**Dr. Seong-Min Jeong**

(KICET, Korea)

Dr. Seong-Min Jeong is a cheif researcher at the Korea Institute of Ceramic Engineering and Technology (KICET). He received his B.S., M.S., and Ph.D. degrees in Ceramic Engineering from Yonsei University (Seoul, Korea), and previously worked as a research associate at City University of Hong Kong (Hong Kong, China) and as a postdoctoral researcher at Kyoto University (Kyoto, Japan). After completing his postdoctoral research, he joined KICET in 2007, where he has participated in large-scale national projects funded by the Ministry of Trade, Industry and Energy (MOTIE) and the Ministry of Science and ICT (MSIT), and has carried out numerous international collaborative projects.

He has conducted extensive research on single crystal growth experiments, modeling, and analysis, and is recognized as a leading researcher in the field of wide bandgap (WBG) single crystal materials, particularly SiC substrates. His research activities also extend to AlN and gallium oxide ($Ga_2O_3$), oxide thin film growth using ALD, and diamond thin film and bulk growth, where he has accumulated a wide range of experimental and simulation modeling experience.

To date, he has published over 80 SCI-indexed papers, holds more than 30 patents, and has achieved technology transfer exceeding 500 million KRW. Recently, he has been actively integrating long-developed thin film and bulk single crystal growth modeling techniques with databases and artificial intelligence technologies for semiconductor material process development. In this presentation, he will introduce various simulation approaches for crystal growth and strategies for AI integration.

* Tentative Presentation Title: Reactor-scale Modeling and AI-Surrogate Approaches for Thin Film and Bulk Crystal Growth: Oxide ALD, Diamond MPCVD, and SiC PVT.