

UNDERSTANDING MATERIALS FOR ENERGY APPLICATIONS

February 3, 2017 at 12:30pm

CBB, Rm 106

Energy powers our lives. Highly efficient and reliable devices for energy conversion and storage are always desired. Since materials are building blocks of devices, understanding their structures and performance is extremely important. In this talk, I will mainly present our efforts on new materials and structures for energy applications in batteries and electrocatalysts. I will introduce a facile method to synthesize anode materials for sodium-ion batteries. I will talk about alloy, facet, and strain effects on electrocatalysts and how we can design the materials and maximize such effects in several systems. Finally, I will also introduce how we can use transmission electron microscopy to in situ elucidate the structures and understand the performance of the materials.



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SPEAKER BIO

Dr. Chen is an assistant professor in the Department of Physics at the University of Houston. She obtained her B. S. in Physics from Peking University in China in 2002 and then Ph. D. in Physics from Boston College in 2006. Her research focuses on materials physics, especially synthesis and in situ electron microscopy of nanostructural materials for energy conversion and storage, such as thermoelectric materials, electrocatalysts, and batteries. Dr. Chen is the recipient of the Robert A. Welch Professorship.

Contact Professor Jiming Bao at jbao@uh.edu if you would like to arrange for a time to meet with Dr. Chen.

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