Distinguished Lecture Series

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Blind, Deaf and Tough

(Having fun with periodic polymers)

Nanotechnology requires control of materials from the atomic to the 100 nanometer to the macroscopic level. Exploiting the size and shape dependence of material properties and accessing multifunctionality holds great promise for the development of materials that will contribute to novel future technologies. Polymers are a class of materials that have a very broad range of properties and moreover, can act as hosts for metallic and dielectric nanoparticles as well as organic molecules, resulting in nanocomposites with combinations of properties not available by other means. Periodic structural assemblies are of particular interest, due to their interesting interactions with waves: especially light and mechanical waves. Progress in this exciting area requires excellent control of structure formation. A top-down, bottom-up approach, involving interference lithography and self assembly is demonstrating good success in fabricating the requisite structures and desired properties for photonics and phononics and microtrusses.

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11 AM, Building 224, Room B245

http://polymers.nist.gov/distinguished

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