

*2<sup>nd</sup> International Conference on*  
**Catalysis and Chemical Engineering**

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**February 19-21, 2018**

**Venue:** Paris Marriott Charles de Gaulle Airport Hotel

**Welcome to the City of Lights**



5 Allee du Verger, Zone Hoteliere  
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## Day-1 | February 19, 2018

- 07:30-08:00 Registrations and Badge Pickup  
08:00-08:20 Opening, Welcome and Announcements

### Keynote Session

- 08:20-08:55 **The Development of Phosphorus and Carbon-Based Photocatalysts**  
Jimmy C. Yu, The Chinese University of Hong Kong, Hong Kong
- 08:55-09:30 **Versatile Transition Metal-Phosphate Catalysts and Applications**  
Ange Nzihou, IMT-Mines Albi, France
- 09:30-10:05 **Characterization of Ce-Fe Oxides; Influence of the Dopant on the Structure**  
Martin Schmal, Federal University of Rio De Janeiro, Brazil
- 10:05-10:40 **Synthetic Architecture of Shape Controlled Nanocatalysts**  
Hua Chun Zeng, National University of Singapore, Singapore
- 10:40-10:55 Networking Break**
- 10:55-11:30 **Nanosopic Aluminium Fluoride - The Strongest Solid Lewis Acid Ever?**  
Erhard Kemnitz, Humboldt-Universität zu Berlin, Germany
- 11:30-12:05 **Chemically Modified Carbon Nanotubes & Graphene for Energy & Catalytic Applications**  
Sang Ouk Kim, KAIST, South Korea
- 12:05-12:40 **Title to be announced**  
Michele Aresta, University of Bath, UK
- 12:40-13:15 **Title to be announced**  
Gabor A. Somorjai, University of California at Berkeley, CA, USA

### 13:15-13:45 Networking Lunch

### Scientific Session-1

#### Catalysis for Chemical Synthesis

- 13:45-14:05 **Quantum Chemical Studies, the Best Way to Understand Mechanisms of Enzymes**  
Per Siegbahn, Stockholm University, Sweden
- 14:05-14:25 **Translating Organometallic Properties Into High-Performance Catalysts For Organic Synthesis**  
Michael G. Organ, University of Ottawa, Canada
- 14:25-14:45 **Chiral Bifunctional Phase-Transfer Catalysis - Catalyst Design and Applications**  
Mario Waser, Johannes Kepler University Linz, Austria

- 14:45-15:05 **The Manipulation of Electron-Electron Interactions in Graphene On SrTiO<sub>3</sub> Via Temperature**  
Choongyu Hwang, Pusan National University, South Korea
- 15:05-15:25 **Catalytic activity of bimetallic AuPd alloys supported MgO and MnO<sub>2</sub> nanostructures and their role in selective aerobic oxidation of alcohols**  
Hamed Alshammari, Ha'il University, Saudi Arabia
- 15:25-15:40 Networking Break**
- 15:40-16:00 **Heterogeneous catalysts for lower alkane activation: structure and activity**  
Shiju Raveendran, University of Amsterdam, The Netherlands
- 16:00-16:20 **Possibility of Technological Development by Vanadium Complexes Based Polymer Supported Catalysts**  
Mannar Ram Maurya, Indian Institute of Technology Roorkee, India
- 16:20-16:40 **Formation and Dissociation of Methane, Oxygen evolution Reaction and Hydrogenation of Carbonyl Compounds and developing Li/Na/Mg Ion Anode for Rechargeable Battery: Theoretical Studies**  
Swapan K Pati, JNCASR, India
- 16:40-17:00 **Catalysis in Peroxide Synthesis from Carbonyl Compounds and H<sub>2</sub>O<sub>2</sub>**  
Alexander Terentev, Russian Academy of Sciences, Russia
- 17:00-17:20 **First Principles Analysis of Catalytic Activity of Alloys and Compounds**  
Seung-Cheol Lee, Indo Korea Science and Technology Centre, India
- 17:20-17:40 **The Role of Magnetism in the Chemical Reactivity of the Transition Metal Surfaces**  
Satadeep Bhattacharjee, Indo Korea Science and Technology Centre, India

## Young Researchers

- 17:40-17:55 **Modeling Residence Time Distribution of Lab-scale Packed Bed Reactor**  
Jaipat Seripanu, Chulalongkorn University, Thailand
- 17:55-18:10 **Characterization of Acidity and Basicity on Aluminium Magnesium Oxide (AMO) and Hydrotalcite Catalysts**  
Narut Asawawetmongkon, Chulalongkorn University, Thailand
- 18:10-18:25 **New Defect Structure Controlling of Silicalite by Alkoxide and Precipitation Route**  
Noppasak Viputvipaporn, Chulalongkorn University, Thailand
- 18:25-18:40 **Isomerization of 1-Butene to 2-Butenes Over SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> Catalysts**  
Poonyapa Phansook, Chulalongkorn University, Thailand

## Parallel Session D1-1

### Scientific Session-2

## Reaction Engineering | Simulation & Modeling

- 14:10-14:30 **Global Kinetics and Reaction Heat for Catalytic Hydrogen Combustion in a Monolith Reactor**  
Van Nhu Nguyen, Forschungszentrum Jülich GmbH, Germany

- 14:30-14:50 **Catalytic Propylene Production from Hydrocarbons Over Zeolite-Based Composites at Low Energy Consumption**  
Shinya Hodoshima, Chiyoda Corporation, Japan
- 14:50-15:10 **Oscillations in Stability of Consecutive Chemical Bonds at the Molecule-Metal Interface**  
Piotr Cyganik, Jagiellonian University, Poland
- 15:10-15:30 **Nanoscale Modeling, Prediction and Validation of Transport Phenomena at Catalyst Layer/Gas Diffusion Medium Interface and Catalyst Utilization by the Lattice Boltzmann Method**  
Seungho Shin, Hanyang University, South Korea
- 15:30-15:45 Networking Break**
- 15:45-16:05 **Direct Measurements of Surface Free Energy of Solid Solutions: Phase Transitions and Complexions**  
Sergei Zhevnenko, National University of Science and Technology MISiS, Russia
- 16:05-16:25 **Single-Shell Carbon Nanotubes Covered by Iron Nanoparticle for Ion-Lithium Batteries: Thermodynamic Stability and Charge Transfer**  
Olga Glukhova, Saratov State University, Russia
- 16:25-16:45 **How to Properly Use Keggin Heteropolyacids in the Methanol-to-DME Reaction**  
Gaigneaux Eric, Université catholique de Louvain, Belgium
- 16:45-17:05 **A Novel Two-Stage CO<sub>2</sub> Conversion Process in Dual Fixed-Bed Catalytic Reactor with Ni-Ga and Cu-Based Catalysts for Methanol and Dimethyl Ether Productions**  
Chao-Lung Chiang, Yuan Ze University, Taiwan
- 17:05-17:25 **Catalytic Hydrogenolysis of Concentrated Glucose to Propylene Glycol over Activated Cu-La<sub>2</sub>O<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> Mixed Oxide**  
Parviz Yazdani, Institute of Chemical & Engineering Sciences, Singapore

## Young Researchers

- 17:25-17:40 **Quantum Simulation on the Adsorption of C-C Bond Contained Lignin Related Model Compounds Over the Metal Surface of the Catalyst**  
Chongbo Cheng, Southeast University, China
- 17:40-17:55 **Sandwich-Like Silica@Ni@Silica Multicore-Shell Catalyst for Low Temperature Dry Reforming of Methane: Confinement Effect Against Carbon Formation**  
Bian Zhoufeng, National University of Singapore, Singapore
- 17:55-18:10 **Effects of Hydrogen Co-Feeding at Various Ratios in Propylene Self-Metathesis with Silica-Supported Tungsten Catalyst**  
Jinjuta Boonchot, Chulalongkorn University, Thailand

- 08:30-08:50 **Metal-Support Interaction in Catalysis Studied Using Kelvin Probe Atomic Force Microscopy**  
Emil Roduner, University of Stuttgart, Germany
- 08:50-09:10 **A Theoretical Study of Methane Activation and C-C Coupling on Pure IrO<sub>2</sub> (110) and IrO<sub>2</sub> Supported TiO<sub>2</sub> (110) Surfaces**  
Jyh-Chiang Jiang, National Taiwan University of Science and Technology, Taiwan
- 09:10-09:30 **On the Discovery of a New Materials Class Useful in the Gas Phase Hydroformylation of Small Olefins: Platinum Group Phosphides as Interesting Catalyst Candidates**  
Stephan Schunk, hte GmbH, Germany
- 09:30-09:50 **Thermodynamic Implications of Mixed Catalytic Cycles on Catalyst Stability: The Stabilizing Effect of Water on the CeO<sub>2</sub>-Catalyst in the Harsh HCl Oxidation Reaction**  
Franziska Hess, Massachusetts Institute of Technology, USA
- 09:50-10:10 **Molecular chemistry tools applied to nanochemistry: selective nanocatalysts in hydrogenation and hydrogenolysis reactions**  
Karine Philippot, Université de Toulouse, France
- 10:10-10:25 Networking Break**
- 10:25-10:45 **Strong Metal-Support Interaction and Catalytic Edge-Effects for Controlling Electrical Transport in Nanocontacts to Nanowires**  
Alex M Lord, Center for NanoHealth, UK
- 10:45-11:05 **Recent Advances on Laser-Generated Model Catalysts**  
Sven Reichenberger, University of Duisburg-Essen, Germany
- 11:05-11:25 **Microwave Catalysis Under Microwave Irradiation and Study on the Microwave Catalytic Reaction Technology**  
Jicheng Zhou, Xiangtan University, China
- 11:25-11:45 **Structure Sensitivity of CO and Soot Oxidation over Ceria-Based Catalysts**  
Marco Piumetti, Politecnico di Torino - DISAT, Italy
- 11:45-12:05 **Rationalized Onion-like Non-PGM Catalyst Development for Oxygen Reduction Reaction**  
Hsing-Lin Wang, Southern University of Science and Technology, China
- 12:05-12:25 **Simple Sol-Gel Route for Preparing Silica Sample with Enhanced Adsorption Capacity**  
Manuel Houmard, Federal University of Minas Gerais - UFMG, Brazil
- 12:25-12:45 **N-Heterocyclic Monodentate Ligands as Stabilizing Agents for Catalytically Active Pd-Nanoparticles**  
Agnieszka Krogul-Sobczak, University of Warsaw, Poland

## **12:45-13:15 Networking Lunch**

- 13:15-13:35 **New Insight into the Synthesis of Co- and Ni- Based Catalyst for Ethanol Steam Reforming**  
Serena Esposito, University of Cassino and Southern Lazio, Italy
- 13:35-13:55 **Transition Metal Doped Noble Metals - Nanocatalyst Hybrids Materials for Oxygen Reduction Reactions**  
Thomas Wågberg, Umeå University, Sweden
- 13:55-14:15 **The Correlation Between the Most Photocatalytically Active and Least Toxic Metal-Doped ZnO Nanoparticles**  
Hangil Lee, Sookmyung Women's University, South Korea
- 14:15-14:35 **Nanostructured ZnO Loaded on Ceramic Honeycomb for Municipal Solid Waste-Derived Syngas Desulfurization: Performance and Kinetic Studies**  
Oh Wen Da, Nanyang Technological University, Singapore
- 14:35-14:55 **Effect of the of  $\text{NH}_4^+$  Ions Exchange and HCl Treatment on the Acidity and Porosity of Natural Zeolite Clinoptilolite**  
Hendrik Kosslick, University of Rostock, Germany
- 14:55-15:15 **Whole-Cells Biocatalysis as a Tool for Chiral P-C Compounds Synthesis**  
Ewa Żymańczyk-Duda, Wrocław University of Science and Technology, Poland

## **15:35-15:50 Networking Break**

- 15:15-15:35 **Development of Magnetic Nano-catalysts for the Photo-Degradation of Organo-Chlorine and Organo-Phosphorus Pesticides**  
Jitendra Satam, K. J. Somaiya College of Engineering, India
- 15:50-16:05 **Switchable Flow Hydrogenation Chemoselectivity by Simple Sn-Modification of Ni Nano-Catalyst**  
Damian Gizinski, Institute of Physical Chemistry Polish Academy of Sciences, Poland
- 16:05-16:25 **Stability of Electrocatalytic Nanoparticles in Organic Solvents**  
Tom Breugelmans, University of Antwerp, Belgium
- 16:25-16:45 **Microstructural Properties of ZnO Powder Nanostructures Prepared by Mechanical Alloying**  
Oudjertli Salah, Université de Annaba, Algeria

## **Young Researchers**

- 16:45-17:00 **In situ-DRIFTS Study: Influence of Hydrogen Spillover on the Brønsted Acid Sites Evolution Over Non-Reducible and Reducible Support using Ammonia as Probe Molecule**  
Adisak Guntida, Chulalongkorn University, Thailand
- 17:05-17:15 **Polyhedral  $\text{Cu}_2\text{O}$  to Cu Pseudomorphic Conversion for Stereoselective Alkyne Semihydrogenation**  
Mahesh Madasu, National Tsing Hua University, Taiwan
- 17:15-17:30 **Kinetics Study of Propylene Self-Metathesis over Silica-Zeolite Supported Tungsten Catalyst**  
Kawin Lorattanaprasert, Chulalongkorn University, Thailand

17:30-17:45 **A Comparative Study of Propane Dehydrogenation Over Pt, Pt-Sn, and Pt-In Supported on  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> and Hydrotalcite Supports**  
Weerachon Tolek, Chulalongkorn University, Thailand

18:10-18:50 **Poster Session**

**Parallel Session-D2-1**

**Scientific Session-4**

**Photocatalysis & Electrocatalysis**

- 08:30-08:50 **Photocatalytic Antibacteria on Ag/TiO<sub>2</sub>-CeO<sub>2</sub> Thin Film**  
Yu-Wen Chen, National Central University, Taiwan
- 08:50-09:10 **Charge-Transfer Effect of GZO Film on Photochemical Water Splitting of Transparent ZnO@GZO Films by RF Magnetron Sputtering**  
Sujun Guan, Tokyo University of Science, Japan
- 09:10-09:30 **Metal Oxide-Graphene Hybrids : New Multifunctional Materials for Photocatalysis**  
Raphaël Schneider, LRGP-UMR CNRS UL, France
- 09:30-09:50 **Enhanced Photoactivity Hydrogen Generation by Electron Tunneling via Flip-Flop Hopping Over Iodinated Graphitic C<sub>3</sub>N<sub>4</sub>**  
Gongxuan Lu, Lanzhou Institute of Chemical Physics, China
- 09:50-10:10 **Tuning Photocatalysis by Band Gap Engineering and Defect Design of Metal Oxides using Molecular Layer Deposition**  
Roie Yerushalmi, The Hebrew University of Jerusalem, Israel

**10:10-10:25 Networking Break**

- 10:25-10:45 **Spectral Selective Solar Light Enhanced Photocatalysis: Multilayer TiO<sub>2</sub>/VO<sub>2</sub> and TiO<sub>2</sub>/TiAlN Films**  
Lars Osterlund, Uppsala University, Sweden
- 10:45-11:05 **Photocatalytic Activity of Nitrogen and Silica Doping on Titanium Dioxide and its Grafted onto PMMA Film**  
Piyasan Praserttham, Chulalongkorn University, Thailand
- 11:05-11:25 **Strongly Facet-Dependent Photocatalytic Properties of Semiconductor Crystals**  
Michael H. Huang, National Tsing Hua University, Taiwan
- 11:25-11:45 **Solar Light-Driving Photoconversion of CO<sub>2</sub> into Renewable Hydrocarbon Fuels**  
Yong Zhou, Nanjing University, China
- 11:45-12:05 **Photo-Degradation of Emerging N-Containing Pollutants in Waste-Water**  
Francesca Stefania Freyria, Politecnico di Torino, Italy
- 12:05-12:25 **Eutectic Photoanode for Photoelectrochemical Water Splitting**  
Jaroslaw Sar, Institute of Electronic Materials Technology, Poland
- 12:25-12:45 **TiO<sub>2</sub>-WO<sub>3</sub> Self-Organized Eutectic Composite for Photoelectrochemical Water Splitting**  
Katarzyna Kolodziejak, Institute of Electronic Materials Technology, Poland

## 12:45-13:15 Networking Lunch

- 13:15-13:35 **Silica-Titania Coatings: Photocatalysts for Air and Water Cleaning**  
Natasa Novak Tusar, National Institute of Chemistry, Slovenia
- 13:35-13:55 **Enhanced UV Flexible Photodetectors and Photocatalysts Based on TiO<sub>2</sub> Nanoplateforms**  
Daniela Gomes, Universidade Nova de Lisboa, Portugal
- 13:55-14:15 **New Platinum Containing Electrocatalysts with High Activity and Stability**  
Vladimir Guterman, Southern Federal University, Russian Federation
- 14:15-14:35 **Carbon Based Electrode Materials for Electrolysis: Performance and Stability**  
Saskia Heumann, Max Planck Institute for Chemical Energy Conversion, Germany
- 14:35-14:55 **Improved Electrocatalytic Activity of Nitrogen Doped-Graphene Oxide Modified GCE Towards Electrochemical Detection of 2-Nitrophenol in Water**  
Bulelwa Ntsemdwana, University of South Africa, South Africa
- 14:55-15:15 **Fabrication of 1-Dimensional g-C<sub>3</sub>N<sub>4</sub> Hollow Carbon Nanofibers Incorporated with S, N-Doped Graphene and MoS<sub>2</sub> for the Application of Artificial Photosynthesis**  
Suhee Kang, Hanyang University, South Korea

## 15:15-15:30 Networking Break

- 15:30-15:50 **Electrolytic H<sub>2</sub> for Fuel Enrichment**  
Dominic Walsh, University of Bath, UK
- 15:50-16:10 **Synergistic Interaction of Au-Mo Modification on Ni/GDC for the H<sub>2</sub>O Electrolysis Reaction in SOECs**  
Dimitrios K. Niakolas, FORTH/ICE-HT, Greece
- 16:10-16:30 ***In situ* electrical conductivity studies of Ce-Pr mixed oxides catalysts**  
Ioan-Cezar MARCU, University of Bucharest, Romania

## Young Researchers

- 16:30-16:45 ***In Situ* Study on Electro-Deposited MnOx Films During Electro-Catalytic Water Oxidation Using Soft X-ray Absorption and Emission Spectroscopy**  
Maryam Shaker, Helmholtz Zentrum Berlin, Germany
- 16:45-17:00 **CO<sub>2</sub> to Value: The Single Step Electro-Reduction of CO<sub>2</sub> to Hydrocarbons in its Elemental Steps**  
Bernhard Schmid, Siemens AG, Germany
- 17:00-17:15 **Hybrid Carbon Nanomaterials as active electrocatalysts for Hydrogen Production from Water Electrolysis**  
Mohammad Tavakkoli, Aalto University, Finland

## 18:10-18:50 Poster Session



Catalysis and Energy

08:30-08:50 **Nanoparticles of Ce, Sr, Co in and out the Multi-Walled Carbon Nanotubes Applied for Dry Reforming of Methane**  
Martin Schmal, Federal University of Rio De Janeiro, Brazil

08:50-09:10 **Oxygen generation in Oxygen-Denied Environments for Fuel Cells**  
Carol Becker-Glad and Wayne Glad, SPAWAR Systems Center Pacific, CA, USA

09:10-09:30 **Ni Based Nano-Oxyhydrides for Hydrogen Production from Bioethanol with Scarce Carbon Formation**  
Louise Jalowiecki-Duhamel, CNRS UCCS, France

09:30-09:50 **Alkaline Ceramics as Possible Captors and Catalytic Materials for the CO<sub>2</sub> Chemisorption and Conversion to Added Values Products**  
Heriberto Pfeiffer, Universidad Nacional Autónoma de México, Mexico

09:50-10:10 **Nanocatalysts for Conversion of Syngas to Hydrocarbons in Silicon Microreactor**  
Debasish Kuila, North Carolina A&T State University, NC, USA

10:10-10:25 **Networking Break**

10:25-10:45 **Mg(OH)<sub>2</sub> films prepared by ink-jet printing and their photocatalytic activity in CO<sub>2</sub> reduction and H<sub>2</sub>O conversion**  
Edith Luévano Hipólito, Autonomous University of Nuevo Leon, Mexico

10:45-11:05 **The Role of Thermal-Conducting Materials in Highly Exothermic Catalytic Reactions**  
Eun Duck Park, Ajou University, South Korea

11:05-11:25 **Degradation of the Catalyst in a Low Pt Loading Membrane Electrode Assembly**  
Radenka Maric, University of Connecticut, CT, USA

11:25-11:45 **Improved Combustion Behavior of Heavy Oils Using Oil-soluble Copper-based Catalyst in *In-situ* Combustion Process**  
Mikhail A. Varfolomeev, Kazan Federal University, Russia

11:45-12:05 **Rapid Hydrogen Generation from the Reaction of Aluminum Powders and Water Using Catalyst Aluminum Hydroxides**  
Hong-Wen Wang, Chung Yuan Christian University, Taiwan

12:05-12:25 **Effect of Water Vapor on the CO Catalytic Combustion over 0.5% PdZrO<sub>2</sub>/γ-Al<sub>2</sub>O<sub>3</sub> Catalyst**  
Xiaojing Lv, Shanghai Jiaotong University, China

12:25-12:45 **Remarkable Support Effect on the Reactivity of Pt Based Catalysts for Steam Reforming of Methanol in Microreactors**  
Vetrivel Shanmugam, Fraunhofer ICT-IMM, Germany

12:45-13:15 **Networking Lunch**

13:15-13:35 **Fischer Tropsch Synthesis Catalyzed by CO Anisotropic Nanostructures**  
Soulantica Katerina, INSAT-LPCNO, France

- 13:35-13:55 **Mechanisms for Redox Enzymes**  
Per Siegbahn, Stockholm University, Sweden
- 13:55-14:15 **Photocatalytic Aerobic Oxygenation of Hydrocarbons by Electron Transfer**  
Kei Ohkubo, Osaka University, Japan
- 14:15-14:35 **N-Doped Graphitized Carbon Nanohorns as New Forefront Electrocatalyst in the Highly Selective O<sub>2</sub> Reduction to H<sub>2</sub>O<sub>2</sub>**  
Michele Melchionna, University of Trieste, Italy
- 14:35-14:55 **New Strategies to Alcohols via Artificial Photosynthesis**  
Huanwang Jing, Lanzhou University, China
- 14:55-15:15 **Development of Ni-Based Catalysts Coupled with Membrane Reactor for H<sub>2</sub> Production**  
Sibudjing Kawi, National University of Singapore, Singapore
- 15:15-15:30 Networking Break

### Young Researchers

- 15:30-15:45 **One-Dimensional Modeling and Simulation: Catalytic and Non-Catalytic Gasification of Petroleum Coke with CO<sub>2</sub>**  
Cornelius Emeka Agu, University College of Southeast Norway, Norway
- 15:45-16:00 **Activated Carbon Impregnation Method via Chemical Solutions for Pre and Post Combustion CO<sub>2</sub> Adsorption Technology in a Fixed Bed Reactor Process**  
Douglas Soares dos Santos, University of Birmingham, UK
- 16:00-16:15 **Enhanced Dehydrogenation of NH<sub>3</sub>BH<sub>3</sub> During its Catalytic Hydrothermolysis Under Action of Transition Metal Chlorides Solution**  
Anna Gorlova, Novosibirsk State University, Russia
- 16:15-16:30 **A New Approach to Renewable Methane Production: Combining Direct Air Capture and Sabatier Reaction**  
Veselovskaya Janna, Boreskov Institute of Catalysis, Russia
- 16:30-16:45 **Selective CO<sub>2</sub> Hydrogenation to Higher Hydrocarbons over TiO<sub>2</sub> Supported Fe-Based Bimetallic Catalysts**  
Nuttakorn Boreriboon, Chulalongkorn University, Thailand
- 16:45-17:00 **Strong Metal - Support Interaction of Pd Supported TiO<sub>2</sub> Catalysts Prepared by Single-Step Sol-gel for the Catalytic Hydrodeoxygenation of Guaiacol**  
Siriporn Jongpatiwut, Chulalongkorn University, Thailand
- 17:00-17:15 **Effect of Surface Tungstate W<sup>5+</sup> Species on the Metathesis Activity of W-Doped Spherical Silica**  
Suthasinee Watmanee, Chulalongkorn University, Thailand
- 17:15-17:30 **Low temperature cold storage PCM**  
Samuel T. Habtai, Nanjing university of science and technology, China

### 18:10-18:50 Poster Session

- 08:30-08:50 **No More Noble Metals in Catalysts! History of a Revolutionary Substitution**  
Antonella Glisenti, University of Padova, Italy
- 08:50-09:10 **Electronic State of Cu, Ag and Au in Cu/ZnO, Ag/ZnO and Au/ZnO Catalysts and its Effect on Diesel Particulate Matter Oxidation: An XPS Study**  
María Griselda Corro Hernández, Universidad Autónoma de Puebla, Mexico
- 09:10-09:30 **Dynamics and Selectivity of N<sub>2</sub>O Formation During Regeneration Phase of Pt-Based Catalysts**  
Lidia Castoldi, Politecnico di Milano, Italy
- 09:30-09:50 **The Future of Automotive Emission Control Catalysis**  
Andy Walker, Johnson Matthey, UK
- 09:50-10:10 **Manganese-Base Catalysts for Catalytic Wet Air Oxidation of Phenol in Waste Water**  
Bing Hui Chen, Xiamen University, China
- 10:10-10:25 Networking Break**
- 10:25-10:45 **Highly Efficient Decomposition of Rhodamine B under Visible-Light with Nanotubular Ag@AgCl@AgI Photocatalysts**  
Kuen-Song Lin, Yuan Ze University, Taiwan
- 10:45-11:05 **Degradation of Pyrene and <sup>14</sup>C Pyrene in the Artificial Contaminated Soil by Hemoglobin and Hydrogen Peroxide**  
Guyoung Kang, Hankuk University of Foreign Studies, South Korea
- 11:05-11:25 **Enhanced Photocatalytic Hydrogen Evolution of Chalcogenide through Ruthenium and Copper Modification**  
Jerry J Wu, Feng Chia University, Taiwan
- 11:25-11:45 **Towards Cleaner Environment and Sustainable Production – The Role of Catalysis**  
Riitta L. Keiski, University of Oulu, Finland
- 11:45-12:05 **End-of-Pipe Flue Gas Cleaning Technologies for NO<sub>x</sub>**  
Rasmus Fehrmann, Technical University of Denmark, Denmark
- 12:05-12:25 **Adsorptive Desulfurization of Dibenzothiophene in Hexadecane over Supported TiO<sub>2</sub>-ZrO<sub>2</sub> Adsorbents using Light Irradiation**  
Sukanya Thepwater, King Mongkut's University of Technology North Bangkok, Thailand
- 12:25-12:45 **Oxidation of Dichloromethane Over Pt Supported on Various Titania-Zirconia Mixtures**  
Satu Pitkääho, University of Oulu, Finland
- 12:45-13:15 Networking Lunch**
- 13:15-13:35 **Improvement of Diesel Particulate Filter system in terms of Balance Point Temperature and Reduction Characteristics with respect to Various Filters and DOC/DPF combinations**  
Youngmin Woo, Korea Institute of Energy Research, South Korea

- 13:35-13:55 **Catalytic Hydrotreatment of Oil Produced by Thermo-Catalytic Reforming of Biomass for Renewable Chemicals and Fuels**  
Nina Schmitt, Fraunhofer UMSICHT, Germany
- 13:55-14:15 **The Influence of Lattice Distortion in PtFe and PtMn Nanoclusters on Surface Electronic Reconfiguration and Catalytic Performances in Liquid Phase Oxidation**  
Xin Jin, China University of Petroleum, China
- 14:15-14:35 **Hydrotalcite Based Catalysts for the Hydrogenolysis of Glycerol**  
Jiri Kolena, Unipetrol Centre for Research and Education, Czech Republic
- 14:35-14:55 **Gallium-substituted Nanoscale HZSM-5 in Methanol Aromatization: The Synergy of Lewis and Brønsted acids in Cyclodehydrogenation Enhancement**  
Chi-Ying Hsieh, National Cheng Kung University, Taiwan
- 14:55-15:15 **Supported 1,2-tungstophosphoric Acid as Heterogeneous Catalysts for Polycondensation of D,L-Lactic Acid**  
Liana Chafran, University of Brasilia, Brazil
- 15:15-15:30 Networking Break**
- 15:30-15:50 **Environmentally-Friendly Enzyme Immobilization onto MOF Materials with High Enzyme Capture Efficiency and Excellent Biocatalytic Activity**  
Victoria Gascón Pérez, University of Limerick, Ireland
- 15:50-16:10 **Nanostructuring Catalysts for Solar and Electrolytic Water Splitting**  
Salvador Eslava, University of Bath, UK
- 16:10-16:30 **Iron based catalyst for conversion of CO, CO<sub>2</sub>, CH<sub>4</sub> emission gases**  
Attera Worayingyong, Kasetsart University, Thailand

## Young Researchers

- 16:30-16:45 **Gliding Arc Plasma, an Easy but Powerful Approach to Prepare Oxide Catalysts and Boost their Performance in Wastewater Treatment: The Specific Case of MnO<sub>2</sub>**  
Boyom Tatchemco Frank William, Université catholique de Louvain, Belgium
- 16:45-17:00 **Advanced Catalytic Membrane Reactor for Flue Gas Methane Reforming to Syngas**  
Habiba Shehu, Robert Gordon University, UK
- 17:00-17:15 **Optimal Operating Condition for the Oxidation of Volatile Organic Compounds Using Plasma-Coupled Catalysis**  
Sang Hyeok Ko, Jeju National University, South Korea
- 17:15-17:30 **The Mechanism of Plasma - Catalytic Reduction of Nitrogen Oxides(NOX)**  
Byeong Ju Lee, Jeju National University, South Korea
- 17:30-17:45 **Hydrotreatment of the Heavy Phase Fraction of Beech Wood Pyrolysis Oil Over Nickel Catalysts**  
Caroline Carriel Schmitt, Karlsruhe Institute of Technology, Germany
- 17:45-18:00 **Deactivation of Nickel-based Catalysts during Steam Reforming of Naphthalene in the Presence of Hydrogen Chloride**  
Andrei Veksha, Nanyang Technological University, Singapore

- P-01 **Ag-GO-TiO<sub>2</sub> Composite as Electrode Material for Photocatalysis and Photoelectrochemical System**  
Chabaiporn Junin, Kasetsart University, Thailand
- P-02 **A Support Structure Effect of Ni-Cu and Ru-Rh Based Catalysts on Hydrogen Production by Methanol Steam Reforming**  
Aleksanda Lytkina, A.V. Topchiev Institute of Petrochemical Synthesis, Russia
- P-03 **The Effect of Preparation Method on the Redox Properties of CeO<sub>2</sub>-Promoted Cu/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Catalysts for Water Gas Shift Reaction**  
Dae-Woon Jeong, Changwon National University, South Korea
- P-04 **Palladium Complexes of (C<sup>-</sup>, N, E) Pincer and Bidentate (N, E) ligands (E = S or Se) Based on Naphthalene Core in Catalysis of C-C Coupling via *In Situ* Formed Nanoparticles**  
Renu Bhaskar, Indian Institute of Technology Delhi, India
- P-05 **Elucidation of the Catalytic Reduction Mechanism on Noble Metal Nanoparticles**  
Alina Sermiagin, Ariel University, Israel
- P-06 **Palladium(II) Complexes of (benzoimidazol-2-ylmethyl)amine Ligands as Catalysts for the Methoxycarbonylation of Olefins**  
Thandeka A Tshabalala, University of KwaZulu Natal, South Africa
- P-07 **Synthesis of C<sub>2</sub>-Symmetric Diphosphormonoamidites and their Use as Ligands in Rh-Catalyzed Hydroformylation**  
Galina Morales Torres, Leibniz-Institut für Katalyse e.V., Germany
- P-08 **Removal Photocatalytic of Different Pesticides in Agro-Waste Water at Pilot Plant Scale Under Natural Sunlight**  
Jose Fenoll, Imida Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario, Spain
- P-09 **Impact of Hydrophilic Surface Modification of TiO<sub>2</sub> on the Photo-Catalytic Activity for Methylene Blue and Phenol Oxidation**  
Byeong Jun Cha, SungKyun Kwan University, South Korea
- P-10 **Electrocatalytic Activity of Electrodeposited Pd/Ni Alloys: Effect of Composition and Structure**  
Jenia Georgieva, Bulgarian Academy of Sciences, Bulgaria
- P-11 **An Alternative Method for Preparation of Ir/TiO<sub>2</sub> and Ir/TiO<sub>2</sub>/Graphene composites**  
Nina Dimitrova, Bulgarian Academy of Sciences, Bulgaria
- P-12 **Manganese Oxides -Catalysts for Methylene Blue Removal in the Presence and Absence of H<sub>2</sub>O<sub>2</sub>**  
Borjana Donkova, University of Sofia, Bulgaria
- P-13 **Diffusion with Chemical Reaction in a Single Catalyst Pellet: Cobalt Catalyzed Fischer-Tropsch Synthesis**  
Dragomir Bukur, Texas A&M University at Qatar, Qatar
- P-14 **Solar Fuel Production: opportunities for Nanostructures**  
Zhigang Zou, Nanjing University, China

- P-15 **A Ru-cyclam Based Electrocatalyst for the Oxygen Reduction Reaction**  
Irma Lucía Vera-Estrada, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, Mexico
- P-16 **Novel N5-Macrocyclic Complexes as Methanol Resistant Electrocatalysts for Oxygen Reduction**  
Irma Lucía Vera-Estrada, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, Mexico
- P-17 **Biodiesel Production Using Cr Deposited on Animal-Bone Photocatalyst and Solar Radiation as Energy Source**  
María Griselda Corro Hernández, Universidad Autónoma de Puebla, Mexico
- P-18 **Hydrothermal Stability Improvement on Pt/Ni/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Catalysts for Aqueous Phase Reforming of Glycerol/Water Mixture**  
Mohamed El Doukkali, University of Sultan Moulay Slimane, Morocco
- P-19 **Thermal Analysis of Polyvinylpyrrolidone Assisted NiO Nanoparticle Reduction Process**  
Jaeho Shin, Seoul National University, South Korea
- P-20 **Comparative Study of Ni-Mg-Al, Ni-Co-Mg-Al and Ni-Ce-Mg-Al Catalysts Obtained via Hydrotalcites for the Dry Reforming of Methane**  
Ali Zazi, University in Tizi Ouzou, Algeria
- P-21 **Hydrodynamic Characteristics and Heat Transfer at the Layer Inversion Point in Three-Phase Fluidized Beds with Binary Solid**  
Dong Hyun Lee, Sungkyunkwan University, South Korea
- P-22 **Selective Production of 2,5-Dimethylfuran from Sugars in an Integrated Process, Using a Bicataltic Fixed-Bed Reactor**  
Marius Baeumel, Max Planck Institute of Colloids and Interfaces, Germany
- P-23 **Determination of Metal Nanoparticles Surface Area and Sizes through Quantitative Ligand Adsorption-Chemisorption**  
Matumune Joe Ndolomingo, University of Johannesburg, South Africa
- P-24 **Synergistically Strengthened Alginate/Silica Hybrid Aerogel Beads with Tunable Functional Surface for Removal Lead Ion from Water**  
Wei Wei, Jiangsu University, China
- P-25 **Carbon Nitride Modified with CdS-TiO<sub>2</sub> Nanodots as 2D/0D Hybrid Material with High Hydrogen Evolution Efficiency**  
Zhifeng Jiang, Jiangsu University, China
- P-26 **Photocatalytic CO<sub>2</sub> reduction by Mg(OH)<sub>2</sub>/CuO composite for CH<sub>3</sub>OH and HCOH production**  
Edith Luévano Hipólito, Autonomous University of Nuevo Leon, Mexico
- P-27 **Hydrogen Production by Means of Photocatalysis from Water Using TiO<sub>2</sub>-SBA-15 and Glycerol as a Hole-Scavenger: TiO<sub>2</sub>/SBA-15 Ratio Effect**  
Julio César García Martínez, Universidad Autónoma Metropolitana Azcapotzalco, Mexico

- P-28 **Effect of Ni on MCM-41 in the Adsorption of Nitrogen and Sulfur Compounds to Obtain Ultra-low Sulfur Diesel**  
Julio César García Martínez, Universidad Autónoma Metropolitana Azcapotzalco, Mexico
- P-29 **Size Control of Pt, Pd and Ag Nanoparticles by Controlling the Surfactant Content**  
DongKook Park, Korea Institute of Industrial Technology, South Korea
- P-30 **Surface Modified LAP/BN Composites with PPS Matrix for High Mechanical and Thermal Conductive Laser Direct Structuring Applicable Composite Material**  
Kihoo Kim, Chung-Ang University, South Korea
- P-31 **The Impact of Hydrophilic Surface Modification  $\text{TiO}_2$  on its Photocatalytic Activity Towards Toluene Total Oxidation**  
Tae Gyun Woo, Sungkyunkwan University, South Korea
- P-32 **Catalytic Reductions and Tandem Reactions of Nitro Compounds Using *in Situ* Prepared Nickel Boride Catalyst in Nanocellulose Solution**  
Kaniraj Jeya Prathap, KTH- The Royal Institute of Technology, Sweden

**\* Slots are available for Oral and Poster Sessions**



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