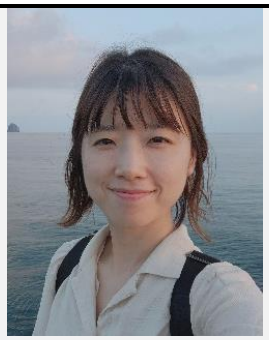

Dr. Hwanhui Yun

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Hwanhui Yun is a senior researcher at the Korea Research Institute of Chemical Technology (KRICT) in Daejeon, South Korea. She earned her Bachelor's degree in Chemical Engineering at Hanyang University, Seoul, Korea, and her PhD degree in Chemical Engineering at the University of Minnesota, MN, US. She is a recipient of prestigious Fulbright-GE scholarship for her undergraduate studies and the Samsung scholarship for her doctoral degree.

During her PhD, Dr. Yun made notable contributions to the study of various atomic structures in perovskite oxides, employing analytical STEM. Her research includes the discovery of unique metallic line defects in $BaSnO_3$[1], study of dislocations in $BaSnO_3$[2], and two-dimensional black Arsenic[3]. Following her PhD, Hwanhui Yun continued her research as a postdoctoral fellow at the University of Minnesota, where she broadened her research scope to include in-situ TEM. Her postdoctoral work involved the use of advanced in-situ TEM techniques to study the phase transformation mechanisms of Pt-Sn alloys[4] and breakdown behaviors of PMTJ devices[5]. She also investigated perovskite-related oxide materials via *ab initio* calculations, adopting the group theoretical approach[6]. At KRICT, her current research focuses on understanding crystal phase and local atomic structures in perovskite halides by utilizing analytical STEM, continuing her trajectory contributions to the field of TEM-based materials science.

[1] H. Yun *et al.*, Metallic line defect in wide-bandgap transparent perovskite $BaSnO_3$, *Sci. Adv.* **7** eabd4449 (2021)
[2] H. Yun *et al.*, Dopant segregation inside and outside dislocation cores in perovskite $BaSnO_3$ and reconstruction of the local atomic and electronic structures, *Nano Lett.* **21**, 4357 (2021)
[3] H. Yun *et al.*, Layer dependence of dielectric response and water-enhanced ambient degradation of highly anisotropic black As, *ACS nano* **14**, 5988 (2020)
[4] H. Yun *et al.*, Structural anisotropy-driven atomic mechanisms of phase transformations in the Pt-Sn system, *Nano Lett.* **23** 6467 (2023)
[5] H. Yun *et al.*, Real time investigation of breakdown mechanism in nanopillar PMTJ devices: An in-situ TEM perspective, submitted (2024)
[6] H. Yun *et al.*, Strain effect on the ground-state structure of Sr_2SnO_4 Ruddlesden-Popper oxides, *Phys. Rev. Mater.* **6** 104608 (2022)