Northeastern University
College *of* Engineering

Please join us for a

SPECIAL SEMINAR

Tuesday, February 22, 2011
104G West Village
11:45 a.m. – 1:00 p.m.

"Hierarchical Nanostructures and Their Potential Bio-Applications"

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ABSTRACT

Recent developments in science and technology have created exciting opportunities to blend life sciences and engineering. On the one hand, extensive research in the last two decades has focused on the chemical and physical properties of nanoscale metal and semiconductor materials and their potential applications in cutting-edge technologies such as microelectronics and optoelectronics. On the other hand, recent insight into the genetic and molecular underpinnings of cellular bioprocesses indicate an immediate practical application of these nanomaterials in medical diagnostics and targeted therapeutics, resulting in the possible development of modular, personalized medicine platforms, especially in the area of cancer detection and treatment. The basic approach afforded by nanomaterials is the design of multi-component nanoscale structures that encompass the various functionalities necessary for the *in-situ* simultaneous identification, mapping, targeting and destruction of cancer cells, which may afford the opportunity of a paradigm shift in the area of cancer therapy. The lecture will be accessible to a broad audience of researchers with an interest in biomaterials, nanotechnology and personalized medicine.

Short Biosketch: Dr. Tannenbaum is originally from Israel where she received her B.Sc. in chemistry and physics from the Hebrew University. She continued her education at the Weizmann Institute of Science where she received a M.Sc. in physical chemistry. Dr. Tannenbaum went on to receive a Ph.D. in chemical engineering from the Swiss Federal Institute of Technology (ETH) in Zürich. Currently, Dr. Tannenbaum is a full professor in the School of Materials Science and Engineering and in the Program for Bioenegineering and Biotechnology at Georgia Tech. To date she has published over 120 peer-reviewed articles, reviews and conference proceedings. She is the recipient of the Gutwirth Award (1991) and the Kunin-Lunenfeld Award (1991) for excellence in research in the area of nanoparticle chemistry, best paper award in the 1st International Conference on Applied Physics (2003), the Sigma Xi best thesis advisor award (2004), the MRS Fall 2006 Meeting outstanding paper award (2007) and the 1st prize in the SAIC best paper competition (2007 and 2010). She is a member of the American Chemical Society, Materials Research Society, the American Physical Society, the Israel Polymer and Plastic Society and the Israel Chemical Society.

Refreshments will be served.