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Re:Innovation of Semiconductor Manufacturing for AI Ecosystem

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Jie Li received his B.S. in Chemical Engineering from Harbin Institute of Technology and his M.S. and Ph.D. in Chemical Engineering from Sungkyunkwan University. He worked as a senior process engineer at Samsung Semiconductor Inc. for four years before joining IMEC in 2022 as a senior etch specialist and Ph.D. supervisor in the Dry Etch Group. His work focuses on the development of advanced plasma etch processes for logic and next-generation memory device fabrication. This includes innovations in metal integration for MOL, 3DDRAM and 3DNAND fabrication, and memory devices incorporating novel materials such as oxide semiconductors and ferroelectrics.

Jie's research explores the fundamentals of plasma etch processes, including plasma characteristics studied through plasma diagnostics, underlying etch mechanisms, and the impact of plasma processes on material properties and device performance. As first or corresponding author, he has published his findings in leading journals such as *Applied Surface Science*, *Surface and Coatings Technology*, *Plasma Sources Science and Technology*, *Plasma Processes and Polymers*, and *Plasma Chemistry and Plasma Processing*.