

KISM 2025 BUSAN

Re:Innovation of Semiconductor Manufacturing for AI Ecosystem

Title: 3D NAND Dielectric Etch Technology Challenges and Breakthroughs

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Dongsoo Lee, Ph.D. is Director of Field Process at Lam Research Korea, where he has led dielectric etch process development and productivity improvement in the SK hynix Global Account since 2016. He also lectures on fundamental plasma and RF technologies for Lam Research Korea employees.

Prior to joining Lam, Dr. Lee was a Principal Engineer at Samsung Electronics, where he developed plasma sensors using optical and electrical diagnostics, a tunable microwave plasma source, and pulsed bias power for ion energy control. He also held engineering roles at Mattson Technology and Lam Research in the United States, focusing on ICP source and dielectric etch process development.

Dr. Lee received his Ph.D. degree in Nuclear Engineering from the University of Wisconsin–Madison in 2008, and his M.S. and B.S. degrees in Nuclear Engineering from Seoul National University in 2003 and 1999, respectively.

He has authored multiple journal publications, including in Physical Review Letters, and holds patents related to tunable plasma sources and high-speed plasma sensors.