



PJ ZEON Award for outstanding papers in *Polymer Journal* 2023

Keiji Tanaka, Editor-in-Chief¹

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The three winners of the 2023 PJ ZEON Award have been announced by the Society of Polymer Science Japan (SPSJ) as follows:

Yuya Doi (Nagoya University, Japan) for the contribution ‘Preparation and Characterization of Two-dimensional Sheet-shaped Poly(methyl methacrylate) Synthesized via γ -Ray Polymerization in Nanoclay Template’, Vol. 55, No. 9, 2023.

Rena Inamasu (The University of Tokyo, Japan) for the contribution ‘Observation of Molecular Motions in Polymer Thin Films by Laboratory Grazing Incidence Diffracted X-Ray Blinking’, Vol. 55, No. 6, 2023.

Akira Shinohara (Sagami Chemical Research Institute, Japan) for the contribution ‘Stretchable π -Conjugated Polymer Electrets for Mechanoelectric Generators’, Vol. 55, No. 4, 2023.

Drs. Doi, Inamasu and Shinohara received their award certificates and medals. Each winner also received a cash prize of 300,000 JP yen and gave an invited talk based on their respective papers.

On behalf of the editors and editorial board members of *Polymer Journal*, I wish to congratulate Drs. Doi, Inamasu and Shinohara on this honor in recognition of their excellent papers [1–3]. I hope the award will provide encouragement to these young researchers for their bright future careers. Academic profiles of the winners can be found below this announcement.

The PJ ZEON Award started since 2005 as the successor of The PJ Paper Award, which started since 1992.

This PJ ZEON Award is open to all of the first author of papers published in *Polymer Journal* [4] who is under 38 years of age. We are looking forward to receiving your submissions papers and many applications for the 2024 PJ ZEON Award. Each year the SPSJ selects up to four most

outstanding papers published by young authors in *Polymer Journal*, as recommended by the selection committee and board of directors of the SPSJ. Those who are interested should go to the SPSJ website (<https://main.spsj.or.jp/c5/pj/pj.htm>) for further information. Finally, we express our sincere appreciation to Zeon Corporation for their generous sponsorship of this award.

About the winners



Yuya Doi has received his Ph.D. degree from Nagoya University in 2016 under the supervision of Prof. Yushu Matsushita and Prof. Atsushi Takano. He worked as a program-specific assistant professor at Kyoto University in 2016–2017, a postdoctoral researcher at Nagoya University in 2018 and at Forschungszentrum Jülich, Germany in 2019. From 2020, he served as an assistant professor at Nagoya University. In 2024, he will be an associate professor at Yamagata University as a PI. His research interests are fundamental properties of model polymers with unique architectures studied by rheological and scattering methods.

About the award article: The authors reported preparation and characterization two-dimensional sheet-shaped poly(methyl methacrylate) (2d-PMMA). 2d-PMMA was synthesized via planer polymerization of MMA monomer in montmorillonite (MMT) nanolayers by using γ -ray irradiation, and the polymer sample obtained was characterized by ¹H-NMR, SEC-MALS, and AFM. Through these measurements, they experimentally confirmed that targeted

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sheet-shaped polymers with a height of ca. 1 nm and a width of several tens of nm are indeed generated.



Rena Inamasu received her master's degree from the University of Tokyo in 2017 under the supervision of Prof. Mitsuhiko Shionoya and then joined DAIKIN INDUSTRIES, LTD. in the same year. She is currently in her third year of a doctoral program at the University of Tokyo, under the supervision of Prof. Yuji C. Sasaki. Her research interests are the relationships between polymer dynamics and properties using X-ray diffraction.

About the award article: the authors proposed a novel polymer surface dynamics measurement method called grazing incidence diffracted X-ray blinking (GI-DXB). The DXB method evaluates molecular dynamics by analyzing intensity changes in short time-resolved diffraction images utilizing a laboratory X-ray source. Applying grazing incidence X-ray diffraction to the DXB method, they examined the molecular dynamics of fluoroalkyl acrylate polymer surfaces. Their research outcomes indicated that the dynamics of the polymer surface surpass those observed in the bulk. The newly developed GI-DXB may offer valuable insights into surface function mechanisms for the advancement of high-performance polymers in terms of polymer motion.



Akira Shinohara earned his PhD in 2017 from the University of Yamanashi in Japan under the guidance of Prof.

Hideyuki Shinmori. After that, he pursued postdoctoral research positions at Shenzhen University and Sun Yat-sen University in China, as well as the National Institute for Materials Science in Japan. Since 2023, he's been working as a senior research scientist at Sagami Chemical Research Institute in Japan. His research focuses on designing viscoelastic π -conjugated polymers and exploring their optoelectronic properties.

About the award article: the authors discuss the electret properties of these viscoelastic π -conjugated polymers. They discovered that the easily ionized π -conjugated unit can function as a real-charge electret, while the insulating alkyl side chain not only provides viscoelasticity but also stabilizes the injected space charge. This innovation allows for the fabrication of stretchable mechanoelectric generators, which was previously not feasible with conventional oriented dipole electrets.

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