Program of ITICAT 2023

Aug. 23, 2023

15:00-18:00	Registration
16:00-17:00	**Welcome address and plenary lecture (Meeting room: Lumituuli)** Chairperson: Tanja Kallio **Dmitry Murzin: Evolution of hydrogen production and PTX**
18:00-20:00	**Workshop reception**

Aug. 24, 2023

09:00-09:10	**Welcome ceremony (Meeting room: Lumituuli)** Yongdan Li and Peter Lund
09:10-09:50	**Plenary lecture (Meeting room: Lumituuli)** Chairperson: Fei Wei **Hiromi Yamashita: Design of nanostructured catalysts and photocatalysts for renewable energy and environmental uses**

Meeting Room 1 (Lumituuli)				**Meeting Room 2 (Palaver)**		
Chairperson: Muhammad Imran Asghar				Chairpersons: Xiaoyan Ji and Christopher Hardacre		
10:00-10:20	Kazuki Shun	Revealing dynamic behaviour of hydrogen spillover in reducible metal oxide catalysts		10:00-10:30	**Fei Wei**	**Keynote：** Carbon-Si anode structure control and its influence on Li-ion transfer
10:20-10:50	**Miguel Banares**	**Keynote:** Membrane microreactors: a step towards faster and more selective glycerol valorization reactions		10:30-10:50	Fangyong Yu	Experimental and numerical study of micro-tubular direct carbon solid oxide fuel cell fueled by the oilseed rape straw-derived biochar

10:50-11:10	**Coffee break**				
Chairpersons: Fanxing Li and Weizhong Qian			Chairpersons: Yicheng Zhao and Le Yang		
11:10-11:30	Akiko Yoshida	Development of biosensors based on graphene-coated porous silica spheres containing Prussian Blue	11:10-11:30	Wenwen Tian	Metal air batteries: Air cathode catalyst design and device optimization **Online**
11:30-11:50	Takeharu Yoshii	**Invited Lecture**: Ordered carbonaceous frameworks a new class of single-atomic metal catalysts based on molecular-level design	11:30-11:50	Baigang An	Modest modulation on electronic structure of Co_9S_8 by vanadium doping for rechargeable Zn-air battery **Online**
11:50-12:10	Chuan Wang	The selective transformation of furan compounds to valuable C_5 chemicals under mild conditions	11:50-12:10	Hong Chen	Ethanolysis of enzymatic hydrolysis lignin and hydrodeoxygenation of lignin-derived chemicals on W doped MoS_2 **Online**
12:10-13:30	**Lunch and poster presentations**				
Meeting Room 1 (Lumituuli)			**Meeting Room 2 (Palaver)**		
Chairpersons: Hongjiao Li and Xin Tu			Chairpersons: Cuijuan Zhang and Baigang An		
13:30-13:50	Naoki Hashimoto	Development of sub-nanometric high entropy alloy cluster catalysts via hydrogen spillover over CeO_2 nanorods	13:30-14:00	**Sibudjing Kawi**	**Keynote:** Catalytic hollow fiber membranes for energy and environmental applications **Online**
13:50-14:20	**Dionysios Dionysiou**	**Keynote:** Mechanistic aspects of catalytic and photocatalytic interfacial processes for the degradation of emerging organic pollutants in water	14:00-14:20	Le Yang	Selective oxidation of methane to methanol with molecular O_2 over IrC_3 **Online**
14:20-14:40	Ning Liu	Continuous oxidation of methane into methanol by N_2O over Cu-zeolite A combined experimental and theoretical study	14:20-14:50	**Daiqi Ye**	**Keynote:** A study on surface oxygen species and SIMS for VOCs oxidation catalyst **Online**
14:40-15:00	Fanxing Li	**Invited Lecture**: Tuning surface reactions relative to ionic transport in the context of chemical looping catalysis	14:50-15:10	Yun Hu	Bimetallic oxide catalysts for synergistic removal of VOCs and NOx from coal-fired flue gas **Online**

15:00-15:20	Shanshan Shang	Porphyrin-Based Metal-Organic Framework as Highly Efficient Adsorbents and Photocatalyst		15:10-15:30	Xiao Dong	Highly Efficient Ampere-Level CO_2 Reduction via Hollow-Fiber Penetration Electrodes **Online**
15:20-15:40	**Coffee break**					
Chairpersons: Chuan Wang and Miguel Banares				Chairpersons: Takeharu Yoshii and Ning Wang		
15:40-16:00	Christopher Hardaker	**Invited Lecture**: Biomass photoreforming over TiO_2-based catalysts for H_2 production		15:40-16:00	Gaurav Singhal	SODIS and solar photocatalysis for CEC and pathogen removal
16:00-16:20	Weizhong Qian	Catalyst design for one step conversion of methanol into paraxylene		16:00-16:20	Yicheng Zhao	**Invited Lecture**: Recent progress on electrode materials for solid oxide fuel cells
16:20-16:40	Feng Bin	**Invited Lecture**: Quantitative study of reaction mechanism and kinetics for CO self-sustaining combustion over Cu based catalysts		16:20-16:40	Jian Zhang	Enhanced oxygen reduction reaction activity of $BaCe_{0.2}Fe_{0.8}O_{3-\delta}$ cathode for proton-conducting solid oxide fuel cells via Pr-doping
16:40-17:00	Parminder Kaur	Enhancement of photo electrocatalytic activity: multi-layer catalytic anodes for the efficient removal of emerging concern pollutants		16:40-17:00	Bai peng	Photocatalytic CO_2 capture and formylation conversion
17:00-17:20	Rong Zhao	Synthesis of acrylic acid via dehydration of lactic acid on mesoporous silica modified with barium		17:00-17:30	**Yulong Ding**	**Keynote:** Novel in-process CO_2 splitting for carbon-and-energy-intensive industry decarbonisation **Online**
17:20-17:40	Yuhan Ma	Self-healing polymer-based electrolyte induced by amorphous three dimensional carbon for high-performance solid-state Li metal batteries		17:30-17:50	Esperanza Ruiz Martínez	Catalytic CO_2 hydrogenation to hydrocarbon fuels in a potassium ion-conducting reactor **Online**
19:00-21:00	**Banquet**					

Aug. 25, 2023

09:00-09:40	**Plenary lecture (Meeting room: Lumituuli)** Chair: Dionysios Dionysiou **Yong Wang: Harnessing atom trapping: Enabling single-atom catalysts for catalytic applications**					
Meeting Room 1 (Lumituuli)				**Meeting Room 2 (Palaver)**		
Chairpersons: Biaohua Chen and Parminder Kaur				Chairpersons: Sibudjing Kawi and Hong Chen		
09:50-10:10	Xin Tu	**Invited Lecture**: Plasma catalysis - an emerging technology for decentralised production of fuels and chemicals		09:50-10:10	Tian Gan	Rational design of highly active and coke-resistant anode for solid oxide fuel cells operated on methanol fuel **Online**
10:10-10:30	Jilan Long	Confined covalent organic framework anchored Fe sites derived highly uniform electrocatalysts for rechargeable aqueous and solid-state Zn-air batteries		10:10-10:40	**Edman Tsang**	**Keynote:** Catalytic active sites over rigid materials **Online**
10:30-10:50	**Coffee break**					
Chairpersons: Yongdan Li and Yushuai Sang				Chairperson: Hong Chen		
10:50-11:10	Tanja Kallio	**Invited Lecture**: Engineering $LiNi_{0.8}Mn_{0.1}Co_{0.1}O_2$ properties by artificial cathode electrolyte interface		10:50-11:10	Fatang Li	Adjustable fabrication of facets in Bi-rich BiO_X via ionic adsorption for photocatalytic application **Online**
11:10-11:30	Qianyuan Qiu	Recent works on high performance lithium oxygen batteries operated at elevated temperature		11:10-11:30	Lei Chen	Precisely modifying the internal electric field of heterostructure catalysts by dopants for photo(electro)catalytic green hydrogen production **Online**
11:30-11:50	Hongjiao Li	**Invited Lecture**: First-principles simulations of the electrochemical reactions and processes		11:30-12:00	**Fengshou Xiao**	**Keynote：** A combined catalyst of metal nanoparticles and zeolite crystals for efficient catalysis **Online**

12:00-12:20	Chao Yang	Novel freestanding 3D SnO_2 anode and electrocatalytic membrane for advanced treatment of emerging organic pollutants in wastewater		12:00-12:20	Cuijuan Zhang	**Invited Lecture**: Interfacial engineering of NASICON electrolyte Na anode for solid-state sodium battery **Online**
12:20-13:30	**Lunch and poster presentations**					
Meeting Room 1 (Lumituuli)				**Meeting Room 2 (Palaver)**		
Chairpersons: Hiromi Yamashita and Yicheng Zhao				Chairperson: Chao Yang		
13:30-14:00	**Biaohua Chen**	**Keynote:** Small molecule regulating electrocatalytic materials and their performance		13:30-13:50	Iltaf Khan	Noble metal doped and MOF decorated-perovskites nanocatalysts for hydrogen generation and fuel production **:** A sustainable approach for the production of green energy
14:00-14:20	Min Li	Towards higher NH_3 Faradaic efficiency selective poisoning of HER active sites by co-feeding CO in NO electroreduction		13:50-14:10	Faisal Zafar	CO_2 hydrogenation to methanol on an ordered mesoporous $InCu/Al_2O_3$ catalysts: effect of indium promoter
14:20-14:40	Muhammad Imran Asghar	**Invited Lecture**: Additive manufacturing of next generation solid oxide electrolyser and fuel cells		14:10-14:30		
14:50-15:40	**Farewell remarks and scientific talk (Meeting room: Lumituuli)** **Yongdan Li: Dimensions and strategies in reactions with ion transfer: Areas, thicknesses, phases, paths, densities, efficiencies, and rates**					