Mechanical & Materials Engineering *Pierson Graduate Seminar*

Co-Sponsored by the Nebraska Center for Materials and Nanoscience

Exploring Carbon Nanomaterials Using MEMS

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Carbon based low-dimensional materials such as carbon nanotubes and graphene have been the core materials at the heart of nanotechnology. Microelectromechanical Systems (MEMS) is a developing engineering field that continuously blends in new science and technology from other fields. In this talk, I introduce how we can use MEMS technology to explore the synthesis, imaging, properties, and applications of carbon nanomaterials. We will first hear the music generated by graphene based loudspeaker, then learn about the mechanics, from macroscopic sized membrane to atomic sized graphene lattice. In the second part, we will discuss how to synthesize and control the deposition of high-quality single-walled carbon nanotubes from micro reaction chambers. We will also watch the in-situ optical imaging of individual nanotubes and study their dynamics.

Biography

Qin Zhou is currently a postdoctoral researcher in Department of Physics, UC Berkeley. He earned his Ph.D. in Mechanical Engineering from UC Berkeley, and M.S. and B.S. in Precision Instruments from Tsinghua University, China.

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