



# 1. Oral Session

## Oral Session

### Plenary Presentation

Topic	June 29, 2023 (B1, Room 93X57)	
10:10-10:50 T5-I-009	<p><b>Plenary Speaker</b>    <b>Takashi Tatsumi</b>  <b>Tokyo Institute of Technology, Japan</b>            Toward Sustainable Production of Basic Chemicals</p>	Chaired by:  <a href="#">Hsisheng Teng</a>
13:20-14:00 T1-I-012	<p><b>Plenary Speaker</b>    <b>Kuei-Hsien Chen</b>  <b>Institute of Atomic and Molecular Sciences,</b>  <b>Academia Sinica</b>            Photo- and Electro-catalysts for CO<sub>2</sub> Reduction</p>	Chaired by:  <a href="#">Soofin Cheng</a>

Topic	June 30, 2023 (B1, Room 93X57)	
08:40-09:20 T2-I-007	<p><b>Plenary Speaker</b>    <b>Bing-Joe Hwang</b>  <b>Department of Chemical Engineering,</b>  <b>National Taiwan University of Science and Technology</b>            Electrocatalysts for Valued-added Electrochemical Energy            Conversion Reactions</p>	Chaired by:  <a href="#">Hsisheng Teng</a>

## Oral Session (topic A)

### Biocatalysis (1/2)

Topic	June 29, 2023 (Floor 4, Room 93406)	
10:50-11:30 T1-I-008	<b>Keynote Speaker</b> Steve Sheng-Fa Yu <b>Institute of Chemistry, Academia Sinica</b> Development of C1 Chemistry and Biology for Energy Storage and Applications in Circular Economy	Chaired by:  Steve Sheng-Fa Yu
11:30-11:50 T1-I-011	<b>Invited Speaker</b> Chih-Ching Huang <b>Department of Bioscience and Biotechnology and Center of Excellence for the Oceans, National Taiwan Ocean University</b> <i>In Situ</i> Deposition of Cu <sub>2</sub> O on Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> as a Nanozyme for Photocatalytic Eradication of Multi-Drug Resistant Bacteria from Infected Wound	Chih-Ching Huang
11:50-12:10 T1-I-001	<b>Invited Speaker</b> Wei-Ching Liao <b>Institute of Biochemistry and Molecular Biology, National Yang Ming Chiao Tung University</b> Applications of Nucleoapzymes and DNA-modified Nanozymes	
12:10-13:20	<b>Lunch</b>	台灣觸媒學會 會員大會(Floor 1, Room 93152 柏林講堂)
13:20-14:00	<b>Plenary Talk (B1, Room 93X57)</b>	
14:00-14:20 T1-I-010	<b>Invited Speaker</b> Ching-Ching Yu <b>Department of Chemistry, National Tsing Hua University</b> Gram-scale Chemoenzymatic Synthesis of Human Milk Oligosaccharides Using Crude Cell Lysate	Chaired by:  Ching-Ching Yu  Yane-Shih Wang
14:20-14:40 T1-I-013	<b>Invited Speaker</b> Yane-Shih Wang <b>Institute of Biochemical Science, National Taiwan University, Institute of Biological Chemistry, Academia Sinica</b> Designing Ferritin Biocatalysis Platform for Site-specific Protein Histidine Aza-Michael Modification	
14:40-15:00 T1-O-003	<b>Oral</b> Tesfaye Alamirew Dessie <b>NanoElectrochemistry Laboratory, Department of Chemical Engineering, National Taiwan University of Science and Technology</b> Oxo-molybdenum Tetra-phenyl-porphyrin Dimer Catalyst for Selective Electrochemical Reduction of CO <sub>2</sub> to Methanol	
15:00-15:20 T1-O-006	<b>Oral</b> Novy Pralisa Putri <b>Department of Chemical Engineering, National Cheng Kung University</b> Synchronous Photocatalysis for Simultaneous CO <sub>2</sub> Reduction and Biomass Reforming	

## Oral Session (topic A)

### Biocatalysis (2/2)

Topic	June 30, 2023 (Floor 4, Room 93406)	
14:20-15:00 T1-I-002	<b>Keynote Speaker</b> Chun-Cheng Lin <b>Department of Chemistry,</b> <b>National Tsing Hua University</b> Synthesis of Glycans by Using the Substrate Promiscuities of Bacterial Glycosyltransferases	Chaired by:  Chun-Cheng Lin
15:00-15:20 T1-I-005	<b>Invited Speaker</b> Tun-Cheng Chien <b>Department of Chemistry,</b> <b>National Taiwan Normal University</b> Studying Natural Product Biosynthesis from Organic Synthesis Aspect	Tun-Cheng Chien
15:20-15:40 T1-I-009	<b>Invited Speaker</b> Hsiao-Ching Lin <b>Institute of Biological Chemistry, Academia Sinica</b> Characterization of Biosynthetic Machineries in Synthesizing Fungal Natural Products	
15:40-16:00	Coffee Break	
16:00-16:20 T1-I-003	<b>Invited Speaker</b> Chin-Yuan Chang <b>Department of Biological Science and Technology,</b> <b>National Yang Ming Chiao Tung University</b> Discovery and Characterization of Genes Conferring Resistance to Antituberculosis Antibiotic Capreomycin	Chaired by:  Chin-Yuan Chang
16:20-16:40 T1-O-002	<b>Oral</b> Paul P Lin <b>Institute of Biological Chemistry, Academia Sinica</b> A Cell-free Self-replenishing CO <sub>2</sub> -fixing System	Paul P Lin
16:40-17:00 T1-O-004	<b>Oral</b> Abrar Hussain <b>Department of Chemical Engineering and Materials Science /</b> <b>Environmental Technology Research Center,</b> <b>Yuan Ze University</b> Synthesis of DME from CO <sub>2</sub> Hydrogenation over Biotemplated ZSM-5 Mixed with Nanosized Cu-ZnO-ZrO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> Catalysts	

## Oral Session (topic B)

### Electrocatalysis (1/2)

Topic	June 29, 2023 (B1, Room 93X57)	
10:50-11:10 T2-I-009	<b>Invited Speaker</b> Shou-Heng Liu <b>Department of Environmental Engineering,</b> <b>National Cheng Kung University</b> Biocarbons for Environmental Electrocatalysis Applications	Chaired by:  Tzu Hsuan Chiang
11:10-11:30 T2-I-004	<b>Invited Speaker</b> Sung-Fu Hung <b>Department of Applied Chemistry,</b> <b>National Yang Ming Chiao Tung University</b> Selective and Efficient Carbon Dioxide Reduction Reaction to Multi-carbon Products	Sung-Fu Hung
11:30-12:10 T2-I-008	<b>Keynote Speaker</b> Chen-Hao Wang <b>Department of Materials Science and Engineering,</b> <b>National Taiwan University of Science and Technology</b> Atomic-Dispersed Catalysts for Anion Exchange Membrane Water Electrolysis and Fuel Cell	
12:10-13:20	<b>Lunch</b>	台灣觸媒學會會員大會 (Floor 1, Room 93152 柏林講堂)
13:20-14:00	<b>Plenary Talk (B1, Room 93X57)</b>	
14:00-14:20 T2-O-001	<b>Oral</b> Edmund Chun Ming Tse <b>Department of Chemistry,</b> <b>The University of Hong Kong, China</b> Developing Conductive MOFs and Enzyme-inspired Nanomaterials for Renewable Energy Conversion and Plastic Waste Upcycling	Chaired by:  Sung-Fu Hung  Tzu Hsuan Chiang
14:20-14:40 T2-O-002	<b>Oral</b> Yu-Jen Shih <b>Institute of Environmental Engineering,</b> <b>National Sun Yat-sen University</b> Enhancing direct electro-oxidation and N <sub>2</sub> selectivity of ammonia on a reduced graphene oxide-encapsulated silver oxide electrode (Ag/rGO)	
14:40-15:00 T2-O-011	<b>Oral</b> Tzu-Hsuan Chiang <b>Department of Energy Engineering,</b> <b>National United University</b> Metal Schiff base complex as trifunctional electrocatalysts for Zn-air battery and alkaline water electrolysis	
15:00-15:20 T2-O-007	<b>Oral</b> Sankar Arumugam <b>Institute of Chemistry, Academia Sinica</b> Boosting the Current Density of Bi Electrode at Low-overpotential for Electrochemical Reduction of CO <sub>2</sub> to Formate with Harnessing of the Carbonate Intermediate	

## Oral Session (topic B)

### Electrocatalysis (2/2)

Topic	June 30, 2023 (B1, Room 93X57)	
14:20-14:40 T2-I-005	<b>Invited Speaker</b> Meng-Che Tsai <b>Graduate Institute of Applied Science and Technology,            National Taiwan University of Science and Technology</b> Value-added electrolysis using the single-atom catalysts	Chaired by:  Tzu-Ho Wu  Yung-Tin Pan
14:40-15:00 T2-I-003	<b>Invited Speaker</b> Yung-Tin Pan <b>Department of Chemical Engineering,            National Tsing Hua University</b> Catalyst-Support Interactions for Electrocatalysis	
15:00-15:20 T2-I-001	<b>Invited Speaker</b> Chia-Liang Sun <b>Department of Chemical and Materials Engineering,            Chang Gung University</b> Lighting up Graphene Oxide Nanoribbons for Sensors and Energy Conversion	
15:20-15:40 T2-I-006	<b>Invited Speaker</b> Heng-Liang Wu <b>Center for Condensed Matter Sciences,            National Taiwan University</b> Vibrational Spectroscopy at Electrified Interfaces: Electrochemical CO <sub>2</sub> reduction reaction	
15:40-16:00	Coffee Break	
16:00-16:40 T2-I-002	<b>Keynote Speaker</b> Yan-Gu Lin <b>Scientific Research Division,            National Synchrotron Radiation Research Center</b> Probing Interfacial Reactions in Photoelectrocatalysis Systems	Chaired by:  Yung-Tin Pan  Tzu-Ho Wu
16:40-17:00 T2-O-006	<b>Oral</b> Tzu-Ho Wu <b>Department of Chemistry,            National Cheng Kung University</b> Binary Perovskite Fluorides as Efficient Electrocatalysts for Electro-oxidation of Urea	
17:00-17:20 T2-O-0010	<b>Oral</b> Kuan-Zong Fung <b>Department of Materials Science and Engineering,            National Cheng Kung University</b> Understanding of CeO <sub>2</sub> -based Catalysts from Defect and Structural Consideration	

## Student Oral Presentation Contest (topic B)

### Electrocatalysis

<b>June 30, 2023 12:20-14:20 (Floor 3, Room 93352)</b>					
	<b>No</b>	<b>Title</b>	<b>Name</b>	<b>Institution / Organization</b>	<b>Authors</b>
1	S2-O-001	Optimizing Performance of PEMWE through MEA Engineering	Yu-Wei Hsu	Department of Chemical Engineering, National Tsing Hua University	Yu-Wei Hsu, Lu-Yu Chueh, Yung-Tin Pan
2	S2-O-002	An Investigation towards Electrochemical Reduction of Carbon Dioxide by Indium-Organic Material Modified Electrode	Hong-Ming Juang	National Cheng Kung University	Hong-Ming Juang, Mei-Jywan Syu
3	S2-O-003	Selective electrosynthesis of platform chemicals from the electrocatalytic reforming of biomass-derived hexanediol	Yun-Ju Liao	National Cheng Kung University	Yun-Ju Liao, Chia-Yu Lin
4	S2-O-004	Adsorptive recovery and electrochemical upcycling of emerging contaminants from contaminated water	Tien-Yu Kuo	National Cheng Kung university	Tien-Yu Kuo, Chia-Yu Lin
5	S2-O-005	Electrochemical Hydrogenation of Furfural with Tunable Selectivity by Metal-Organic Framework Coating	Yu-Shuo Lee	National Taiwan University	Yu-Shuo Lee, Chi-Wei Huang, Chun-Ting Yueh, <a href="#">Wen-Yueh Yu</a>
6	S2-O-006	Cupric oxide for Selective (Photo)electrocatalytic Biomass Valorization	Ping-Chang Chuang	National Cheng-Kung University	Ping-Chang Chuang, Yi-Hsuan Lai
7	S2-O-008	Efficient electrosynthesis of CO from electrocatalytic CO <sub>2</sub> reduction using a polyaniline gold nanoparticle core-shell nanofiber modified electrode	Tzu-Hsuan Wang	National Cheng Kung University	Tzu-Hsuan Wang, Chia-Yu Lin
8	S2-O-009	Electrochemically-assisted method to create single atom deposit on 4-coordination of nitrogen	Chia-Yu Chang	National Taiwan University of Science and Technology	Chia-Yu Chang, Wei-Hsiang Huang, Wei-Nien Su, Bing Joe Hwang

## Student Oral Presentation Contest (topic B)

### Electrocatalysis

<b>June 30, 2023 12:20-14:20 (Floor 3, Room 93356)</b>					
	<b>No</b>	<b>Title</b>	<b>Name</b>	<b>Institution / Organization</b>	<b>Authors</b>
9	S2-O-010	Operando Revealing the Crystal Phase Transformation and Electrocatalytic Activity Correlation of MnO <sub>2</sub> toward Glycerol Electrooxidation	Giang-Son Tran	National Taiwan University of Science and Technology	Giang-Son Tran, Truong-Giang Vo, Chia-Ying Chiang
10	S2-O-011	Application of Carbon Spheres in Electrocatalytic Iodide Oxidation Reaction	Chun-Hsiang Lin	National Taiwan University of Science and Technology	Chun-Hsiang Lin, Meng-Che Tsai, Wei-Nien Su, Bing Joe Hwang
11	S2-O-012	Designing UV/Ozone activated CoFe Prussian Blue Analogue/Graphene Quantum Dots Nanocomposite for Hydrogen Evolution Reaction	Angelina Ersikapna Melanita Tarigan	National Taiwan University of Science and Technology	Angelina Melanita Tarigan, Mia Rinawati, Sofiannisa Aulia, Yao-Sheng Cheng, Yen-Shuo Chiu, Ching-Cheng Chang, Wei-Hsiang Huang, Jeng-Lu Chen, Wei-Hung Chiang, Min-Hsin Yeh
12	S2-O-013	Pioneering Molecularly-Level Iron Sites Immobilized on Graphene Quantum Dots (GQDs) and Their Vast Potential for Oxygen Evolution Reaction	Mia Rinawati	National Taiwan University of Science and Technology	Mia Rinawati, Yao-Sheng Cheng, Ching-Cheng Chang, Wei-Hsiang Huang, Jeng-Lung Chen, Min-Hsin Yeh
13	S2-O-014	Unlocking the Potential of Silver Oxide for Enhanced Electrochemical Valorization of HMF into Valuable Products	Minh-Trang Huynh Pham	National Taiwan University of Science and Technology	Minh-Trang Huynh Pham, Truong-Giang Vo, Chia-Ying Chiang
14	S2-O-015	A Heterogeneous Binary Interface of NiO <sub>x</sub> @Pd Hetero-Structure Facilitates the Hydrogen Evolution Reaction	Mingxing Cheng	National Tsing Hua University	Mingxing Cheng, Dinesh Bhalothia, Tsan-Yao Chen
15	S2-O-016	Pt single atoms are formed on Ti-defective MXene to enhance electrocatalytic activity	Wei-Sheng Liao	National Taiwan University of Science and Technology	Wei-Sheng Liao, Wei-Nien Su, Meng-Che Tsai, Bing Joe Hwang



## Student Oral Presentation Contest (topic B)

### Electrocatalysis

<b>June 30, 2023 12:20-14:20 (Floor 3, Room 93356)</b>					
	<b>No</b>	<b>Title</b>	<b>Name</b>	<b>Institution / Organization</b>	<b>Authors</b>
16	S2-O-018	Green route for synthesis of dual single-atom catalyst of Pd-N4/Cu-N4 for sustainable production of glycolate	Endalkachew Asefa Moges	National Taiwan University of Science and Technology	Endalkachew Asefa Moges, Wei-Nien Su, Meng-Che Tsai, Bing Joe Hwang
17	S2-O-019	Deep Eutectic Solvents Assisted Chlorinated CuO for electrochemical CO <sub>2</sub> Reduction to Ethylene	Dhayanantha Prabu Jaihindh	Institute of Atomic and Molecular Sciences, Academia Sinica	Dhayanantha Prabu Jaihindh, Chih-Yang Huang, Zeru Syum, Mahmoud Kamal Hussien, Saravanakumar Muthusamy, Li-Chyong Chen, Kuei-Hsien Chen

## Oral Session (topic C)

### Photocatalysis (1/2)

Topic	June 29, 2023 (Floor 1, Room 93152)	
10:50-11:10 T3-O-002	<b>Oral Kai-An Tsai</b> <b>Department of Materials Science,</b> <b>National University of Tainan, Tainan</b> Nitrogen-doped Carbon Quantum Dots decorated CsPbBr <sub>3</sub> Perovskite Nanoheterostructures for photocatalytic CO <sub>2</sub> reduction	Chaired by:  <b>Che-Cha Hu</b>
11:10-11:30 T3-O-006	<b>Oral Ahmed F. M. EL-Mahdy</b> <b>Department of Materials and Optoelectronic Science,</b> <b>National Sun Yat-Sen University</b> Covalent Organic Framework as Photocatalysts for H <sub>2</sub> Production from Water and Organic Pollution Degradation	
11:30-11:50 T3-O-013	<b>Oral Thanh-Binh Nguyen</b> <b>Institute of Aquatic Science and Technology,</b> <b>National Kaohsiung University of Science and Technology</b> Peroxymonosulfate-assisted 0D/3D Z-scheme NiCo <sub>2</sub> O <sub>4</sub> @g-C <sub>3</sub> N <sub>4</sub> photocatalyst with visible-light-responsiveness for effective degradation of ibuprofen in water	
11:50-12:10 T3-I-010	<b>Invited Speaker Chi-Jung Chang</b> <b>Department of Chemical Engineering,</b> <b>Feng Chia University</b> Waste textile upcycling by selective dye decoloration using photocatalysts and ionic liquids	
12:10-13:20	<b>Lunch</b>	台灣觸媒學會會員大會(Floor 1, Room 93152 柏林講堂)
13:20-14:00	<b>Plenary Talk (B1, Room 93X57)</b>	
14:00-14:40 T3-I-001	<b>Keynote Speaker Jeffrey Chi-Sheng Wu</b> <b>Department of Chemical Engineering,</b> <b>National Taiwan University</b> High-efficient Design of Photoreactor for Sunlight Harvesting to Perform Water Splitting and CO <sub>2</sub> Reduction	Chaired by:  <b>Che-Cha Hu</b>
14:40-15:00 T3-I-009	<b>Invited Speaker Tung-Han Yang</b> <b>Department of Chemical Engineering,</b> <b>National Tsing Hua University</b> Construction and Catalytic Application of a Nanocrystal Library of High-Entropy Alloys	
15:00-15:20 T3-I-002	<b>Invited Speaker Po-Jung Huang</b> <b>Department of Chemical and Materials Engineering,</b> <b>National Central University</b> Photocatalytic Materials for Environmental Application	

## Oral Session (topic C)

### Photocatalysis (2/2)

Topic	June 30, 2023 (Floor 1, Room 93152)	
14:20-14:40 T3-I-003	<b>Invited Speaker</b> Yung-Jung Hsu <b>Department of Materials Science and Engineering,            National Yang Ming Chiao Tung University</b> Core-Shell and Yolk-Shell Nanocrystals for Hydrogen Production	Chaired by:  <b>Chao-Wei            Huang</b>
14:40-15:00 T3-I-008	<b>Invited Speaker</b> Ke-Hsuan Wang <b>Sanyo-Onoda City University, Japan</b> Deposition of Nanostructured Nickel Oxides by Amino Acid Chelated Complexes: Benefits of Mixed Side Chains on the Formation of Nanostructures for Energy-efficient Electrochromic Windows and Electrocatalytic Water Splitting	
15:00-15:40 T3-I-006	<b>Keynote Speaker</b> Jih-Jen Wu <b>Department of Chemical Engineering,            National Cheng Kung University</b> Carbon Nitrides Synthesized by Supramolecular Assemblies for Solar Energy Conversion and Storage	
15:40-16:00	Coffee Break	
16:00-16:20 T3-I-004	<b>Invited Speaker</b> Masaaki Yoshida <b>Graduate School of Sciences and Technology for Innovation,            Yamaguchi University, Japan</b> In-Situ/Operando Observation for Water Splitting Catalysts	Chaired by:  <b>Chao-Wei            Huang</b>
16:20-16:40 T3-I-005	<b>Invited Speaker</b> I-Hsiang Tseng <b>Department of Chemical Engineering,            Feng Chia University, Taiwan</b> Design of Photocatalytic Films for Carbon Dioxide Conversion	
16:40-17:00 T3-O-001	<b>Oral</b> Kebena Gebeyehu Motora <b>Department of Materials Science and Engineering,            National Taiwan University of Science and Technology</b> Highly Efficient, Stable, and Magnetic Separable Fe <sub>3</sub> O <sub>4</sub> Nanocomposites Based Photocatalysts for Removal Organic and Inorganic Pollutants	
17:00-17:20 T3-O-005	<b>Oral</b> Ji-Ren Zheng <b>Institute of Environmental Engineering,            National Sun Yat-Sen University</b> Photocatalytic Oxidation of Elemental Mercury (Hg <sup>0</sup> ) Using Bi <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> and CeO <sub>2</sub> /TiO <sub>2</sub> supported by Reduced Graphene Oxide (rGO)	

## Oral Session (topic D) Photoelectrocatalysis (1/2)

Topic	June 29, 2023 (B1, Room 93X57)	
15:40-16:00 T4-I-008	<b>Invited Speaker</b> Wen-Hui Cheng <b>Department of Materials Science and Engineering, National Cheng Kung University</b> Solar-Powered Device with Semitransparent Catalysts on the Front Surface for Self-Sustaining CO <sub>2</sub> Reduction	Chaired by:  Yi-Hsuan Lai
16:00-16:20 T4-I-002	<b>Invited Speaker</b> Ying-Chih Pu <b>Department of Materials Science, National University of Tainan</b> Effects of Crystal and Surficial Engineering on Charge Carrier Dynamics in BiVO <sub>4</sub> Photoanode for Photoelectrochemical Water Splitting	
16:20-16:40 T4-I-001	<b>Invited Speaker</b> Heng-Jui Liu <b>Department of Materials Science and Engineering, National Chung Hsing University</b> Advanced Functional Perovskite Oxides for Green Catalysis	
16:40-16:50 S3-O-001	<b>Student Presentation Contest</b> Meyta Sanoe <b>Department of Chemical Engineering, National Cheng Kung University</b> Comparative Study of Pt and Ag Co-catalysts on Photocatalytic Reforming of Biomass using Xylose as a Hole Scavenger: Effects on Product Variation and Hydrogen Generation	Chaired by:  Ying-Chih Pu
16:50-17:00 S3-O-002	<b>Student Presentation Contest</b> Chun-Yao Wang <b>Department of Chemical Engineering, National Taiwan University of Science and Technology</b> Structural Engineering for Graphitic Carbon Nitride for Photocatalytic Tetracycline Degradation	
17:00-17:10 S3-O-003	<b>Student Presentation Contest</b> Fang-Ting Tao <b>Department of Chemical Engineering, National Taiwan University</b> Geo-inspired, ultrafast, and one-step of N-doped reduced TiO <sub>2</sub> photocatalyst membrane preparation through atmospheric plasma spraying for antibiotics photodegradation	
17:10-17:20 S3-O-004	<b>Student Presentation Contest</b> Tse-Fu Huang <b>Department of Chemical Engineering, National Tsing Hua University</b> Indanone-based Conjugated Polymer for Visible Light-driven Hydrogen Evolution from Water	
17:20-17:30 S3-O-005	<b>Student Presentation Contest</b> Li-Yu Ting <b>Department of Chemical Engineering, National Tsing Hua University</b> 3D-printable and all-in-one polymer-entangled photocatalytic micro-reactors for visible-light-driven hydrogen evolution	
17:30-17:40 S3-O-006	<b>Student Presentation Contest</b> Yen-Han Wang <b>Department of Chemical Engineering, National Taiwan University</b> New viewpoint of magnetic field effect on photocatalytic oxidation of 2-propanol	
17:40-18:20 T4-I-005	<b>Keynote Speaker</b> Yuh-Lang Lee <b>Department of Chemical Engineering, National Cheng Kung University</b> Photoelectrocatalysis on dye-sensitized solar cells	

## Oral Session (topic D)

### Photoelectrocatalysis (2/2)

Topic	June 30, 2023 (B1, Room 93X57)	
09:20-10:00 T4-I-003	<p><b>Keynote Speaker</b> Yung-Jung Hsu</p> <p><b>Department of Materials Science and Engineering, National Yang Ming Chiao Tung University</b></p> <p>Semiconductor Heterostructures for Photoelectrochemical Applications</p>	Chaired by:  Yi-Hsuan Lai
10:00-10:20 T4-I-004	<p><b>Invited Speaker</b> Chia-Ying Chiang</p> <p><b>Department of Chemical Engineering, National Taiwan University of Science and Technology</b></p> <p>Photoelectrochemical Water Splitting by BiVO<sub>4</sub> Based Photoanode</p>	
10:20-10:40 T4-I-007	<p><b>Invited Speaker</b> Chun-Ting Li</p> <p><b>Department of Chemistry, National Taiwan Normal University</b></p> <p>Metal-Organic Chalcogenolate Frameworks as High-Performance Electrocatalysts for Dye-Sensitized Solar Cells</p>	
10:40-11:00	Coffee Break	
11:00-11:20 T4-I-006	<p><b>Invited Speaker</b> Chia-Yu Lin</p> <p><b>Department of Chemical Engineering, National Cheng Kung University</b></p> <p>Facile preparation of nanostructured CuBi<sub>2</sub>O<sub>4</sub> modified electrodes for efficient and selective generation of formic acid from photoelectrochemical reforming of cellulose</p>	Chaired by:  Chun-Ting Li
11:20-11:30 S4-O-002	<p><b>Student Presentation Contest</b> Chun-Kuo Peng</p> <p><b>Department of Materials Science and Engineering, National Chiao Tung University</b></p> <p>Multi-Operando Identification of Cu<sup>3+</sup> Active Sites as Electrocatalyst for Water Oxidation</p>	
11:30-11:40 S4-O-001	<p><b>Student Presentation Contest</b> Shih-Ching Huang</p> <p><b>Department of Chemical Engineering, National Cheng Kung University</b></p> <p>Development of NiFePx electrocatalysts for efficient overall (photo-) electrochemical seawater splitting</p>	
11:40-12:00 T4-O-001	<p><b>Oral</b> Hsiang-Chun Yu</p> <p><b>National Synchrotron Radiation Research Center</b></p> <p>Ir-based catalysts for electrochemical overall water splitting in acidic environments</p>	

## Oral Session (topic E)

### Thermocatalysis (1/2)

Topic	June 29, 2023 (Floor 4, Room 93456)	
15:40-16:00 T5-I-008	<b>Invited Speaker</b> De-Hao Tsai <b>Department of Chemical Engineering, National Tsing Hua University</b> Aerosol Synthesis of Nanostructured Catalysts for CO <sub>2</sub> Capture & Utilization	Chaired by:  Cedric Po-Wen Chung
16:00-16:20 T5-I-002	<b>Invited Speaker</b> Isao Ogino <b>Division of Applied Chemistry, Faculty of Engineering, Hokkaido University, Japan</b> Enhancing catalytic performance through selective and rapid heating for the synthesis of heteroatom-doped carbon catalysts	
16:20-16:40 T5-I-001	<b>Invited Speaker</b> Hirokazu Kobayashi <b>Komaba Institute for Science, The University of Tokyo, Japan</b> Mechanocatalytic Conversion of Chitin to Nitrogen-Containing Compounds	
16:40-16:50 S5-O-001	<b>Student Presentation Contest</b> Sudeep Mudhulu <b>National Taiwan University</b> Cascade Conversion of Furfural to $\gamma$ -Valerolactone over Zirconium Phosphate Catalyst with Adjustable Lewis and Bronsted Acid Sites	Chaired by:  Cedric Po-Wen Chung
16:50-17:00 S5-O-002	<b>Student Presentation Contest</b> Yi-Chun Huang <b>Department of Environmental Engineering, National Cheng Kung University</b> Enhancement of styrene oxidation at low temperature using spinel-structure CuO/Al <sub>2</sub> O <sub>3</sub>	
17:00-17:10 S5-O-003	<b>Student Presentation Contest</b> Ming-Rou Wu <b>National Taiwan University</b> Pd Single-site Metal-Organic Framework Catalyzed the Hydroformylation of Styrene with Formic Acid	
17:10-17:20 S5-O-004	<b>Student Presentation Contest</b> I-Ting Kao <b>Department of Chemical Engineering, National Cheng Kung University,</b> Co-activation Methane and Nitrogen to form Acetonitrile over Supported MoCx Catalysts	
17:20-17:30 S5-O-006	<b>Student Presentation Contest</b> Yi-Lin Lee <b>National Taiwan University of Science and Technology</b> Using Ionic Liquids to Catalyze the Reaction of Glycerol and Carbon Dioxide with Propylene Oxide as Coupling Agent	
17:30-17:40 S8-O-001	<b>Student Presentation Contest</b> Zhi-Xuan Law <b>National Tsing Hua University</b> Efficient Calcium Looping-integrated Methane Dry Reforming by Dual Functional Aerosol Ca-Ni-Ce Nanoparticle Cluster	
17:40-18:20 T5-I-007	<b>Keynote Speaker</b> Kevin C.-W. Wu <b>Department of Chemical Engineering, National Taiwan University</b> Metal-Organic Frameworks (MOFs)-Driven Carbon Neutral Society: Heterogeneous Catalysis of Waste Biomass and Plastics Conversion	

## Oral Session (topic E)

### Thermocatalysis (2/2)

Topic	June 30, 2023 (Floor 4, Room 93456)	
09:20-09:40 T5-I-003	<b>Invited Speaker</b> Keigo Kamata <b>Tokyo Institute of Technology, Japan</b> Synthesis and Catalytic Application of Mesoporous Manganese Oxides	Chaired by:  Yu-Chuan Lin
09:40-10:00 T5-I-006	<b>Invited Speaker</b> Bing-Hung Chen <b>Department of Chemical Engineering, National Cheng Kung University</b> Production of Green Fuels from Hydrotreatment of Vegetable Oil over Ni-Based Bimetallic Catalysts	
10:00-10:40 T5-I-005	<b>Keynote Speaker</b> Tomoo Mizugaki <b>Division of Chemical Engineering, Department of Materials Engineering Science, Graduate School of Engineering Science, Osaka University, Japan</b> Development of Heterogeneous Pt-Mo Catalysts for Selective Transformation of Biomass-derived Oxygenated Compounds	
10:40-11:00	Coffee Break	
11:00-11:20 T5-I-010	<b>Invited Speaker</b> Ching-Shiun Chen <b>Center for General Education, Chang Gung University</b> CO <sub>2</sub> hydrogenation over Ni based catalysts	Chaired by:  Yu-Chuan Lin
11:20-11:40 T5-O-001	<b>Oral</b> Yuan-Peng Du <b>Academia Sinica</b> Selective conversion of N-acetyl glucosamine into N-acetyl ethanolamine using bifunctional catalysts derived from layered double hydroxides	
11:40-12:00 T5-O-002	<b>Oral</b> Kun-Che Kao <b>Department of Chemistry, National Changhua University of Education</b> Performic Acid Production from Selective Catalytic Oxidation of Formic Acid with Molecular Oxygen Using Supported Au Catalysts at Ambient Temperature	
12:00-12:10 S8-O-002	<b>Student Presentation Contest</b> Debayan Mazumdar <b>National Cheng Kung University</b> CFD modelling of exothermic shell and tube reactor for industrial applications	
12:10-12:20 S8-O-003	<b>Student Presentation Contest</b> Peernat Chaipornchalem <b>Vidyasirimedhi Institute of Science and Technology, Thailand</b> Catalytic dehydroisomerization of butane to isobutene over zeolite composites	

## Oral Session (topic F)

### Computational Catalysis (1/2)

Topic	June 29, 2023 (Floor 4, Room 93406)	
15:40-16:00 T6-I-003	<b>Invited Speaker</b> Yu Harabuchi <b>Department of Chemistry,</b> <b>Hokkaido University, Japan</b> Systematic exploration of reaction paths and single electron transfer paths based on quantum chemical calculations: Application to the Knowles intramolecular hydroamination using photoredox catalyst	Chaired by:  Hong-Kang Tian  Cheng-Chau Chiu
16:00-16:20 T6-I-008	<b>Invited Speaker</b> Hsin Yi Tiffany Chen <b>Department of Engineering and System Science,</b> <b>National Tsing Hua University</b> What Can Hydrogen Spillover Help in Ammonia Conversion?	
16:20-17:00 T6-I-001	<b>Keynote Speaker</b> Jyh-Chiang Jiang <b>Department of Chemical Engineering,</b> <b>National Taiwan University of Science and Technology</b> Theoretical Study on the Methane Conversion: Design of Iridium-Based Catalysts	
17:00-17:20 T6-I-005	<b>Invited Speaker</b> Atsushi Ishikawa <b>Department of Transdisciplinary Science and Engineering,</b> <b>Tokyo Institute of Technology, Japan</b> First-Principle Based Microkinetics Combined with Machine-Learning	Chaired by:  Hsin Yi Tiffany Chen
17:20-17:40 T6-I-009	<b>Invited Speaker</b> Tzuhsiung (Nick) Yang <b>Department of Chemistry, National Tsing Hua University</b> Inverse Design of Transition Metal Complexes for Catalysis Using Deep Generative Models	Hong-Kang Tian
17:40-17:50 S6-O-002	<b>Student Presentation Contest</b> Chia-Yu Chen <b>Department of Engineering and System Science,</b> <b>National Tsing Hua University</b> Understanding of N <sub>2</sub> Activation Mechanisms Using Cost-Effective Ru-Modified Catalysts: A DFT Study	
17:50-18:00 S6-O-004	<b>Student Presentation Contest</b> Hong-Kai Chen <b>Department of Chemical Engineering,</b> <b>National Cheng Kung University</b> Unveiling the Origin of Mobile Nitrogen in Methane Conversion to Acetonitrile on GaN Surfaces using Density Functional Theory	
18:00-18:10 S6-O-003	<b>Student Presentation Contest</b> Yi-Qi Deng <b>Department of Engineering and System Science,</b> <b>National Tsing Hua University</b> DFT Study: Mechanistic Understanding of Active Sites and Support Effects using Fe-based Catalysts in NH <sub>3</sub> Production	Chaired by:  Hsin Yi Tiffany Chen
18:10-18:20 S6-O-001	<b>Student Presentation Contest</b> Shih-Cheng Li <b>Department of Chemical Engineering,</b> <b>National Taiwan University</b> Automated Dataset Generation and Machine Learning Models for Predicting Activation Energy in Alkene Combustion	Hong-Kang Tian



## Oral Session (topic F)

### Computational Catalysis (2/2)

Topic	June 30, 2023 (Floor 4, Room 93406)	
09:20-09:40 T6-I-007	<p><b>Invited Speaker</b> Supawadee Namuangruk</p> <p><b>National Nanotechnology Center, National Science and Technology Development Agency, Thailand</b></p> <p>Theoretical understanding of the electrochemical catalysts for CO<sub>2</sub> reduction into Platform Chemicals</p>	<p>Chaired by:</p> <p>Cheng-Chau Chiu</p> <p>Mu-Jeng Cheng</p>
09:40-10:00 T6-I-002	<p><b>Invited Speaker</b> Mu-Jeng Cheng</p> <p><b>Department of Chemistry, National Cheng Kung University</b></p> <p>Electrocatalyst Design for Efficient Hydrocarbon Partial Oxidation and CO<sub>2</sub> + NO<sub>3</sub><sup>-</sup> Co-Reduction to Urea: A Quantum Mechanical Perspective</p>	
10:00-10:20 T6-I-006	<p><b>Invited Speaker</b> Ming-Kang Tsai</p> <p><b>Department of Chemistry, National Taiwan Normal University</b></p> <p>Field-Dependent Explicit Simulations for the Carbon-Carbon Bond Formation of CO<sub>2</sub>RR on Cu-Based Materials</p>	
10:20-10:40 T6-O-001	<p><b>Oral</b> Kaito Takahashi</p> <p><b>Institute of Atomic and Molecular Science, Academia Sinica</b></p> <p>Revisiting transition metal CO binding from the perspective of electron spin</p>	
10:40-11:00	Coffee Break	
11:00-11:40 T6-I-004	<p><b>Keynote Speaker</b> Masahiro Ehara</p> <p><b>Research Center for Computational Science, Institute for Molecular Science</b></p> <p>Nanocluster and Heterogenous Catalysts: Interplay between Theory and Experiment</p>	<p>Chaired by:</p> <p>Hong-Kang Tian</p> <p>Cheng-Chau Chiu</p>
11:40-12:00 T6-O-002	<p><b>Oral</b> Yawei Wu</p> <p><b>Department of Engineering and System Science, National Tsing Hua University</b></p> <p>Ir-trimer anchored on the Co-supported Pd nanocrystals Opens the Ultra-efficient Channel on Oxygen Reduction Reaction</p>	
12:00-12:20 T6-O-003	<p><b>Oral</b> Poobodin Mano</p> <p><b>National Nanotechnology Center, National Science and Technology Development Agency</b></p> <p>Low C–C Coupling Barriers for Ethanol Synthesis on Boron-Doped Graphyne: Breaking of BEP Relationship and Flexible Orbital Hybridization</p>	

## Oral Session (G)

### Porous Materials (1/2)

Topic	June 29, 2023 (Floor 4, Room 93456)	
10:50-11:10 T7-I-003	<b>Invited Speaker</b> Toshiyuki Yokoi <b>Institute of Innovative Research,  Tokyo Institute of Technology, Japan</b> Catalytic activation of CH <sub>4</sub> with N <sub>2</sub> O over metal-exchanged zeolites	Chaired by:  Kevin C. W. Wu
11:10-11:30 T7-O-002	<b>Oral</b> Carmine Coluccini <b>Institute of New Drug Development,  China Medical University, Taiwan</b> Synthesis of artificial receptors for biomedical ligand molecules in water solution, based on cyclotrimeratriene	
11:30-12:10 T7-I-010	<b>Keynote Speaker</b> Young Kyu Hwang <b>Chemical &amp; Process Technology Division,  Korea Research Institute of Chemical Technology (KRICT),  Korea</b> Metal-organic frameworks for simultaneous conversion of biomass and CO <sub>2</sub>	
12:10-13:20	<b>Lunch</b>	台灣觸媒學會會員大會 (Floor 1, Room 93152 柏林講堂)
13:20-14:00	<b>Plenary Talk (B1, Room 93X57)</b>	
14:00-14:20 T7-I-011	<b>Invited Speaker</b> Dun-Yen Kang <b>Department of Chemical Engineering,  National Taiwan University</b> Adsorption and diffusion in metal-organic frameworks	Chaired by:  Su-Wen Hsu
14:20-14:30 S7-O-004	<b>Student Presentation Contest</b> You-Liang Chen <b>Department of Chemical Engineering,  National Cheng Kung University</b> Selective formation of cobalt sulfide nanoparticles confined in the nanopores of a water-stable metal-organic framework for the liquid-phase catalysis	
14:30-14:40 S7-O-003	<b>Student Presentation Contest</b> Sorasak Klinyod <b>School of Energy Science and Engineering,  Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand</b> Tailoring implanted Ti active species in various zeolite frameworks for methyl oleate epoxidation	
14:40-14:50 S7-O-002	<b>Student Presentation Contest</b> Cheng-Hui Shen <b>Department of Chemical Engineering,  National Cheng Kung University</b> Surface-charged metal-organic frameworks as a highly porous alternative to Nafion for selective electrocatalysis	
14:50-15:00 S7-O-001	<b>Student Presentation Contest</b> Ploychanok Iadrat <b>School of Energy Science and Engineering,  Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand</b> Modification of zeolite morphology via NH <sub>4</sub> F etching	

Topic	June 29, 2023 (Floor 4, Room 93456)	
15:00-15:10 S1-O-001	<p style="text-align: center;"><b>Student Presentation Contest Xun-Wen Hu</b>  <b>Department of Chemical and Materials Engineering,</b>  <b>National Chin-Yi University of Technology</b></p> <p style="text-align: center;">Preparation of cobalt sulfide nanoparticles encapsulated by sulfur-nitrogen dual-doped graphite carbon and its catalytic reduction of 4-nitrophenol</p>	Chaired by:  Su-Wen Hsu
15:10-15:20 S1-O-003	<p style="text-align: center;"><b>Student Presentation Contest Syeda Fareesa Hassan</b>  <b>Department of Chemical Engineering and Materials Science,</b>  <b>Yuan Ze University</b></p> <p style="text-align: center;">Biocatalysis synthesis and characterization of green rust–deposited MoS<sub>2</sub> composites for adsorptive removal of EDTA-chelated Ni(II) in wastewater</p>	

## Oral Session (topic G)

### Porous Materials (2/2)

Topic	June 30, 2023 (Floor 4, Room 93456)	
14:20-14:40 T7-I-009	<b>Invited Speaker</b> Ken-ichi Otake <b>Institute for Integrated Cell-Material Sciences,            Kyoto University, Japan</b> Flexible porous coordination polymer for controllable catalysis	Chaired by:  <b>Chung-Wei Kung</b>
14:40-15:00 T7-I-005	<b>Invited Speaker</b> Yi-Pei Li <b>Department of Chemical Engineering,            National Taiwan University</b> Efficient modeling of adsorption and reactions in metal-organic frameworks: A case study on selectivity control of furfuryl alcohol conversion	
15:00-15:20 T7-I-001	<b>Invited Speaker</b> Chularat Wattanakit <b>School of Energy Science and Engineering,            Vidyasirimedhi Institute of Science and Technology (VISTEC),            Thailand</b> Bioethanol upgrading to fine-chemicals and materials using hierarchical zeolites as catalysts: From laboratory-scale to pilot-scale	
15:20-15:40 T7-I-008	<b>Invited Speaker</b> Ho-Hsiu Chou <b>Department of Chemical Engineering,            National Tsing Hua University</b> Design and synthesis of covalent organic frameworks for photocatalytic hydrogen evolution	
15:40-16:00	Coffee Break	
16:00-16:40 T7-I-002	<b>Keynote Speaker</b> Hiromi Yamashita <b>Division of Materials and Manufacturing Science,            Graduate School of Engineering,            Osaka University, Japan</b> Design of metal-organic frameworks and reaction systems for efficient photocatalytic H <sub>2</sub> O <sub>2</sub> production	Chaired by:  <b>Ken-ichi Otake</b>
16:40-17:00 T7-I-006	<b>Invited Speaker</b> Cheng-Yu Wang <b>Department of Materials Science and Engineering,            National Yang Ming Chiao Tung University</b> ZIF-67 derived carbon for photocatalytic CO <sub>2</sub> reduction reaction	
17:00-17:20 T7-O-006	<b>Oral</b> Frank Leung-Yuk Lam <b>Department of Chemical and Biological Engineering,            The Hong Kong University of Science and Technology,            Hong Kong S.A.R., China</b> Bentonite/cerium-modified LDH composite catalyst for catalytic ozonation of highly-concentrated indigo carmine dyeing wastewater	

## Oral Session (topic H)

### Reaction Engineering and Industrial Applications (1/2)

Topic	June 29, 2023 (Floor 1, Room 93152)	
15:40-16:20 T8-I-002	<p><b>Keynote Speaker</b> Soofin Cheng</p> <p><b>Department of Chemistry, National Taiwan University</b></p> <p>Zeolite Synthesis &amp; Industrial Applications</p>	Chaired by:  Hong-Ping Lin
16:20-16:40 T8-I-004	<p><b>Invited Speaker</b> Shou-Nan Li</p> <p><b>Industrial Technology Research Institute</b></p> <p>Case Study of Porous Materials for Cleaning Air Pollutants</p>	
16:40-17:00 T8-I-003	<p><b>Invited Speaker</b> Takanori Miyake</p> <p><b>Department of Chemical, Energy and Environmental Engineering, Kansai University, Japan</b></p> <p>Adsorption of aliphatics on zeolites and conversion on Pt-based catalysts</p>	Chaired by:  Soofin Cheng
17:00-17:20 T8-I-001	<p><b>Invited Speaker</b> Shoji Iguchi</p> <p><b>Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan</b></p> <p>Development of photocatalysts for CO<sub>2</sub> conversion with H<sub>2</sub>O</p>	
17:20-17:40 T8-O-006	<p><b>Oral</b> Jaroslaw Milewski</p> <p><b>Warsaw University of Technology, Poland</b></p> <p>Modeling electrical behavior of solid oxide electrolyzer cells by using artificial neural network</p>	

## Oral Session (topic H)

### Reaction Engineering and Industrial Applications (2/2)

Topic	June 30, 2023 (Floor 1, Room 93152)	
09:20-09:40 T8-I-005	<b>Invited Speaker</b> Wei-Yi (Willy) Wu <b>LCY Group</b> Industrial Research and Applications: The Road Toward High Value-Added Chemicals and Circular Economy	Chaired by:  <a href="#">Hong-Ping Lin</a>
09:40-10:00 T8-I-006	<b>Invited Speaker</b> Yih-Ping Wang (Ying-Chieh Yang) <b>Department of Planning, CPC Corporation</b> Application of catalysts in the petroleum refining industry	
10:00-10:40 T8-I-008	<b>Keynote Speaker</b> Man-Yan Lo <b>Materials and Chemical Research Laboratories (MCL),            Industrial Technology Research Institute (ITRI)</b> Development of catalysts for Co <sub>2</sub> utilization at ITRI	
10:40-11:00	Coffee Break	
11:00-11:20 T8-I-007	<b>Invited Speaker</b> Guang-Way Bill Jang <b>Material and Chemical Research Labs (MCL),            Industrial Technology Research Institute (ITRI)</b> Catalytic Conversion of biomass to Chemicals & Materials	Chaired by:  <a href="#">Man-Yan Lo</a>