**Prof. Myoung Hwan Oh**

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Prof. Myoung Hwan Oh is an Associate Professor in the Department of Energy Engineering at the Korea Institute of Energy Technology (KENTECH). He received his Ph.D. in Chemical and Biological Engineering from Seoul National University and previously served as a Chemistry Scientist at the Joint Center for Artificial Photosynthesis, Lawrence Berkeley National Laboratory, and as a postdoctoral researcher at UC Berkeley.

His research focuses on bottom-up nanocrystal thin-film engineering for hydrogen energy systems. By employing nanocrystal-seeded epitaxy and oriented assembly, his group precisely controls grain boundaries, strain, dislocations, and phase interfaces to regulate charge and ion transport in electrochemical materials. These defect-engineered thin films are applied to water electrolysis, hydrogen-related catalysis, $CO_2$ reduction, and plasma-assisted energy conversion.

Prof. Oh integrates advanced in situ transmission electron microscopy with machine learning-assisted correlative analysis and AI-driven autonomous experimentation to establish structure–property–performance relationships. His work aims to enable predictive, defect-defined materials design for next-generation hydrogen production and sustainable energy technologies.