

NANO KOREA 2020

July 1~3, KINTEX, Korea

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EDUCATION

Stony Brook University	Ph.D	Material Science and Engineering	2006
Xiamen University	MS	Chemistry	2002
Xiamen University	BS	Chemistry	1999

PROFESSIONAL ACTIVITIES

- Professor, Department of Chemical and Biological Engineering, HKUST, 2019-present
- 2014-2019: Associate Professor, Department of Chemical and Biological Engineering HKUST, 2014-2019
- Director, HKUST Collaborative Innovation Center, 2020-present
- Associate Director, HKUST Energy Institute, 2017-present
- Founding Director, Sustainable Energy Engineering Program, HKUST, 2017-present
- Coordinator, Postgraduate Study Committee, Department of Chemical and Biological Engineering, HKUST, 2016-2018
- Senior Battery Engineer, Ford Motor Company, Dearborn, Michigan, USA, 2013-2014
- Technical Fellow, Project Manager, UTC Power, South Windsor, Connecticut, USA, 2012-2013
- Staff Scientist, UTC Power, South Windsor, Connecticut, USA, 2011-2012
- Senior Research Scientist, UTC Power, South Windsor, Connecticut, USA, 2007-2011

AWARD AND HONORS

- Teaching Excellence Appreciation Award of School of Engineering 2016/17, HKUST
- Elected Founding Member (only 32 members), Young Academy of Science of Hong Kong, 2017
- UROP Faculty Research Award, HKUST, 2017&2016
- Best Associate Editor, Science Bulletin, 2016
- Supramaniam Srinivasan Young Investigator Award of the Energy Technology Division, The Electrochemical Society, 2014
- Student Achievement Award of the Industrial Electrolysis and Electrochemical

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Engineering Division, The Electrochemical Society, 2007

- President's Award to Distinguished Doctoral Students, SUNY – Stony Brook, 2006
- Chinese Government Award for Outstanding Self-Financed Students Abroad, China Scholarship Council, 2006
- Dr. Mow Shiah Lin Award, Brookhaven National Laboratory, 2006

MAIN SCIENTIFIC PUBLICATION

- Y. Yao, S.Q. Zhu, H.J. Wang, H. Li*, **M.H. Shao***, “A spectroscopic study of nitrogen and nitrate electrochemical reduction on rhodium surface”, *Angewandte Chemie International Edition (Very Important Paper)*, in press
- S.Q. Zhu, X.P. Qin, Y. Yao, **M.H. Shao***, “The pH-dependent hydrogen and water binding energies on platinum surfaces as directly probed through surface-enhanced infrared absorption spectroscopy”, *Journal of the American Chemical Society*, 2020, 142, 19, 8748-8754
- X.P. Qin, S.Q. Zhu, F. Xiao, L. Zhang, **M.H. Shao***, “Active sites on heterogeneous single-iron-atom electrocatalysts in CO₂ reduction reaction”, *ACS Energy Letters*, 2019, 4, 1778-1783.
- S.Q. Zhu, Q. Wang, X.P. Qin, M. Gu, R. Tao, B. P. Lee, L. Zhang, Y.Z. Yao, T.H. Li, **M.H. Shao***, “Tuning structural and compositional effects in Pd-Au nanowires for highly selective and active CO₂ electrochemical reduction reaction”, *Advanced Energy Materials*, 2018, 1802238.
- Y. Yao, S. Zhu, H.J. Wang, H. Li, **M.H. Shao***, “A spectroscopic study on the nitrogen electrochemical reduction reaction on gold and platinum surfaces”, *J. Am. Chem. Soc.* 2018, 140: 1496-1501.
- S. Zhu, B. Jiang, W.-B. Cai, **M.H. Shao***, “The role of bicarbonate anions in CO₂ electrochemical reduction reaction on Cu surfaces”, *J. Am. Chem. Soc.* 2017, 139, 15664-15667.
- **M.H. Shao***, Q.W. Chan, J.P. Dodelet, R. Chenitz, “Recent Advances in Electrocatalysts for Oxygen Reduction Reaction”, *Chemical Reviews (invited)* 2016, 116: 3594–3657.

RESEARCH INTERESTS

- Electrochemical energy conversion and storage devices (fuel cells, lithium (sodium)-ion batteries, electrolyzers etc.), electrocatalysis, electrochemistry fundamentals, advanced materials, density functional theory