

International Conference on Energy and Environmental Materials (ICEEM) Program (Draft)

Gold Coast, Australia, 26-28 August 2023

26th August (Saturday)	
11:00 - 18:00	Conference Registration
	Welcoming Remarks (Surfers Room) Chair: A/Prof. Porun Liu
15:00 - 15:10	Prof. Huijun Zhao Griffith University
	Plenary Presentation (Surfers Room) Chair: A/Prof. Porun Liu, Prof. Lianzhou Wang
15:10 - 15:45	To be announced Prof. Xinhe Bao Dalian Institute of Chemical Physics (DICP) Chinese Academy of Sciences (CAS)
15:45 - 16:20	Innovation in Energy Materials for Green Hydrogen Production and Storage Prof. Max Lu University of Surrey
16:20 - 16:55	Oriented Assembly of Functional Mesoporous Materials with Hierarchical and Dissymmetrical Architectures Prof. Dongyuan Zhao Fudan University
16:55 - 17:30	Recovery and Reuse of Electrode Materials from Spent Lithium Ion Batteries Prof. Huiming Cheng Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
18:00 - 21:00	Dinner @ Royal Dynasty Restaurant

Keynote: 25 minutes	Invited: 25 minutes	Oral: 15 minutes
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27 th August (Sunday)		
	Plenary Presentation (Surfers Room) Chair: Prof. Taicheng An	
8:30 - 9:05	Designing and controlling environmental photo(electro)catalysis Prof. Wonyong Choi Korea Institute of Energy Technology	
	Surfers Room Chair: Prof. Dewei Chu	Burleigh Room Chair: Prof. Hongqi Sun
9:10 – 9:35	Responsive and Photothermal Materials for Water Desalination and Purification Prof. Huanting Wang	Electrocatalytic Water Splitting for Hydrogen Production Prof. Shizhang Qiao
9:35 – 10:00	Electrifying Graphene-Electrolyte Interfaces: Perspectives on Future Iontronics Prof. Dan Li	A New Artificial Photosynthetic System - Realized over 16% Conversion Efficiency from Solar Energy to Chemical Energy in the Scale of 103 m² Prof. Qingbo Meng
10:00 – 10:25	Applications of Plasma Technology in Electrochemical Energy Conversion and Storage Materials Prof. Wenjun Zhang	Construction of High-performance Catalysts for Meeting the Challenge in the Catalytic Combustion of Light Alkanes Prof. Taicheng An
10:25 – 11:00	Morning Tea	
	Chair: Prof. Zhenguo Huang	Chair: A/Prof. Liangzhi Kou
11:00 - 11:25	Green Energy, Green Hydrogen, Green Ammonia, Green Iron and Steel, and Greenback Prof. Dongke Zhang	Structural Evolution of Antiferroelectric Materials in High Power Energy Conversion Prof. Yun Liu
11:25 - 11:50	Sustainable Photocatalytic Production of H₂O₂ over Phenolic Resins Catalysts Prof. Jian Liu	Operando Characterization of Energy Materials Based on Electron Spin Prof. Han Hu
11:50 – 12:15	Design of Hetero-Nanostructures for Electrochemical Water Splitting and Ammonia Synthesis Prof. Johnny Ho	Interfacial Assembly of Nano-MOF Composites for Catalysis Prof. Chengzhong Yu
12:15 - 12:40	Defect Engineering for Hydrogen Related Materials Design Prof. Yi Jia	FIB preparation: Key for high-quality transmission electron microscopy and atom probe tomography Dr Limei Yang
12:40 – 13:40	Lunch	
	Chair: A/Prof. Weiwei Lei	Chair: Dr. Bin Luo
13:40 - 14:05	Tailoring Nanochannels of 2D Membranes for High-performance Separation Prof. Xiwang Zhang	Energy Materials for Rechargeable Batteries and Green Hydrogen Production Prof. Guoxiu Wang
14:05 - 14:30	Stimulus-Responsive Luminescence in Doped Crystals Prof. Feng Wang	Machine Learning-aided Materials Innovations and Development A/Prof. Zongyou Yin
14:30 - 14:55	The Exposure Risk Assessment and Pollution Control Technology of Bioaerosols in Typical Indoor/outdoor Air Prof. Guiying Li	Coordination Engineering in Nanomaterials Design for Energy Applications A/Prof. Ting Liao
14:55 – 15:20	I: Synthesis and Biomedical Applications of Ultrathin Nanosheets A/Prof. Zi Sophia Gu	Nanobiohybrids: Imparting Nanomaterials with Living Systems for Sustainable Engineering Applications A/Prof. Kang Liang
15:20 - 15:50	Afternoon Tea	
	Chair: Prof. Da-wei Wang	Chair: A/Prof. Dongchen Qi
15:50 - 16:15	Hard Fiber-in-Soft polymer approach for design and fabrication of high-rate and high-voltage solid-state electrolyte Prof. Shanqing Zhang	Engineering Diamond Surfaces for Future Carbon Electronics A/Prof. Dongchen Qi
16:15 - 16:40	Carbon materials for Lithium-Sulfur Batteries Prof. Feng Li	Microtubular Gas Diffusion Electrodes for Electrochemical Conversions A/Prof. Lei Ge
16:40 - 17:05	Exploring the Role of Mechanical Characterization and Modelling in Development of New Materials for Rechargeable Batteries Prof. Cheng Yan	Electrode and Catalyst Development for Lithium–Oxygen Batteries Dr. Bing Sun
17:05 - 17:30	Functional Materials for Multivalent Metal Batteries Dr. Bin Luo	Towards Addressing Fundamental Manufacturing Questions for Polymer Electrolyte Membrane Fuel Cell A/Prof. Min Wang
17:30 - 17:55	Towards Battery Chemistries beyond Lithium Ion Batteries: Developing Sodium-ion battery anode Dr. Asif Mahmood	NiMo Alloy Used in Anion-Exchange Membrane Water Electrolysis Yanjiao Wang
18:15 – 22:00	Buffet Dinner	

28th August (Monday)		
	Surfers Room Chair: Prof. Jingsan Xu	Burleigh Room Chair: Prof. Zhigang Chen
8:30 - 8:55	Perovskite Quantum Dots for Solar Cells and Beyond Prof. Lianzhou Wang	Regulating the reduction reaction pathways via electrolyte engineering for emerging Li-CO₂ batteries Prof. Zaiping Guo
8:55 - 9:20	Ferroelectric & Patternalized Photocatalysts for Overall Water Splitting Prof. Gang Liu	Key Materials and Technology Towards Practical Lithium-Sulfur Batteries Prof. Jia Xie
9:20 - 9:45	To be announced Prof. Qin Li	High Loading Electrodes for Quasi-Solid Batteries Prof. Da-wei Wang
9:45 - 10:10	Catalytic Solutions for Solar-to-Hydrogen Conversions Prof. Hongqi Sun	Carbon-based composite cathode for high-performance lithium-sulfur batteries Prof. Zhenhua Sun
10:10 - 10:40	Morning Tea	
	Chair: A/Prof. Yulin Zhong	Chair: Prof. Ziqi Sun
10:40 - 11:05	Novel quantum materials for next generation quantum energy and electronics technologies Prof. Xiaolin Wang	Tuning of electron configurations in transition metal oxides for higher OER Prof. Zhenxiang Cheng
11:05 - 11:30	Covalent Organic Frameworks as Promising Platforms for Diverse Applications Prof. Qichun Zhang	Electrochemical Reduction of Carbon Dioxide A/Prof. Jie Zhang
11:30 - 11:55	Enhancing Interfacial Solar Evaporation by Lowering Evaporation Enthalpy Prof. Haolan Xu	Sustainable Manufacturing of Valuable Chemical Commodities A/Prof. Xuyun Lu
11:55 - 12:20	Anisotropic Metal Halide Perovskite Nanocrystals: Synthesis, Self-Assembly and Applications A/Prof. Guohua Jia	Waste-to-Resources Conversion by Advanced Thermochemical Technology A/Prof. Yijiao Jiang
12:20 - 13:20	Lunch	
	Chair: A/Prof. Yun Wang	Chair: A/Prof. Dawei Su
13:20 - 13:45	Zero-emission Thermoelectric Power Generation for Carbon Neutrality Prof. Zhigang Chen	Liquids Interfacial Catalysis and Photocatalysis with New Protocols Prof. Jingsan Xu
13:45 - 14:10	Bio-inspired Nanoionic Materials for Energy & Information Related Device Applications Prof. Dewei Chu	Hydrogen Production Using Layered Materials A/Prof. Jiabao Yi
14:10 - 14:35	Electrochemical Engineering and Direct Ink Writing 3D Printing: Cost-Effective Production of 2D Nanomaterials and their Bespoke Assemblies A/Prof. Yulin Zhong	Ferroelectric and Topological Catalysis: Novel Chemical Reactions driven by Physics A/Prof. Liangzhi Kou
14:35 - 15:00	Responsive Probes for Luminescence Analysis of Food and Environmental Samples Dr. Run Zhang	Microenvironment Tuning for CO₂ Electrocatalysis Dr. Fengwang Li
15:00 - 15:30	Afternoon Tea	
	Chair: Prof. Haolan Xu	Chair: A/Prof. Yijiao Jiang
15:30 - 15:55	2D Nanomaterials for Sustainable Energy Storage and Conversion Prof. Ziqi Sun	Functionalized 2D Nanomaterials for Energy and Freshwater Generation A/Prof. Weiwei Lei
15:55 - 16:20	Dynamic Topological Domain Walls Driven by Lithium Intercalation in Multilayer Graphene Prof. Zhe Liu	Precise Defect Engineering on Graphitic Carbon Nitrides for Boosted Solar H₂ production A/Prof. Dawei Su
16:20 - 16:45	Novel Strategies of Enhancing Phonon Scatterings in High-Performance Thermoelectric Materials A/Prof. Min Hong	Techno-Economic Evaluation of Different Technology Scenarios for Utilizing Renewable Biomass and Biogas Sources Dr. Chaoen Li
16:45 - 17:10	High Efficiency Sn Perovskite LEDs Prof. Jianpu Wang	Dipole Moment Tuning in Semiconductor Photoelectrodes Dr. Zhiliang Wang
17:10 - 17:35	Modifying Kinetics of Electrode-electrolyte Interface Reaction by Solvent-solute Interactions Dr. Huicong Yang	Single Atom Manganese Catalyst Boosting Selective Oxidation of Alcohols Dr. Jiaquan Li
17:10 - 17:35	Boosting Photoelectrochemical Water Splitting with Recyclable Isotropic Pyrolytic Graphite Conductive Substrates Wei Xu	
17:35 - 17:40	Concluding Remarks	
18:00 - 22:00	Conference Dinner @ Royal Dynasty Restaurant	

