Dr. Ho Won Lee

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Dr. Ho Won Lee is the Director of the Division of Materials AI Research at the Korea Institute of Materials Science (KIMS) and a Professor at the University of Science and Technology (UST), Korea. He received both his B.S. (2003) and Ph.D. (2010) in Mechanical Engineering from KAIST, where his doctoral work established multi-scale models of recrystallization combining cellular automata with the finite element method. He subsequently joined the Max-Planck-Institut für Eisenforschung in Düsseldorf, Germany as a Max-Planck Scholar, and has been with KIMS since 2011, previously serving as Director of the Materials Data & Analysis Research Division.

His research lies at the intersection of computational materials science and artificial intelligence, with current emphasis on domain-specialized multimodal foundation models and Agentic AI for materials and manufacturing, physics-informed machine learning, generative models (diffusion, GANs) for synthetic microstructure design, and multi-scale simulation of metal forming and additive manufacturing. He has authored more than 70 peer-reviewed journal articles and leads several national research programs in AI-driven materials and manufacturing.