

IMR-JBNU-KIST Joint Symposium 2026

This report summarizes the IMR–JBNU–KIST Joint Symposium, which aimed to promote research exchange and collaborative activities among the participating institutions. The symposium provided a platform for researchers from Japan and Korea to present recent advances in materials science, discuss emerging research topics, and explore opportunities for joint projects and long-term international collaboration.

The IMR–JBNU–KIST Joint Symposium was held to strengthen academic cooperation and promote sustainable research exchange among the Institute for Materials Research (IMR), Tohoku University, Jeonbuk National University (JBNU), and the Korea Institute of Science and Technology (KIST). The symposium was organized based on the institutional partnerships established through the Memorandum of Understanding between Tohoku University and JBNU and the long-standing academic exchange agreement between IMR and KIST. Building upon these collaborative frameworks, the symposium aimed to provide a platform for sharing recent research achievements, identifying common research interests, and fostering long-term international collaboration in materials science and engineering.

The symposium began with opening remarks delivered by Prof. Takahiko Sasaki, Director of the Institute for Materials Research at Tohoku University, and Prof. Man Young Kim, Dean of Engineering at Jeonbuk National University. In their greetings, both speakers emphasized the importance of international academic collaboration and expressed their expectations that the symposium would serve as a catalyst for strengthening research partnerships among the participating institutions.

Following the opening session, a series of invited lectures were presented by leading researchers from JBNU, IMR, and KIST. The presentations covered a broad spectrum of interdisciplinary topics in advanced materials science. Researchers from JBNU introduced their recent work on hierarchical nanostructured materials, layered nanocomposites for solar-driven desalination, meta-composites, mesoporous inorganic materials, dielectric capacitors, and two-dimensional metal nanosheets for conductive film applications. In addition, research on large language models applied to materials science and advanced coating and surface engineering technologies for next-generation steel was presented.



Fig. 1. Group photo of participants at the IMR–JBNU–KIST Joint Symposium 2026.



Fig. 2. Prof. Chang Kyu Jeong from JBNU delivering his presentation.

KIST researchers contributed presentations on applied materials engineering and advanced composite technologies. Their talks addressed structural integrity evaluation of composite materials using nondestructive testing, design and manufacturing strategies for ultra-light hybrid composites for extreme environments, and functional composites for neutron shielding through the functionalization of boron nitride nanotubes.

Researchers from IMR presented their latest studies on functional materials and magnetic materials, including layered manganese dioxide for heat-storage applications utilizing environmental water vapor, spin-orbit torque operations in synthetic antiferromagnets, and chirality control and detection in metallic helimagnets. These presentations highlighted IMR's strengths in advanced materials design and fundamental physical mechanisms in functional materials.

Throughout the symposium, active discussions took place among participants regarding emerging research trends and potential areas of collaboration. The workshop provided valuable opportunities for participants to exchange technical expertise, identify common research interests, and explore possibilities for future joint research projects and researcher exchange programs.

Overall, the IMR-JBNU-KIST Joint Symposium successfully brought together researchers from the three institutions and established a strong foundation for future international collaboration. The discussions and interactions during the symposium are expected to contribute to the development of joint research initiatives and to strengthen the global research network in advanced materials science.



Fig. 3. Presentation by Dr. Seokhoon Ahn from KIST.



Fig. 4. Prof. Takeshi Seki from IMR delivering a presentation.



Fig. 5. Group photo of JBNU and KIST participants with Prof. Takahiko Sasaki, Director of IMR.

Keywords: metal, polymer, spintronic
 Seungkyun Yim (Cooperative Research and Development Center for Advanced Materials)
 E-mail: yim.seungkyun.a3@tohoku.ac.jp
<https://www.crdam.imr.tohoku.ac.jp/english/>