Dr. Byeongchan So

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Byeongchan So is Group Leader of the Nitride Group in the Epitaxy Department at Fraunhofer IAF (Germany), where he leads metal-organic chemical vapor deposition (MOCVD) nitride epitaxy for radio-frequency (RF) and power applications.

His research focuses on the epitaxial growth of AlGaN/GaN high-electron-mobility transistor (HEMT) structures for RF and power devices; the development of AlN and AlGaN materials for RF/power and deep-ultraviolet (UVC) applications; and carbon-free precursors and dopants that enable new epitaxial architectures.

He earned his Ph.D. from Tech University of Korea in 2019 for MOCVD growth of AlGaN-based UVC emitters and continued as a postdoctoral researcher (2019–2020) in the same field. He then joined the Institute for Photon Science and Synchrotron Radiation at Karlsruhe Institute of Technology (Germany, 2020–2022) as a postdoctoral scientist, advancing GaN epitaxy using in situ X-ray methods, and subsequently Lund University (Sweden, 2023–2025), focusing on MOCVD growth for AlGaN-based power devices.

At Fraunhofer IAF, he develops MOCVD growth for AlGaN/GaN HEMT structures targeting RF/power device applications and leads innovation of Nitride based on carbon-free precursors and novel dopants building on Fraunhofer IAF’s advances in MOCVD growth of AlScN and AlYN HEMT structures to enhance device performance.