

# International Symposium on Advanced Polymers and Functional Materials

Organized by: Okayama University

Co-organized by: Shinshu University/The University of Tokyo Collaboration Branch  
Office, Research Center for Water Environment Technology,  
School of Engineering, The University of Tokyo



This symposium brings together world-leading researchers in advanced polymer chemistry and functional materials science. Topics span from molecular design and nanostructured materials to environmentally conscious polymers. With a focus on sustainability, innovation, and interdisciplinary collaboration, this event fosters knowledge exchange and international networking.

Date: July 11, 2025 (Friday)

Time: 10:00 – 19:00

Venue: Okayama University, KIBINOVE 5F



Registration Form

<https://forms.gle/umiXRpBuJBRPAQr99>

## Program

- 10:00-10:10 Opening Remark (Okayama University, President Dr. Yasutomo Nasu)
- 10:10-10:50 Prof. Yuta Nishina (Okayama University, Japan)  
"Production and Functionalization of 2D Carbon Materials"
- 10:50-11:40 Prof. Allan Guymon (Brigham Young University, USA)  
"Controlled Radical Photopolymerization and Photoinitiation to Direct Network Structure"
- 11:40-12:10 Prof. Yoshinori Takashima (Osaka University, Japan)  
"Functional Polymeric Materials with Movable and Reversible Crosslinks: A Supramolecular Strategy for Sustainable Degradation and Upcycling"
- 12:10-14:00 Lunch
- 14:00-14:50 Prof. Boosayarat Tomapatanaget (Chulalongkorn University, Thailand)  
"Highly Sensitive and Selective Detection of Nonanal Using Fluorescent Probes Encapsulated in Self-Assembled Supramolecular Polymers"
- 14:50-15:20 Prof. Nobuyuki Zettsu (Shinshu University, Japan)  
"Advanced Battery Materials for Design and Evaluation of Ion Diffusion Dynamics at Electrochemical Interfaces"
- 15:20-15:40 Break
- 15:40-16:10 Prof. Takashi Kato (Okayama University/Shinshu University, Japan)  
"Nanostructured Aquatic Functional Materials"
- 16:10-16:35 Prof. Masayoshi Tonouchi (Okayama University, Japan)  
"Exploring the Frontier of Terahertz Science and Technology: From Fundamentals to Applications."
- 16:35-17:00 Prof. Tadashi Ema (Okayama University, Japan)  
"Sustainable Organic Synthesis Using CO<sub>2</sub> as a C1 Source"
- 17:00-19:00 Cocktail Discussion & Networking

Coordinators: Prof. Takashi Kato & Yuta Nishina

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# 2<sup>nd</sup> DAY

## Oral presentation at KIBINOVE 5 F

【10:00-10:20】Yajuan ZOU (Okayama University, Japan)

Polyglycerol-Grafted Graphene Oxide with pH-Responsive Charge-Convertible Surface to Dynamically Control the Nanobiointeractions for Enhanced in Vivo Tumor Internalization

【10:20-10:40】Takaichi Watanabe (Okayama University, Japan)

Development of Poly(ionic liquid)-based Soft Materials

【10:40-11:00】Yuta Niki (Okayama University, Japan) Yuta Niki (Okayama University, Japan)

Deeper Mechanistic Understanding of Some Reaction Processes in Electroorganic Synthesis

【14:00-14:20】Mori Hiroki (Okayama University, Japan)

Development of Semiconducting Polymers Based on Novel Heteropolycyclic Frameworks

【14:20-14:40】Junya Uchida (Okayama University, Japan)

Development of Functional Liquid-Crystalline Interfaces Based on Biomolecular Derivatives

【14:40-15:00】Tsubasa Hatanaka (Okayama University, Japan)

Synthesis of Multinuclear Manganese Complexes Mimicking Oxygen Evolving Center

【15:00-15:20】Takashi Teranishi (Okayama University, Japan)

Energy Oxide Materials: From Dielectric Devices to Secondary Battery Applications

## Poster presentation at KIBINOVE 1 F

Core time: 11:20 AM - 12:00 PM and 3:20 PM - 4:00 PM

[1] HATICE GUVEN (Okayama University, Japan)

Intracellular Delivery of Bystander Molecules by CPP-PS and Light

[2] Tasmim Mst. Tamanna (Okayama University, Japan)

Outward-rectifying Potassium Channels GORK and SKOR Function in Regulation of Root Growth Under Salt Stress in Arabidopsis Thaliana

[3] Koji Kato (Okayama University, Japan)

Functional Graphene Grids for Efficient Cryo-EM Structure Analysis

[4] Yuma Sasaki (Okayama University, Japan)

Two-dimensional Elastomer Microparticle Monolayers Formed at an Air/Water Interface

[5] Katio Niki (Okayama University, Japan)

Bifunctional Al Porphyrin Catalyzed Terpolymerization of Epoxide, Oxetane, CO<sub>2</sub>

[6] Shunsuke Narumi (Shinshu University, Japan)

Multi-Element Substitution Strategy for Controlling Charge-Discharge Reaction Mechanisms in Lithium-Ion Battery Cathode Materials

[7] Yuichiro Nishizawa (Okayama University, Japan)

Interfacial Electrokinetic Behavior of Microgels Showing Heterogeneous Thermoresponsiveness

[8] Takahisa Kawamoto (Okayama University, Japan)

Compression Behavior of Soft Microgel Monolayer at the Air/Water Interface

[9] Junya Uchida (Okayama University, Japan)

Development of Functional Liquid-Crystalline Interfaces Based on Biomolecular Derivatives

[10] Tsubasa Hatanaka (Okayama University, Japan)

Synthesis of Multinuclear Manganese Complexes Mimicking Oxygen Evolving Center

[11] Haruka Minato (Okayama University, Japan)

Interfacial Self-Assembly of Microgels with Different Degrees of Softness

[12] Liu Xianmei (Shinshu University, Japan)

Exploring the Governing Factors of Lithium-Ion Conduction Pathways in Multi-Element Substituted Garnet-Type Solid Electrolytes Using Machine Learning

[13] Yuta Nishina (Okayama University, Japan)

Preparation of Functional Carbon Materials