



CALIFORNIA NANOSYSTEMS INSTITUTE
AT THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Teaching

Collaboration

Discovery

Multidisciplinary

Innovation

Mentoring

Integration

Serving California and the Nation

Facilitating a multidisciplinary approach to develop the information, biomedical and manufacturing technologies that will dominate science and economy in the 21st century.

History

The California NanoSystems Institute is a multidisciplinary research partnership between UCLA and UC Santa Barbara established by the state legislature and California industry in 2000 as one of the first California Institutes for Science and Innovation. By exploring the power and potential of manipulating structures molecule-by-molecule, the CNSI is on its way to creating revolutionary new materials, devices, and systems that will enhance virtually every aspect of our lives – helping to drive California's economy through innovations in medical delivery and health care, powerful new information technologies, energy efficient devices, environmental improvements, and more.

Goals

- To provide a world-class intellectual and physical environment
- To generate the ideas, discoveries and the talent that will continue to fuel innovation in Nanosystems
- To foster interdisciplinary collaboration
- To support and mentor the next generation of scientists and engineers
- To provide crucial instrumentation and facilities necessary to propel the next generation of nanosystems discoveries

Research Partners

Center for Polymers & Organic Solids
www.cpos.ucsb.edu

Center for Spintronics and Quantum Computation
www.csqc.ucsb.edu

Center for Stem Cell Biology and Engineering
www.stemcell.ucsb.edu

Institute for Collaborative Biotechnologies
www.icb.ucsb.edu

STAGE - Scientists, Technologists and Artists Generating Exploration
www.stage.ucsb.edu

Station Q
<http://stationq.ucsb.edu>

Western Institute of Nanoelectronics
www.win-nano.org

Main Research Themes

Biology & Biomedical

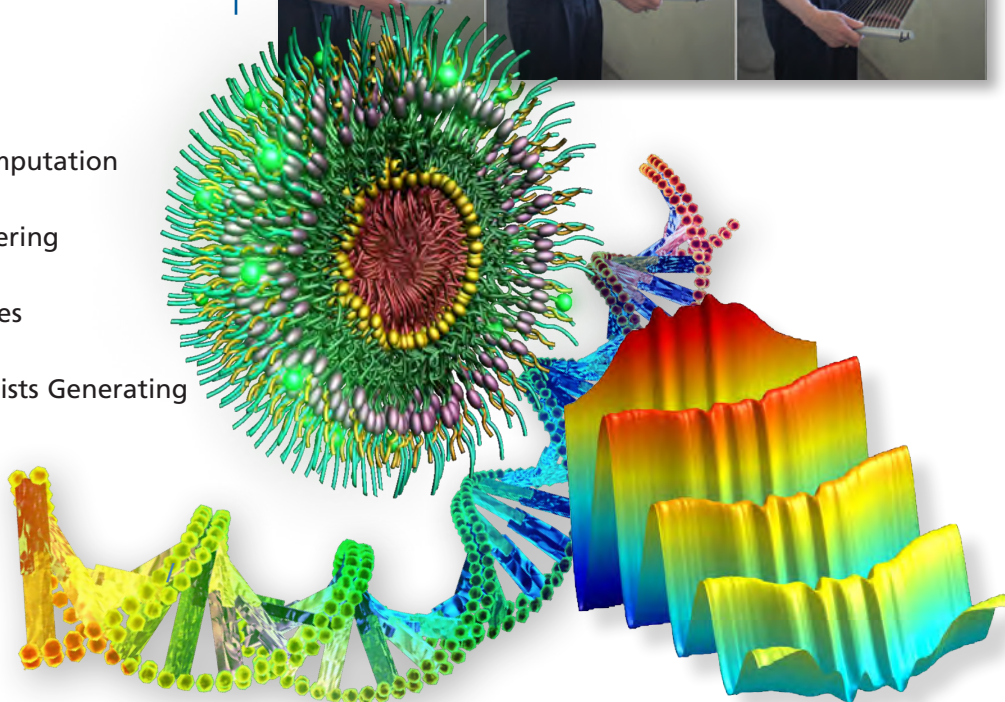
New tools and diagnostics that can directly probe the electrical, structural and optical behavior of biological materials can not only illuminate our understanding of those systems but also inspire us with new device constructs that can be engineered from hybrid biological-non biological components.

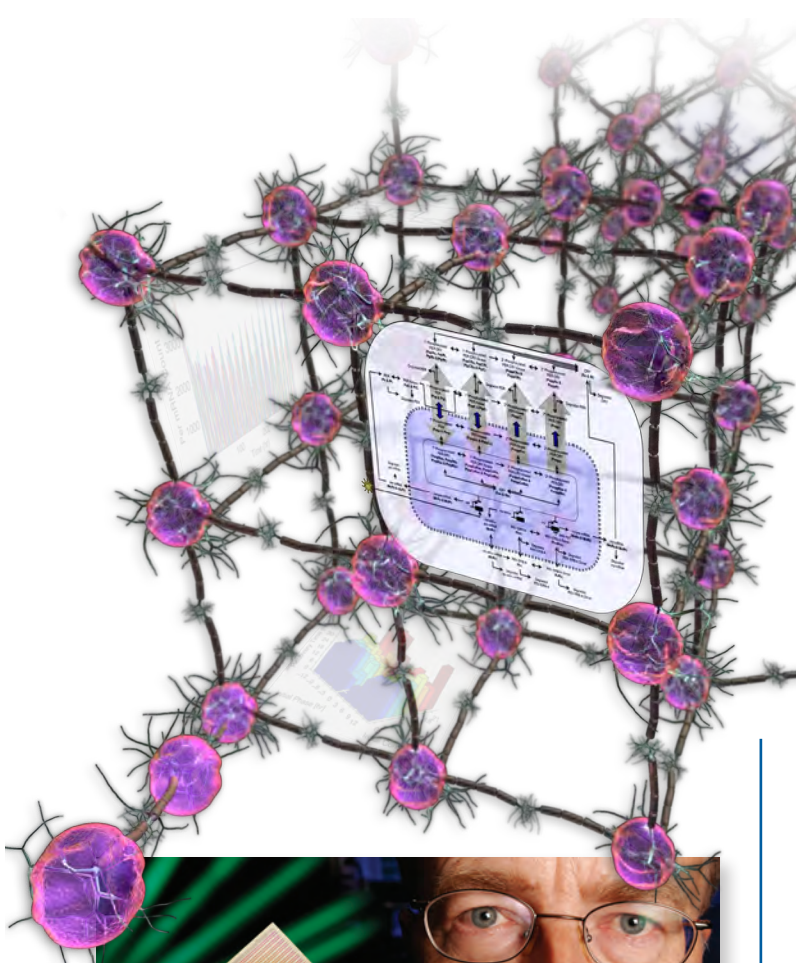
Energy Efficiency

Nanoscale science enables the development of new materials and devices to improve energy efficiency, production, and storage.

Information Technologies

Nanophotonic and Nanoelectronic technologies promise to provide more compact and rapid information processing, as well as dramatically new means of accessing and controlling photons and charge.





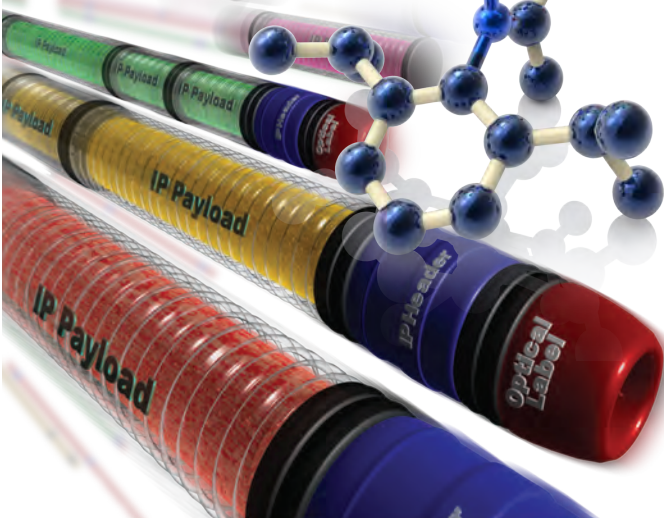
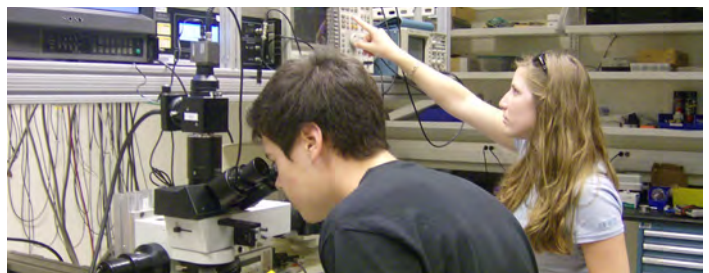
Education and Professional Development

The CNSI Education Programs seek to increase science literacy by engaging the broadest range of learners in science and engineering education opportunities. We collaborate with educational partners at UCSB and in the community, bringing together students, educators, and researchers to develop activities which motivate, recruit and retain students in science and engineering fields. These programs also create new social networks and include mentorship as a particularly powerful resource to engage more students from disadvantaged and/or under-represented backgrounds.

Education Program Goals

- Recruit a wide range of students as research interns in science and engineering
- Create academic and social support networks for undergraduate and graduate science and engineering students
- Establish partnerships with science teachers to promote innovative k-12 programs
- Develop hands-on science activities and resources that raise the profile of science and engineering in the local area
- Engage graduate and postdoctoral researchers in supervision and instruction that enables them to be effective mentors to younger recruits to science and engineering

www.cnsi.ucsb.edu/education



Serving California and the Nation



Elings Hall

Virgil Elings and Betty Elings Wells have made a \$12.5 million gift to UC Santa Barbara to support pioneering research at the California NanoSystems Institute (CNSI). In recognition of their recent gift, the new building that is home to the prestigious California Institute for Science and Innovation will be named in honor of Virgil Elings.

The CNSI building, now known as Elings Hall, stands near the eastern entrance to the campus and is the hub for nanoscience research at UCSB. The institute fosters collaborative research and builds on the substantial and collective strengths of the College of Engineering and the sciences. It also brings together innovators from California universities, industries, and national laboratories and trains the next generation of innovators and entrepreneurs.



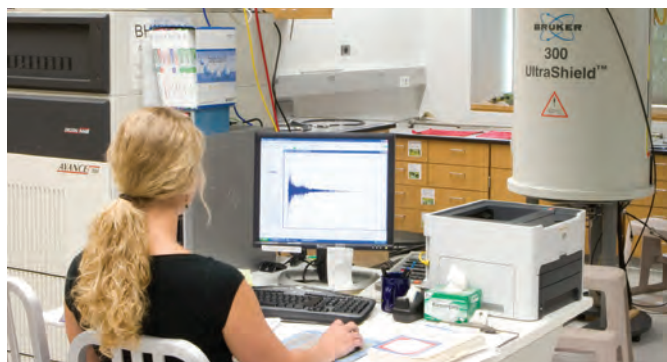
Facilities

Elings Hall houses cutting edge instrumentation and facilities that enable complete in-house fabrication of novel nanomaterials. A trio of shared laboratories are available to researchers interested in exploring the synergistic opportunities envisioned between the physical, chemical and biological attributes of nanostructures:

- The Chemical Nanostructures Laboratory
- The Biological NanoStructures Laboratory
- The Nanostructures Cleanroom Facility

In addition, Elings Hall is home to the Allosphere, a one-of-a-kind research environment for the exploration of scientific phenomenon through integrated total immersion of the researcher.

www.cnsi.ucsb.edu/facilities



Contact Information



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