

The 20th U.S.–Korea Forum on Nanotechnology

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S. Jeon is a Professor in the School of Electrical Engineering and the School of Semiconductor Systems Engineering at KAIST, Republic of Korea, where he leads the ANTONIS Laboratory. His current research spans neuromorphic devices, HfO₂-based ferroelectric devices, nonvolatile logic and storage-class memory, and in-sensor computing, with a recent focus on memory-centric computing, processing-in-memory (PIM), and the monolithic 3D (M3D) integration of hafnium-based ferroelectrics with piezoelectric and optical sensors for in-sensor processing and bio-inspired artificial sensory systems. According to Google Scholar, his work has accumulated over 15,700 citations, with an h-index of 62 and an i10-index of 223 (nearly half of that citation count accrued since 2021 alone), reflecting sustained impact across both his earlier work on oxide-semiconductor/flexible sensors and his more recent ferroelectric-memory and neuromorphic-device research.

Over the past two years, he has published 12 papers at IEDM and VLSI, the two most prestigious conferences in the semiconductor field. One of his IEDM 2025 papers was selected as an IEDM Highlight Paper, and — ahead of the conference presentation — was separately and exclusively featured in the News & Views section of Nature Electronics on December 5, 2025. A companion paper presented at the same conference was selected as a Best Ranked Student Paper, together underscoring his group's leadership in this field on the global stage.

His research contributions have been recognized with the Minister's Commendation (2022) and Minister's Award (2023) from Korea's Ministry of Trade, Industry and Energy, and the President's Award from the Korea Evaluation Institute of Industrial Technology (KEIT) (2025).