

The 14th Asian Coating Workshop 2024

Date May 8 - 10, 2024

Place Vision hall (6th floor), ISC Building,
LG Science Park, 30 Magokjungang 10-ro,
Gangseo-gu, Seoul, South Korea



Organized by



고려대학교 4단계 BK21 화공생명공학교육연구단
Korea University BK21 FOUR R&E Center for
Chemical & Biological Engineering



대한화학공학회
The Korean Institute of Chemical Engineers



코팅기반 화학공정 연구센터
Center for Coating Materials and Processing



에너지·환경 소재
공정조합설계 연구단
Energy and environmental materials Process integration research Center

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Conference Chair

Name	Affiliation	Country
Hyun Wook Jung	Korea University	Korea

Local Organizing Committee

Name	Affiliation	Country
Kyung Hyun Ahn	Seoul National University	Korea
Joona Bang	Korea University	
Kyu Hyun	Pusan National University	
Hyun Wook Jung	Korea University	
Seon Yeop Jung	Dankook University	
Dongjae Kim	Soonchunhyang University	
Young Ki Lee	Hankyong National University	
Jaewook Nam	Seoul National University	
Jun Dong Park	Sookmyung Women's University	
Seung-Ho Yu	Korea University	

※ The name list is sorted by the last name

International Organizing Committee

Name	Affiliation	Country
Yi-Ju Chou	National Taiwan University	Taiwan
Shuzo Fuchigami	Precision Coating Technology Consulting	USA
Susumu Inasawa	Tokyo University of Agriculture and Technology	Japan
Gen Inoue	Kyushu University	Japan
Yoshiyuki Komoda	Kobe University	Japan
Ying-Chih Liao	National Taiwan University	Taiwan
Ta-Jo Liu	National Tsing Hua University	Taiwan
Vinjamur Madhu	Indian Institute of Technology Bombay	India
Kentaro Taki	Kanazawa University	Japan
Mahesh S Tirumkudulu	Indian Institute of Technology Bombay	India
Takeaki Tsuda	Kanazawa University	Japan
Yoshiko Tsuji	The University of Tokyo	Japan
An-Bang Wang	National Taiwan University	Taiwan
Masato Yamamura	Kyushu Institute of Technology	Japan

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Organization & Support

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Korea University Chemical & Biological Engineering, BK21



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Korea University BK21 FOUR R&E Center for
Chemical & Biological Engineering

The Korean Institute of Chemical Engineers - Transport Phenomena Division



CCMP (Center for Coating Materials and Processing)



EPIC (Energy and Environmental Materials Process Integration Research Center)



EPiC 에너지·환경 소재
공정조합설계 연구단
Energy and environmental materials Process integration research Center

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Program at glance

The 14th Asian Coating Workshop 2024
May 8 - 10, 2024, Seoul, South Korea

	5/8 WED. (Day 1)	5/9 THU. (Day 2)	5/10 FRI. (Day 3)
Morning		Professor session	Experience Activities
Afternoon	Arrival in Seoul	Short Oral & Poster Session	Luncheon & Farewell
Evening	Registration & Welcome Reception	Banquet & Award Ceremony	

Conference schedule

The 14th Asian Coating Workshop 2024
May 8 - 10, 2024, Seoul, South Korea

Time	24-05-08 (Wed.)	24-05-09 (Thu.)	24-05-10 (Fri.)
8:50		Opening remark (08:50-09:00)	
9:00		Professor session (09:00-12:30) *Poster put-up during coffee break time	LG Chem's R&D activities for the future : R&D of Platform Tech. center <i>Project Leader, Ki Hwan Kim</i> (09:00~09:30)
9:30			
10:00			
10:30			
11:00			
11:30			
12:00			LG Science Park Tour & Outdoor activity - Seoul Botanic Park - (09:30-12:30)
12:30		Lunch (12:30-13:30)	Lunch & Farewell (12:30-14:00)
13:00		*Group photo before lunch	
13:30			
14:00			
14:30		Oral session (13:30-16:15)	
15:00			
15:30			
16:00			
16:30		Poster session (16:15-17:45)	
17:00			
17:30	Registration & Welcome Reception (17:00-19:30)	Move to banquet place (17:45-18:00)	
18:00			
18:30			
19:00			Banquet & Award ceremony *Lucky draw (18:00-20:00)
19:30			
20:00			

Professor session

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Location : Vision Hall (6th floor)

Time	No.	Title	Professor
Professor session I (Session chair : Prof. Hyun Wook Jung)			
09:00-09:15	PO-1	Mass transfer in drying emulsions	Susumu Inasawa (Tokyo Univ. of Agriculture and Technology)
09:15-09:30	PO-2	Near-wall orientational dynamics of rod-like particles in confined shear flows: Couette and Poiseuille flows	Byoungjin Chun Hyun Wook Jung (Korea Univ.)
09:30-09:45	PO-3	Recent Advances in Printing Material Formulation	Ying-Chih Liao (National Taiwan Univ.)
09:45-10:00	PO-4	Recent research topics on the preparation process and microstructural analysis of slurries at Kobe University	Yoshiyuki Komoda (Kobe Univ.)
10:00-10:15	Coffee break & Poster put-up		
Professor session II (Session chair : Prof. Ying-Chih Liao)			
10:15-10:30	PO-5	Research Progress of Microstructures and Smart Process Laboratory	Dongjae Kim (Soonchunhyang Univ.)
10:30-10:45	PO-6	Recent advancement in numerical modeling for particle-laden fluids with wide particle size distribution	Yi-Ju Chou (National Taiwan Univ.)
10:45-11:00	PO-7	Instability in directional solidification of UV-curable coating	Masato Yamamura (Kyushu Institute of Tech.)
11:00-11:15	PO-8	Numerical investigation of flow and mixing behavior of thixotropic fluids	Seon Yeop Jung (Dankook Univ.)
11:15-11:30	Coffee break		
Professor session III (Session chair : Prof. Susumu Inasawa)			
11:30-11:45	PO-9	On the recent development of microfluidic technology for the new coating applications in the National Taiwan University	An-Bang Wang (National Taiwan Univ.)
11:45-12:00	PO-10	Coalescence of particle-coated oil droplets owing to evaporation of a continuous water phase	Kohei Abe (Okinawa Institute of Sci. and Tech.)
12:00-12:15	PO-11	Rheology study of complex fluids using mesoscale simulations and its application towards the process relevant energy storage materials	Young Ki Lee (Hankyong National Univ.)
12:15-12:30	PO-12	Value Chains among University, Chemical Company, and Industrial Machine Company	Kentaro Taki (Kanazawa Univ.)
12:30-13:30	Group photo & Lunch		

Location : Vision Hall (6th floor)

Time	No.	Title	Presenter
Oral session I (Session chair : Prof. Kentaro Taki)			
13:30-13:45	O-1	Airflow Analysis of a Coating Room by Full Cloud CAE	Nobuo Hamamoto (<i>AndanTEC</i>)
13:45-13:55	O-2	Evaluation of electrochemical and rheological properties of lithium ion battery anode slurries from Bench-scale in-line pipe flow	Chan Hyeok Ahn (<i>Seoul National Univ.</i>)
13:55-14:05	O-3	Fabrication of Liquid Metal Soldering Composite with Ultra-low Reflow Temperature for Surface-mount Technology of Flexible Printed Circuit Board	Fang-Chen Kuo (<i>National Taiwan Univ.</i>)
14:05-14:15	O-4	Evaluating the Role of Binders and Active Materials for Anode Slurries Using Nonlinear Rheological Properties	Jeonghyeon Lee (<i>Pusan National Univ.</i>)
14:15-14:25	O-5	Rapid UV Curing DES Coatings with Enhanced Conductivity and Antimicrobial Properties	Jia-Yu Yang (<i>National Sun Yat-sen Univ.</i>)
14:25-14:35	Coffee break		
Oral session II (Session chair : Prof. Dongjae Kim)			
14:35-14:45	O-6	Addressing Instability in Interface Tracking of Transient Computation of Free-Surface Flow	Yundong Yang (<i>Seoul National Univ.</i>)
14:45-14:55	O-7	A Predictive Model Enabling Ultrahigh Particle Containing Composite for High-Performance Packaging Materials	Wei-Cheng Chao (<i>National Taiwan Univ.</i>)
14:55-15:05	O-8	Visualization of extensional flow of complex fluids through DoS-CaBER and analysis through Machine learning	Minhyuk Im (<i>Seoul National Univ.</i>)
15:05-15:15	O-9	Refining Bacterial Cellulose Packaging with Mercerization, In-Situ Spraying, and Dip Coating Techniques	Cheng-Ying LI (<i>National Taiwan Univ.</i>)
15:15-15:25	O-10	The Synthesis of AgNPs/skim natural rubber/bacteria cellulose bio- polymeric composite for humidity sensor	Puttakhun Meemai (<i>National Taiwan Univ.</i>)
15:25-15:35	Coffee break		
Oral session III (Session chair : Prof. Yi-Ju Chou)			
15:35-15:45	O-11	Trends of vortex formation in the feed slot of slot coating flows	Sangho Oh (<i>Seoul National Univ.</i>)
15:45-15:55	O-12	What governs kinetics of water evaporation from polymer solutions?	Masahiko Tanaka (<i>Tokyo Univ. of Agriculture and Technology</i>)
15:55-16:05	O-13	Thermally Conductive Polymer Composite for Thermal Management Material	Yi-Chen Weng (<i>National Taiwan Univ.</i>)
16:05-16:15	O-14	How the molecular weight of carboxymethyl cellulose affects the dispersion of silicon particles for lithium-ion batteries	Kyeong Jin Kim (<i>Seoul National Univ.</i>)

Location : Lobby of Conference Hall (5th floor)

Time	No.	Title	Presenter
16:15-17:45 (90min)	P-1	Study on the dispersion state s of carbon particles and ionomer in water/alcohol solvents using time domain NMR	Akira Ogawa (Kobe Univ.)
	P-2	Evaluation of dual-curing initiators by real-time FT-IR	Ayase Yokota (Kanazawa Univ.)
	P-3	Utilizing a data driven model for numerical simulation of non-isothermal polymer melt flow	Byeong Uk Youn (Dankook Univ.)
	P-4	Investigation of hydrodynamic for viscoelastic fluid using Lattice Boltzmann Method	Gwan Hee Jeong (Seoul National Univ.)
	P-5	Dispersion process of silica particles in epoxy resin using a planetary centrifugal mixer based on energy balance equation	Haruki Morishita (Kobe Univ.)
	P-6	Influence of hydrodynamic interaction on stratification during film drying process: Effects of particle size ratio	Heechan Kim (Korea Univ.)
	P-7	How to accurately measure the maximum adhesion force of a liquid on a solid surface	Hsi Hsuan Huang (National Taiwan Univ.)
	P-8	Assessing the impact of slurry mixing conditions on Electrochemical Lithium Recovery (ELR) system performance	Hwan Gyu Song (Dankook Univ.)
	P-9	Investigation of Flow Field Variation in Multilayer Slot Coating	Jen-Yu Hu (National Taiwan Univ.)
	P-10	Rheological analysis of Ni-rich cathode slurries with oxalic acid additive for controlling gelation	Jimin Kang (Korea Univ.)
	P-11	Thermal effect on shear-induced particle migration in colloidal suspensions under planar Poiseuille flow	Jung Hwan An (Korea Univ.)
	P-12	Rheological Analysis of Battery Electrode Slurries: Effects of Conducting Additives Composition and Mixing Conditions	Kimin Kim (Soonchunhyang Univ.)
	P-13	Effect of Ethanol on the Rheological properties of Lithium-ion Battery Anode Slurries	Min Seo Park (Pusan National Univ.)
	P-14	The influence of fluid viscosity on the deposition characteristics of colloidal particles suspended in Newtonian and non-Newtonian fluids	Minsun Hwang (Dankook Univ.)
	P-15	Evaluation of Dual Curable Initiators by Photo Rheometer	Shin-nosuke Nagasaki (Kanazawa Univ.)

Location : Lobby of Conference Hall (5th floor)

Time	No.	Title	Presenter
16:15-17:45 (90min)	P-16	Photo-induced phase separation to create porous coatings: effect of particle addition	So Sato (Kyushu Institute of Tech.)
	P-17	Production of direct joining specimens of metal and resin by the fused filament lamination (FFF) method	Soma Kojitani (Kanazawa Univ.)
	P-18	Direct imaging of liquid crystal orientation near a contact line	Taichirou Senoo (Kyushu Institute of Tech.)
	P-19	Stability of the conductive path formed in AB slurries under shear flow - rheo-impedance study -	Toshiki Tanisada (Kobe Univ.)
	P-20	Preparation of Cu-based p-type oxide semiconductor thin films for energy devices	Tsubasa Otsuki (The Univ. of Tokyo)
	P-21	Nanoindentation of porous polymer-ceramic composite coatings	Wataru WAKAYAMA (Kyushu Institute of Tech.)
	P-22	Simulation study of the crystallinity on the colloidal film in drying process	Yeji Kim (Hankyong National Univ.)
	P-23	Rheo-impedance behavior of inkjet inks during drying process	Yoshifumi Yamagata (Anton Paar Japan K.K.)
	P-24	Analysis of Mechanical Properties of PVDF-HFP Polymer Binders by Molecular Dynamics Simulation	Seung Weon Jeong (Ewha Womans Univ.)
	P-25	Decomposition mechanism of fluoro-ketone as C3F6O: alternative film etching gas	Minji Kim (Ewha Womans Univ.)
	P-26	A Study on the Gas Decomposition Pathway Analysis for the Development of Fluorocarbon Film Deposition and Etching Process Using alternative Low-GWP Gas	Mihyeon Jo (Ewha Womans Univ.)