicata, Italy **Innovative methods for the recycling and reuse of contaminated water: the Nanowat project**

11:20 - 11:50 **Yongdan Li**
Aalto University, Finland **Challenges and progresses of large-scale electric energy storage with flow electrochemical reactors**

Session 2 - Atlantis

Oral Presentations (Duration: 1hr 40min)

11:50 - 12:15 **Qianyuan Qiu**
Aalto University, Finland **Fast oxygen reduction and evolution kinetics enabled by $\text{LaNi}_{0.5}\text{Co}_{0.5}\text{O}_3$ perovskite cathode for a molten salt Li-O_2 battery**

12:15 - 12:40 **Patricia Concepcion**
INGENIO (CSIC-UPV), Spain **Rational design of catalysts for efficient CO_2 activation**

12:40 - 13:05	Ewelina Kusiak-Nejman <i>West Pomeranian University of Technology in Szczecin, Poland</i>	Carbon spheres modified with APTES (aminosilane) for CO₂ capture
13:05 - 13:30	Carlo Boaretti <i>University of Padova, Italy</i>	Performance improvement of electrospun membranes for water treatment by coupling AOPs with composite catalytic systems
Memorable Group Photo & Selfie		
13:30 - 14:15 (Tempting Buffet Lunch - Duration: 45min)		
Session 3 - Atlantis		
Oral Presentations Cont.. (Duration: 2hr 05min)		
14:15 - 14:40	Michael G. Organ <i>University of Ottawa Canada</i>	Designing Purpose-Built Ligands for Catalysts: "Say Live and Let Die...."
14:40 - 15:05	Timo Repo <i>University of Helsinki, Finland</i>	The use of co₂ as a building block
15:05 - 15:30	Maria Giorgia Cutrufello <i>Università di Cagliari, Italy</i>	Direct biogas methanation on Ni/CeO₂ catalysts obtained from soft-templated mixed oxides
15:30 - 15:55	Ilaria Longobardo <i>Heraeus Precious Metals, Germany</i>	Platinum Catalysts for the Lignin Conversion into Phenolics as Bio-based Resource for Phenolic Resins
15:55 - 16:20	Matthias Eisenacher <i>TH Köln University of Applied Sciences, Germany</i>	Re-treated zeolites for the HOCK rearrangement in the cumene process
16:20 - 16:40 (Refreshment & Coffee - Duration: 20min)		
Session 4 - Atlantis		
Poster Presentations (Duration: 2hr 05min)		

16:40 - 17:30	<p>Hyun-Ji Kim Institute for Advanced Engineering, South Korea</p>	<p>Demonstration of syngas production process directly using low-concentration CO₂ from process exhaust gas</p>
	<p>Yeji Lee Kyungpook National University, South Korea</p>	<p>A study on dry reforming reaction on Ni-based catalyst for direct utilization of exhaust gas</p>
	<p>José Fenoll Murcia Institute of Agricultural and Environmental Research and Development, Spain</p>	<p>Biological-photocatalytic (TiO₂/Na₂S₂O₈/solar) coupled pilot plant for wastewater detoxification (pharmaceuticals and pesticides) and its reuse for tomato crop irrigation</p>
	<p>Weishuo Li University of Oxford, UK</p>	<p>Chemiresistive polymer percolation network gas sensor created with a nanosphere template</p>
<p>Poster Evaluation & Best Poster Awards (Duration: 30min)</p>		
<p>Group Photo & End of Conference</p>		

<p>Day 2 - Room 2 - Khalifa</p>		
09:00 - 09:30	<p>Introduction & Open Ceremony</p>	
<p>Session 1 - Khalifa</p>		
<p>Keynote Presentations (Duration: 1hr)</p>		
09:30 - 10:00	<p>Guillard Chantal Université de Lyon, France</p>	<p>Can the photocatalytic process contribute to our energy and environmental concerns?</p>
10:00 - 10:30	<p>Giuseppe Bonura CNR-ITAE, Italy</p>	<p>Direct hydrogenation of CO₂ into DME: catalytic and technological aspects</p>
<p>10:30 - 10:50 (Refreshment & Coffee - Duration: 20min)</p>		
<p>Keynote Presentations Cont.. (Duration: 1hr 30min)</p>		
10:50 - 11:20	<p>Julien Vieillard Normandy University, France</p>	<p>Surface modification of lignocellulosic material for adsorption and photocatalysis</p>

11:20 - 11:50	Piotr Cyganowski <i>Wroclaw University of Science and Technology, Poland</i>	The powerful response for the major environmental threats. The catalytic hydrogenation of aromatic nitro compounds over rhenium-based nanocatalysts
11:50 - 12:20	Frank Gupton <i>Virginia Commonwealth University, USA</i>	Novel Carbon Support Systems for Palladium Catalyzed Cross Coupling Reactions
Session 2 - Khalifa		
Oral Presentations (Duration: 50min)		
12:20 - 12:45	Vivien DALIGAUX <i>Université de Toulouse, France</i>	Regeneration of coked catalysts used in plastics pyrolysis: ozonation as an alternative process to oxygen oxidation
12:45 - 13:10	Anna Srebowata <i>Polish Academy of Sciences, Poland</i>	Catalytic continuous-flow hydrogenation processes for the formation of vitamin and drugs precursors
Memorable Group Photo & Selfie		
13:10 - 14:00 (Tempting Buffet Lunch - Duration: 50min)		
Oral Presentation Cont.. (Duration: 2hr 05min)		
14:00 - 14:25	Lucia Tonucci <i>Università degli Studi "G. d'Annunzio" di Chieti-Pescara, Italy</i>	Metal nanoparticles in the hydrogenation reactions in water
14:25 - 14:50	Francesca Coccia <i>Università degli Studi "G. d'Annunzio" di Chieti-Pescara, Italy</i>	Pd and Rh supported on ovine wool for catalytic reductions in batch and in flow mode
14:50 - 15:15	Amos Bardea <i>Holon Institute of Technology (HIT), Israel</i>	Producing Portable Microreactors into Closed Volume
15:15 - 15:40	Dehhaoui Salma <i>IbnTofail University, Morocco</i>	Characterization and application of hybrid synthesized by sol-gel method

15:40 - 16:05	<p>Rida El-bardai <i>IbnTofail University, Morocco</i></p>	<p>Development of a novel glasses based on phosphate and its application as a promising adsorbent for crystal violet dye removal</p>
16:05 - 16:30 (Refreshment & Coffee - Duration: 25min)		
Session 3 - Khalifa		
Poster Presentation Cont.. (Duration: 1hr)		
16:30 - 17:30	<p>Lourenço Bastos <i>University of Minho, Portugal</i></p>	<p>Numerical simulations to support the development of magnetized gears</p>
	<p>Cátia Araújo <i>University of Minho, Portugal</i></p>	<p>Dielectric/Electronic ink study for electronic circuit combination</p>
	<p>Sónia Miranda <i>University of Minho, Portugal</i></p>	<p>An experimental study of the effect on mechanical properties of virgin and recycled high- density Polyethylene blends</p>
	<p>Diana Dias <i>University of Minho, Portugal</i></p>	<p>A study on carbon vs silver inks conductivity resistance in In- Mould Electronics (IME) process</p>
	<p>Rita Marques <i>University of Minho, Portugal</i></p>	<p>Powder Injection Molding simulation to study the influence of flow behaviour of highly filled materials with magnetic particles for automotive application</p>
Poster Evaluation & Best Poster Awards (Duration: 30min)		
Group Photo & End of Conference		
*** End of Day 2 & Conference ***		



CITY ATTRACTION OF ROME

