Northeastern University
College *of* Engineering

Please join us for a
Special Chemical Engineering Seminar

Wednesday, October 17, 2012
108 West Village H
11:45 a.m. – 1:00 p.m.

"Supramolecular Engineering of Nanoscale Materials for Nanomedicine"

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ABSTRACT

Self-assembly and self-organization processes offer a powerful strategy for the design of nanomaterials from the ground up with predefined dimensions and properties. Central to these approaches is the design and synthesis of molecules with a built-in ability to undergo a hierarchical sequence of supramolecular reactions, culminating with the formation of a well-defined functional superstructure. The rosette nanotubes (RNTs) are a new class of biocompatible organic nanomaterials with tunable dimensions and properties. They are obtained through the hierarchical self-assembly of small synthetic organic molecules. They can be readily functionalized with bioactive molecules such as adhesive peptides, anti-cancer drugs, antibiotics, and other functional moieties. This lecture will focus on the design, synthesis and characterization of these materials and their applications in medicine and biomedical engineering.

BIOGRAPHY: Dr. Fenniri was educated at the Université Louis Pasteur in Strasbourg, France, receiving his undergraduate degree in chemistry and biochemistry (1989, top of his class), and his M.Sc./Ph.D. degrees in supramolecular chemistry (1990/1994) under the supervision of Professor Jean-Marie Lehn (Nobel Laureate, 1987). He then joined the Scripps Research Institute in California, USA, where he carried out his postdoctoral training under the supervision of Professor Richard A. Lerner (President and CEO). In 1997 he moved to Purdue University, where he initiated his independent academic career, and established the Purdue Laboratory for Chemical Nanotechnology (1999). In 2003, He joined the National Research Council and the University of Alberta to build and lead the Supramolecular Nanoscale Assembly program, and contribute to the shaping of the National Institute for Nanotechnology (NINT), its research programs and facilities, and the recruitment of highly qualified personnel. NINT has since grown from 4 principal investigators in 2003 to a vibrant research and technology organization of over 350 researchers in 2012. In addition, Dr. Fenniri holds a full professor position with the Department of Chemistry (since 2003) and adjunct full professor position with the department of biomedical engineering (since 2010), the faculty of medicine, at the University of Alberta.

Refreshments will be served