Stevens Institute of Technology

Nanotechnology Graduate Program

MEMS-based Tools for Nanoscale Characterization

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Burchard 118, 11am

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Conventional thermo-physical characterization tools are designed with macro/mesoscopic materials in mind and hence interfacing and resolution become two challenging issues in their nanoscale applications. The focus of this talk is on the application of micro/nanofabrication to address these issues with a bonus capability - insitu testing with high-resolution microscopy. We discuss several examples of micro/nanotechnology enabled experimental setups to provide a comprehensive overview of in-situ studies on nanocrystalline or nanoscale materials. Finally, we present some new directions for the research in nanoscale materials for pressing applications such as energy conversion, sensors and actuators and micro-electronic devices.

Professor Aman Haque received his PhD in Mechanical Engineering from the University of Illinois at Urbana-Champaign in 2002. He then joined the Department of Mechanical and Nuclear Engineering at the Pennsylvania State University. His research interests are in multi-physics of nanoscale materials and interfaces, nanofabrication and miniaturization of experimental techniques. He has over thirty journal articles published in these areas.

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