

2021

Ajou – Kyoto – Zhejiang Joint Symposium on Energy Science (Online based)

29th November 2021



Organized by

Department of Energy Systems Research, Ajou University
Graduate School of Energy Science, Institute of Advanced Energy, Kyoto University
College of Energy Engineering, Zhejiang University



Symposium Program

29th November (Monday)

Note: China Standard Time (CST) + 1 hr = Korea/Japan Standard Time (KST/JST)

Time (KST/JST)	Program		
10:00~10:15	Opening Remark		
10:15~11:45	General Session 1		
11:45~12:00	Break		
12:00~12:45	Young Scientist Session 1		
	1A (Parallel)	1B (Parallel)	1C (Parallel)
12:45~14:00	Lunch Break		
14:00~15:30	General Session 2		
15:30~15:45	Break		
15:45~17:15	General Session 3		
17:15~17:30	Break		
17:30~18:15	Young Scientist Session 2		
	2A (Parallel)	2B (Parallel)	2C (Parallel)
18:15~18:30	Closing Remark		

Opening Remark

Time (KST/JST)	(main/S1) Zoom ID: XXXXXXXXXX
10:00~10:15	Prof. Hye-Young Jang (Dean, Department of Energy System Research, Ajou University)
	Prof. Keiichi N. Ishihara (Graduate School of Energy Science, Kyoto University)
	Prof. Xiang Gao (Dean, College of Energy Engineering, Zhejiang University)

General Session 1

Time (KST/JST)	Chair: Prof. Hosung Seo (Ajou) (main/S1) Zoom ID: XXXXXXXXXX	
10:15~10:30	G01	Prof. Tomoaki Kunugi (Zhejiang University)
	<i>Phase Detection aided Thermometry and Its Application to Natural Convective Subcooled Flow Boiling in a Narrow Gap</i>	
10:30~10:45	G02	Prof. Jongkook Hwang (Ajou University)
	<i>Inorganic Nanoporous Materials with Tailored Structures and Morphologies for Energy Storage Applications</i>	
10:45~11:00	G03	Prof. Hyeong Gi Park (Ajou University)
	<i>Various strategic technologies for improving efficiency in Si-based heterojunction solar cells</i>	
11:00~11:15	G04	Prof. Xiao Zhang (Zhejiang University)
	<i>Catalytic Conversion of Carbon Dioxide</i>	
11:15~11:30	G05	GCOE-A (Kyoto University, Group Project)
	<i>Alternative strategies for the carbon-neutral transition to advance renewable energy supply in specific Japanese manufacturing sectors</i>	
11:30~11:45	G06	Weishan Liu (Zhejiang University)
	<i>Integrated electrochemical membrane system for high pure CO₂ regeneration of Direct air capture</i>	
11:45~12:00	Break	

Young Scientist Session 1A (Parallel Session 1A)

Time (KST/JST)	Chair: Prof. Jae-Hyun Lee (Ajou) (main/S1) Zoom ID: [REDACTED]	
12:00~12:45	Y01A	Chen Zhilv (Zhejiang University, Ph.D. course) Research on Low-energy CO₂ Water-lean Absorbent and Energy-saving Process
	Y02A	Kaixiang Xing (Zhejiang University, Ph.D. course) Experimental and numerical investigation on the dynamic characteristics of a lab-scale transcritical CO₂ loop
	Y03A	Young Chul Kim (Ajou University, Ph.D. course) In-situ second-harmonic generation imaging of laser ablation in MoS₂ bilayer
	Y04A	Ju Young Sung (Ajou University, M.S. course) Two-dimensional electron gas at thin film oxide heterostructures and its applications to memories and transistors
	Y05A	Jungseok Choi (Ajou University, M.S. course) Strong second-order optical nonlinearity in twisted few-layer graphene
	Y06A	GCOE-B (Kyoto University, Group Project) Post COVID-19 Recovery Towards Carbon Neutral Society in Japan: Analysis on Transportation Sector
	Lunch Break	
	12:45~14:00	

Young Scientist Session 1B (Parallel Session 1B)

Time (KST/JST)	Chair: Prof. Okazaki Yutaka (Kyoto) (S2) Zoom ID: [REDACTED]	
12:00~12:45	Y01B	Afaf Eladl (Kyoto University, Ph.D. course) Susceptibility of Pseudomonas aeruginosa to different antimicrobials and studies on multidrug resistant isolates
	Y02B	Rei Akasegawa (Kyoto University, Ph.D. course) Selective phonon-mode excitation with mid-infrared free-electron laser probed by hyper-Raman scattering spectroscopy
	Y03B	Ajay Pratap (Ajou University, M.S. course) Flexible triboelectric energy harvesting and enhancement by nanostructure

	Y04B	Yeon-Joo Cheong (Ajou University, Ph.D. course) <i>Ir(trisNHCs)-catalyzed Transfer Hydrogenation of Various C1 sources using glycerol</i>
	Y05B	Jina Kim (Ajou University, Ph.D. course) <i>Development of process for hydrogen production without CO2 emission through direct catalytic pyrolysis of CH4.</i>
	Y06B	Li Zhang (Zhejiang University, Ph.D. course) <i>Thermodynamics of the adsorption and conversion of CO2 and H2O based on photothermal synergistic reaction</i>
12:45~14:00	Lunch Break	

Young Scientist Session 1C (Parallel Session 1C)

Time (KST/JST)	Chair: Prof. Linghong Chen (Zhejiang) (S3) Zoom ID: [REDACTED]		
12:00~12:45	Y01C	Hyeonkyeong Kim (Ajou University, Ph.D. course) <i>Mixed-Dimensional In-Plane 1D-2D Mo6Te6-MoTe2 Heterostructures Synthesized by Te-Flux-Controlled Chemical Vapor Deposition</i>	
	Y02C	Neda Poudineh (Ajou University, Ph.D. course) <i>Plasmonic Oxidation of CH4 on AuCu Bimetallic Nanoparticles</i>	
	Y03C	T. Thuy Ha Nguyen (Ajou University, Ph.D. course) <i>CO2 Methanation over CeO2-supported Cobalt Catalysts</i>	
	Y04C	Kenshiro Takaishi (Kyoto University, M.S. course) <i>Fabrication and Characterization of Biomimetic Calcium Phosphate Coatings on Bioabsorbable Magnesium Alloys</i>	
	Y05C	Tomoki Sakamoto (Kyoto University, Ph.D. course) <i>Observation of DNA triplex structures in living human cells using in-cell NMR technique</i>	
	Y06C	Xudong Du (Zhejiang University, Ph.D. course) <i>Fuel gas production through waste polyethylene gasification using bauxite residue as oxygen carrier</i>	
	12:45~14:00	Lunch Break	

General Session 2

Time (KST/JST)	Chair: Benjamin-Craig McLellan (Kyoto) (main/S1) Zoom ID: [REDACTED]	
14:00~14:15	G07	Prof. Ju Min Kim (Ajou University)
	Viscoelastic Microfluids and Its Applications	
14:15~14:30	G08	Tianyu Zhang (Zhejiang University)
	Substrate Thermal Conductivity-Mediated Condensation Heat Transfer Enhancement on the Honeycomb-Like Superhydrophobic Surfaces	
14:30~14:45	G09	Prof. Hyungwoo Lee (Ajou University)
	Hot Electron Tunneling in Pt/LaAlO₃/SrTiO₃ Heterostructures for Enhanced Photodetection	
14:45~15:00	G10	Prof. Chen Qu (Kyoto University)
	Vanillin production from woody biomass by microwave heating	
15:00~15:15	G11	Hao Guo (Zhejiang University)
	Acid-base bifunctional catalyst with coordinatively unsaturated Co-N_x active sites for the simultaneous conversion of microalgal triglycerides and free fatty acids into biodiesel	
15:15~15:30	G12	Prof. Kimi Ueda (Kyoto University)
	Using SNS to Promote Pro-environmental Behavior: A Case Study Focusing on Psychology of "Instagenic"	
15:30~15:45	Break	

General Session 3

Time (KST/JST)	Chair: Prof. Xiao Zhang (Zhejiang) (main/S1) Zoom ID: [REDACTED]	
15:45~16:00	G13	Prof. Vinayak Juvekar (Ajou University)
	Two-photon activated azo dye for photodynamic therapy	
16:00~16:15	G14	Dr. Arumugam Sivanantham (Ajou University)
	Synthesis and electrochemical characterizations of high-entropy-alloy: Efficient electrocatalyst for water splitting	
16:15~16:30	G15	Yilun Luo (Kyoto University)
	A study on the interaction between capacity and carbon pricing in liberalized electricity market	



16:30~16:45	G16	Dr. Xiaojie Lin (Zhejiang University)
	District heating system flexibility and its role in integrated energy system	
16:45~17:00	G17	Samin Rassi (Kyoto University)
	Understanding JEPX spot price behavior using a structural model	
17:00~17:15	G18	Khaled Ali (Kyoto University)
	Non-destructive Inspection for the hidden isotopes using Laser Compton scattering gamma rays	
17:15~17:30	Break	

Young Scientist Session 2A (Parallel Session 2A)

Time (KST/JST)	Chair: Prof. Hyungwoo Lee (Ajou) (main/S1) Zoom ID: [REDACTED]	
17:30~18:15	Y07A	Qimeng Lv (Zhejiang University, Ph.D. course)
	Characterization of interacting fuel droplets evaporation at moderately elevated temperature and pressure	
	Y08A	Xinyu Xu (Zhejiang University, M.S. course)
	Optimizing the well spacing and heating power for in situ thermal desorption towards more sustainable and carbon-neutral thermal remediation of organic-contaminated soil: A numerical study via a coupled water-vapor-heat transport model	
	Y09A	Huifeng Xu (Zhejiang University, Ph.D. course)
	Unexpected rise of atmospheric secondary aerosols from biomass burning during the COVID-19 lockdown period in Hangzhou, China	
	Y10A	Wen Hou (Zhejiang University, Ph.D. course)
	GeFSIX-1-Cu based semi-interpenetrating network mixed matrix membranes for efficient CO₂ separation	
	Y11A	Soosan Kim (Ajou University, Researcher)
	Upcycling of waste teabags via catalytic pyrolysis in carbon dioxide over HZSM-11	
Y12A	Chanyeong Park (Ajou University, M.S. course)	
Catalytic Co-pyrolysis of Wood and Food Waste for Reducing the Formation of Benzene Derivatives		

Young Scientist Session 2B (Parallel Session 2B)

Time (KST/JST)	Chair: Prof. Takada Masatsugu (Kyoto) (S2) Zoom ID: [REDACTED]	
17:30~18:15	Y07B	Rahul Kumar Singh (Ajou University, M.S. course) Effect of Milling Time on Microstructural Evolution of Mechanically Alloyed FeCoMnNiCu_{0.5}Cr_{0.5} High Entropy Alloy
	Y08B	Giwook Lee (Ajou University, B.S. course) Rapid room temperature synthesis of dabco MOF
	Y09B	Jiang Yuhan (Kyoto University, M.S. course) How did anti-epidemic measures for COVID-19 affect on electricity consumption: comparative analysis of China, Sweden and Germany
	Y10B	Encheng Feng (Zhejiang University, M.S. course) Research on data-driven operation control of secondary loop of district heating system
	Y11B	Yoo Jae Jeong (Ajou University, M.S. course) Dual Textured BiVO₄/Sb:SnO₂ Heterostructure for Enhanced Photoelectrochemical Water-splitting
	Y12B	Han Bom Kim (Ajou University, M.S. course) Ammonia decomposition over Ru/Al₂O₃ catalysts

Young Scientist Session 2C (Parallel Session 2C)

Time (KST/JST)	Chair: Dr. Yangpeng Liu (Zhejiang) (S3) Zoom ID: [REDACTED]	
17:30~18:15	Y07C	Yansong Luo (Zhejiang University, Ph.D. course) An Optimization Approach for Designing Flow Field and Electrode Architectures of Redox Flow Batteries
	Y08C	Yi Dong (Zhejiang University, Ph.D. course) Accelerated identification of high-performance catalysts for low-temperature NH₃-SCR by machine learning
	Y09C	Qadeer Akbar Sial (Ajou University, Ph.D. course) Morphology Dependent Lead Vanadate for Deformable Supercapacitor
	Y10C	Jiazhen Yap (Kyoto University, Ph.D. course) A global review of hydrogen economy research, development, and expectations, 1972 - 2019



Y11C	Omae sobhi mohamed mahmoud eladl (Kyoto University, Ph.D. course)
Detection of interaction between functional RNA and its target compound in living human cell using 2D in-cell NMR	
Y12C	Zhicheng Wu (Zhejiang University, Ph.D. course)
Electrostatic Enhanced Capture of Black Carbon Based on Novel Collecting Plate with Particle Trap	

Closing Remark

Time (KST/JST)	(main/S1) Zoom ID: XXXXXXXXXXXX
18:15~18:30	Prof. Hye-Young Jang (Dean, Department of Energy System Research, Ajou University)
	Prof. Tetsuji Hirato (Dean, Graduate School of Energy Science, Kyoto University)
	Prof. Qunxing Huang (Vise dean, College of Energy Engineering, Zhejiang University)