

Program of ITICAT 2024

10th July 2024 – Day 1

10:30-17:00	Registration open, Kemistintie 1, Chemical Engineering School of Aalto University, Entrance lobby
11:00-13:00	Lunch (Ravintola Konnichiwa Otaniemi. The restaurant is in the subway station building of Aalto University. Lunch tickets are in the registration bag)

Presentations (Meeting Room: Ke1)

13:00-13:10	Welcome address (Meeting room: Ke1), Chairperson: Yongdan Li	
13:10-14:00	Plenary 1 Karoliina Honkala	Understanding of the electrocatalytic reactions at the atomic scale through first principles calculations
14:00-14:50	Plenary 2 Shizhang Qiao	Electrocatalytic refinery for production of fuels and chemicals
14:50-15:30	Coffee Break	
Chairperson: Chuan Wang		
15:30-16:00	Keynote 1 Fumiaki Amano	Proton exchange membrane-based photoelectrochemical cells for water splitting under vapor feeding
16:00-16:30	Keynote 2 Daiqi Ye	Exploration of surface-active oxygen species and metal-support interaction in VOCs oxidation catalysts
16:30-17:00	Keynote 3 Yicheng Zhao	Development of electrode materials for solid oxide fuel cells
19:00-21:00	Reception at Café Ursula , Address: Ehrenströmintie 3, 00140, Helsinki (A private room in the bar has been booked for participants. Please inform the registration desk if you need transportation tickets.)	

11th July 2024 – Day 2

Presentations (Meeting Room: Ke1)

Meeting room: Ke1, Chairperson: Karoliina Honkala

09:00-09:50	Plenary 3 Justin Hargreaves	Comparison of the lattice nitrogen reactivity of ternary and quaternary metal nitrides
09:50-10:20	Keynote 4 Takeharu Yoshii	Advanced temperature-programmed desorption for characterization of catalyst materials
10:20-10:50	Keynote 5 Chuan Wang	Development of ultra-low content noble metal catalysts for the production of vinyl chloride
10:50-11:10	Coffee Break	

Parallel sessions. In the morning, 2 meeting rooms will open (Ke1 and Ke3). Ke1 is offline presentation room. Ke3 is online presentation room.

Presentations of Session 1 (Meeting Room: Ke1)

Chairperson: Fumiaki Amano

11:10-11:35	Invited Talk 1 Mingli Fu	Research on manganese-based materials for ozone catalytic oxidation of VOCs
11:35-12:00	Invited Talk 2 Yi Cui	Vacuum-connected setups for electrocatalytic splitting of water
12:00-12:25	Invited Talk 3 Yun Hu	Study of MOFs-based photocatalysts on the construction of oxidation-reduction coupled system

12:25-13:30	Lunch, will be served at the lobby out of meeting rooms.			
Online Presentations of Session 2 (Meeting Room: Ke3)				
Chairperson: Yicheng Zhao				
11:10-11:40	Keynote 6 Miguel Bañeres	Operando studies for indoor air quality and oxygen activation on ceria based catalysts Online		
11:40-12:05	Invited Talk 4 You Han	Dynamic evolution mechanism of surface active sites on Cu-based catalysts Online		
12:05-12:25	Ruiz Martínez Esperanza	Ni-GDC doped Fe as cathodic catalyst for syngas production in solid oxide electrolysis cells Online		
12:25-13:30	Lunch, will be served at the lobby out of meeting rooms.			
Parallel sessions. In the afternoon, 3 meeting rooms will open (Ke1, Ke2 and Ke3). Ke1 and Ke2 are offline presentation rooms. Ke3 is online presentation room.				
Presentations of Session 1 (Meeting Room: Ke1)				
Chairperson: Yi Cui				
13:30-13:55	Invited Talk 5 Shuo Cao	Effect of an electric field on the weak interaction of two-dimensional stacked bilayer materials		
13:55-14:15	Wenwen Tian	Hydrogen output and energy generation amid electrocatalytic degradation of sewage pollutants		
14:15-14:35	Koki Chida	Ordered carbonaceous frameworks based on molecular-level design and electrocatalytic applications		
14:35-14:55	Marzieh Bagheri	Revolutionizing water electrolysis: designing a noble metal free anode for sustainable hydrogen production from lignin derivatives.		

14:55-15:20	Invited Talk 6 Shetian Liu	Reaction and process coupling strategies to enhance methane dehydroaromatization		
15:20-16:00	Coffee Break and Poster Exhibition (In the lobby out of meeting rooms)			
Chairperson: Takeharu Yoshii				
16:00-16:20	Haiman Hu	The ionic liquid confinement in solid polymer composite electrolytes and its impact on the Li ⁺ transport pathway		
16:20-16:40	Jiaqi Wang	Electrochemical preparation of super green liquid organic hydrogen carriers (LOHCs) from lignin-derived molecules		
16:40-17:00	Ali Asad	Electrochemical oxidation of lignin biomass to promote low-cost hydrogen		
19:00-21:00	Banquet (Nuuksion Taika. A bus with around trip to the restaurant is booked for the participants who have registered for banquet. The bus departs from Aalto University at 18:00. The bus will wait participants in the car parking out of Chemical Engineering School.)			
Presentations of Session 2 (Meeting Room: Ke2)				
Chairperson: Yun Hu				
13:30-13:55	Donghan Xu	Bi-redox molecules derived from nucleophilic substitution for symmetric batteries		
13:55-14:15	Penghui Yao	A dual modification strategy of highly active catalytic cathode for proton-conducting solid oxide fuel cell with Ni-doped PrBaFe _{1.9} Mo _{0.1} O _{6-δ} A		
14:15-14:35	Jiaqi Huang	Enhanced Li ⁺ transport ability in solid-state lithium batteries through polymerized ionic liquid network with encapsulated ionic liquid		
14:35-14:55	Mengxuan Zhang	Oxygen vacancy boosted low-temperature catalytic acetylene decomposition on ceria for controllable graphene growth		
14:55-15:20	Tianyang Wen	Recent works on MOF hybrid membrane for non-aqueous redox flow battery		

15:20-16:00	Coffee Break and Poster Exhibition (In the lobby out of meeting rooms)			
Chairperson: Shuo Cao				
16:00-16:20	Wenjuan Zhao	A molten salt-confined protonic ceramic fuel cell (MSC-PCFC)		
16:20-16:40	Jiajia Li	The Li ⁺ flux within solid polymer electrolytes and its impact on the solid-state interphase		
19:00-21:00	Banquet (Nuksion Taika. A bus with around trip to the restaurant is booked for the participants who have registered for banquet. The bus departures from Aalto University at 18:00. The bus will wait participants in the car parking out of Chemical Engineering School.)			
Online Presentations of Session 3 (Meeting Room: Ke3)				
Chairperson: Mingli Fu				
13:30-13:55	Invited Talk 7 Cuijuan Zhang	Engineering the interface of solid-state sodium battery Online		
13:55-14:15	Invited Talk 8 Yuchao Li	Hydrothermal preparation of porous oxides assisted by ionic liquids and the application of their supported gold catalysts Online		
14:15-14:40	Invited Talk 9 Fangyong Yu	New insights into single-step fabrication of finger-like anode/electrolyte for high-performance direct carbon solid oxide fuel cells: experimental and simulation studies Online		
14:40-15:00	Invited Talk 10 Likai Wang	Study on the enhanced mechanism of ethylene production through precise control of metal nanoclusters in carbon dioxide electroreduction Online		
15:00-15:20	Running Kang	Activity relationship and reaction mechanism over CuOCeO ₂ catalysts for NH ₃ self-sustained combustion Online		
19:00-21:00	Banquet (Nuksion Taika. A bus with around trip to the restaurant is booked for the participants who have registered for banquet. The bus departures from Aalto University at 18:00. The bus will wait participants in the car parking out of Chemical Engineering School.)			

12th July 2024 – Day 3

Chairperson: Shetian Liu

Presentations (Meeting Room: Ke1)

9:00-9:50	Plenary 4 Fei Wei	Effect of carbon nanotubes and carbon coatings on Li-ion transfer in silicon-based anodes
9:50-10:15	Invited Talk 11 Imran Asghar	Additive manufacturing of reversible ceramic fuel cells
10:15-10:40	Invited Talk 12 Xianzhu Fu	Electrocatalytic co-generation of electricity/hydrogen and valuable chemicals from carbon-based fuels without CO ₂ emission
10:40-11:00	Coffee Break	
11:00-13:00	Lunch (Ravintola Konnichiwa Otaniemi. The restaurant is in the subway station building of Aalto University. Lunch tickets are in the registration bag)	
13:00-16:00	Blueberry picking and Nuuksio forest hiking. (Please inform the volunteer team in the reception desk if you would like to join. A bus with round trip will be booked for the participants.)	