

GIST holds first research workshop aiming for 'World's First Commercialization of Perovskite Solar Cells'

- First research exchange event since the launch of the Strategic Research Group in May... Establishing a full-cycle research cooperation system
- Pursuing the development of core technologies for world-first commercialization through integrated research from materials to demonstration



▲ Attendees of the '2026 World's First Perovskite Solar Cell Commercialization Strategic Research Project Group Research Workshop,' held on Tuesday, July 7, are posing for a commemorative photo. (Second row, sixth from the left) Kwanghee Lee, Director of the Strategic Research Project Group

The Gwangju Institute of Science and Technology (GIST, President Kichul Lim) announced that it held the '2026 World's First Perovskite Solar Cell Commercialization Strategic Research Project Group (hereinafter Strategic Research Project Group) Research Workshop' at the GIST Central Library Mini Theater on Tuesday, July 7.

The Strategic Research Project Group is a collaborative research organization involving industry, academia, research institutes, and government. It includes participation from universities, government-funded research institutes, public institutions, and companies, with GIST serving as the lead organization, as well as Ulsan National Institute of Science and Technology (UNIST), the Korea Institute of Industrial Technology (KITECH), and the Korea Electric Power Corporation (KEPRI).

The group is pursuing the world's first commercialization of perovskite solar cells through full-cycle research, ranging from material development to device and module fabrication and outdoor environmental testing.

This workshop was the first research exchange event organized by the Strategic Research Group, led by Director Kwanghee Lee (Professor of Materials Science and Engineering), since its official launch last May. Participating professors, researchers, and students gathered to share the current status and future plans of research in the fields of materials, devices, modules, and demonstration, and to explore cooperation strategies for commercialization.

Perovskite solar cells are attracting attention as next-generation solar cells due to their high power generation efficiency and the possibility of low-cost manufacturing. However, for commercialization, the entire technology development cycle—from the development of "devices," the basic units of solar power generation, to the fabrication of "modules" that realize them in panel form, and finally to "performance verification" in real-world environments—must be organically linked.

In particular, in the field of national strategic technologies, continuous information sharing among researchers and the establishment of collaborative networks are being highlighted as key factors for enhancing R&D outcomes.



▲ Kwanghee Lee, Director of the Institute Strategic Development (ISD) Group (Professor of Materials Science and Engineering), is presenting an overview of the Institute Strategic Development (ISD) and the current status of perovskite research.

The workshop, organized to strengthen such R&D linkages and cooperation systems, opened with a presentation by Director Kwanghee Lee on the "Overview of the Institute Strategic Development (ISD) Group and Current Status of Perovskite Research."

Following this, presentations were given on: ▲ 'Current Status and Future Plans for the Development of High-Efficiency and High-Stability Perovskite Materials' by Hyunseob Lim, Head of the Materials Research Laboratory; ▲ 'Methods for Improving Device Performance and Ensuring Reliability' by Senior Researcher Chang-Lyoul Lee; ▲ 'Large-Area Module Fabrication Technology and Research Progress' by Hobeom Kim, Head of the Module Research Laboratory; and ▲ 'Outdoor Environment Demonstration and Commercialization Strategies' by Kwang-sup Eom, Head of the Demonstration Research Laboratory.

Attendees shared a full-cycle research framework ranging from the development of high-efficiency materials to device fabrication, large-area modularization, and outdoor environment demonstration. Furthermore, they reviewed key tasks such as reliability verification and lifespan evaluation in outdoor environments, and engaged in in-depth discussions on commercialization strategies through interdisciplinary collaboration.

Kwanghee Lee, Head of the Strategic Research Project Group, stated, "We expect this workshop to serve as an opportunity to review the current status and achievements of participating researchers, share updates, and further solidify the foundation for cooperation." He added, "We will continue to strive to revitalize convergence research through continuous communication and collaboration, leading to the creation of excellent research teams and technology commercialization."

Meanwhile, the Strategic Research Project Group plans to continue enhancing R&D performance through regular research exchanges and cooperation, and to accelerate the development of core technologies and the establishment of a commercialization foundation for the world's first commercialization of perovskite solar cells.