



## Special issue: Rising Stars in Polymer Science 2023

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We are pleased to announce the winners of Rising Stars in Polymer Science 2023 as young influential. *Polymer Journal* has been enriched by the complex of wonderfully talented and diverse groups of these young scholars in addition to outstanding teams of well-established senior researchers. They bring a variety of new insights, both personal and professional, to the task of better understanding polymer science and engineering. Here they provide us with an array of novel observations drawn from such disciplines as synthesis, structure and physical properties and functions and applications. We believe our readers will appreciate the opportunity to learn new voices in this special issue.

### Hiroya Abe Tohoku University

Hiroya Abe received his B.S. under the supervision of Prof. Masatsugu Shimomura from Tohoku University. He obtained his Ph.D. in Electrochemistry under the supervision of Prof. Tomokazu Matsue from Tohoku University. He started working research assistant at the World Premier International Research Center (WPI)—Advanced Institute for Materials Research (AIMR) from 2018 and became an assistant professor (Principal Investigator) at the Frontier Research Institute for Interdisciplinary Sciences (FRIS) in Tohoku University in 2019. His research interests are electrochemistry, analytical chemistry, materials science, polymer chemistry, and energy devices. His current research interests are the development of the bio-inspired design for materials science and devices.

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### Xue-Hui Dong South China University of Technology

Xue-Hui Dong graduated with a B.S. degree in polymer chemistry from University of Science and Technology of China (USTC) in 2008. He joined Department of Polymer Science at the University of Akron as a graduate student and received his Ph.D. degree in December 2013. After three-year postdoctoral research in Department of Chemical Engineering at MIT, he joined South China Advanced Institute for Soft Matter Science and Technology (AISMSST), South China University of Technology as a professor in early 2017. His research interests focus on synthesis and assembly of precision macromolecules.

### Yuki Hiruta Keio University

Yuki Hiruta received his Ph.D. Degree from Keio University in 2013 under the direction of Professor Koji Suzuki. He worked at the Faculty of Pharmacy, Keio University as an Assistant Professor (2013-2016). He joined the Department of Applied Chemistry, Faculty of Science and Technology, Keio University as a Senior Assistant Professor in 2017 and promoted to Associate Professor in 2023. His research interests include the development of stimuli-responsive polymer materials for biomedical applications. He won the Society of Polymer Science, Japan Award for Younger researchers in 2019, and the Japan Society of Analytical Chemistry Award for Younger Researchers in 2020.

### Takumitsu Kida The University of Shiga Prefecture

Takumitsu Kida received his Ph.D. degree from Kanazawa University in 2019 under the supervision of Prof. Koh-hei Nitta. He was a JSPS research fellow (DC1) from 2016 to 2019. He worked as a postdoctoral researcher at Hiroshima University (in the group of Prof. Takeshi Shiono), supported by a research fellowship for young scientists (PD) from 2019 to 2020. He worked as a Project Assistant Professor at Nagoya University (in the group of Prof. Yuichi Masubuchi) in 2021, and then he moved to

Japan Advanced Institute of Science and Technology as an Assistant Professor in the group of Prof. Masayuki Yamaguchi. Since 2023, he has been a lecturer at The University of Shiga Prefecture, working with Prof. Katsuhisa Tokumitsu and Assoc. Prof. Hiroki Takeshita. His current research interest is the relationships between morphology and mechanical properties of semicrystalline polymers using vibrational spectroscopic techniques.

**Franco King-Chi Leung**  
**The Hong Kong Polytechnic University**

Franco King-Chi Leung studied his BSc in Chemistry at The Hong Kong Polytechnic University where he carried out his master's research in catalysis and chemical biology under the supervision of Prof. Man Kin Wong. He expanded his research scopes in his PhD to supramolecular chemistry and material science under the guidance of Prof. Takanori Fukushima in Tokyo Institute of Technology (Japan). In 2017, he joined Prof. Ben L. Feringa's group (2016 Nobel Laureate in Chemistry), as a postdoc fellow and later he was awarded the Croucher Postdoctoral Fellow, where he has developed responsive supramolecular systems. In 2019, he was appointed as assistant professor in Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University. In 2021, he was awarded the prestige Croucher Innovation Award and later awarded PolyU Young Innovative Researcher Award (2022). His main research interests are photoresponsive molecular amphiphiles, dynamic supramolecular polymers, functional molecular assembly, and biocompatible functional materials.

**Yohei Nakanishi**  
**Kyoto University**

Yohei Nakanishi has been an Assistant Professor in the group of Prof. Mikihiro Takenaka in the Institute for Chemical Research, Kyoto University since 2021. He obtained his Ph.D. degree in 2018 under the supervision of Prof. Yoshinobu Tsujii at Kyoto University. He was employed at Mitsui Chemicals from 2018 to 2021, where he worked on structural analyses of polymer materials using soft and tender X-rays. His research interests include the analyses of higher-order structures of polymer assemblies using quantum beams, investigating the self-assembled structures of polymer-brush-modified nanoparticles and the hierarchical structures of rubber materials.

**Junsu Park**  
**Osaka University**

Junsu Park received his Ph.D. degree from Osaka University in 2021 under the supervision of Professor Yoshinori Takashima in the field of polymer science. He worked as a postdoctoral researcher in the Department of

Macromolecular Science, Graduate School of Science, Osaka University, from April 2021 to August 2021. Subsequently, he served as a specially appointed assistant professor at Osaka University from September 2021 to March 2023. Since April 2023, he has been working as an assistant professor at Aoyama Gakuin University. His research interests include stimulus-responsive polymers and low environmental impact polymers based on supramolecular chemistry, such as self-healing and tough polymers. Currently, his research focuses on the preparation of photoresponsive polymers utilizing photochromic molecules. He won the PJ Zeon Award for outstanding papers in *Polymer Journal* 2022.

**Kohei Sato**  
**Kwansei Gakuin University**

Kohei Sato received his B.S. in chemistry from Chiba University in 2009. He received his Ph.D. in organic and supramolecular chemistry from the University of Tokyo in 2014 under the supervision of Prof. Takuzo Aida. After conducting postdoctoral research in the laboratory of Professor Samuel Stupp at Northwestern University, he was promoted to assistant professor at Tokyo Institute of Technology in 2018. In 2023, he was promoted to associate professor at Kwansei Gakuin University and started his career as a principal investigator. His research currently focuses on the development of bioinspired synthetic molecules.

**Motoki Shibata**  
**Kyoto University**

Motoki Shibata has been a Program-Specific Assistant Professor in the group of Prof. Tsukasa Miyazaki in the Office of Society-Academia Collaboration for Innovation at Kyoto University since 2022. He earned his degrees at Kyoto University; B.Eng. (2017) under the supervision of Prof. Mitsuo Sawamoto, and M.Eng. (2019) and Ph.D. (2022) under the supervision of Prof. Tsuyoshi Koga. During his doctoral course, he was a Japan Society for Promotion of Science (JSPS) research fellow (DC2) from 2020 to 2022. His research interest lies in polymer physical chemistry. His studies have been focused on higher-order structures in aqueous solutions of associating polymers, utilizing a combination of polymer synthesis, characterization including quantum beam experiments, and data science. Currently he also engages in polymer decomposition by hydrothermal reactions.

**Hiromitsu Sogawa**  
**Kansai University**

Hiromitsu Sogawa received his Ph.D. degree from Kyoto University in 2013 under the supervision of Prof. Fumio Sanda. He started his academic career at the Tokyo Institute

of Technology as an assistant professor in the laboratory of Prof. Toshikazu Takata. In 2018, he moved to the group of Prof. Keiji Numata in RIKEN as a research scientist. In 2020, he was appointed to his current position as an associate professor at Kansai University. His research focuses on the fabrication of functional polymers including metallopolymers, chiral conjugated polymers and algae-based sustainable polymers with applications in materials science. He won the Award for Encouragement of Research in Polymer Science from the Society of Polymer Science, Japan (2020), and the 12th Bridgestone Soft Materials Frontier Award: Encouragement Award in 2021 from the Society of Rubber Science and Technology, Japan.

### **Junpeng Wang** **University of Akron**

Junpeng Wang is an Assistant Professor of Polymer Science at University of Akron. He received his B.S. degree in Chemistry from University of Science and Technology of China in 2020. In the same year, he came to United States and conducted his graduate studies, working with Prof. Stephen Craig at Duke University, where he received his Ph.D. degree in Chemistry in 2015. He then conducted postdoctoral studies at the University of Chicago (mentor: Prof. Luping Yu) and MIT (mentor: Prof. Jeremiah Johnson), before joining Akron in January 2019. His research directions include sustainable polymers and stimuli-responsive materials. Junpeng has won several notable awards, including a National Science Foundation CAREER

Award and a Sloan Research Fellowship. His work on sustainable polymers has been featured in the collection of C&EN's Year in Chemistry 2021.

### **Sheng-Sheng Yu** **National Cheng Kung University**

Sheng-Sheng Yu received his B.S. from National Tsing-Hua University in 2011, before moving to Georgia Tech to pursue his Ph.D. in Chemical and Biomolecular Engineering (2017). After a short postdoc at the University of California, Berkeley, he began a faculty position at National Cheng Kung University in the Department of Chemical Engineering (now, Associate Professor), where since 2021, he has also been Division Director of the Promotion & Service Division, Core Facility Center, Department of Chemical Engineering as well as Deputy Director of the Program on Smart and Sustainable Manufacturing, Academy of Innovative Semiconductor and Sustainable Manufacturing. His recent research focuses on developing sustainable processes for photo-induced reversible-deactivation radical polymerization and additive manufacturing.

### **Compliance with ethical standards**

**Conflict of interest** The author declares no competing interests.

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