



## Silicon Valley Initiatives

**UC** SANTA CRUZ, with its innovative research and educational programs, is a natural partner with Silicon Valley's educational institutions, private industries, and federal government researchers. To develop and strengthen these partnerships, UCSC is launching initiatives to meet the research and educational needs of Silicon Valley and the state of California, while expanding research opportunities for UCSC students and faculty. These initiatives build on the campus's partnerships with NASA Ames Research Center, San Jose State University, and Foothill–De Anza Community College District.

UCSC's initiatives, listed below, address the needs of the Silicon Valley of the future.

### Education Initiatives

- ▶ Establish new engineering and management programs to prepare students to respond to the interdisciplinary issues facing high-technology enterprises operating in a global, knowledge-based economy
- ▶ Deliver summer-session UC courses uniquely tailored to students in Silicon Valley
- ▶ Expand collaborations to provide pathways for students in science, technology, engineering, and math educational programs



### Research Initiatives

- ▶ Build on well-established research partnerships with NASA Ames Research Center
- ▶ Establish a Bio-Info-Nano Research and Development Institute

## Major components of the Silicon Valley Initiatives include:

### UCSC Academic Programs in Silicon Valley

UCSC's Baskin School of Engineering is launching education, training, and career-development programs at the UCSC Silicon Valley Center (SVC) located in the NASA Research Park at NASA Ames. UCSC is beginning a certificate program in Knowledge Services and Enterprise Management in fall 2006, with expanded graduate offerings in technology and information management to follow. UCSC is also offering summer courses at the SVC designed to help upper-division and transfer students complete their degrees in a timely fashion.

UCSC, San Jose State University, and Foothill–De Anza community colleges are cooperating to educate the workforce of the future through the

Collaborative for Higher Education, a model of higher education institutions working together to offer coordinated services in science, technology, engineering, and mathematics (STEM) education.

### University Affiliated Research Center (UARC)

A unique partnership between NASA and the University of California, UARC is a ten-year, \$330 million research contract competitively awarded in 2003 to UC, with UCSC as the lead campus. UARC is conducting highly sophisticated research, serving as a magnet for world-class researchers, and providing support for student research and training in science and engineering. UARC also includes a System Teaching Institute (STI), administered by San Jose State University,

which recruits and supports student interns working with UARC and NASA Ames scientists.

### Bio-Info-Nano Research and Development Institute (BIN-RDI)

BIN-RDI is planned as a focal point in Silicon Valley for bio-info-nano convergence science and technology. It will support both open-exchange fundamental research and industry-supported startup research toward development of breakthrough bio-info-nano fusion technologies. It will also provide an educational test-bed for novel curricula and teaching methodologies to develop a workforce for the future. In addition, BIN-RDI will host a policy institute designed to position Silicon Valley as a national leader in influencing technology policy and investment.

# UC Santa Cruz: Silicon Valley Initiatives

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## UCSC's Silicon Valley Initiatives Support the Future of Silicon Valley

**A**CCORDING TO the *2006 Index of Silicon Valley* published by Joint Venture: Silicon Valley Network, Silicon Valley has emerged after the dot-com collapse as a global center for creativity in business and technology. Despite accounting for less than 1 percent of the U.S. population, Silicon Valley generates over 10 percent of the country's patents and receives over 25 percent of all U.S. venture-capital investments. Silicon Valley's preeminence in what is called the "idea economy" stems from the region's competitive edge in creating new ideas, methods, product designs, services, and businesses.

To maintain this edge, Silicon Valley will need to:

- ▶ promote innovative advances in basic and applied research;
- ▶ ensure our educational system prepares children and adults to succeed in an ever-changing, innovative environment; and
- ▶ train managers to work in a globally integrated economy where working across boundaries of culture and geography requires an interdisciplinary approach.

UCSC's Silicon Valley Initiatives are aimed at meeting each of these challenges. By creating partnerships among academia, government, and the private sector, the initiatives will provide an education and research basis for the continuing technological revolution driven by Silicon Valley expertise in engineering, science, and management.

Work on the Silicon Valley Initiatives has already begun. UCSC researchers at the University Affiliated Research Center are leading efforts to find innovative applications for nanotechnology in NASA's space exploration programs; develop the next generation of tools for increased automation and safety of the nation's air-traffic management system; better understand climate and ecological change from observations within the Earth's atmosphere; and apply new computational technologies to allow greater autonomy and capability in advanced space-exploration vehicles.

The Baskin School of Engineering at UCSC has initiated academic programs focused in Technology

and Information Management (TIM). Courses are taught at the UCSC's Silicon Valley Center.

In partnership with NASA Ames, UCSC has designed the Bio-Info-Nano Research and Development Institute, including a "commons" area in which precompetitive research in biotechnology, information technology, and nanotechnology will be conducted by university, government, and industry researchers. One initial partnership research activity for BIN-RDI with Santa Clara University has already begun. Planning between UCSC and San Jose State University is under way to develop a Technology Policy Institute that will be hosted by BIN-RDI.

Finally, UCSC is conducting preliminary studies and analyses to determine the feasibility of establishing a School of Management in Silicon Valley.

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