



**Annex.**  
**1. Student Oral Presentation Contest**  
**Guidelines & Information**

# 1. Student Oral Presentation Contest Guide & Information

## Topic

- A. Biocatalysis
- B. Electrocatalysis
- C. Photocatalysis
- D. Photoelectrocatalysis
- E. Thermocatalysis,
- F. Computational Catalysis
- G. Porous Materials
- H. Reaction Engineering and Industrial Applications

## About Oral

1. Regular Oral Presentation : 10 min, including Q&A 2min.
2. The oral presentation must be presented in English.
3. Location: check the schedule below, please.
4. The student contestants who can be selected for the Best Oral Presentation Award might be arranged in the oral sessions.

## Require Registration and Payment

1. Registration and payment: Each student should complete the registration and payment for the TICC-2023 Conference.
2. Show up: Each student must show up in your oral session.

## Best Oral Awards

1. Join the Closing ceremony: Best Oral Awards will be rewarded in the closing ceremony.
2. Closing Ceremony: at 17:20, June 30, 2023 (Friday).
3. Certificate of Merit: Please make sure all your personal information is correct on-site.

## Schedule

No	Topic	Location
1	A - Biocatalysis G- Porous Material	The Oral Session of Porous Material <b>Floor 4, Room 93456</b>
2	B - Electrocatalysis	June 30, 2023 (Friday) 12:20-14:20 <b>Floor 3, Rooms 93352, 93356</b>
3	C - Photocatalysis D - Photoelectrocatalysis	The Oral Session of Photoelectrocatalysis <b>B1, Room 93X57</b>
4	E - Thermocatalysis H - Reaction Engineering and Industrial Applications	The Oral Session of Thermocatalysis <b>Floor 4, Room 93456</b>
5	F - Computational Catalysis	The Oral Session of Computational Catalysis <b>Floor 4, Room 93406</b>

## Student Oral Presentation Contest

### (A) Biocatalysis

No	Title	Name	Institution / Organization	Authors
1 S1-O-001	Preparation of Cobalt Sulfide Nanoparticles Encapsulated by Sulfur-Nitrogen Dual-doped Graphite Carbon and Its Catalytic Reduction of 4-Nitrophenol	Xun-Wen Hu	National Chin-Yi University of Technology	Xun-Wen Hu, Chiou-Juy Chen, Mei-Hui Tsai
2 S1-O-003	Synthesis and Characterization of Green Rust-deposited MoS <sub>2</sub> Composites for Adsorptive Removal of EDTA-chelated Ni(II) in Wastewater	Syeda Fareesa Hassan	Yuan Ze University	Syeda Fareesa Hassan, Kuen-Song Lin, Cereia Danica Aberdeena, Chieh-Jen Chen

### (B) Electrocatalysis

No	Title	Name	Institution / Organization	Authors
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, Wen-Yueh Yu
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
9 S2-O-010	Operando Revealing the Crystal Phase Transformation and Electrocatalytic Activity Correlation of MnO <sub>2</sub> toward	Giang-Son Tran	National Taiwan University of Science and Technology	Giang-Son Tran, Truong-Giang Vo, Chia-Ying Chiang

No	Title	Name	Institution / Organization	Authors	
	Glycerol Electrooxidation				
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 NiOx@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
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

### (C) Photocatalysis

No	Title	Name	Institution / Organization	Authors	
1	S3-O-001	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	Meyta Sanoe	National Cheng Kung University	Meyta Sanoe, Van-Can Nguyen, Novy Pralisa Putri, Hsisheng Teng
2	S3-O-002	Structural Engineering for Graphitic Carbon Nitride for Photocatalytic Tetracycline Degradation	Chun-Yao Wang	National Taiwan University of Science and Technology	Chun-Yao Wang, Chechia Hu
3	S3-O-003	Geo-inspired, ultrafast, and one-step of N-doped reduced TiO <sub>2</sub> photocatalyst membrane preparation through atmospheric plasma spraying for antibiotics photodegradation	Fang-Ting Tao	National Taiwan University	Fang-Ting Tao, Chechia Hu, and Kuo-Lun Tung
4	S3-O-004	Indanone-based Conjugated Polymer for Visible Light-driven Hydrogen Evolution from Water	Tse-Fu Huang	National Tsing Hua University	Tse-Fu Huang, Chih-Li Chang, Wei-Cheng Lin, Ching-Li Huang
5	S3-O-005	3D-printable and all-in-one polymer-entangled photocatalytic micro-reactors for visible-light-driven hydrogen evolution	Li-Yu Ting	Department of Chemical Engineering, National Tsing Hua University	Li-Yu Ting, Bing-Heng Li, Qian-Ci Huang, An-Rong Chen, Chih-Li Chang, Wei-Cheng Lin, Ahmed M. Elewa, Zong-Hong Lin, Tzu-En Lin, Ho-Hsiu Chou
6	S3-O-006	New viewpoint of magnetic field effect on photocatalytic oxidation of 2-propanol	Yen-Han Wang	National Taiwan University	Yen-Han Wang, Jeffrey C.S. Wu

### (D) Photoelectrocatalysis

No	Title	Name	Institution / Organization	Authors	
1	S4-O-001	Development of NiFePx electrocatalysts for efficient overall (photo-) electrochemical seawater splitting	Shih-Ching Huang	National Cheng Kung University	Shih-Ching Huang, Yan-Gu Lin, and Chia-Yu Lin
2	S4-O-002	Multi-Operando Identification of Cu <sup>3+</sup> Active Sites as Electrocatalyst for Water Oxidation	Chun-Kuo Peng	National Yang Ming Chiao Tung University	Chun-Kuo Peng, San-Yuan Chen, Yan-Gu Lin

### (E) Thermocatalysis

No	Title	Name	Institution / Organization	Authors	
1	S5-O-001	Cascade Conversion of Furfural to $\gamma$ -Valerolactone over Zirconium Phosphate Catalyst with Adjustable Lewis and Bronsted Acid Sites	Sudeep Mudhulu	National Taiwan University	Sudeep Mudhulu, Zi-Jie Gong, and Wen-Yueh Yu

No	Title	Name	Institution / Organization	Authors	
2	S5-O-002	Enhancement of styrene oxidation at low temperature using spinel-structure CuO/Al <sub>2</sub> O <sub>3</sub>	Yi-Chun Huang	Department of Environmental Engineering, National Cheng Kung University	Yi-Chun Huang, Tzu-Yun Chang, Birgitta Narindri Rara Winayu, Hsin Chu
3	S5-O-003	Pd Single-site Metal-Organic Framework Catalyzed the Hydroformylation of Styrene with Formic Acid	Ming-Rou Wu	National Taiwan University	Ming-Rou Wu, Kevin C.-W. Wu
4	S5-O-004	Co-activation Methane and Nitrogen to form Acetonitrile over Supported MoC <sub>x</sub> Catalysts	I-Ting Kao	Department of Chemical Engineering, National Cheng Kung University	I-Ting Kao, Korawich Trangwachirachai
5	S5-O-006	Using Ionic Liquids to Catalyze the Reaction of Glycerol and Carbon Dioxide with Propylene Oxide as Coupling Agent	Yi-Lin Lee	National Taiwan University of Science and Technology	Yi Lin Lee, Chechia Hu

## (F) Computational Catalysis

No	Title	Name	Institution / Organization	Authors	
1	S6-O-001	Automated Dataset Generation and Machine Learning Models for Predicting Activation Energy in Alkene Combustion	Shih-Cheng Li	National Taiwan University	Shih-Cheng Li, Xiaorui Dong, Yi-Pei Li, William H. Green
2	S6-O-002	Understanding of N <sub>2</sub> Activation Mechanisms Using Cost-Effective Ru-Modified Catalysts: A DFT Study	Chia-Yu Chen	National Tsing Hua University	Chia-Yu Chen, Hsin-Yi Tiffany Chen
3	S6-O-003	DFT Study: Mechanistic Understanding of Active Sites and Support Effects using Fe-based Catalysts in NH <sub>3</sub> Production	Yi-Qi Deng	National Tsing Hua University	Yi-Qi Deng, Hsin-Yi Tiffany Chen
4	S6-O-004	Unveiling the Origin of Mobile Nitrogen in Methane Conversion to Acetonitrile on GaN Surfaces using Density Functional Theory	Hong-Kai Chen	National Cheng Kung University	Hong-Kai Chen, Hong-Kang Tian

## (G) Porous Material

No	Title	Name	Institution / Organization	Authors	
1	S7-O-001	Modification of zeolite morphology via NH <sub>4</sub> F etching	Ploychanok Iadrat	Vidyasirimedhi Institute of Science and Technology (VISTEC)	Ploychanok Iadrat, Anittha Prasertsab, Mutjalin Limlamthong, Chularat Wattanakit, Alex C. K. Yip
2	S7-O-002	Surface-Charged Metal–Organic Frameworks as a Highly Porous Alternative to Nafion for Selective Electrocatalysis	Cheng-Hui Shen	Department of Chemical Engineering, National Cheng Kung University	Cheng-Hui Shen, Yu-Na Chang, You-Liang Chen, Chung-Wei Kung

	No	Title	Name	Institution / Organization	Authors
3	S7-O-003	Tailoring Implanted Ti Active Species in Various Zeolite Frameworks for Methyl Oleate Epoxidation	Sorasak Klinyod	Vidyasirimedhi Institute of Science and Technology	Sorasak Klinyod, Tawan Sooknoi, Chularat Wattanakit
4	S7-O-004	Selective Formation of Cobalt Sulfide Nanoparticles Confined in the Nanopores of a Water-Stable Metal–Organic Framework for the Liquid-Phase Catalysis	You-Liang Chen	Department of Chemical Engineering, National Cheng Kung University	You-Liang Chen, Yi-Ching Wang, Yu-Hsiu Chen, Tzu-En Chang, Cheng-Hui Shen, Chi-Wei Huang, Chung-Wei Kung

## (H) Reaction Engineering and Industrial Applications

	No	Title	Name	Institution / Organization	Authors
1	S8-O-001	Efficient Calcium Looping-integrated Methane Dry Reforming by Dual Functional Aerosol Ca-Ni-Ce Nanoparticle Cluster	Zhi-Xuan Law	National Tsing Hua University	Zhi Xuan Law, De-Hao Tsai
2	S8-O-002	CFD modelling of exothermic shell and tube reactor for industrial applications	Debayan Mazumdar	National Cheng Kung University	Debayan Mazumdar, Zheng Jia Chun, Wei Wu
3	S8-O-003	Catalytic dehydroisomerization of butane to isobutene over zeolite composites	Peeranat Chaipornchalerm	Vidyasirimedhi Institute of Science and Technology	Peeranat Chaipornchalerm, Watinee Nunthakitguson