

## SPRING 2006 COURSE ANNOUNCEMENT

# NANOTECHNOLOGY

Recently there have been profound advances in man's ability to physically interact in with small numbers of molecules and even individual atoms. In addition to the fundamental scientific discoveries, practical technologies have been developed and (e.g. in the case of surface profiling microscopes) have been rapidly and successfully commercialized. Today's research is likely to lead in the next decade to single electronic memory chips that have more storage than today's largest hard drives, bioprobes that can chemically sense and perform reactions at selected molecules within a single living cell, computing chips that are based on the quantum interference between single electrons, and materials, structures and electronic devices self-assembled through our detailed knowledge of chemical affinities. Thus, nanotechnology is expected to dramatically change electronics, computers, manufacturing, medicine, and the physical sciences over the coming years.

This special topics course will survey the current state-of-the-art in Nanotechnology through selected readings, special topic reports from the students, and invited guest lecturers from researchers in the field.

**Main text:** *Nanostructures & Nanomaterials*, by G. Cao

**Course info:** ECE 600-01, 2:00 - 2:50 MWF, Rm 306, Lutz Hall

**Prereqs:** *Because Nanotechnology is uniquely interdisciplinary interested Students from all Departments are welcome to attend.*

**More info:** <http://www.ee.uofl.edu/~eri/pages/course.html> and through Blackboard link on ECE600-1 in UofL online course catalog

**Professor:** R. W. Cohn, Professor ECE, Distinguished University Scholar  
Director ElectroOptics Institute & Nanotechnology Center  
Lutz Hall Rm. 442, 852-7077, [rwcohn@uofl.edu](mailto:rwcohn@uofl.edu)

### **Other recommended Nanotechnology courses:**

- ECE 600-2 Advanced Devices (Nanoelectronics) — 11am TTh Sp06 (Alphenaar)
- ECE 600-3 Nanostructure Self-Assembly Su05 — reoffer date TBD (Cohn)
- ECE 600-4 Foundations of Polymer MEMS Sp04 — reoffer date TBD (Cohn)