with Clickable links

S5-2 Poster Presentation program at a glance

Bioresource Engineering-Colloid and Nano Technology toward Solution of Environmental Problems

Date & venue, etc.

- **Date & Time**: September 30th, 2020 (Wed.), 9:00 am - 12:10 pm
- **Venue:** Microsoft Teams (**4-parallel rooms** for online presentations)
- **Web site:** English: https://tgsw.tsukuba.ac.jp/update/session_en/414/
  Japanese: https://tgsw.tsukuba.ac.jp/update/session/391/
- **Invite lecture** Dr. Yasuyuki Kusaka
  National Institute of Advanced Industrial Science and Technology (AIST)
  "Micropatterning of colloidal thin films for high-resolution printed electronics"
- **Contact: (Session organizers)**
Toshiharu ENOMAE <t@enomae.com>
Professor, Biomaterial Engineering, Faculty of Life and Environmental Sciences, University of Tsukuba
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PROGRAM

- **Timetable:**

Time	Online Conference Room (research area)			
	A (Electronics)	B (Environment & Biology)	C (Cellulose & Paper)	D (Nano-structure)
9:00- 9:10	**Opening address** by Toshiharu Enomae, Univ. of Tsukuba (Room A)			
9:10- 9:40	**Invited lecture** by Dr. Yasuyuki Kusaka, AIST (Room A)			
9:40- 9:50	(Break)	B1 Hanxiao Wang	(Break)	D1 Han Hanlin
9:50-10:00	A1 Kuan-Hsuan Lin		C1 Abdul Halim	
10:00-10:10		(Break)		(Break)
10:10-10:20	(Break)	B2 Cheng Han Thong	(Break)	D2 Huiying Jiao
10:20-10:30	A2 Yukihiro Tsugita		C2 Shalida Mohd Rosnan	
10:30-10:40		(Break)		(Break)
10:40-10:50	(Break)	B3 Kimnannara Khiev	(Break)	D3 Lorena de O. Felipe
10:50-11:00	A3 Naohiro Takahashi		C3 Toshiaki Hayashi	
11:00-11:10		(Break)		(Break)
11:10-11:20	(Break)	B4 Lili Feng	(Break)	D4 Donghao Hu
11:20-11:30	A4 Kazushi Kamezawa		C4 Jun Araki	
11:30-11:40				(Break)
11:40-11:50			(Break)	D5 Meryem Bouhoute
11:50-12:00			C5 Shuntaro Koshima	
12:00-12:10				

Invited Lecture (plenary):

Presenter: **Dr. Yasuyuki Kusaka, National Institute of Advanced Industrial Science and Technology (AIST)**

Title: **Micropatterning of colloidal thin films for high-resolution printed electronics**

Abstract: Colloid and interfacial science covers wide spectrum of applications from environmental issues to cutting-edge electronics. In this presentation, a recently developed printing method where various functional nano-colloids including Ag, Cu, ITO and PEDOT:PSS can be patterned with single-micrometer features, is introduced. Unlike hitherto printing methods where wetting of liquids governs patterning resolution, the rheology, fracture and adhesion characteristics of highly concentrated colloidal thin films play key roles in this novel process. Together with patterning mechanisms, recent advances in process developments and device applications toward the realization of printed electronics are presented.

List of Posters:

Room Chair	PT No.	Title, Affiliations, and Authors links: Click A to Abstract, and P to Poster
A (Electronics) Chaired by **Yasuyuki KUSAKA**	A1	Fabrication of Cellulose-based Conductive Device with Nano Cellulose A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Kuan-Hsuan Lin, Donghao Hu, Toshiharu Enomae
	A2	Polypyrrole-ITO nanocomposite particles printable on paper A P *(Information Science and Technology, Graduate School of Science and Technology, Tokai University, Japan)* ○Yukihiro Tsugita, Shuichi Maeda
	A3	Conducting Polypyrrole-Silica Nanocomposite Particles for Electrophoretic Display A P *(Course of Electrical and Electronic Engineering, Tokai University, Japan)* ○Naohiro Takahashi, Shuichi Maeda
	A4	Investigation of Multilayer Urushi Circuit Fabrication Method: Wiring Formation Method for Multilayer Urushi Circuit Fabrication A P *(Department of Intelligent Interaction Technologies, University of Tsukuba)* ○Kazushi Kamezawa, Yuki Hashimoto
B (Environment & Biology) Chaired by **Toshiharu Enomae**	B1	Formulation of Monodisperse Structured-lipid Microparticles Encapsulating Bioactive Compound Using Microchannel Emulsification A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Hanxiao Wang, Marcos A. Neves, Mitsutoshi Nakajima *(Food Research Institute, NARO, Japan)* Kunihiko Uemura, Setsuko Todoriki, Isao Kobayashi
	B2	Bioelectricity Generation and Bioremediation of Palm Oil Mill Effluent (POME) by Freshwater Microalgae in Algal Biophotovoltaic (BPV) Platforms A P *(Institute of Ocean and Earth Sciences, University of Malaya)* ○Cheng Han Thong, Siew-Moi Phang, Fong-Lee Ng *(Low Dimensional Materials Research Centre, Department of Physics, University of Malaya)* Vengadesh Periasamy *(Department of Chemical Engineering and Biotechnology, University of Cambridge, UK)* Kamran Yunus, Adrian C. Fisher
	B3	Paper-based sensor with assistance of heater for detecting residual agricultural chemicals A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Kimnannara Khiev, Xiaoqing Du, Toshiharu Enomae
	B4	Kinetics of flocculation of microplastics particles with polyelectrolytes at the isoelectric point A P *(College of Water Resources, North China University of Water Resource and Electric Power, China)* ○Lili Feng *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* Yasuhisa Adachi
C (Cellulose & Paper) Chaired by **Masashi Kijima**	C1	Bioinspired Technology for Sustainable Development: Cellulose-Based Superoleophobic and Superhydrophobic Surface A P *(Chemical Engineering, Universitas Internasional Semen Indonesia)* ○Abdul Halim *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* Toshiharu Enomae
	C2	The Role of Physical Properties of Paper and Paperboard in Packaging Development and Printing A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Shalida Mohd Rosnan, Toshiharu Enomae
	C3	Potentiality of filamentous algae, Oedogonium for papermaking fiber sources A P *(School of Life and Environmental Sciences, Agro-biological Resource Sciences, University of Tsukuba)* ○Toshiaki Hayashi, Toshiharu Enomae
	C4	Synthesis of Cellulose Nanowhiskers/Silver Nanoparticles Hybrids Utilizing Strong Attractive Interaction by Surface Mercapto Groups on Cellulose A P *(Faculty of Textile Science and Technology, Shinshu University, Japan)* Takane Urata, ○Jun Araki

	C5	A facile method for synthesis of cellulose-graft-polylactic acid via suspension polymerization A P *(Degree Programs in Pure and Applied Sciences, Graduate School of Science and Technology, University of Tsukuba)* ○Shuntaro Koshima, Hidehisa Kawashima, Masashi Kijima
D (Nano-structure) Chaired by **Marcos A. Neves**	D1	Effects of Temperature on the Properties of Nanobubble Water during Two Months' Storage A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Han Hanlin, Zhongfang Lei, Kazuya Shimizu, Zhenya Zhang
	D2	Fabrication of Antibacterial Gelatin Nanocomposite Films Reinforced with Zein/thymol Nanoparticles A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Huiying Jiao, Guiyun Chen, Zhongfang Lei, Kazuya Shimizu, Zhenya Zhang
	D3	Interfacial Property of α-Terpineol and Physical Stability of α-Terpineol-loaded Oil-in-Water (O/W) Nanoemulsion A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Lorena de O. Felipe, Mitsutoshi Nakajima, Marcos A. Neves *(Food Research Institute, NARO, Japan)* Isao Kobayashi
	D4	Synthesis of Carbon Dots from Nanocellulose for Fe^{3+} and Mn^{2+} Detection A P *(Graduate School of Life and Environmental Sciences, University of Tsukuba)* ○Donghao Hu, Kuan-Hsuan Lin, Toshiharu Enomae *(School of Environmental and Natural Resources, Zhejiang University of Science and Technology, China)* Yinchao Xu
	D5	Effect of Defibrillation Process in Mechanical Production of Microfibrillated Cellulose on its Emulsifying Properties A P (*School of Integrative and Global Majors, University of Tsukuba*) ○Meryem Bouhoute, Hiroko Isoda, Mitsutoshi Nakajima, Marcos A. Neves