

Mechanical & Materials Engineering *Pierson Graduate Seminar*

Co-Sponsored by the **N**ebraska **C**enter for
Materials and **N**anoscience

**Understanding Nanomaterials: In-Situ Imaging, Measurements, and
Manipulation in the Electron Microscope**

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March 6, 2014 | 3:30 pm | 357 Scott Engineering Center

The promise of nanoscience lies in the fact that nanomaterials can show distinct properties that are not simply scaled-down bulk characteristics. Transmission electron microscopy (TEM) provides the necessary spatial resolution to observe individual nanostructures. Beyond imaging, TEM can be used to follow the behavior and measure properties of nanostructures over a wide range of environmental conditions. Finally, the high-energy electron beam often represents an invasive probe that can interact strongly with nano-objects. Used judiciously, this property can make it a unique tool for both activating and tracking processes at the nanoscale.

I will illustrate the power of in-situ imaging, measurements, and manipulation in the quest to understand the distinct properties of nanomaterials, their synthesis, and their transformation via controlled physical and chemical processes at the ultimate size limit.

Preceded at 2:50 PM by an informal reception in W342 Nebraska Hall.

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