

18<sup>TH</sup> EDITION OF THE INTERNATIONAL  
CONFERENCE ON

# CATALYSIS, CHEMICAL ENGINEERING, AND TECHNOLOGY

*"From Discovery to Application: Catalytic  
Innovations for Industrial Progress"*



## Our SCIENTIFIC COMMITTEE



STANISŁAW DZWIGAŁ  
Sorbonne University,  
France



MICHELE ARESTA  
Innovative Catalysis for Carbon  
Recycling-IC2R, Italy



VICTOR CERDA  
University of the Balearic  
Island, Spain



MARTA I LITTER  
University of General San  
Martin, Argentina



DAI YEUN JEONG  
Jeju National University, Korea,  
Republic of



SERGEY SUCHKOV  
Moscow State University of Food  
Industry (MGUPP),  
Russian Federation



M A MARTIN LUENGO  
Institute of Materials Science of  
Madrid, Spain

### Scientific TOPICS

- Chemical Engineering
- Synthetic Chemistry Techniques
- Catalysis for Renewable Sources
- Green Chemistry
- Catalysis in Nanotechnology
- Catalysis for Energy
- Chemical Kinetics and Catalytic Activity
- Heterogeneous catalysis
- Analytical Methodologies
- Nuclear Chemistry/Radiochemistry
- Catalysis and Applications
- Environmental Catalysis
- Photochemistry, Photobiology and Electrochemistry
- Fluid Mechanics
- Micro-emulsion Catalysis and Catalytic Cracking
- Macrocyclic and Supramolecular Chemistry
- Catalysts and Catalytic processes
- Catalysis and Zeolites
- Catalytic Materials
- Surface Chemistry: Colloid and Surface aspects

 **17-19**  
JUN 2024



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# TENTATIVE PROGRAM

## Keynote Presentations

<b>Stanislaw Dzwigaj</b> Sorbonne University, France	Title: Application of metal single-site zeolite catalysts in heterogeneous catalysis
<b>Michele Aresta</b> Innovative Catalysis for Carbon Recycling-IC2R, Italy	Title: Towards the carbon cyclic economy: Catalysis for CO <sub>2</sub> conversion into fuels
<b>Victor Cerda</b> University of the Balearic Island, Spain	Title: Autoanalysis, a powerful software for laboratory automation
<b>Marta I Litter</b> University of General San Martin, Argentina	Title: TiO <sub>2</sub> photocatalytic removal of hexavalent chromium and arsenic
<b>Dai Yeun Jeong</b> Jeju National University, Korea, Republic of	Title: The limitations inherent in sustainable development and how to overcome them
<b>Sergey Suchkov</b> Institute for Biotech & Global Health of RosBioTech and A.I. Evdokimov MGMSU, Russian Federation	Title: Personalized and Precision Medicine (PPM) as a unique healthcare model to be set up through biodesign-inspired biotech-driven translational applications and upgraded business marketing to secure the human healthcare, wellness and biosafety
<b>M A Martin Luengo</b> Institute of Materials Science of Madrid, Spain	Title: Catalysis chemical engineering and technology, catalysis for renewable sources, green Chemistry
<b>Venko Beschkov</b> Bulgarian Academy of Sciences, Bulgaria	Title: Energy production by integrated adsorption and catalysis in fuel cells – the case of hydrogen sulfide

## Oral Presentations

<b>Haibo Ge</b> Texas Tech University, Unites States Of America	Title: Distal functionalization via transition metal catalysis
<b>Bijoy Biswas</b> Auburn University, Unites States Of America	Title: Catalytic hydrothermal liquefaction of food waste: Screening the process parameter on product yield and characterizations
<b>Anderson Fernandes da Costa Silva</b> University of Sherbrooke, Canada	Title: Study and optimization of a new synthesis route of metallic catalysts with the use of surfactants for the CO <sub>2</sub> hydrogenation to methane
<b>Ismaila Mudi</b> University of Birmingham, United Kingdom	Title: Catalytic hydrogenation of furfural to 2-methylfuran over Ni/acidified biochar catalyst
<b>Mustapha Yusuf</b> University of Birmingham, United Kingdom	Title: Catalytic hydrodeoxygenation of benzoic acid as a typical bio-oil model compound: Reaction and kinetics

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<b>Orchidea Maria Lecian</b> Sapienza University of Rome, Italy	Title: Markov chain of the K Ras4B dynamics and new pertinent markov-state model
<b>Fabrizio Ambrosino</b> University of Naples Federico II, Italy	Title: Study and characterization of zeolites for the removal of artificial radionuclides in wastewater samples from nuclear power plants
<b>Mahrouz Alvand</b> University of New South Wales, Australia	Title: Uncovering the role of vanadium doping in the energy-efficient urea oxidation of Ni <sub>2</sub> P nanosheets
<b>Cesar I Mendez Garcia</b> AspenTech, Mexico	Title: Mathematical modeling, optimization and design of control schemes for chemical reactors applied to the production of clean energy
<b>Elisabete Alegria</b> Instituto Superior de Engenharia de Lisboa, Portugal	Title: Halogen-enhanced metal-organic frameworks: Selective CO <sub>2</sub> capture and sustainable chemical fixation
<b>Parul Verma</b> University of Groningen, Netherlands	Title: Biomimetic approach towards visible light-driven hydrogen generation based on a porphyrin-based coordination polymer gel
<b>Danuta Olszewska</b> AGH University of Krakow, Poland	Title: Catalytic materials for flue gas cleaning based on used drinking water filters
<b>Janusz Lasek</b> Institute of Energy and Fuel Processing Technology, Poland	Title: Simultaneous removal of VOC and NO <sub>x</sub> from air in photocatalytic process using a pilot-scale photo-reactor
<b>Simon Lukato</b> University of Warsaw, Poland	Title: Green and scalable approaches for synthesis and encapsulation of clean nanoclusters inside cerium MOFs for catalysis: Sustainable synthesis of exovinylene carbonates and glycerol carbonate from CO <sub>2</sub>
<b>Martina Kapp</b> MARVIC EuropaVerde, Germany	Title: Moringa from sustainable cultivation exclusively from Cuba
<b>Dror Malka</b> Holon Institute of Technology, Israel	Title: Improving thermo-optic phase shifter technology using silicon strip waveguide with TiN heaters
<b>Sergey Suchkov</b> Institute for Biotech & Global Health of RosBioTech and A.I. Evdokimov MGMSU, Russian Federation	Title: Antibody-proteases as translational tools of the next-step generation to be applied for biotech, bioindustry and personalized and precision medical practice
<b>Vasily Ivanovich Lutsyk</b> Russian Academy of Sciences, Russian Federation	Title: Phase diagrams 3D computer models as a novel tool to design the catalytic materials
<b>Alexey Tsyganenko</b> St.Petersburg State University, Russian Federation	Title: Advances in FTIR spectroscopy of catalysts
<b>Choong Kil Seo</b> Howon university, Korea, Republic of	Title: Harmful gases reduction characteristics according to the additive catalysts and Support types of H <sub>2</sub> -SCR

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<b>Muhammad Tayyab</b> Tsinghua University, China	Title: A binary dumbbell visible light driven photocatalyst for simultaneous hydrogen production with the selective oxidation of benzyl alcohol to enzaldehyde
<b>Chaalal Omar</b> Abu Dhabi University, Abu Dhabi University	Title: Possible application of new natural surfactant extracted from UAE desert plants in EOR of a selected carbonate oil reservoir: An experimental approach
<b>Yarub Al Douri</b> University of Sharjah, United Arab Emirates	Title: Incorporating nanotechnology into renewable energy
<b>Orlando Armando Elguera Ysnaga</b> National University of Engineering, Peru	Title: Review of research topics for scaling-up of sonochemical reactors (sono-reactors)
<b>Osman Adiguzel</b> Firat University, Turkey	Title : Shape reversibility and diffusionless transformations in shape memory alloys
<b>Ozcan Koysuren</b> Ankara University, Turkey	Title : Self-cleaning coatings based on the SiO <sub>2</sub> /WO <sub>3</sub> /ZnO film for solar cells
<b>Cemil Koyunoglu</b> Yalova university, Turkey	Title : Boron-Doped catalysts and the production of energy from microalgae
<b>Zeynep Karaka Helvaci</b> Middle East Technical University, Turkey	Title : Investigation of reaction kinetics mechanism between CaCl <sub>2</sub> -NH <sub>3</sub> reactive system for chemical heat pump applications
<b>Sandeep Gholap</b> A star Institute of Sustainability for Chemicals, Energy and Environment (ISCE2), Singapore	Title : Single atom catalysis in biomass derived feedstock conversion
<b>Sung Chyr Lin</b> National Chung Hsing University, Taiwan	Title : Preparation and application of modified loofah sponges for metal chelation, protein purification, and enzyme immobilization
<b>Chung Kung</b> National Chung Hsing University, Taiwan	Title : The formation of the four-way symmetric translational tiles (crystal) and corresponding unit cells
<b>Ashanendu Mandal</b> University of Calcutta, India	Title : Phenol removal from wastewater using innovative biological and industrial wastes as adsorbents
<b>Suresh C Ameta</b> Paher University, India	Title: Photocatalysis: A promising green chemical pathway
<b>Prakash Kondekar</b> Indian Institute of Naturopathy, India	Title: Fluid Mechanics for Food Industry
<b>Ram Sambhar Shukla</b> Inorganic Materials and Catalysis Division, India	Title : Cyclohexane oxidation catalysed by ruthenium complex at atmospheric pressure of molecular oxygen
<b>Sirshendu Guha</b> Engineers India Limited, India	Title : The primary aqueous aluminum-copper battery
<b>Madhuri Sahu</b> G. H. Rasoni College of Engineering, India	Title : Municipal waste management system based using CNN and IoT

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<b>Damodar V Prabhu</b> Wilson College, India	Title : Transition metal ion catalysed studies of perfumery alcohols and phenols
<b>Toekeer Ahmad</b> Jamia Millia Islamia, India	Title : Functional heterojunctions nanocatalysts for scalable hydrogen production
<b>Arun K Shandilya</b> Dr.Hari Singh Gour University Sagar, India	Title : The helium in the petroliferous tube wells in saugor division, southern ganga basin
<b>Aditi Singhal</b> Ahmedabad University, India	Title : Preparation and oxygen evolution reaction on nanoporous semi-transparent La <sub>0.8</sub> Sr <sub>0.2</sub> CoO <sub>3</sub> coatings: Stability and mechanism in neutral medium
<b>Sanjeev Yadav</b> Shiv Nadar Institution of Eminence, India	Title: Hydrogen rich syngas using steam gasification of mixed food waste via nickel based catalyst
<b>Divya Tripathy</b> Galgotias University, India	Title : Introduction, types, properties, and applications of switchable solvents: A review
<b>Komal Verma</b> Indian Institute of Technology Guwahati, India	Title : Enhancing industrial wastewater treatment: Efficacy and optimization of ultrasound-assisted laccase immobilized on magnetic Fe <sub>3</sub> O <sub>4</sub> nanoparticles
<b>Bhawna Rawat</b> Institute of Nano Science and Technology, India	Title : Utilizing the undesirable oxidation of lead-free perovskite for photocatalytic C(sp <sup>3</sup> )H activation: Unraveling the serendipity
<b>Sudip Barman</b> National Institute of Science Education and Research, India	Title : IrO <sub>2</sub> -modified RuO <sub>2</sub> nanowires/nitrogen-doped carbon composite for effective overall water Splitting in all pH
<b>Naveen Kulkarni</b> Queensland University of Technology, India	Title : Novel enzymatic route for industrial aldehyde oxidation: A key step towards green chemistry
<b>Neha Pandey</b> Tata Steel Limited, India	Title : Photodegradation of total cyanide with the synergistic approach of H <sub>2</sub> O <sub>2</sub> and NaOCl
<b>Sohan Bir Singh</b> Indian Institute of Technology Guwahati, India	Title : Desulfurization by reactive adsorption over zinc oxide based adsorbents
<b>Tarnveer Kaur</b> Sri Guru Granth Sahib World University, India	Title : Thermophysical and FTIR properties of different amino acids in aqueous 1-butyl-3-methylimidazolium bromide solutions
<b>Sudip Barman</b> National Institute of Science Education and Research, India	Title : IrO <sub>2</sub> -modified RuO <sub>2</sub> nanowires/nitrogen-doped carbon composite for effective overall water Splitting in all pH
<b>Alok Kole</b> RCC Institute of Information Technology, India	Title : Application of artificial intelligence in process control & automation of chemical industry



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<b>Haitham Bahaidarah</b> King Fahd University of Petroleum and Minerals, Saudi Arabia	Title : A numerical investigation of the performance of a thermoelectric based water distiller
<b>Ahmad Hakamy</b> Umm Al-Qura University, Saudi Arabia	Title : Influence of annealing temperature on the structure and dielectric characterization of Indium-doped tin Oxide (ITO) thin films on a boro-float substrate prepared by radio frequency sputtering
<b>Yousef Alqahs Alanezi</b> Missouri University of Science and Technology, Kuwait	Title : Surface functionalized ceramic membrane using super hydrophilic catalysis to enhance of oil in water separation
<b>Janus Louw</b> Stellenbosch University, South Africa	Title : Techno-economic and life-cycle assessment of biobased plastic production
<b>Janus Louw</b> Stellenbosch University, South Africa	Title : Economic and environmental benefits of bioprocess improvements for the production of 2,3-butanediol and adipic acid in a sugarcane biorefinery
<b>Siphelo Ngqoloda</b> Mintek, South Africa	Title : Application of platinum-alloy nanostructures to enhance ORR activity in PEMFCs
<b>Nyiko Chauke</b> Mintek, South Africa	Title : Tuning photoelectrocatalytic activities of BiVO <sub>4</sub> nanofibers via annealing temperature
<b>Boungou Cedric Clarfeler</b> Marien Ngouabi University, Congo	Title : Coadsorption of H and Li on perfect and defective Ag(110) and Ag(111) surfaces: A DFT study with and without dispersion correction
<b>Malonda Boungou Brice Rodrigue</b> Marien Ngouabi University, Congo	Title : Adsorption and dissociation of Isocyanic acid (HNCO) on Rh(001) surface: A DFT study
<b>Fouad El Mansouri</b> Abdelmalek Essaadi University, Morocco	Title : Evaluation of different extraction methods on the phenolic profile and the antioxidant potential of ceratonia siliqua L. Pods extracts
<b>Youness Khaddam</b> University of Moulay Ismail, Morocco	Title : New small non-fullerene acceptors based on $\pi$ -dithiophenetetrathiafulvalene with A-D-A structure for high-performance organic solar cells application
<b>Dounia Tlamsamani</b> University of Moulay Ismail, Morocco	Title : The use of the rietveld method to study the effect of alite polymorphism on the hydration rate of portland cement
<b>Abdelmjid Bouazizi</b> University of Moulay Ismail, Morocco	Title : Preparation and analysis of an efficient nanofiltration membrane with TiO <sub>2</sub> -doped ZrO <sub>2</sub> on pozzolan Support for efficient filtration of dyes and heavy metal solution
<b>Reza hadjiaghaie Vafaie</b> University of Bonab, Iran	Title : Control and automation of fluid at micro/nano scale for bio-analysis applications
<b>Ramona Massoud</b> Iran National Standards Organization, Iran	Title : Heavy metals bioremoval by lactobacillus acidophilus in milk as a green technology
<b>Zahra Karimi</b> University of Science and Technology, Iran	Title : Red mud-based catalysts

# TENTATIVE PROGRAM

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<b>Mohammad Ebadollahi</b> K.N. Toosi University of Technology, Iran	Title : Feasibility study of using green technologies in order to supply energy and waste management of direct reduction iron plant
<b>Seongwoo Woo</b> Ethiopian Technical University, Ethiopia	Title : Improving the fatigue design of mechanical systems such as refrigerator
<b>Ilhem Belarbi</b> University of Mostaganem, Algeria	Title : Development and characterization of a new dolomite-based catalyst: Application to the photocatalytic degradation of pentachlorophenol
<b>Siham Barama</b> University of Sciences and Technology Houari Boumediene of Algiers, Algeria	Title : Driven visible-light of strategically photocatalytic degradation of methylene blue in water over Au-Ce@Amb catalyst and g-C <sub>3</sub> N <sub>4</sub> co-catalyst
<b>Ademola Bolanle Raheem</b> University of Port Harcourt, Nigeria	Title : Effective and green catalysts for the chemical depolymerisation of polyethylene terephthalate plastic bottle waste into its monomers and other products
<b>Belhakem</b> University of Mostaganem, Algeria	Title : Selective catalytic of CO hydrogenation over functionalized algerian diatomite
<b>Naitali Fateh</b> University of Science and Technology Houari Boumediene, Algeria	Title : Study of Ketoprofen removal kinetics by a semiconductor material in a double tube reactor
<b>Isham Alzoubi</b> Tehran University, Syria	Title : Predict energy consumption for land leveling using Integrating artificial neural network and PSO algorithm (PSO-ANN), Artificial Neural Networks (ANNs) and regression
<b>Arzu Akif</b> Academician Y.H.Mammadaliyev Institute of Petrochemical Processes , Azerbaijan	Title : Oxidative dehydrogenation of 4-vinylcyclohexene to styrene in a two section reactor on metal-containing zeolites
<b>Sadiq Hassan Yahya Khoreem</b> Al-Razi University, Yemen	Title : Optical property enhancement of Zn-Doped BaNi Ferrite for advanced nanotechnology applications
<b>Ghazal Tuhmaz</b> Al Baath University, Syrian Arab Republic	Title : The effect of curcumin powder and cloves oil on the properties of fibers produced by electro-spinning technique
<b>Yahaya Kudush Kawa</b> Njala University, Sierra Leone	Title : Assessment of solidwaste managementat panga and kabonde chiefdoms in pujehun district, Southern Sierra Leone
<b>Maria Candeia Kuliakita Sakukuma</b> Tehran University, Syria	Title : Use of organocatalysis for the synthesis of phenyl-hydroxylated-butyric acids

***Oral Presentation slots are available***

## Poster Presentations

<b>Marco Antonio Gaya de Figueiredo</b> State University of Rio de Janeiro, Brazil	Title : Technology Roadmap: Trends in the use of fluidized bed catalytic cracking catalysts in bio-oil co-processing in refineries
<b>Elizabeth Guadalupe Macias Lopez</b> University of Colima, Mexico	Title : Spherical co-crystallization of acetylsalicylic acid with amino acids by spray drying
<b>Xia Li</b> Tianjin Key Laboratory for Prevention and Control of Occupational and Environmental Hazards, China	Title : Catalytic asymmetric diels-alder reaction of 2-Hydroxychalcone as a dienophile with VANOL-borate ester comple
<b>Xia Li</b> Tianjin Key Laboratory for Prevention and Control of Occupational and Environmental Hazards, China	Title : Synthesis and anti-hypoxia activity of salidroside
<b>Mariam Karapetyan</b> National Academy of Science of Armenia, Armenia	Title : N-carbamoyl- $\beta$ -alanine amidohydrolases from rhizobium radiobacter MDC 8606 strain and its application prospects
<b>S R Varadhan</b> Netaji IAS Academy, India	Title : Spectroscopic investigation and vibrational assignments on life saving pharmaceutical compounds
<b>Chhavi Gupta</b> Indian Institute of Technology Bombay, India	Title : Continuous production of ethyl chloro acetate in reactive distillation using cation exchange resin
<b>Kapil Satya Pal Singh</b> Indian Institute of Technology Bombay, India	Title : Synthesis of 2-phenyl ethyl acetate using cation exchange resin in multifunctional reactors
<b>Kartik Upadhyay</b> Kurukshetra University, India	Title : Plastic waste to liquid fuel through pyrolysis
<b>Alejandro Martinez Amariz</b> University of Santander, Colombia	Title : Technical feasibility study in obtaining hydrogen through electrolysis using process water from crude extraction wells and existing energy surplus in a colombia oil field
<b>Abdulaziz Alghamdi</b> King Fahd University of Petroleum and Minerals, Saudi Arabia	Title : Catalytic conversion of low-density polyethylene/HVGO blend to light olefins
<b>Mohammed Mesrar</b> University of Sidi Mohamed Ben Abdellah, Morocco	Title : Advancements in dielectric materials: A comprehensive study on properties, synthesis, and applications
<b>Al Zahraa Fatima El Cheikh</b> Limerick University, Lebanon	Title : D-Xylose dehydration into 2-furfuraldehyde using novel zinc-copper-based catalysts
<b>Mohanad Hussein Oleiwi</b> University of Babylon, Iraq	Title : Experimental study on the heat transfer enhancement of a latent heat thermal energy storage using air injection technique



# TENTATIVE PROGRAM

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**Rekaik Mouna**

Mohamed Seddik Ben Yahia University of  
Jijel, Algeria

Title : Nickel-alumina composite coatings on a steel substrate

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**Larbi Nour El Houda**

University of Mostaganem, Algeria

Title : The dynamics of dye interactions: Simultaneous (dual)  
removal of two textile dyes from industrial effluents using humic  
substances

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**Wapwera Augustine Jidimma**

University of Jos, Nigeria

Title : A review on the the effect of paper mill effluent in  
improving soil nutrient for agricultural productivity

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***Poster Presentation slots are available***