UC SANTA BARBARA

THE Current

February 17, 2004
Paul Desruisseaux

National Academy of Engineering Elects Two More UCSB Professors

Two University of California, Santa Barbara professors have been elected members of the prestigious National Academy of Engineering.

Larry A. Coldren, a professor of electrical and computer engineering, and Linda R. Petzold, a professor of mechanical and environmental engineering, were among 76 new members and 11 foreign associates elected in balloting by the academy's members, the results of which were announced in Washington on February 13.

Both professors serve on the faculty of the College of Engineering, and both are affiliated with the California NanoSystems Institute, a joint project of UCSB and UCLA. The College of Engineering now boasts 24 members of the National Academy of Engineering.

The academy is an independent, nonprofit institution that provides leadership and guidance to the nation on the application of engineering resources to vital problems and issues. Established in 1964, it operates under the Congressional charter granted to the National Academy of Sciences in 1863.

Election to the National Academy of Engineering is one of the highest professional distinctions that can be accorded an engineer. Academy membership honors those who have made "important contributions to engineering theory and practice" and those who have demonstrated unusual accomplishment in the pioneering of new

fields of engineering, making major advancements in traditional fields of engineering, or developing or implementing innovative approaches to engineering education.

Chancellor Henry T. Yang, who is himself a member of the National Academy of Engineering, called this year's election to the academy of two more of his faculty colleagues "a wonderful achievement that brings great honor and distinction to our campus and our community."

"Being elected to this important academy by one's peers is an important affirmation of hard work and years of research," said Yang. "The energy, creativity, and dedication of these faculty members is truly impressive, and I know that our campus and community are just thrilled to join me in applauding their achievement."

Said Matthew Tirrell, dean of the College of Engineering and a National Academy member: "Linda Petzold and Larry Coldren have been recognized leaders in their respective fields for a considerable period of time. They have made singularly distinctive advances for which they are being honored. I am pleased to congratulate our newest members of the NAE.

The faculty in engineering at UCSB is extraordinary, and we have the numbers in the National Academy to prove it. "

The academy cited Coldren "for major contributions to diode lasers, especially vertical-cavity and widely tunable distributed Bragg reflector (DBR) lasers."

Coldren is the Fred Kavli Professor of Optoelectronics and Sensors at UCSB, where he also is director of the Optoelectronic Technology Center. He earned his Ph.D. at Stanford University and, prior to coming to Santa Barbara in 1984, worked on guided surface-acoustic-wave devices, microfabrication techniques, and tunable diode lasers at AT&T Bell Laboratories. At UCSB he has worked on a variety of optoelectronic materials and devices currently focusing on components and fabrication techniques for III-V optoelectronic integrated circuits.

His research group at UCSB has made seminal contributions to vertical-cavity lasers and widely tunable lasers, and is now involved in optical switching and noiseless amplification research. The fundamentals of such components are detailed in his recent book entitled "Diode Lasers and Photonic Integrated Circuits," published by Wiley-Interscience. Coldren is also heavily involved in new materials growth and

fabrication technology essential to the fabrication of such integrated optoelectronic components. Coldren has been a Fellow of IEEE (Institute of Electrical and Electronics Engineers) since 1982 and a Fellow of OSA (Optical Society of America) since 1990. Coldren was recently named winner of the 2004 John Tyndall Award, co-sponsored by OSA and the IEEE/Lasers and Electro-Optics Society, for "contributions to semiconductor laser diode technology, including widely tunable DBR lasers and vertical-cavity surface-emitting lasers."

The academy cited Linda Petzold "for advances in the numerical solution of differential/algebraic equations and their incorporation into widely distributed software."

Petzold is a professor of mechanical and environmental engineering, and of computer science, where she serves as department chair. She also is director of UCSB's Computational Science and Engineering Program. She received her Ph.D. in computer science in 1978 from the University of Illinois. From 1978-1985 she was a member of the Applied Mathematics Group at Sandia National Laboratories in Livermore, California, and from 1985-1991 she was Group Leader of the Numerical Mathematics Group at Lawrence Livermore National Laboratory. From 1991-1997 she was a professor of computer science at the University of Minnesota.

Her research interests include scientific computing and problem solving environments, sensitivity analysis, model reduction, numerical ordinary differential equations, differential-algebraic equations and partial differential equations, parameter estimation and optimal control for dynamical systems. Petzold was awarded the Wilkinson Prize for Numerical Software in 1991 and the Dahlquist Prize, for numerical solution of differential equations, in 1999.

Wm. A. Wulf, president of the National Academy of Engineering, said the recent election brought the organization's total U.S. membership to 2,174 and the number of foreign associates to 172.

Related Links

Larry Coldren Site

Linda Petzold Site

About UC Santa Barbara

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.