

## Hyun Soo (Eric) Han

Senior Physical Science Research Scientist

Mechanical Engineering

### Bio

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#### ACADEMIC APPOINTMENTS

- Sr Res Scientist-Physical, Mechanical Engineering

### Publications

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#### PUBLICATIONS

- **Mixed Conducting Oxide Coating for Lithium Batteries.** *ACS nano*  
Jung, Y., Mueller, J. E., Chaikasetsin, S., Han, G. D., Nie, S., Han, H. S., Gür, T. M., Prinz, F. B.  
2024
- **Dual textured BiVO<sub>4</sub>/Sb:SnO<sub>2</sub> heterostructure for enhanced photoelectrochemical Water-splitting** *CHEMICAL ENGINEERING JOURNAL*  
Jeong, Y., Hwang, S., Chaikasetsin, S., Han, H., Cho, I.  
2022; 435
- **Improving intrinsic oxygen reduction activity and stability: Atomic layer deposition preparation of platinum-titanium alloy catalysts** *APPLIED CATALYSIS B-ENVIRONMENTAL*  
Kim, Y., Xu, S., Park, J., Dadlani, A., Vinogradova, O., Krishnamurthy, D., Orazov, M., Lee, D., Dull, S., Schindler, P., Han, H., Wang, Z., Graf, et al  
2022; 300
- **Enhancing Solar Water Splitting of Textured BiVO<sub>4</sub> by Dual Effect of a Plasmonic Silver Nanoshell: Plasmon-Induced Light Absorption and Enhanced Hole Transport** *ACS APPLIED ENERGY MATERIALS*  
Caliskan, S., Kim, J., Han, G., Qin, F., Cho, I., Han, H., Lee, J.  
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- **Condensing water vapor to droplets generates hydrogen peroxide.** *Proceedings of the National Academy of Sciences of the United States of America*  
Lee, J. K., Han, H. S., Chaikasetsin, S., Marron, D. P., Waymouth, R. M., Prinz, F. B., Zare, R. N.  
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2016; 15 (3)
- **Defect-rich CuO/SnO<sub>2</sub> hybrid nanowires with tailored heterointerfaces for selective electrochemical CO<sub>2</sub> reduction** *APPLIED CATALYSIS B-ENVIRONMENT AND ENERGY*  
Sivanantham, A., Kapse, S., Hwang, S., Lee, D., Jung, Y., Han, H., Kim, S., Jang, H., Jaramillo, T. F., Han, G., Cho, I.  
2026; 392

- **Self-Hollowing Synthesis of Hollow Nanosphere-Stacked CuO Electrodes for Enhanced Photoelectrochemical and Electrochemical Applications** *ECOMAT*  
Tan, R., Luong, T., Jeon, C., Lee, H., Jung, Y., Han, H., Cho, I.  
2026; 8 (5)
- **Textured and Hierarchically Porous Hematite Photoanode for Efficient Hydrogen Production via Photoelectrochemical Hydrazine Oxidation.** *Nano-micro letters*  
Tan, R., Jeong, Y. J., Han, H. S., Kapse, S., Shin, S. S., Zheng, X., Cho, I. S.  
2026; 18 (1): 201
- **Texture development and surface reconstruction of BiVO<sub>4</sub> photoanode via one-pot hydrothermal reaction for enhanced photoelectrochemical water splitting** *JOURNAL OF ADVANCED CERAMICS*  
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- **Reply to the 'Comment on "Boosting the solar water oxidation performance of a BiVO<sub>4</sub> photoanode by crystallographic orientation control" by C. Lu and X. Wang, <i>Energy Environ</i>. <i>Sci</i>., 2025, 18, DOI: 10.1039/D4EE02619E** *ENERGY & ENVIRONMENTAL SCIENCE*  
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Hwang, S., Han, G., Cho, J., Lee, D., Han, H., Cho, I.  
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- **Facile fabrication of nanotubular heterostructure for enhanced photoelectrochemical performance** *CERAMICS INTERNATIONAL*  
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- **(020)-Textured tungsten trioxide nanostructure with enhanced photoelectrochemical activity** *JOURNAL OF CATALYSIS*  
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Han, H. S., Han, G. S., Kim, J. S., Kim, D. H., Hong, J. S., Caliskan, S., Jung, H. S., Cho, I. S., Lee, J.  
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Kim, D. H., Han, H. S., Cho, I. S., Seong, W. M., Park, I. J., Park, J. H., Shin, S., Do Park, G., Park, S., Lee, S., Hong, K. S.  
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Shin, S., Han, H. S., Kim, J. S., Park, I. J., Lee, M. H., Hong, K. S., Cho, I. S.  
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