



CNMS DISCOVERY SEMINAR SERIES

Friday, April 3, 2009
11:00 am
Iran Thomas Auditorium, 8600

“The Materials Science of Nanotoxicology”

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Abstract:

There is tremendous controversy surrounding the potential adverse health impacts of engineered nanomaterials. At the center of this controversy are carbon nanotubes, which have recently been reported to cause asbestos-like pathogenicity when injected directly into the abdominal cavity of mice. Nanotubes have also been described as biocompatible, showing great promise in drug delivery, prosthetics, and neuronal scaffolding. The apparent contradiction is due in part to variations in specific material features that may trigger adverse biological interactions, including tubular graphene, amorphous carbon, surface functional groups, defects, and residual metals. This talk examines the underlying mechanisms through which nanotubes and related materials interact with biological structures, and the role of materials science in the intelligent design and formulation of nanomaterials for environmental safety and human health.

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