Symposium Program

The 7th International Symposium on Solar Fuels and Solar Cells

September 24th (Tuesday)	
09:00-14:00	**Registration**
14:00-18:00	**Young Scientist Forum**
18:00-20:00	**Welcome Reception**

Young Scientist Forum September 24th (Tuesday)	
14:00-14:10	**Forum Opening**
Discussion Leaders: Jian Liu *(Inner Mongolia University, China)* **Wenxing Yang** *(Westlake University, China)*	
14:10-14:30	**Jingshan Luo** *(Nankai University, China)* Photo & Electro Catalysis for Sustainable Fuel Production
14:30-14:50	**Xiuli Wang** *(Dalian Institute of Chemical Physics, CAS, China)* Photo(electro)catalytic Water Oxidation Reaction Kinetics Revealed with Transient Absorption Spectroscopy
14:50-15:00	**Daniele Benetti** *(Imperial College London, UK)* Light-Driven Water Oxidation Kinetics in Metal Oxides: Spectroelectrochemical Insights into Interface Effects and Environmental Factors
15:00-15:10	**Jiadong Xiao** *(University of Chinese Academy of Sciences, China)* Enhanced Water-Splitting Photoactivity with Sub-50 nm Perovskite-Type Tantalum-Based Oxynitride Single Crystals
15:10-15:20	**Lan Lan** *(The University of Manchester, UK)* Mechanistic Study of Glucose Photoreforming over TiO_2-based Catalysts for H_2 Production
15:20-15:30	**Zhaoke Zheng** *(Shandong University, China)* Photocatalysis Studied at Single-particle Level
15:30-15:40	**Yuchao Zhang** *(Institute of Chemistry, Chinese Academy of Sciences, China)* Photoelectrochemical Oxygen Atom Transfer
15:40-15:55	**Coffee Break**
Discussion Leaders: Daniele Benetti *(Imperial College London, UK)* **Guijun Ma** *(ShanghaiTech University, China)*	
15:55-16:15	**Yanbo Li** *(University of Electronic Science and Technology of China)*

	Engineering Ta_3N_5 Thin Film Photoanodes for Efficient Solar Water Splitting
16:15-16:35	**Fei Li** *(Dalian University of Technology, China)* Artificial Photosynthesis with Dye-sensitized Photoanodes and Bioinspired Molecular Catalysts
16:35-16:45	**Ailong Li** *(RIKEN Center for Sustainable Resource Science, Japan)* Characterization of Ir(VI) oxide catalysts for PEM Water Electrolysis using Multiple Synchrotron Radiation Techniques
16:45-16:55	**Jie Chen** *(Xi'an Jiaotong University, China)* Enhancement of Transfer Processes in Solar Fuel Conversion Systems
16:55-17:05	**Feng Liang** *(Helmholtz-Zentrum Berlin, Germany)* Operating Photoelectrochemical Water Splitting Cells at Elevated Pressure
17:05-17:15	**Shulin Meng** *(Technical Institute of Physics and Chemistry, Chinese Academy of Sciences)* Bioinspired Catalysts for Multielectron and Multiproton Transformation
17:15-17:35	**Xianbiao Fu** *(Technical University of Denmark, Denmark)* Electrochemical Ammonia Synthesis from Its Elements
18:00-20:00	**Welcome Reception**
September 25th (Wednesday)	
08:30-09:00	**Opening Ceremony**
Chair: Feng Wang *(Dalian Institute of Chemical Physics, Chinese Academy of Sciences)*	
09:00-09:40	**PL–Suljo Linic** *(University of Michigan, United States)* Water Splitting on Metal-Insulator-Semiconductor Photoelectrocatalysis
Chair: Lizhu Wu *(Technical Institute of Physics and Chemistry, Chinese Academy of Sciences)*	
09:40-10:20	**PL–Leif Hammarstrom** *(Uppsala University, Sweden)* Molecular Mechanisms of Artificial Photosynthesis
10:20-10:35	**Coffee Break**
Chairs: Ryuhei Nakamura *(RIKEN Center for Sustainable Resource Science, Japan)* **Peijun Hu** *(ShanghaiTech University, China)*	
10:35-11:05	**KL–Shane Ardo** *(University of California Irvine, United States)* Interpreting the Behavior of Ensembles of Photosynthetic Nanoreactors
11:05-11:35	**KL–Wai-Yeung Wong** *(Hong Kong Polytech University, China)* Photofunctional Organometallic Materials for Solar Energy Conversion
11:35-12:05	**KL–Rui Cao** *(Shaanxi Normal University, China)* Small Molecule Activation with Metal Porphyrins
12:05-12:13	**OL –Xingda An** *(Soochow University, China)* Elucidating the Enhancement Mechanisms and Reaction Pathways in Plasmonic Photocatalysis
12:13-12:21	**OL–Chunmei Ding** *(Dalian Institute of Chemical Physics, CAS, China)*

	Photoelectrocatalytic NAD(P)H Cofactor Regeneration for Artificial Photosynthesis
12:25-14:00	**Lunch**
Chair: Jinhua Ye *(Hebei University, China; National Institute for Materials Science, Japan)*	
14:00-14:40	**PL–Erwin Reisner** *(University of Cambridge, UK)* Integrated Solar Chemistry Devices
Chairs: Shane Ardo *(University of California Irvine, United States)* **Biaobiao Zhang** *(Westlake University, China)*	
14:40-15:10	**KL–Peijun Hu** *(ShanghaiTech University, China)* Theoretical Studies on Photocatalysis: Challenges and Developments
15:10-15:30	**IL–Wenjun Luo** *(Nanjing University, China)* Faradaic Junction: A New Surface/interface Model in Solar Fuels and Solar Cells
15:30-15:38	**OL–Louise Oldham** *(Imperial College London, UK)* Pump-Probe Spectroscopic Studies of Hematite for Solar Water Splitting
15:38-15:46	**OL–Shan Yu** *(Southwest Petroleum University, China)* Oxidative and Reductive Sites Modification of Photocatalysts for Enhanced Photocatalytic Hydrogen Evolution from H_2S Splitting
15:46-15:54	**OL–Wei Qin** *(Dalian Institute of Chemical Physics, CAS, China)* Effect of Strained Twin-Domains on Non-Radiative Recombination in Metal Halide Perovskites
15:54-16:10	**Coffee Break**
Chairs: Hongxian Han *(Dalian Institute of Chemical Physics, Chinese Academy of Sciences)* **Tao Wang** *(Westlake University, China)*	
16:10-16:40	**KL-Ryuhei Nakamura** *(RIKEN Center for Sustainable Resource Science, Japan)* Extending the Lifetime of Oxygen Evolution Electrocatalysis in Acid
16:40-17:00	**IL-Ji-Wook Jang** *(Ulsan National Institute of Science and Technology, Korea)* Key Strategies Toward High-Performance and Stable Photoelectrochemical Solar Fuel Production
17:00-17:08	**OL–Yong Ding** *(Lanzhou University, China)* Photocatalytic Water Splitting and CO_2 Reduction over Catalysts Based on Polyoxometalates
Flash Talk Presentation	
Chairs: Ji-Wook Jang *(Ulsan National Institute of Science and Technology, Korea)* **Jingshan Luo** *(Nankai University, China)*	
17:08-17:11	**Tianhao He** *(Imperial College London, UK)* Facet-Engineered $BiVO_4$ Photocatalysts for Water Oxidation: Lifetime Gain versus Energetic Loss
17:11-17:14	**Yeqin Guan** *(Dalian Institute of Chemical Physics, CAS, China)* Light-driven Ammonia Synthesis Under Mild Conditions Using Lithium Hydride
17:14-17:17	**Ping Fu** *(Dalian Institute of Chemical Physics, Chinese Academy of Sciences)* Chemical Behavior and Local Structure of the Ruddlesden-Popper and

	Dion-Jacobson 2D Perovskites
17:17-17:20	**Jifang Zhang** *(ShanghaiTech University, China)* Tailored Rh Dopants in Rutile TiO_2 for Solar Water Splitting: An Insight into Charge Dynamics
17:20-17:23	**Fengying Zhang** *(Southwest Petroleum University, China)* Material Design and Ultrafast Dynamics Research in the Conversion and Utilization of Oil and Gas Resources to Solar Fuels
17:23-17:26	**Hao Wang** *(Lanzhou University, China)* Achieving High Selectivity in Photocatalytic Oxidation of Toluene on Amorphous BiOCl Nanosheets Coupled with TiO_2
17:26-17:29	**Jun Duan** *(Dalian University of Technology, China)* Facile Construction of Hollow $AMn_2O_{4-\delta}$ (A = Co, Zn, Ni) Nanotube for Promoting Direct Photo-oxidation of Methane to C1 and C2 Fine Chemicals at Atmospheric Pressure and Room Temperature
17:29-17:32	**Yang Zhang** *(East China University of Science and Technology, China)* Crystal Facet Engineering on $SrTiO_3$ Enhances Photocatalytic Overall Water Splitting
17:32-17:35	**Qingfeng Chang** *(Tianjin University, China)* Conformal iCVD-Modified Electrodes For Enhanced Mass Transfer in High Rate CO_2 Electroreduction
17:35-17:38	**Xiao Fang** *(Lanzhou University, China)* Sodium/Potassium Poly(heptazine imide) with Electron Sink Effect for Hydrogen Peroxide Photosynthesis
17:38-18:50	**Poster**
19:00-21:00	**SFSC Banquet**
September 26th (Thursday)	
Chair: Can Li *(Dalian Institute of Chemical Physics, CAS, China)*	
08:30-09:10	**PL–Kazunari Domen** *(The University of Tokyo/Shinshu University, Japan)* Scalable Solar Hydrogen and Fuels Production Based on Particulate Photocatalysts
Chairs: Jinlong Gong *(Tianjin University, China)* **Han Sen Soo** *(Nanyang Technological University, Singapore)*	
09:10-09:40	**KL–Junwang Tang** *(Tsinghua University; University College London)* Oxidative Coupling of CH_4 to C^{2+} by Photo-thermo Catalysis
09:40-10:10	**KL–Lianzhou Wang** *(University of Queensland, Australia)* Perovskite Quantum Dots for Solar Cells and Beyond
10:10-10:18	**OL–Xiaoqiang An** *(Tsinghua University, China)* Modulating the Coordination Environment of Single-atom Catalysts for Energy Production Applications

10:18-10:26	**OL–Min Hu** *(University of Manchester, UK)* Biomass Photoreforming for Hydrogen Production: Investigation for Optimized Photocatalytic System
10:26-10:40	**Coffee Break**
Chairs: Honggang Fu *(Heilongjiang University, China)* **Junwang Tang** *(Tsinghua University; University College London)*	
10:40-11:10	**KL–Jinlong Gong** *(Tianjin University, China)* Solar-Assisted CO_2 reduction: from Mechanistic Understanding to Device Engineering
11:10-11:40	**KL–Alex K-Y. Jen** *(City University of Hong Kong, China)* Printable Organic and Perovskite Solar Cells for Clean Energy
11:40-12:00	**IL–Han Sen Soo** *(Nanyang Technological University, Singapore)* Artificial Photosynthesis by Photocatalytic Valorization of Plastics
12:00-12:20	**IL–Jie Zeng** *(University of Science and Technology of China)* Novel Strategies for Catalytic Conversion of Carbon Dioxide
12:20-14:00	**Lunch**
Chair: Jae Sung Lee *(Ulsan National Institute of Science and Technology, Korea)*	
14:00-14:40	**PL–James Durrant** *(Imperial College London, UK)* Charge Separation and Stabilisation in Photocatalyst Materials for Solar Driven Water Splitting
Chair: Shengzhong Liu *(Dalian Institute of Chemical Physics, CAS, China)*	
14:40-15:20	**PL–Xixiang Xu** *(LONGi Green Energy Technology Co., Ltd., China)* Sustainable High Efficiency Silicon Solar Cell Technologies for Tera-watt Era
Chairs: Lianzhou Wang *(University of Queensland, Australia)* **Shiwei Lin** *(Hainan University, China)*	
15:20-15:50	**KL–Ning Yan** *(National University of Singapore, Singapore)* Improved Catalytic Systems for CO_2 Hydrogenation into Methanol
15:50-16:10	**IL–Jianwu Sun** *(Linköping University, Sweden)* High-quality Graphene on Cubic Silicon Carbide for Solar-to-Fuel Conversion
16:10-16:18	**OL–Yimeng Ma** *(Donghua University, China)* Spectroelectrochemical Identification of Impurities in (Photo)Electrodes Catalysing Water Splitting
16:18-16:30	**Coffee Break**
Chairs: Ning Yan *(National University of Singapore, Singapore)* **Xin Guo** *(Dalian Institute of Chemical Physics, CAS, China)*	
16:30-17:00	**KL–Yulia Pushkar** *(Purdue University, United States)* Control of Water Oxidation Mechanism for Artificial Photosynthesis

17:00-17:30	**KL–Feng Gao** *(Linköping University, Linköping, Sweden)* Bright Organic Semiconductors for Efficient Organic Solar Cells
17:30-18:00	**KL–Jae Sung Lee** *(Ulsan National Institute of Science and Technology, Korea)* Solar Hydrogen Production at Practical Scale by Photoelectrochemical Water
18:00-21:00	**Cruise Tour**
September 27th (Friday)	
Chair: Ping Chen *(Dalian Institute of Chemical Physics, CAS, China)*	
08:30-09:10	**PL–Ib Chorkendorff** *(Technical University of Denmark)* New Routes of Ammonia Synthesis
Chair: Yulia Pushkar *(Purdue University, United States)*	
09:10-09:50	**PL–Licheng Sun** *(Westlake University; Dalian University of Technology, China)* Water Splitting Catalysts—From Molecular Complexes to First-Row Transition Metal Oxohydroxides
Chairs: Zhaosheng Li *(Nanjing University, China)* **Fengtao Fan** *(Dalian Institute of Chemical Physics, CAS, China)*	
09:50-10:20	**KL–Yujie Xiong** *(University of Science and Technology of China)* Customizable Artificial Carbon Cycle
10:20-10:40	**IL–Jiatao Zhang** *(Beijing Institute of Technology, China)* Plasmonic Metal@semiconductor Hetero-nanostructures and Their Optoelectronic New Energy Applications
10:40-10:48	**OL–Guijun Ma** *(ShanghaiTech University, China)* Fabrication of a Facet-Oriented Electrode Particle for Photocatalytic Overall Water Splitting
10:48-11:00	**Coffee Break**
Chairs: James Durrant *(Imperial College London, UK)* **Jungang Hou** *(Dalian University of Technology, China)*	
11:00-11:30	**KL–Fengtao Fan** *(Dalian Institute of Chemical Physics, CAS, China)* Unraveling Charge Transfer Dynamics in Photocatalysis: From Microscopic Insights to Holistic Mapping
11:30-12:00	**KL–Ryu Abe** *(Kyoto University, Japan)* Z-scheme Water Splitting Systems using Prussian Blue Analogues as Effective Surface Modifiers on Semiconductor Photocatalysts
12:00-12:30	**KL–Zhaosheng Li** *(Nanjing University, China)* Solar Hydrogen Production by Photoelectrochemical Water Splitting
12:30-14:00	**Lunch**
Chair: Feng Gao *(Linköping University, Linköping, Sweden)*	
14:00-14:40	**PL–Yongfang Li** *(Institute of Chemistry, Chinese Academy of Sciences)*

	Narrow Bandgap Organic Acceptors for Organic Solar Cells and Perovskite/Organic Tandem Solar Cells
Chairs: Gang Liu *(Institute of Metal Research, Chinese Academy of Sciences)* **Lele Duan** *(Westlake University, China)*	
14:40-15:10	**KL–Feng Jiao** *(Washington University, United States)* CO_2 Electrolysis Systems for Chemical and Food Production
15:10-15:30	**IL–Fan Dong** *(University of Electronic Science and Technology of China)* Photo/electrocatalytic Reduction of NO_x for Ammonia Synthesis
15:30-15:50	**IL–Fuxiang Zhang** *(Dalian Institute of Chemical Physics, CAS, China)* Z-scheme Overall Water Splitting Over Suspended Particulate Photocatalysts
15:50-15:58	**OL–Lei Wang** *(University of Science and Technology of China)* Organic Polymers for Photochemical Energy Conversion
15:58-16:06	**OL–Xiaojun Lv** *(North China Electric Power University, China)* High Efficiency Transformation of Small Molecular via Photo/electro-chemical Reaction
16:06-16:20	**Coffee Break**
Chairs: Ryu Abe *(Kyoto University, Japan)* **Feng Jiao** *(Washington University, United States)*	
16:20-16:50	**KL–Shengzhong Liu** *(Dalian Institute of Chemical Physics, CAS, China)* Large-area Scaleup Preparation of Perovskite Solar Cells
16:50-17:20	**KL–Gang Liu** *(Institute of Metal Research, Chinese Academy of Sciences)* Ferroelectric & Z-scheme Photocatalysts for Overall Water Splitting
17:20-17:50	**KL–Dunwei Wang** *(Boston College, United States)* Understanding Synergistic Effect of Photo-charge Generation and Surface Catalysis for Solar Fuel Synthesis
Chair: Rengui Li *(Dalian Institute of Chemical Physics, CAS, China)*	
17:50-18:00	**Excellent poster Awards**
18:00-18:20	**Closing Summary**
18:30-20:00	**Dinner**