



NANOTECHNOLOGY LESSONS FROM MARINE SPONGES

**Wednesday, December 6, 2006
Babbio Bldg, Room 104, Time 11am**

**Dr. Joanna Aizenberg
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Murray Hill, NJ**

In the course of evolution, living organisms have developed materials with superior properties. Focus of this lecture will be on biologically-formed inorganic structures and their unexpected "high-tech" features. In particular, intriguing examples will be used to show that a primitive organism - sea sponge - can teach us a valuable lesson in nearly every aspect of materials science and nanotechnology, including ceramics, mechanics, optics, glasses, crystallography, hybrid materials, crystal growth, and magnetism.

Dr. Joanna Aizenberg is Member of Technical Staff at Bell Laboratories. She pursues a broad range of research interests that include biomineralization, biomimetics, self-assembly, crystal engineering, surface chemistry, nanofabrication, and optics. She received the B.S. degree in chemistry in 1981, the M.S. degree with honors in physical chemistry in 1984 from Moscow State University, and the Ph.D. degree in Structural Biology from the Weizmann Institute of Science in 1996. After her postdoctoral appointment at Harvard University, she joined Bell Laboratories in 1998. Joanna's selected awards include American Chemical Society (ACS) PROGRESS Lectureship Award, 2004; New Investigator Award in Chemistry and Biology of Mineralized Tissues, 2001; Arthur K. Doolittle Award of the ACS, 1999; Award of the Max-Planck Society in the field of Biology and Materials Science, Germany, 1995. She has been elected to the Board of Directors of the Materials Research Society (MRS) and to the Board on Physics and Astronomy of the National Academies. She has served on various NAS/NRC, NSF, NIH and DoD committees, on the Advisory Board of *Langmuir* and *Chemistry of Materials*. Joanna is one of the pioneers of the rapidly developing field of biological inorganic materials. As an active promoter of this area of research, she organized a number of Symposia and Conferences on Biomimetics for the MRS and ACS. She was elected to chair two Gordon Research Conferences – Biomineralization (2006) and Organic Structures and Properties (2008). Joanna has authored >65 papers, >20 patents and presented more than 100 invited talks.

Light refreshments will be served prior to seminar

