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An Illuminating Honor

UC Santa Barbara engineering professor Larry Coldren has received the 2017 Nick Holonyak, Jr. Award from the Optical Society (OSA) in recognition of his “major contributions to photonic integrated circuits.”

The award is presented annually to an individual who has made significant contributions to optics based on semiconductor-based optical devices and materials, including basic science and technological applications.

“This is indeed a major honor,” said Coldren, a professor in the Department of Electrical and Computer Engineering in UCSB’s College of Engineering. “It is especially important to me, because it honors Professor Holonyak, who I have known and respected all of my professional career, and it is also endowed by Don Scifres with his wife and company, people I have also known and respected for a long time. We have all worked in similar areas for many years.”

The demand for and proliferation of internet-enabled devices, from computers and smartphones to wearables and “smart” appliances, stand to put a strain on existing telecommunications infrastructure. Engineers and scientists have looked to harness the power of light for its speed, capacity and energy efficiency in managing the tidal wave of data.

But to get that information to and from lightwaves into our electronic devices, a transition has to be made — and that comes in the form of the photonic integrated circuit (PIC), through which optical and electronic elements are combined. Coldren’s

most notable work in the field includes widely tunable lasers and vertical cavity-surface-emitting lasers. He also wrote a textbook on diode lasers and PICs, now in its second edition, that for the past two decades has been the most popular on the subject.

“Larry Coldren has an extensive record of making important contributions in photonics, both as a world-renowned researcher and technological entrepreneur and as a teacher, as evidenced by his widely used photonics textbook,” said UCSB College of Engineering Dean Rod Alferness. “We at the College of Engineering offer Larry our warmest congratulations for receiving the OSA’s Nick Holonyak, Jr. Award for 2017.”

Coldren, who joined the Department of Electrical and Computer Engineering in 1984, also is a professor of materials at UCSB. He served as acting dean of the College of Engineering from 2009 –11, and is currently a member of the campus’s Optoelectronics Technology Center and the Solid State Lighting & Energy Electronics Center. Coldren is a fellow of the Institute of Electrical and Electronics Engineers, the OSA and the Institute of Electronics Engineers in the UK. In addition, he is a member of the National Academy of Engineering and the National Academy of Inventors.

Established in 1997, the OSA award honors Nick Holonyak, Jr., who has made distinguished contributions to the field of optics through the development of semiconductor based light emitting diodes and semiconductor lasers.

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.