

Center for Nanoscale Science and Technology Seminar Series

**Wednesday, February 26, 2003
4:00 -5:00 p.m.**

ACES Library – Monsanto Multimedia Studio

Dr. Barbara Baird

Professor of Chemistry and Chemical Biology

Director of the Nanobiotechnology Center

Cornell University

Applications of Nanotechnology to Solve Problems in Biology

Nanobiotechnology represents an exciting scientific and technological opportunity to create novel devices and to address important biological questions. Micro- and nanofabricated tools are being created to probe subcellular mechanisms and the assemblages of biomolecules that are involved in cellular responses. Understanding the basis for these biological processes, in turn, lays the foundation for effective intervention and for the design of engineered systems capable of complex functions. Success in developing these far reaching innovations requires the collaborative efforts of life scientists, physical scientists, and engineers. The NSF-STC Nanobiotechnology Center draws on the talents of this diverse group of scientists in collaborative research efforts to develop tools to analyze individual molecules in biological systems, to determine how cells respond to structured interfaces and to explore the dynamics of biological events at reduced dimensions.

Barbara Baird is Director of the Nanobiotechnology Center, established in 2000 as a Science and Technology Center by the National Science Foundation. She is a Professor in the Department of Chemistry and Chemical Biology at Cornell University. She is Principal Investigator for Cornell's training grant in Molecular Biophysics supported by the National Institutes of Health, and she is Co-Director of W.F. Keck Foundation Program in Molecular and Cellular Biophysics of Signal Transduction that operates on Cornell's Ithaca and Weill Medical College campuses. Dr. Baird received her B.A. in Chemistry from Knox College and her Ph.D. in Chemistry from Cornell University. Her postdoctoral studies were carried out in the Immunology Branch of the Cancer Institute at the National Institutes of Health before she joined the faculty at Cornell. The Baird research laboratory uses biochemical and biophysical approaches to investigate basic mechanisms of cell surface receptors in mediating transmembrane signals in immune responses.

Reception to follow seminar in the ACES Library Heritage Room.