

IEEE Electron Devices Society Mini-Colloquium on MicroElectronics &

1st IEEE Student Microelectronics Research Forum @ UCR (ISMRF-UCR) (Inauguration for IEEE Electron Devices Society UCR Branch)

The IEEE Electron Devices Society (EDS) Student Branch Chapter at UCR is the first student research chapter associated with a professional society at UCR. It consists of both graduate and undergraduate students who have interests in electronics research. IEEE is "the world's leading professional association for the advancement of technology" and IEEE Electron Devices Society has its field of interests covering all aspects of engineering, physics, theory, experiment and simulation of electron and ion devices involving insulators, metals, organic materials, plasmas, semiconductors, quantum-effect materials, vacuum, and emerging materials. Specific applications of these devices include bioelectronics, biomedical, computation, communications, displays, electro and micro mechanics, imaging, micro actuators, optical, photovoltaics, power, sensors, MEMS/NEMS, nano and signal processing.

PROGRAM

Time	Events
10:30 AM–10:40 AM	IEEE EDS UCR Chapter Inauguration by the EDS President.
10:40 AM–12:10 PM	IEEE Electron Devices Society Mini-Colloquium on MicroElectronics
12:10 PM–1:00 PM	1 st ISMRF-UCR poster forum with Coffee Break at EBUII 2 nd Floor Patio
12:30 PM–1:00 PM	Pizza Lunch & Best Paper Award Ceremony

Date: April 17th, 2009

Time: 10:30AM-1:00PM

Place: 232 EBUII

Paper Deadlines for 1st ISMRF-UCR:

APRIL 13th: Abstract

APRIL 15th: papers (2-4 pages for the Proceedings)

Contact: Mr. Jun Wang
junwang@enqr.ucr.edu

Organized by

IEEE Electron Device Society Student Branch Chapter at UCR

ISMRF-UCR is organized by the IEEE EDS Student Branch Chapter at UCR to promote research sprints among students and provide an interactive forum for students to share their research experiences. Students will present their research ideas in posters at ISMRF-UCR. Both graduate and undergraduate students are welcome to present their papers at ISMRF-UCR, which will be judged by the committee of faculty and IEEE guests for Best Student Paper Awards. Papers will be included in the Proceedings in CD-ROM.

Award Category	First Place	Second Place
Graduate	One: \$100 + Certificate	One: \$50 + Certificate
Undergraduate	One: \$100 + Certificate	One: \$50 + Certificate



Nanotechnology Research Challenges for More Moore and Beyond

Prof. Cor Claeys received the electrical-mechanical engineering degree in 1974 and the Ph.D. degree in 1979, both from the Katholieke Universiteit Leuven (KU Leuven), Belgium. From 1974 to 1984, he was a Research Assistant and Staff Member the KU Leuven and since 1990, a Professor. In 1984, he joined IMEC as Head of Silicon Processing Group. Since 1990 he was Head of the research group on Radiation Effects, Cryogenic Electronics and Noise Studies. Recently, he became Director of Advanced Semiconductor Technologies magnitude reduction in device noise. He also demonstrated high-

responsible for Strategic Relations. He is also member of the European Expert Group on Nanosciences. His interests are in silicon technology for ULSI, device physics, including low-temperature operation, low frequency noise phenomena and radiation effects, and defect engineering and material characterization. Prof. Claeys is a Fellow of IEEE and of the Electrochemical Society. He is current President for IEEE Electron Devices Society and an IEEE Distinguished Lecture since 2000. He received the IEEE Third Millennium Medal and the Electronics Division Award of the Electrochemical Society. He was elected as Academician and Professor of the International Information Academy.



Millibits to Terabits/pS and Beyond – 60+ Years of Innovation

Prof. Renuka P. Jindal received his Ph.D. degree in EE from University of Minnesota in 1981. Upon graduation, he joined Bell Laboratories at Murray Hill, New Jersey. His experience at Bell Labs bridged both technical and administrative roles. On the technical side he worked in all three areas of devices, circuits and systems. Highlights include fundamental studies of noise behavior of MOS devices that led to almost an order of magnitude reduction in device noise. He also demonstrated high performance single-chip gigahertz-band RF integrated circuits for AT&T's metrobus lightwave project. He researched the physics of carrier multiplication and invented techniques for ultra-low noise signal amplification and detection in terms of novel devices and circuits based upon a new principle of random multiplication and optoelectronic integration. On the administrative side, Dr Jindal managed significant extramural funding. He was solely responsible for developing a corporate-wide manufacturing test strategy in relation to contract manufacturing for Lucent Technologies. In 2002, Dr. Jindal joined University of Louisiana, at Lafayette, as William and Mary Hansen Hall Board of Regents Eminent Scholar Endowed Chair. Dr. Jindal was Editor-in-Chief for IEEE Transactions on Electron Devices. He received the Distinguished Technical Staff Award from Bell Labs (1989) and the IEEE 3rd Millennium Medal (2000). He is IEEE Fellow and the President-Elect for IEEE Electron Devices Society.

the physics of carrier multiplication and invented techniques for ultra-low noise signal amplification and detection in terms of novel devices and circuits based upon a new principle of random multiplication and optoelectronic integration. On the administrative side, Dr Jindal managed significant extramural funding. He was solely responsible for developing a corporate-wide manufacturing test strategy in relation to contract manufacturing for Lucent Technologies. In 2002, Dr. Jindal joined University of Louisiana, at Lafayette, as William and Mary Hansen Hall Board of Regents Eminent Scholar Endowed Chair. Dr. Jindal was Editor-in-Chief for IEEE Transactions on Electron Devices. He received the Distinguished Technical Staff Award from Bell Labs (1989) and the IEEE 3rd Millennium Medal (2000). He is IEEE Fellow and the President-Elect for IEEE Electron Devices Society.



Advanced on-Chip ESD Protection in CMOS/BiCMOS

Prof. Juin J. Liou received the B.S. (honors), M.S., and Ph.D. degrees in EE from the University of Florida, Gainesville, in 1982, 1983, and 1987, respectively. In 1987, he joined the Department of Electrical and Computer Engineering at the University of Central Florida, Orlando, Florida where he is now Analog Devices Professor. His current research interests are Micro/nanoelectronics CAD, RF device modeling and simulation, and electrostatic discharge (ESD) protection design and simulation.

Dr. Liou has published 8 books and more than 390 papers. His research has been sponsored by various agencies (NSF, DARPA, Navy, Air Force, NASA, NIST, etc.). He is Editor for *Microelectronics Reliability* journal. He served as General Chair or TPC Chair for a large number of international conferences. Dr. Liou received ten different awards on excellence in teaching and research from the University of Central Florida (UCF) and six different awards from the IEEE Electron Device Society including IEEE Joseph M. Biedenbach Outstanding Engineering Educator Award in 2004. He is a Fellow of the Institute of Electronic Engineers (IEE), an IEEE Distinguished Lecturer and an National Science Council Distinguished Lecturer. He is Vice President for IEEE Electron Devices Society. He holds several honorary professorships, including Yangtze River Scholar Endowed Chair Professor – the highest honorary professorship in China. Dr. Liou was a recipient of U.S. Air Force Fellowship Award.

Sponsored by:



Bourns College of Engineering