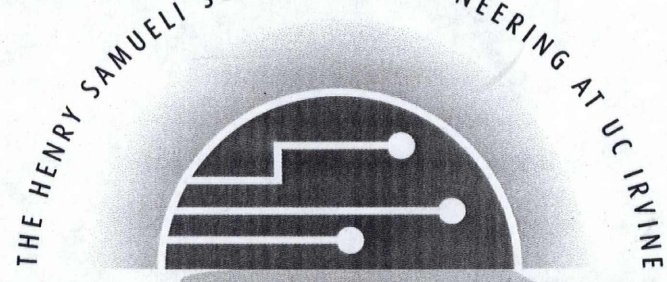


CALIFORNIA:

PROSPERITY THROUGH TECHNOLOGY

2005 INDUSTRY RESEARCH SYMPOSIUM

MAY 23 - 24, 2005

The Henry Samueli School of Engineering at UC Irvine invites you attend a symposium in which academic visionaries and industry leaders discuss vital areas of convergence essential to the prosperity of California and the nation: energy, aerospace, biomedical engineering and communications technology.

CALIFORNIA: Prosperity Through Technology

2005 Industry Research Symposium

When:
Monday, May 23, 2005
7:30 a.m. – 5:00 p.m.
Poster Session and Banquet Immediately Following

Tuesday, May 24, 2005
8:00 a.m. – 5:00 p.m.

Location:
Arnold and Mabel Beckman Center of the National Academies
100 Academy
Irvine, CA 92612-3002

Cost:
Symposium: $100 per day
Awards Banquet: $50 (limited seating)

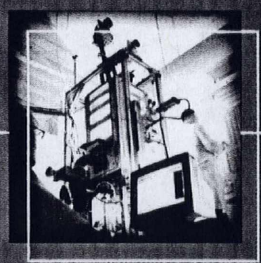
Registration:
Please visit http://ucitech.eng.uci.edu

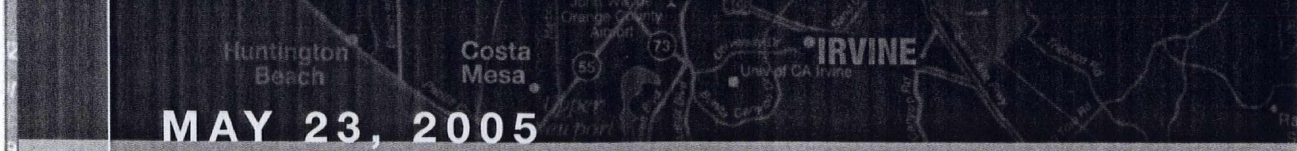
General Questions?
Contact Aileen Broccardo at 949.824.1540

Directions and Parking:
Map to Beckman Center on Back

Complimentary parking is available







MAY 23, 2005

7:30 a.m. Registration and Breakfast

8:15 a.m. Introduction
Nicolaos G. Alexopoulos, Ph.D.
Dean, The Henry Samueli School of Engineering, UC Irvine

8:20 a.m. Welcome
Ralph J. Cicerone, Ph.D.
Chancellor, UC Irvine

8:30 – 10:00 a.m. I. The Evolution of Alternative Power Systems

Introduction
Scott Samuelsen, Ph.D.
Director, Advanced Power and Energy Program
Professor, Mechanical and Aerospace Engineering, UC Irvine

Cars and California - Driving Progress for the Future
James E. Press
Executive Vice President and Chief Operating Officer, Toyota Motor Sales, U.S.A., Inc.

Carbon MEMS for Biosensors, Microbatteries and Microfluidics
Marc Madou, Ph.D.
Chancellor's Professor, Mechanical and Aerospace Engineering, UC Irvine

Portable Power Systems: Advanced Energy Technologies to Enhance Human Autonomy
Derek Dunn-Rankin, Ph.D.
Professor, Mechanical and Aerospace Engineering, UC Irvine

10:00 - 10:15 a.m. Coffee Break

10:15 – Noon II. New Frontiers in Aerospace Engineering

Introduction
Nicolaos G. Alexopoulos, Ph.D.
Dean, The Henry Samueli School of Engineering, UC Irvine

Emerging Technologies: Driving Boeing's Growth
David A. Whelan, Ph.D
Vice President-General Manager and Deputy, Boeing Phantom Works

Advancements in 'Green' Aircraft Design
Feng Liu, Ph.D.
Professor, Mechanical and Aerospace Engineering, UC Irvine

Entry Guidance for Crew Exploration Vehicles and Mars Landers
Kenneth D. Mease, Ph.D.
Professor, Mechanical and Aerospace Engineering, UC Irvine

Evolution of Transformation
Albert F. Myers
Corporate Vice President, Strategy and Technology, Northrop Grumman Corporation

Noon – 1:30 p.m. Luncheon

Register at http://ucitech.eng.uci.edu

1:30 – 2:45 p.m. III. Pre-Cursors for the Next Wave in Communications

Introduction
Ender Ayanoglu, Ph.D.
Conexant/Broadcom Endowed Chair and Professor,
Electrical Engineering and Computer Science
Director, Center for Pervasive Communications and Computing, UC Irvine

Convergence Trends in Communications: Implications for CPCC and Southern California
Raouf Y. Halim
Chief Executive Officer and Director, Mindspeed Technologies, Inc.

Next Generation Wireless Local Area Networks: How to Achieve 15dB Improvement Over Today's Standard Proposals
Ender Ayanoglu, Ph.D.

Wireless Broadband Systems: From Theory to Silicon
Ahmed Eltawil, Ph.D.
Assistant Professor, Electrical Engineering and Computer Science, UC Irvine

Novel Ultra – Broadband Communications Circuits
Payam Heydari, Ph.D.
Assistant Professor, Electrical Engineering and Computer Science, UC Irvine

Generalized MIMO Principle for Distributed Wireless Communications – Promises and Limitations
Syed A. Jafar, Ph.D.
Assistant Professor, Electrical Engineering and Computer Science, UC Irvine

Recent Advances in Space-Time Coding and Beamforming
Hamid Jafarkhani, Ph.D.
Associate Professor, Electrical Engineering and Computer Science, UC Irvine

2:45 – 3:00 p.m. Coffee Break

3:00 – 5:00 p.m. IV. Pervasive Communications: All the Time, Everywhere

Panel Moderator
Ender Ayanoglu, Ph.D.

Panelists:

■ Vipin Aggarwal, Conexant Systems, Inc.	digital home
■ Avneesh Agrawal, Qualcomm	cellular wireless
■ Joseph Bannister, ISI	networking
■ Dan Blumenthal, UC Santa Barbara	speech/image/video coding
■ Pamela Cosman, UC San Diego	optical networking
■ Babak Daneshrad – UC Los Angeles	multi input/output systems
■ Rene L. Cruz – UC San Diego	networking
■ Urbashi Mitra – University of Southern California	wireless
■ Nambi Seshadri – Broadcom Corp.	wireless

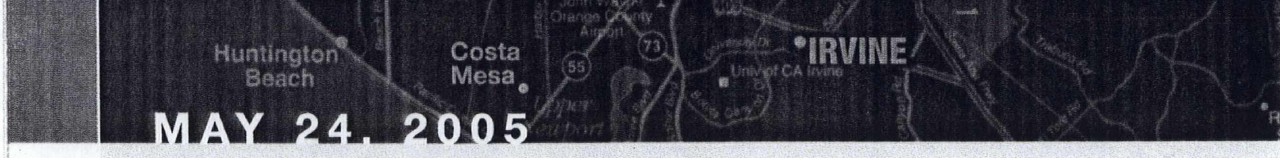
5:30 – 6:30 p.m. Reception and Student Poster Session

Location: Engineering Gateway Plaza, The Henry Samueli School of Engineering, UC Irvine campus

6:30 – 9:00 p.m. Awards Banquet

Location: Engineering Gateway Plaza, The Henry Samueli School of Engineering, UC Irvine campus

Innovations vs. Multidiscipline Technology – Objectives for Fundamental Understanding and Economic Competitiveness
C. I. "Jim" Chang, Ph.D.
Deputy Director for Basic Science and Director, Army Research Laboratory



MAY 24, 2005

8:00 a.m. Registration and Breakfast

8:45 a.m. Welcome
Nicolaos G. Alexopoulos, Ph.D.
Dean, The Henry Samueli School of Engineering, UC Irvine

9:00 – 10:15 a.m. I. The Convergence of Medicine & Science: Biomedical Engineering

Advanced Medical Optics: An Ophthalmic Medical Device Leader
James V. Mazzo
Chief Executive Officer, Advanced Medical Optics

Neural Prosthesis: Engineering Challenges and Perspectives
Zoran Nenadic, Ph.D.
Assistant Professor, Biomedical Engineering, UC Irvine

Brain Vasoreactivity by Near-IR Optical Spectroscopy
Enrico Gratton, Ph.D.
Professor, Physics and Biophysics, University of Illinois at Urbana-Champaign

Balance on-a-chip: A MEMS-based Electronic Prosthesis Mimicking the Dynamic Vestibular Function
Andrei M. Shkel, Ph.D.
Assistant Professor, Mechanical and Aerospace Engineering, UC Irvine
Assistant Professor, Biomedical Engineering, UC Irvine

10:15 – 10:30 a.m. Coffee Break

10:30 a.m. – Noon II. Materials: The Building Blocks

Materials at UC Irvine
Albert Yee, Ph.D.
Director, UC Irvine Division of Calit2
Professor, Chemical Engineering and Materials Science, UC Irvine

Disruptive Technologies: The Revolutionary Roles Played by Materials
Eric J. Amis, Ph.D.
Division Chief, Polymers Division, National Institute of Standards and Technology

Interactive Biomaterials to Predictably Control Cell Behavior
Andrew Putnam, Ph.D.
Assistant Professor, Chemical Engineering and Materials Science, UC Irvine
Assistant Professor, Biomedical Engineering, UC Irvine

Materials Integration for Advanced Energy Systems: Challenges and Opportunities
Daniel Mumm, Ph.D.
Assistant Professor, Chemical Engineering and Materials Science, UC Irvine

Noon – 1:30 p.m. Luncheon

Connecting Everything, Converging Everything
Scott A. McGregor
President and Chief Executive Officer, Broadcom Corp.

Register at http://ucitech.eng.uci.edu

1:30 – 3:00 p.m. III. Emerging Technologies: RFID

RFID Enables the Next Generation Supply Chain Management
Robert A. Kleist
President and Chief Executive Officer, Printronix

RFID Technology: Challenges and Opportunities
Vinay Gokhale
Executive Vice President RFID Products, Impinj Inc.

RFID: Sensor Antenna: Remote Surveillance for Homeland Security
G.P. Li, Ph.D.
Director, Integrated Nanosystems Research Facility
Professor, Electrical Engineering and Computer Science, UC Irvine

3:00 – 3:15 Coffee Break

3:15 – 4:45 p.m. IV. Innovation: America's Competitive Edge

Panel Moderator:
Linda P. Katehi, Ph.D.
Dean, College of Engineering, Purdue University

Panelists:
- Michael Aldaco
Assistant Vice President for Student Development and Academic Services, University of California; Chief Executive Officer for the Mathematics, Engineering, Science Achievement (MESA) program

- Norman L. Fortenberry, Sc.D.
Director of the Center for the Advancement of Scholarship on Engineering Education, National Academy of Engineering

- James A. Hicks
Program Director for Education and Human Resources, National Science Foundation

- Amelia Regan, Ph.D.
Associate Professor, Civil and Environmental Engineering, and Computer Science Representative to the ADVANCE Program, UC Irvine

- Henry Samueli, Ph.D.
Co-Founder, Chairman of the Board, and Chief Technical Officer, Broadcom Corporation

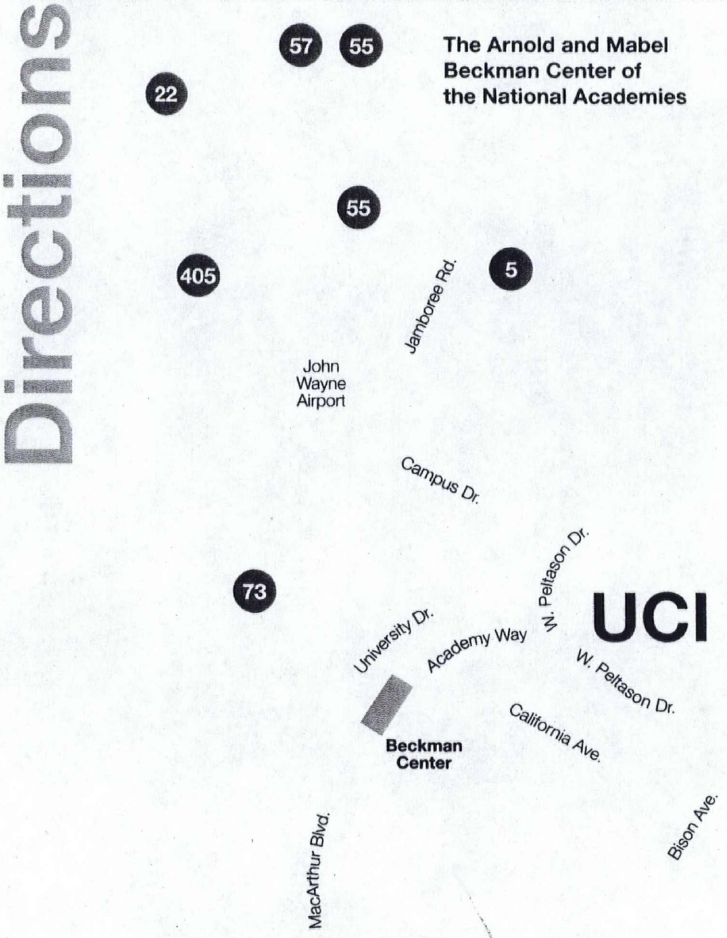
4:45 – 5:00 p.m. Closing Remarks
Michael R. Gottfredson
Executive Vice Chancellor, UC Irvine

About The Henry Samueli School of Engineering

Founded in 1965, The Henry Samueli School of Engineering at UC Irvine is one of the nation's fastest growing engineering schools, attracting talented faculty and students from across the nation and abroad. We continually strive to provide an outstanding education to students through a combination of classroom, laboratory and industry experience.

Register at http://ucitech.eng.uci.edu

Directions



The Beckman Center is located in Irvine at the corner of University Drive and California Avenue. The entrance is on Academy.

From the Los Angeles area
Follow Interstate 405 south to Highway 73 South. Follow Highway 73 approximately 2 miles and exit at University Drive. Turn left on University Drive and continue to California Avenue. Turn right on California Avenue, then turn right at the first street, Academy.

From the San Diego area
Follow Interstate 5 north to Interstate 405 north. Take the Jeffrey/ University Drive off ramp and turn left. Continue on University Drive approximately 3 miles to California Avenue. Turn left on California Avenue, then right at the first street, Academy.

From the Riverside area
Take the 91 Freeway west to the 55 Freeway south to Interstate 405 south. Exit at Jamboree Road west toward the coast. Continue on Jamboree Road to Campus Drive. Turn left at Campus Drive. Continue on Campus Drive to University Drive. Turn right on University Drive, then continue to the second signal, California Avenue. Turn left on California Avenue, then turn right at the first street, Academy.

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