

The 3rd Asian Coating Workshop (ACW2011)

**July 4-5, 2011
Kitakyushu International Conference Hall
Fukuoka, Japan**



**Coating Research Association, The Society of Chemical Engineers, Japan
Division of Materials & Interfaces, The Society of Chemical Engineers Japan**

PROGRAM

Monday, July 4, 2011

Wang group (Chair : Prof. Wang)

National Taiwan University, Taiwan

- 9:00 AM **A brief view to researches of Advanced Thermofluid Control Lab at Institute of Applied Mechanics, National Taiwan University**
An-Bang Wang ----- 1
- 9:20 AM **Investigation of controllable heat-triggered micro-bubble generation in a double-channel design for “Air-Bubble Coating”**
Yu-Wen Hsich, I-Chun Lin, An-Bang Wang, Guan-Wei Wu, Wen-Pin Shih -- 2
- 9:40 AM **The theoretical and experimental investigations of operation window of controllable bubble generation for “Air-Bubble Coating”**
I-Chun Lin, Yu-Wen Hsich, An-Bang Wang, Guan-Wei Wu, Wen-Pin Shih -- 3
- 10:00 AM Break

Jung group (Chair : Prof. Jung)

Department of Chemical and Biological Engineering, Korea University, Korea

- 10:30 AM **Dynamics and operability windows in 2-D slot coating flows**
Si Hyung Lee, See Jo Kim, Hyun Wook Jung ----- 4
- 10:50 AM **Analysis of drying of colloidal drop through multi-speckle diffusing wave spectroscopy(MSDWS)**
Jeong Yong Lee, Ji Won Hwang, Seong Jae Lee, Hyun Wook Jung ----- 5
- 11:10 AM **Flow behavior of paints in 3-roll coating system for automotive pre-painted metal sheets**
Jin Ho Kim, In Jun Lee, Seung Man Noh, Jong Myung Park, Hyun Wook Jung 6

Ohshima/Taki group (Chair : Prof. Taki)

Kyoto University, Japan

11:30 AM **Real time FT-IR spectroscopy for monitoring a UV curing process**
Kentaro Taki, Hiroyuki Mabuchi, Masahiro Ohshima ----- 7

11:50 AM **Effect of pre-drying on preparation of porous thin polyimide precursor film via CO₂-induced phase separation**
Hiroyuki Mabuchi, Kentaro Taki, Masahiro Ohshima ----- 8

12:10 PM Lunch (Lunch Box in Conference Hall Restaurant)

13:10 PM 2 min Presentations for each Posters

13:40 PM -14:50 PM Poster Session

Liu group (Chair : Prof. Liu)

Department of Chemical Engineering, National Tsing Hua University, Taiwan

15:00 PM **What Takes to Develop a Coated Product With OLED and D2T2 as Examples**
Ta-Jo Liu ----- 9

15:20 PM **Three-Dimensional Observation on the Liquid Emptying Process from a Scaled-up Gravure Cell**
Chia-Ching Lee, Ta-Jo Liu ----- 10

15:40 PM **Gas barrier film production by wet coating process**
Chin-Chia Liu, Ta-Jo Liu ----- 11

16:00 PM Break

Ahn group (Chair : Prof. Ahn)

School of Chemical and Biological Engineering, Seoul national University, Korea

16:20 PM	Microstructure and rheology of coating liquids composed of bi-modal colloidal particles <u>Jooyoung Lee</u> , Seong Jae Lee, Kyung Hyun Ahn, Seung Jong Lee ----- 12
16:40 PM	A new method to characterize the interfacial force in ink transfer process <u>Milim Yu</u> , Kyung Hyun Ahn, Seung Jong Lee ----- 13
17:00 PM	The effect of dispersant on the film formation of multi-layered ceramic capacitor <u>Mi Kyung Kang</u> , Jooyoung Lee, Kyung Hyun Ahn, Seung Jong Lee ----- 14

17:20 PM Discussion

18:00 PM Banquet

Tuesday, July 5, 2011

Vinjamur group (Chair : Prof. Yamaguchi)

Department of Chemical Engineering, Indian Institute of Technology Bombay

9:00 AM **A simple method to optimize drying conditions in multi-zone dryers for polymer coating**
Madhu Vinjamur ----- 15

Yamaguchi/Fujita/Inasawa group (Chair : Prof. Inasawa)

Department of Chemical System Engineering, The University of Tokyo, Japan

9:20 AM **Simulation model of drying colloidal suspension on substrate**
Masahiro Fujita, Osamu Koike, Yukio Yamaguchi ----- 16

9:40 AM **Control of anisotropic refractive indices of colloidal particulate films formed by drying of colloidal suspension**
Kohei Yamaguchi, Yoshihisa Hirano, Susumu Inasawa, Yukio Yamaguchi --- 17

10:00 AM **Self-organized periodic pattern formation of cracks during drying of silica colloidal suspension**
Susumu Inasawa, Yukio Yamaguchi ----- 18

10:20 AM **Controlling The Morphology of Polymer-Dispersed Liquid Crystal Films Via Photopolymerization Induced Phase Separation**
Seiichi Ohta, Susumu Inasawa, Yukio Yamaguchi ----- 19

10:40 AM Break

Ougizawa group (Chair : Prof. Yamamura)

Department of Organic and Polymeric Materials, Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan

11:00 PM **Solidification process of polymer solution coating in surface and interfacial region**
Reika Katsumata, Keiichi Kuboyama, Toshiaki Ougizawa ----- 20

Yamamura group (Chair : Prof. Yamamura)

Department of Applied Chemistry, Kyusyu Institute of Technology

11:20 AM **The effect of adjacent cell on liquid transfer from gravure cells to a flat surface**
Yueh-hung Chang, Masato Yamamura, Yoshihide Mawatari, Hiroyuki Kage-- 21

11:40 AM **Lubrication flow of fluids confined between elastic double layers**
Kyohei Sasada, Masato Yamamura, Yoshihide Mawatari, Hiroyuki Kage,
Atsushi Sogabe*, and Kei Wanatabe*
Kyushu Institute of Technology, Japan
*Shiseido Research Center, Japan ----- 22

12:00 PM **Visualizing polymer segregation by fluorescence microscopy in suspension film drying**
Daiki Morimitsu, Masato Yamamura, Yoshihide Mawatari, Hiroyuki Kage ----- 23

12:20 PM Lunch (Conference Hall Restaurant)

13: 20 PM City Tour Program

Poster (13:40PM - 14:50PM, Monday July 4)

*Poster presenters are asked to give 2min PowerPoint presentation (start at 13:10 PM)

[P1] The Scale-up of Organic Photovoltaics

Sheng-Han Chiou and Ta-Jo Liu, National Tsing Hua University, Taiwan

[P2] Film Quality and Break-up Mechanism of Narrow Coated Stripes

Bo-Kai Wang and Ta-Jo Liu, National Tsing Hua University, Taiwan

[P3] Transparent Conductive Films made by Carbon Nano Tube

Kuang-Ru Chen and Ta-Jo Liu, National Tsing Hua University, Taiwan

[P4] Surgical Gloves that can Absorb Sweat

Chi-An Liu and Ta-Jo Liu, National Tsing Hua University, Taiwan

[P5] Solution Casting of Newtonian Liquids

Yuan-Chang Huang, Chih-Pieng Tsai, and Ta-Jo Liu, National Tsing Hua University, Taiwan

[P6] Pulsing Plating Sn-Bi Electrodeposition System

Yi-Da Tsai, Chi-Chang Hu*, National Tsing Hua University, Taiwan

[P7] Effects of shear on the film formation processes of emulsion coating

Kouhei Niga, Yoshiyuki Komoda, and Hiroshi Suzuki, Kobe University, Japan

[P8] Role of polyelectrolyte in the preparation process of the slurry for the electrode of PEFC

Tomoaki Matsumiya, Yoshiyuki Komoda, and Hiroshi Suzuki, Kobe University, Japan

[P9] Drying of mixed-solvent Nafion solution films

Shohei Osa, Masato Yamamura, Yoshihide Mawatari, and Hiroyuki Kage,
Kyushu Institute of Technology, Japan

[P10] Enhanced / suppressed drying of liquid film coatings by polymeric surfactant addition

Tetsuo Nasu, Masato Yamamura, Yoshihide Mawatari, and Hiroyuki Kage,
Kyushu Institute of Technology, Japan

[P11] Electrical properties of polyamideimide-particle composite coatings

Hiroki Matsumoto, Masato Yamamura, Yoshihide Mawatari, and Hiroyuki Kage,
Kyushu Institute of Technology, Japan

[P12] Effects of film thickness and composition on retarded drying in phase-separating coatings,

Shosuke Harada, Masato Yamamura, Yoshihide Mawatari, and Hiroyuki Kage,
Kyushu Institute of Technology, Japan