

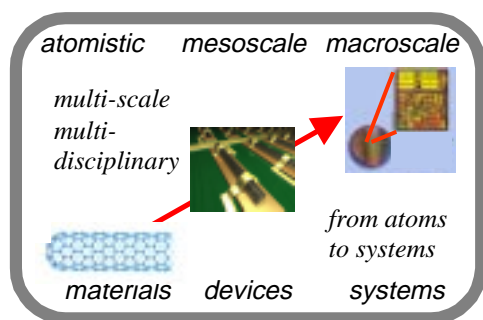


# The Network for Computational Nanotechnology

Purdue University  
Morgan State University, Northwestern University, Stanford University  
University of Florida, University of Illinois at Urbana-Champaign  
University of Texas at El Paso

**Mission:** The NCN is an NSF-supported activity with a unique mission to:

- Address key research challenges through theory and computation – research that begins at the atomistic level, proceeds to the system scale, and is tightly linked to experiment
- Create and support a cyber-infrastructure that facilitates collaboration and provides ready access to simulation services and public-domain software.
- Educate students and professionals in the use of new software tools and approaches and use simulation to provide “hands-on” educational experiences to students at all levels.



**Research:** The NCN focuses on three research themes, *nanoelectronics*, *nanoelectromechanics*, and *nanobioelectronics*. We support projects that begin at the atomistic scale, proceed to the system scale and that are ready for a coordinated, multi-disciplinary attack. Problems that can only be solved by an interdisciplinary team working closely with collaborating experimentalists.

**Computational User Facility:** In addition to doing research that will make a difference, the NCN also supports the broader nanotechnology community through the nanoHUB, which allows users to access software, run simulations, and view results via standard Web browsers without needing to install and support software. Researchers share simulation tools, educators create computer labs, and students access educational modules that bring abstract concepts to life. As research projects mature, the nanoHUB’s library of tools will grow. The nanoHUB is one part of a developing cyberinfrastructure that will deliver simulation and educational services and facilitate collaborative research.



**Education and Outreach:** The NCN’s educational program is designed for students at all levels, from short courses for graduate students and professionals to research experiences for undergraduate and pre-college students. Simulation will be an integral component of new courses and course modules. Advanced on-line technologies ensure the maximum impact for the NCN’s educational activities.