

## Electron Microscopy for Soft Materials

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In this short course, I will discuss the fundamentals and recent advancements in morphological observations and the analysis of electron microscopy on soft materials. The topics will include electron tomography, 4D-STEM, in-situ nano-scale tensile observations for block copolymer self-assemblies, polymer blend morphologies, crystalline structures, and deformation processes of filler-containing composites, etc

### **Speaker Bio**

Dr. Hiroshi Jinnai is a full professor at the Institute of Multidisciplinary Research for Advanced Materials (IMRAM) at Tohoku University. He got his D. Eng. in 1993 from Kyoto University, Japan. His research interests focus on polymer physics, particularly the phase transitions of polymer alloys. In pursuing this research, he has developed characterization methodologies based on electron microscopy. Notably, he is recognized for his work in electron tomography for 3D structural characterization.

Dr. Jinnai has received several awards, including the 2006 SPSJ (The Society of Polymer Science, Japan) Wiley Award, the biannual Ernst-Ruska Prize from the Deutsche Gesellschaft für Elektronenmikroskopie in 2007, the Setoh Prize from The Japanese Society of Microscopy in 2012, and the Society Award of the SPSJ in 2017. He also received the Arthur K. Doolittle Award in 2023 from the American Chemical Society (ACS) and the Commendation for Science and Technology from the Minister of Education, Culture, Sports, Science and Technology in 2024. He has been a Fellow of the American Physical Society (APS) since 2010, of the Royal Society of Chemistry since 2022, and of the International Association of Advanced Materials since 2023.