On February 28 & 29, 2008, the College of Engineering at UC Santa Barbara held Engineering Insights, a two day conference dedicated to moving research from bench to boardroom. The event offered insights into the latest research, advice on how best to collaborate with the university and keynotes by Jeong Kim, President of Bell Labs at Alcatel-Lucent and James A. Kelly Vice President of Engineering and Technical Services at Southern California Edison.

James A. Kelly is vice president of Engineering and Technical Services in the Transmission and Distribution business unit of Southern California Edison (SCE). He was appointed to his current role on March 1, 2004.

Kelly leads the organization responsible for planning, engineering and designing SCE’s electric transmission, substation and distribution system; substation and powerline craft training; environmental and safety services; research and development and strategic asset management.

Kelly earned undergraduate and graduate degrees in economics and holds teaching credentials in multiple subjects. He has taught economics and public policy at a number of colleges and universities throughout his career.

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Jeong Kim, Ph.D., is president of Alcatel-Lucent’s Bell Labs, overseeing a team
which spans four continents and designs products and services at the forefront of communications technology. Dr. Kim's team also conducts fundamental research in a wide range of fields, including optical networking/photonics, nanotechnology, wireless/mobility, physical sciences, computing and information sciences, and network software.

Dr. Kim originally joined Alcatel-Lucent in May 1998 when Lucent acquired Yurie Systems, Inc., a high-tech communications equipment company which he founded in 1992 and of which he was Chairman and CEO. Kim initially served as the president of Lucent's former Broadband Carrier Networks, and in 1999 was named chief operating officer and later president of Lucent’s Optical Network Group.

UCTV 4490-B • Recording date & length: 02-28-08 • 59:00

ECTV 4490-C. Energy-Efficient Electronics.
Panel: John Bowers • Art Gossard • Tim Cheng • Steve DenBaars
Matthew Tirrell, Session Chair.

Energy-Efficient Electronics investigates the application of research in silicon photonics, quantum computation, and chip architecture in realizing significant energy savings. U.S. businesses now spend over $3.3 billion to power their computers and data centers, and that cost is growing rapidly. University of California Santa Barbara (UCSB) faculty members are developing more efficient means of data transmission, energy transmission and storage.

John Bowers, Professor of Electrical & Computer Engineering and Director of the Multidisciplinary Optical Switching Technology Center (MOST), UCSB, discusses Innovations for Increased Energy Efficiency; Art Gossard, Professor of Materials & Computer Engineering, UCSB, discusses Engineered Materials for Thermoelectric Power Generation; Tim Cheng, Professor & Department Chair, Electrical & Computer Engineering, and founding Director of the Computer Engineering program at UCSB, discusses Energy-Efficient Computing: From Low-Power Devices to Energy-Aware Data Centers; and Steve DenBaars, Mitsubishi Chemical Professor in Solid State Lighting & Displays, Executive Director of the Solid-State Lighting & Energy Center and Professor of Materials & Electrical & Computer Engineering, UCSB, discusses Energy-Efficient Solid State Lighting.
Matthew Tirrell, Richard A. Auhll Professor & Dean, College of Engineering, UCSB, acts as Session Chair.

UCTV 4490-C • Recording date & length: 02-28-08 • 115:50
UCTV 4490-D. From Bench to Boardroom.
Panel: Michael Witherell • Sherylle Mills Englander • Ted Cais • Nancy E. Stagliano.

Learn about the many opportunities to collaborate with the University of California, Santa Barbara, (UCSB) as a whole and hear more about models of collaboration that have been successful. Presented by the UCSB Office of Research and its Office of Technology and Industry Alliances, this sesison concludes with a panel presentation by a number of corporate representatives who have worked with UCSB over the years and offers insight into how to work successfully with UCSB.

Michael Witherell, Executive Vice Chancellor, Office of Research, UC Santa Barbara; Sherylle Mills Englander, Director, Technology Industry Alliance, UCSB; Ted Cais, President, Mitsubishi Chemical Research & Innovation Center; Nancy E. Stagliano, Chief Operating Officer & Vice President, Corporate Strategy & Development, CytomX, LLC.

UCTV 4490-D • Recording date & length: 02-29-08 • 59:50

Panel: Igor Mezic • Arun Majumdar • Karl Aström • Jeff Moehlis.

Energy spent for powering buildings accounts for 40% ($320 billion) of the total U.S. energy expenditure. A large building equipped with HVAC, data centers, and a myriad of sensors and wireless communication devices is a complex system whose operation includes multi-physics and multi-scale effects. It is estimated that substantial savings (10% to 50%) of energy can be earned by using existing hardware, energy-efficiency modeling tools and algorithms (such as "Energy Plus") for retrofit of old and the design of new buildings. But much more can be achieved with modern analysis and control tools based on dynamic systems and control theory methodology, when these are used to optimize the performance of the building system. Hear highlights of UCSB research and commercial and government laboratory perspectives on the problem of energy-efficient retrofit and design of building systems.

Igor Mezic (Session Chair), presented Integrated Building Systems; Arun Majumdar, Lawrence Berkeley National Laboratory, presented Curbing the Energy Demand in Buildings; Karl Aström, Chair, Automatic Control, Lund University,
Sweden, and Distinguished Visiting Professor, Mechanical Engineering, UCSB, presented Challenges in Control of Buildings; and Jeff Moehlis, Associate Professor, Mechanical Engineering, UCSB, presented Reduced Order Models for Airflows in Buildings.

UCTV 4490-E • Recording date & length: 02-29-08 • 112:30

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