

Haoran Yu

Technical Professional
Center for Nanophase Materials Sciences
Oak Ridge National Laboratory
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Education

University of Connecticut, Ph.D. 2017 Chemical Engineering
Donghua University, B.S. 2011 Polymer Materials and Engineering

Professional Experience

2022 – present	Electron Microscopy of Fuel Cells – Technical Professional, Center for Nanophase Materials Science, ORNL
2020 – 2022	Postdoctoral Research Associate, Center for Nanophase Materials Science, ORNL
2019 – 2020	Assistant Research Professor, Center for Clean Energy Engineering, University of Connecticut
2017 – 2019	Postdoctoral Research Associate, Center for Clean Energy Engineering, University of Connecticut
2011 – 2017	Graduate Research Assistant, Department of Chemical & Biomolecular Engineering, University of Connecticut

Professional Activities, Honors, Awards

Best paper awards (First prize), European Fuel Cell Conference (2017)
Travel grant award by Industrial Electrochemistry and Electrochemical Engineering Division of the Electrochemical Society (2013, 2015, 2016)
University of Connecticut pre-doctoral fellowship (2011)

Professional Memberships

The Electrochemical Society, Member
Microscopy Society of America, Member

Selected Peer-Reviewed Publications: (Total ~ 65, Google Scholar h-index: 24)

1. Osmieri, L., Yu, H., Hermann, R.P., et al., Aerogel-derived nickel-iron oxide catalysts for oxygen evolution reaction in alkaline media, *Applied Catalysis B: Environment and Energy*, 2024, 348, 123843.
2. Lee, C., Kort-Kamp, W.J.M., Yu, H., et al., Grooved electrodes for high-power-density fuel cells, *Nature Energy*, 2023, 8, 685-694.
3. Liu, S., Li, C., Zachman, M.J., Zeng, Y., Yu, H., et al., Atomically dispersed iron sites with a nitrogen-carbon coating as highly active and durable oxygen reduction catalysts for fuel cells, *Nature Energy*, 2022, 7, 652-663.
4. Yu, H., Zachman, M.J., Reeves, K.S., et al., Tracking Nanoparticle Degradation across Fuel Cell Electrodes by Automated Analytical Electron Microscopy, *ACS Nano*, 2022, 16, 12083-12094.
5. Yu, H., Zachman, M.J., Li, C., et al., Recreating fuel cell catalyst degradation in aqueous environments for identical-location scanning transmission electron microscopy studies, *ACS Applied Materials & Interfaces*, 2022, 14, 20418-20429.
6. Yu, H., Bonville, L.J., Jankovic, J., et al., Microscopic insights on the degradation of a PEM water electrolyzer with ultra-low catalyst loading, *Applied Catalysis B: Environmental*, 2020, 260, 118194.
7. Yu, H., Danilovic, N., Wang, Y., et al., Nano-size IrOx catalyst of high activity and stability in PEM water electrolyzer with ultra-low iridium loading, *Applied Catalysis B: Environmental*, 2018, 239, 133-146.
8. Yu, H., Baricci, A., Bisello, A., et al., Strategies to mitigate Pt dissolution in low Pt loading proton exchange membrane fuel cell: I. A gradient Pt particle size design, *Electrochimica Acta*, 2017, 247, 1155-1168.