

The 19th U.S.–Korea Forum on Nanotechnology

Dr. Youjin Reo

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Dr. Youjin Reo received her Ph.D. in Chemical Engineering in Pohang University of Science and Technology (POSTECH), Korea in 2024 for her research on tin-based hybrid and inorganic perovskite electronic materials and devices using thermal evaporation and solution processing. She has published over 32 SCI(E) papers with approximately 820 citations and an h-index of 14. A key achievement was developing the world's highest-performing p-type tin-based perovskite transistor via thermal evaporation, along with identifying a novel thermally induced reaction mechanism. This work was published in *Nature Electronics* (*Nat. Electron.* 8, 403-410 (2025)) and earned her major honors, including awards from the Gordon Research Conference (GRC), the International Meeting in Information Display (IMID), and the International Conference in Molecular Electronics & Devices (ICME&D).

In addition to her primary research, Dr. Reo made significant contributions as a co-author on projects applying semiconductors such as perovskites, metal halides, chalcogenides, and oxides to devices like transistors, phototransistors, and integrated circuits. These efforts led to high-impact publications in *Nature* and *Nature Electronics*. Her research was also recognized in the Ministry of Science and ICT's "Top 100 Outstanding National R&D Achievements" for two consecutive years (2023, 2024).

During her doctoral studies, Dr. Reo was selected for a Ministry of Education fellowship supporting independent research on new perovskite synthesis and high-performance thin-film transistors. She is currently a postdoctoral researcher at POSTECH, where she was awarded the PIURI Postdoctoral Fellowship. Her work lays the foundation for next-generation electronics, with strong potential impact on display circuits, wearable devices, and vertically integrated systems.