



2nd Edition of Global Conference on

CATALYSIS, CHEMICAL ENGINEERING AND TECHNOLOGY



TENTATIVE
Program



CAT
2018

ACCENTUATE INNOVATIONS AND
EMERGING NOVEL RESEARCH IN
CATALYSIS AND CHEMICAL ENGINEERING



SEPTEMBER 13-15, 2018
ROME, ITALY

Tentative Program

Keynote Presentations

Title: Functionalization of porous materials for application in environmental catalysis for protection of environment

Stanislaw Dzwigaj, Sorbonne Universités, France

Title: Ménage-à-Trois: Single-atom catalysis, Mass Spectrometry and Computational chemistry

Helmut Schwarz, Technische Universität Berlin, Germany

Title: Fully integrated biotransformations in a microreactor

Bruno Zelić, University of Zagreb, Croatia

Title: Process design: Un-biased selection and use of catalysis options (chemo-, bio-, photo-) from start to finish (technology platform development to product coming from industrial plant)

Q.B. Broxterman, InnoSyn B V, The Netherlands

Title: Kinetics in heterogeneous catalysis for DeNO_x reactions: How to relate catalytic to surface properties

Pascal Granger, University of Lille, France

Title: Novel Perovskite catalysts for solid oxide fuel cells and water splitting

Zhonghua (John) Zhu, The University of Queensland, Australia

Title: Composite Pd-based membranes for hydrogen production and purification

Angelo Basile, Institute on Membrane Technology of the Italian National Research Council, Italy

Title: Electroenzymatic catalysis for electrical energy production

Serge Cosnier, Grenoble Alpes University, France

Title: Applications of Chemical Engineering Thermodynamics in the Petroleum industry: Developments in Hydrocarbon characterization, production and processing with some examples

M. R. Riazi, Kuwait University, Kuwait

Title: Catalysis in/on water: Future perspectives

Christophe LEN, Chimie ParisTech, France

Title: ZnO based photocatalysts for enhanced urban air purification

Luis Sanchez Granados, Universidad de Cordoba, Spain

Title: Tuning zeolitic parameters for the trapping and elimination of pollutants and toxic gases - application in automotive cold-start and nuclear safety

Bruno Azambre, University of Lorraine, France

Title: Application of catalytic technologies for production of renewable transportation fuels from vegetable oils, fermentation broth and CO₂

Miron Victor Landau, Ben-Gurion University of the Negev, Israel

Title: Modified Mahoney-Robinson reactor using a static catalytic foam characterization and catalytic applications

Valérie Meille, University of Lyon, France

Title: Biocatalysis alternatives dedicated to flavors and fragrances production

Madalina Tudorache, University of Bucharest, Romania

Title: Valorization of chloromethane wastes to valuable hydrocarbons by hydrodechlorination with supported metal nanoparticles catalysts

Luisa María Gómez Sainero, Universidad Autónoma de Madrid, Spain

Title: Catalysis for biomass conversion to traffic fuel compounds

Juha Lehtonen, VTT Technical Research Centre of Finland Ltd, Finland

Title: Fluorous ponytails in catalysis

Jan Cermak, Institute of Chemical Process Fundamentals of the CAS, v.v.i., Czech Republic

Title: Applications of visible light-driven photocatalysts to photocatalytic degradation and PEC water splitting

Byeong-Kyu Lee, University of Ulsan, Republic of Korea

Title: High Oxygen reduction reaction performances of Cathode materials combining Polyoxometalates, Coordination complexes and Carbonaceous supports

Guangjin Zhang, Chinese Academy of Sciences, China

Title: A new approach for modeling catalytic processes in column apparatuses

Christo Boyanov Boyadjiev, Institute of Chemical Engineering, Bulgarian Academy of Sciences, Bulgaria

Oral Presentations

Title: Effect of temperature on Cr promotion of Mo₂C supported on sulfated Zirconia for methane dehydroaromatization

James J. Spivey, Louisiana State University, USA

Title: Ni/Co-based nanocrystalline catalysts for hydrogen production from CO₂ reforming of methane : Effect of toluene addition

Moisés R. Cesario, Université du Littoral Côte d'Opale, France

Title: Oscillatory heat evolution in the Pd/H system

Erwin Lalik, Polish Academy of Sciences, Poland

Title: Plasma modification of α -Fe₂O₃ supported nanomaterials for photocatalytic and photoelectrochemical applications

Alberto Gasparotto, Padova University, Italy

Title: Catalytic routes to Vitamin A Acetate

Jan Schütz, DSM Nutritional Products, Switzerland

Title: Hybrid Catalysis: A new one-pot reactor for the valorisation of glycerol through heterogeneous and enzymatic catalysis

Myriam Frey, LGPC, France

Title: Selectivity controlled with transient operation

Javier Fernandez-Garcia, University of Leeds, UK

Title: Ozonation in a Multi-Orifice oscillatory baffled column

Marco Paulo Gomes Sousa Lucas, Universidade de Trás-os-Montes e Alto Douro, Portugal

Title: Nanoparticle beam deposition: A novel route to the creation of Heterogeneous catalysts

Richard E. Palmer, Swansea University, UK

Title: EXAFS and XANES techniques for studying the type of defects in Ti-zeolites and their role in catalysis

Luca Braglia, CNR-IOM, TASC Laboratory, Italy

Title: Insights on reactivity patterns of Hydrogen abstraction in Oxide systems

Dandamudi Usharani, CSIR-Central Food Technological Research Institute, India

Title: In situ studies of model catalysts for heterogeneous catalysis

Hans O. A. Fredriksson, Syngaschem BV, The Netherlands

Title: Kinetic modelling of glycerol oxidation on metallic supported catalysts

Pascal Fongarland, University of Lyon, France

Title: Study of kinetics and mechanisms of catalytic pyrolysis of biomass components by using linear free energy relationships and TPD-MS

Tetiana Kulik, Chuiko Institute of Surface Chemistry NASU, Ukraine

Title: Ab initio investigation of the effect of cluster-support interactions on the physical properties of nanocluster-based catalysts

Theodore Pavludis, Swansea University, Greece

Title: Colloidal metal nanoparticles as a toolbox for catalytic studies

Nikolaos Dimitratos, Cardiff Catalysis Institute, UK

Title: The Nanomaterials application for syngas processing

Kulikova Maya Valer'evna, A.V.Topchiev Institute of Petrochemical Synthesis, Russian Federation

Title: Interfacial novel phenomena on Heterogeneous Photocatalysis

Hideyuki Okumura, Kyoto University, Japan

Title: Metal based electrocatalysts on CeO₂/carbon, Nb₂O₅/carbon and carbon: Synthesis, characterization and investigation of their electrocatalytic activities for both anodic and cathodic fuel cell reactions

Virginija Kepeniene, Center for Physical Sciences and Technology, Lithuania

Title: Selective oxidation of free mono- and oligosaccharides using photocatalysis

Gwladys Pourceau, University of Picardie Jules Verne, France

Title: Structural and acidic nature of phosphotungstic acid at the surface and in the bulk of silica: Towards a heterogeneous catalyst for quinolones synthesis

Palraj kasinathan, University of Catholique de Louvain, Belgium

Title: Controlled generation of binary nanoparticles for catalysis research

Maria Chiara Spadaro, Swansea University, UK

Title: Wastewater polluted with cadmium: A tertiary treatment with natural sorbents

Perfecto Barragan-Peña, Instituto Tecnológico de Nogales, Mexico

Title: Deactivation/regeneration cycles of Rh/C and Ru/C for the valorization of chloromethanes by hydrodechlorination

María Martín Martínez, Universidad Autónoma de Madrid, Spain

Title: A novel synthesis of Thiolato and Phenoxo Platinum (II) complexes by Phase Transfer Catalysis

Ja'afar Kadhum Jawad Al-Taie, International University of Erbil, Iraq

Title: Environmental pollution due to the operation of gasoline engines: Exhaust gas law

Koffi Sagna, University of Lomé, Togo

Title: Microfluidic devices for biodiesel synthesis

Harrison Silva Santana, University of Campinas, Brazil

Title: Upgrading of furfuraldehydes via hydroxymethylation over heterogeneous acid catalyst

Shun Nishimura, Japan Advanced Institute of Science and Technology, Japan

Title: A study on simultaneous reduction of CH₄ and NO_x of NGOC/de-NO_x catalysts for CNG buses

Choong Kil Seo, Howon university, Republic of Korea

Title: Fisher-Tropsch synthesis in the presence of dispersed catalysts on the basis of ir-pyrolysed metal-polymer systems

Ivantsov Mikhail Ivanovich, A.V.Topchiev Institute of Petrochemical Synthesis, RAS, Russian Federation

Title: Cerium based Metal Organic Frameworks for catalytic CO₂ conversion

Michalina Stawowy, Wrocław University of Science and Technology, Poland

Title: Composite thin films based on ZnO - carbon derivatives for photocatalytic applications

Dana Perniu, Transilvania University of Brasov, Romania

Title: Quantum Effects with Fluid Movement Along the Solid Surface

Victor Zamakhaev, Terratec LLC, Russian Federation

Title: TiO₂ - carbon derivatives composite photocatalyst for advanced and affordable wastewater treatment

Anca Duta, Transilvania University of Brasov, Romania

Title: Efficient CO₂ hydrogenation to straight chain olefins over simple and robust alkali promoted Fe catalysts

Linga Reddy Enakonda, King Abdullah University of Science and Technology (KAUST), Saudi Arabia

Title: Molecularly imprinted polymers electrochemical sensors: Form Macro to Micro molecules detection

Rasha Mohamed El Nashar, Cairo University, Egypt

Title: Molecular catalysts for water oxidation in a homogenous solution and heterogeneous surface

Masayuki Yagi, Niigata University, Japan

Title: Reaction pathways of methanol oxidation over a supported bimetallic catalyst

Luter Leke, Benue State University, Nigeria

Title: Dip-remove, stir-remove type of reusable polyaniline based solid acid catalyst for organic transformation

Palaniappan Srinivasan, Indian Institute of Chemical Technology, India

Title: Synthesis of Co-Mn-Fe/ γ -Al₂O₃ catalyst for Light Olefins Production

Flor Shayegh, RIPI, National Iranian Oil Company, Iran

Title: In-situ Raman Spectroscopic Monitoring of Mechanochemical preparations of energy-related materials

Nikola Biliškov, Ruđer Bošković Institute, Croatia

Title: Ruthenium(II)–Iron(III) dyads for the light induced catalytic oxygenation of organic substrates mediated by O₂ activation

Sushil Kumar, Doon University, India

Title: Photocatalytic self-cleaning WO₃-rGO composite thin films for PV glazing

Maria Covei, Transilvania University of Brasov, Romania

Title: Anti tumor molecules: Selective design for synthesis of new heterocyclic compounds called frog and fox catalyzed by Maghnite (Algerian MMT)

Abdelkader Rahmouni, Oran1 university Ahmed benbella, Algeria

Title: Catalysis of Zeolitic Imidazole framework-7: Non-Phosgene route for Methyl N-Phenyl Carbamate synthesis

Deliana Dahnum, Korea Institute of Science and Technology, Republic of Korea

Title: Molybdenum disulfide (MoS₂) based photocatalysts for photocatalytic hydrogen production

S.V. Prabhakar Vattikuti, Yeungnam University, Republic of Korea

Title: Investigation of Zr-promoted Cobalt based Fischer–Tropsch catalyst at high Syngas Conversion

Yahya Zamani, RIPI, National Iranian Oil Company, Iran

Title: SCR of NO with C₃H₆ over iron modified Ag/Al₂O₃ catalysts supported on honeycomb ceramic

Yaxin Su, Donghua University, China

Title: A naphthalimide-palladium based fluorescence probe for the selective detection and monitoring of carbon monoxide in breast cancer cells

Tikum Florence Anjong, Ewha Womans University, Republic of Korea

Title: Photosensitizing of TiO₂ nanoparticles for visible light irradiation

Zohreh Mesgari, Bu-Ali Sina University, Iran

Title: Overview of radioactive cesium removal from nuclear wastes

Changhyun Roh, Korea Atomic Energy Research Institute, Republic of Korea

Title: Solar energy harvesting by Magnetic-Nanophotocatalyst in water treatment technology

Tahereh Rohani Bastami, Quchan University of Technology, Iran

Title: Synthesis and characterization of Ag@ZnO and evaluation of its photo-catalytic activity towards degradation of Rhodamine B dye in aqueous medium

Muhammad Saeed, Government College University, Pakistan

Title: Adsorption of Zinc Acetate on the surface of modified activated carbons-characteristic features

Hoang Kim Bong, Lomonosov Moscow State University of Fine Chemical Technologies, Russia

Title: Advancements in the process and Catalyst developments for Ethylene Oxide and Ethylene Glycol: Current and future prospects

Muhammad Imran Yaqub, SABIC, Saudi Arabia

Title: Prolong the catalyst life cycle of naphtha catalytic reforming process by optimization of operating conditions

Sorood Zahedi Abghari, Research Institute of Petroleum Industry (RIPI), Iran

Title: Two-step water splitting under Visible light by using Polyoxometalate as Shuttle Redox Mediator

Osamu Tomita, Kyoto University, Japan

Title: Effects of surface Ni and Zn oxo-nanoclusters on TiO₂ for solar light photocatalysis

Andraž Šuligoj, University of Ljubljana, Slovenia

Young Investigators & Researchers Forum

Title: Modelling hyaluronan degradation by streptococcus pneumoniae hyaluronate lyase

Vinh Q. Mai, National University of Ireland Galway, Ireland

Title: Tuning acidity in Metal Organic frameworks-based catalysts for enhanced production of Butyl Butyrate as a biofuel additive

Asmaa Bilal Jrad, American University of Beirut, Lebanon

Title: A near ambient pressure X-ray photoelectron spectroscopy study on Platinum nanoparticles supported on Zr-based metal organic frameworks

Reza Vakili, University of Manchester, UK

Title: Phthalocynines' properties and applications

Nazli Farajzadeh, Istanbul Technical University, Turkey

Title: Studying of the chemical kinetics of Non-Catalytic Solid-Gas systems with respect to solid reactant

Morris Frank Hiji, University of Dodoma, Tanzania

Title: Biodiesel production from edible oil wastewater sludge with Bioethanol using Nano-Magnetic catalysis

Wighens Ngoie Ilunga, Cape Peninsula University of Technology, South Africa

Title: Catalytic degradation of Ortho-Chlorophenol using activated Carbon modified by different methods

Yang Zheng, Institute of Process Engineering, Chinese Academy of Sciences, China

Title: An alternative SBA-3 based Carbon supported Platinum Electro catalyst to enhance Cathode Kinetics of direct Methanol fuel cells

Nihat Ozer Ucar, Ondokuz Mayıs University, Turkey

Title: Innovative flow reactor to study the nature of active species in Suzuki- Miyaura reaction of Iodoacetophenone with Phenylboronic acid in Ethanol

Amine Bourouina, Laboratoire de Genie des Procédés Catalytiques, France

Poster Presentations

Title: Study of the hydrogen addition influence on the hydrogenolysis of glycerol catalyzed by Ni-exchanged zeolites

Clara Ángela Jarauta-Córdoba, Universidad de Zaragoza, Spain

Title: Base catalyzed intramolecular Cyclization of -(4-hydroxybutyl)[3-(4-aryl)prop-2-ynyl]ammonium chlorides and intramolecular Recyclization of obtained products

Chukhajian Emma H, The Scientific Technological Centre of Organic and Pharmaceutical Chemistry of National Academy of Sciences, Republic of Armenia

Title: In-situ imaging of electrolyte flux in a Li-ion battery

Keiji Takata, Kansai University, Japan

Title: DFT Study of screening SCR catalyst constituent materials supported on Titania

Jiwon Roh, KITECH, Republic of Korea

Title: Base catalyzed intramolecular Cyclization of -allyl[3-(4-bromophenyl)prop-2-ynyl] ammonium bromides and water-base cleavage reaction of obtained cyclic products

Chukhajian Emma H, The Scientific Technological Centre of Organic and Pharmaceutical Chemistry of National Academy of Sciences, Republic of Armenia

Title: Formation of catalytic active sites in copper modified Ce-Mn mesoporous oxides for ethyl acetate total oxidation

Radostina Nikoaleva Ivanova, Bulgarian Academy of Science, Bulgaria

Title: Catalytic performance of galloaluminosilicates in aromatization of lower alkanes: A comparative study with Ga/HZSM-5

Mohammad Naseem Akhtar, King Fahd University of Petroleum & Minerals, Saudi Arabia

Title: Catalytic H₂O₂ production via water oxidation by a dinuclear ruthenium complex

Yuuki Tanahashi, Niigata University, Japan

Title: Mercury capture by Catalytic reaction with Fly ash using Hybrid filter

Ha-Na Jang, Yonsei University, Republic of Korea

Title: Nanostructure control of IrO_x powder for highly efficient electrocatalytic water oxidation
Tetsuya Sato, Niigata University, Japan

Title: Kinetics of Cinnamaldehyde Hydrogenation in Four phase system
Muzammil Khan, National Chemical Laboratory, India

Title: Hollow nanosphere copolymer as an effective sorbent for water treatment
Ehsan Nazarzadeh Zare, Damghan University, Iran

Title: Highly active molecular catalyst of a dinuclear ruthenium(II) complex for water oxidation
Hiroki Sonokawa, Niigata University, Japan

Title: Depolymerisation of lignin over Ru-based heterogeneous catalysts
Verziu Marian Nicolae, Institute of Organic Chemistry 'C. D. Nenitescu' of Romanian Academy, Romania

Title: Use of CuI-ZSM-5 for Purification of the Fuels of the Future (Methane and Hydrogen)
Mihail Yordanov Mihaylov, Bulgarian Academy of Sciences, Bulgaria

Title: Polyphenols concentration increases from Olive oil wastes using enzymes
Carlos Zambra Sazo, University of Talca, Chile

Title: Catalytic performance of transition metal phosphide catalyst for hydrogenation of Acetic acid to Ethanol
Yong Xiao, Institute of Coal Chemistry, The Chinese Academy of Sciences, China

Title: Ni²⁺ and Ni⁺ Counterions in MFI Zeolite as single and multiple coordination sites for small molecules
Elena Zdravkova Ivanova, Bulgarian Academy of Sciences, Bulgaria

Title: Comparative study of self-cleaning properties of TiO₂, ZnO-based photoactive materials
Aida Rudakova, Saint-Petersburg State University, Russia

Title: CaAg₂ as catalyst precursor for ethylene epoxidation
Antonyshyn Iryna, Max-Planck-Institut für Chemische Physik fester Stoffe, Germany

Title: Hydrogen evolution over gallium oxynitride prepared from gallium oxide hydroxide under visible light irradiation
Yuma Kato, Osaka City University, Japan

Title: Fabrication and characterization of perovskite catalyst for oxygen removal in landfill gas (LFG)
Jung Hoon Park, Dongguk University, Republic of Korea

Title: Application of solution plasma method to preparation of Ag loaded Ga₂O₃ photocatalysts
Tomoko Yoshida, Osaka City University, Japan

Title: Activated carbons from used motor oil as catalyst support
Izabela Georgieva Genova, Institute of Organic Chemistry with Centre of Phytochemistry, BAS, Bulgaria

Title: Spectroscopic investigation of the influence of UV-irradiation on hydroxyl-hydrated layer of TiO₂ photocatalyst
Kirill M. Bulanin, Saint-Petersburg State University, Russia

Title: Influence of chemical states of doped nitrogen in NaTaO₃ on photocatalytic activity for CO₂ reduction
Akiyo Ozawa, Osaka City University, Japan

Program

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Title: Acetylation of aldehydes catalyzed by acid phosphonium organoclays

Luboš Jankovič, Institute of Inorganic Chemistry SAS, Slovakia

Title: Mechanism of water oxidation and reversible proton dissociation on aquo-bridge between Ru(II) centres on dinuclear complexes

Shunsuke Watabe, Niigata University, Japan

Title: Carbon nanotubes with tunable properties towards the design of efficient water denitration catalyst

Sanja Panic, University of Novi Sad, Serbia

Title: Iron hydroxide-based adsorbent: A case study in removing of H₂S from biogas

Edoardo Magnone, Dongguk University, Republic of Korea

Title: Synthesis and photocatalytic activity of CoFe₂O₄/Reduced graphene oxide nanocomposite

Kun-Yauh Shih, National Pingtung University, Taiwan

Title: Size control of Ruthenium Nanoparticles in Ruthenium/Carbon composites derived from Metal-Organic frameworks

Moo Whan Shin, Yonsei University, Republic of Korea



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