Stevens Institute of Technology

Nanotechnology Graduate Program

Multifunctional Nanowires

Wednesday, November 8, 2006
Babbio Bldg, Room 104, Time 11am

Professor Peter C. Searson
Department of Materials Science and Engineering
Johns Hopkins University

Nanometer size particles, such as nanorods or nanowires exhibit many unique properties associated with their inherent shape anisotropy. The introduction of multiple segments along the length of a nanowire can lead to further degrees of freedom associated with the shape of each segment and the coupling between the layers. The unique properties of multisegment nanowires can also be exploited in suspensions where the manipulation and assembly of nanometer scale particles has become an important tool in nanotechnology. Examples to be discussed include manipulation of magnetic nanowires, nanoporous nanowire sensors, directed end-to-end assembly, and drug delivery.

Professor Peter C. Searson received the B.Sc. in Engineering in 1978, a M.Sc. in Electrochemistry and Corrosion Science in 1980, and a Ph.D. in Electrochemistry and Corrosion Science in 1982, all from the University of Manchester Institute of Science and Technology. He then worked as a Postdoctoral Associate (1983-1986) and a Research Associate (1986-1989) at Massachusetts Institute of Technology. He is currently a Professor of Materials Science and Engineering at Johns Hopkins University. Professor Searson's research interests are in electronic, nanophase, and semiconductor materials. His work focuses on the use of electrochemical and chemical methods for the synthesis and processing of materials. Examples of materials produced include compositionally modulated nanowires, metal oxide nanoparticles, nanocomposites, electronically conducting polymer films, and metallic thin films. Of particular interest are the morphological, chemical, electrical, and optical properties of these materials for use in applications such as microelectric devices, solar cells, charge storage devices, and displays.

Light refreshments will be served prior to seminar

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