TEXAS ★ STATE

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MSEC SEMINAR AND COMMERCIALIZATION FORUM

INVITED SPEAKER:

DR. NATHAN ZOU

"SINGLE-MOLECULE SUPER-RESOLUTION IMAGINING ON NANOMATERIALS"

September 21st, 2018
1:30 – 3:00 PM
RFM 3241

Biography:
Ningmu (Nathan) Zou obtained his B.S. from Nanjing University at China in 2011 and Ph.D. in Material Chemistry from Cornell University in 2017. His research focuses on super-resolution microscope analysis and single-molecule catalysis. He has explored the catalytic communication phenomenon and surface-plasmon enhanced catalysis through single molecule microscopy. He published more than 15 papers on Nature, Nature Chemistry, ACS NANO and other peer-reviewed journals during his Ph.D. period. Besides, he obtained another M.S. in Computer Science focusing on Machine Learning from Georgia Institute of Technology in 2018. Currently, he is a Senior R&D Engineer at Advanced Micro Devices (AMD), Inc. at Austin, TX. He is working on the fabrication of next-generation 7 nm microprocessors by applying multiple machine learning and image processing models into automatic manufacturing

Abstract:
By using single-molecule super-resolution imaging in combination with physical, chemical, and plasmonic manipulations at the nanometer scale. We have demonstrated the activity of metal/semiconductor nanocrystal catalysts and related nanostructures at the sub-particle, nanometer spatial resolution and single-reaction temporal resolution in correlation with their morphology, surface structure, and plasmonic properties. This technique has been applied to multiple materials and reaction systems, such as water splitting, plasmonic catalysis, bi-metallic catalysis, reactivity gradient, and catalytic communication phenomenon. It provides new opportunities to research surface reactions at the molecule levels.

FOR MORE INFORMATION OR IF YOU WOULD LIKE TO HAVE LUNCH WITH THE SPEAKER, PLEASE CONTACT DR. SHANNON WEIGUM AT sweigum@txstate.edu