Ph.D. Guesuk Lee

Senior Research Engineer, Korea Electronics Technology Institute (KETI), Republic of Korea

Dr. Guesuk Lee received his Ph.D. in Mechanical and Aerospace Engineering from Seoul National University, Republic of Korea, where his doctoral research focused on optimization-based statistical model calibration.

He began his professional career at the Semiconductor R&D Center of Samsung Electronics, where he worked as a staff engineer. At Samsung, he specialized in diagnosing and resolving process and equipment failures in semiconductor manufacturing. This role provided him with in-depth experience in high-volume production environments and strengthened his understanding of reliability engineering and failure mechanisms in advanced semiconductor processes.

Building upon this industrial foundation, Dr. Lee is currently a senior research engineer at the Korea Electronics Technology Institute (KETI), where he leads research at the Reliability Research Center. His work encompasses advanced semiconductor packaging, automotive and power semiconductors, and battery reliability. He focuses on hybrid bonding reliability evaluation, multi-temperature warpage measurement, and structure-function-based thermal diagnostics. His recent work integrates AI-driven modeling for degradation prediction and condition monitoring of next-generation electronic components.

Dr. Lee is actively involved in international joint research with institutions in the United States and Germany, targeting measurement-based mechanical, thermal, and electrical evaluation methods for 3D multichip structures. These collaborations aim to establish robust reliability assessment frameworks for highly integrated semiconductor systems.

In addition to his research and project leadership, Dr. Lee contributes to global standardization through IEC and JEDEC working groups on hybrid bonding and packaging reliability. Domestically, he serves as a board member of the Korean Society of Prognostics and Health Management (KSPHM) and the Korean Microelectronics and Packaging Society (KMEPS), where he promotes technical advancement and interdisciplinary collaboration in the fields of semiconductor reliability and packaging.