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NanoSystems Institute Director Evelyn Hu Named 2005 Faculty Research Lecturer, UCSB'S Most Prestigious Faculty Award

The faculty at UC Santa Barbara has made Evelyn Hu the latest recipient of its most prestigious honor, the Faculty Research Lectureship. Hu, director of the California NanoSystems Institute, is an internationally recognized researcher, and a professor of electrical and computer engineering and of materials. Her selection was announced Thursday, March 10.

"The Faculty Research Lectureship is the highest honor that UCSB can bestow on one of its own faculty," said William Murdoch, a professor of ecology, evolution, and marine biology, chairman of the 2005 award committee, and the 2004 winner of the award. "For her magnificent research contributions, her exemplary scholarship, her outstanding scientific leadership and broad contributions to engineering and UCSB, and her outstanding teaching and mentoring, we are proud and delighted to name Evelyn Hu the 2005 UCSB Faculty Research Lecturer."

"I am completely surprised and deeply grateful," said Hu, who came to UCSB in 1984. "This expression of confidence from my colleagues on campus is a wonderful affirmation. Given the wide range of outstanding research that takes place on this campus, the diversity of talented and eloquent faculty here, it truly is an honor to be

selected. I am humbled."

With the honor comes the lecture. Hu will give her talk, "Michelangelo's Laser: Sculpting Form into Function," at 4 p.m. Tuesday, May 24 in Room 1001 of UCSB's Engineering Science Building. The talk will describe Hu's research.

After receiving a Ph.D. in physics in 1975 from Columbia University, where she examined the physics of antiprotons, Hu went to work at Bell Laboratories and changed the focus of her work to the study of solid-state devices.

Hu's work since then has involved controlling the behavior of electrons and photons by carefully shaping the materials that make up their environment.

"We confine electrons in wires to direct electrical current," Hu said. "If we make the wires a few hundred nanometers in diameter instead of a few millimeters, electrical current behaves differently."

Hu's most recent work involves similar research controlling photons through manipulation---sculpting---of their environments.

"We direct the behavior of photons by shaping relevant materials into semiconductor lasers, such as in laser pointers, or light-emitting diodes," Hu said. "But if we sculpt out the photon environment at the level of a few hundred nanometers, we have the possibility of exceptional control over individual photons.

"This is some of my most recent work: sculpting out those environments, embedding quantum dots within them (as a light source) and looking at the result."

Hu is also interested in taking her research into the biological sciences.

"Having spent much of my career in trying to craft structures at smaller and smaller dimensions, I've also recently begun to become very interested in linking biological approaches to assembling electronic and photonic structures," she said.

Hu's research is internationally recognized and has resulted in her election to the National Academy of Engineering, and her selection as a fellow in the American Association for the Advancement of Science, the Institute of Electrical and Electronics Engineers, and the American Physical Society.

Just as Hu's research is known around the globe, so is her research leadership. She has excelled as a developer of collaborative science and engineering projects.

Such leadership is exemplified in her work as director of the California NanoSystems Institute (CNSI), an enterprise shared with UCLA and supported by the State of California and private industry. Her leadership has also been interdisciplinary. Hu recently collaborated with a group of scholars from the social sciences and humanities in writing a National Science Foundation grant proposal to explore the societal implications of nanotechnology. And in her role as director of CNSI, she recently joined forces with the Professional Artists Lab to co-sponsor a $10,000 playwriting competition for works depicting science and technology.

Hu is also recognized as an outstanding teacher and mentor. In 1999, she received the UCSB Academic Senate's Distinguished Teaching Award. In 2000, the American Association for the Advancement of Science presented her with its Lifetime Mentor Award.

Related Links

Professor Hu's Web Page

CNSI Web Site

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The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.