

## **2002-2003 PRESIDENT'S AWARD FOR RESEARCH AND CREATIVE ACTIVITY**

The President's Award was established in 1989 and is given each year to recognize extraordinary research and creative activity over the past five year by a member of the CSUS faculty. Nominees for the award must be in their first ten years of service at CSUS. This year we have two recipients – Dr. Cindy Colinge, Professor of Electrical and Electronic Engineering in the College of Engineering and Computer Science and Dr. Kimo Ah Yun, Associate Professor of Communication Studies in the College of Arts and Letters. They are the thirteenth and fourteenth recipients of this award.

Dr. Colinge joined our faculty in the fall of 1993. She received her Bachelor of Science degree in Chemical Engineering from the University of California at Davis, her Master of Science degree in Electrical and Electronic Engineering from CSUS, and her Ph. D. in Electrical Engineering from UC, Davis.

Her research interests are in the areas of semiconductor fabrication and materials. She is an internationally acclaimed researcher and scholar and has made significant contributions in wafer bonding of Silicon wafers that are used in Microelectromechanical (MEMS) systems. She has published more than forty papers in various referred journals.

Dr. Colinge has received grant support from several industrial sponsors such as Intel, the Semiconductor Research Corporation, Lockheed Martin Corporation and Motorola. In addition she has received support from governmental agencies and private institutes such as the Electrical Power Research Institute, the Defense Advanced Research and Projects Agency, and the Office of Naval Research. She has served as a consultant and summer researcher at the Lawrence Livermore National Laboratories and the Naval Research laboratory.

Dr. Kimo Ah Yun joined our faculty for the fall semester, 1996. He received his Bachelor of Arts degree in Communication Studies from CSUS, his Master of Arts degree in Speech from Kansas State University, and his Ph. D. in Communication from Michigan State University,

He is best known for his research on the relational content of television talk shows. These studies, begun while he was a graduate student at Michigan State, have been published in several journal articles and scholarly books. In the past five years he has authored or co-authored eight articles in referred journals, four articles in scholarly books, eighteen conference papers, and three technical reports. He has established a national reputation as a top scholar conducting research in the areas of social influence and interpersonal communication.

Dr Ah Yun has been part of research teams that have received support from the Wisconsin Department of Public Health (for anti-smoking research), the Sacramento Criminal Justice Cabinet (for research on minority confinement in the Sacramento County justice system), the California Department of Transportation - Caltrans (for research on improving a model for construction of bridges and repairing roads), and the Henry J. Kaiser Foundation (for research on television talk shows).

## **THE EVOLUTION OF THE SEMICONDUCTOR INDUSTRY**

Cindy Colinge

Professor, Electrical and Electronic Engineering

The electronics industry is the largest industry in the world, and an important part of it is due to the semiconductor industry. A large part of California's economy is linked to the semiconductor industry. This is obvious not only in the Silicon Valley but in areas like San Diego and even Sacramento. Without silicon chips there would be no computer industry, no digital telecommunication systems, no video games, no pocket calculators and no digital wristwatches. The exponential progress of silicon technology can be illustrated by the evolution of the number of transistors integrated in a single memory chip or single microprocessor, as a function of calendar year: there is a four-fold increase in the number of transistors in a DRAM every three years. This exponential growth of integration density with time is known as Moore's law. Recently, major leading semiconductor industry companies have improved the performance of chips through the use of Silicon-On-Insulator (SOI) technology. This technology permits them to fabricate electronic circuits that are faster and consume less energy. Prof. C.A. Colinge has developed techniques to fabricate such SOI materials at CSUS and in several other laboratories. These techniques, based on the bonding of silicon wafers, will be illustrated during her presentation.

## **USING ORGAN DONATION RESEARCH TO SAVE LIVES**

Kimo Ah Yun

Associate Professor, Communication Studies

At present, over 75,000 Americans are awaiting a life-saving organ donation. Unfortunately, many of these people will not receive a life-saving organ because an insufficient number of people donate their organs. Consequently, more than 5,000 Americans on the organ donor waiting list will die this year. Researchers can help to reduce the number of people who needlessly die by increasing the number of people who sign organ donor card and express their wishes to donate their organs to their family. Dr. Ah Yun will provide an overview of the barriers to individuals signing an organ donor card, challenges faced by organ donor researchers, and discuss his research on the effectiveness of using narrative versus statistical based evidence in persuasive organ donation messages. Attention will be given toward the exploration of ways to maximize the persuasiveness of organ donation messages that use narrative evidence.