2012 PVSC William R. Cherry Award Winner

This award is named in honor of William R. Cherry, a founder of the photovoltaic community. In the 1950's, he was instrumental in establishing solar cells as the ideal power source for space satellites and for recognizing, advocating, and nurturing the use of photovoltaic systems for terrestrial applications. The William R. Cherry Award was instituted in 1980, shortly after his death. The purpose of the award is to recognize engineers and scientists who devote a part of their professional life to the advancement of the technology of photovoltaic energy conversion.

This award is presented at each IEEE/EDS Photovoltaic Specialists Conference. The recipient is selected by the William R. Cherry Committee composed of past PVSC chairpersons and past recipients of the award.

Dr. Sarah Kurtz is currently a Principal Scientist and Manager of the Module Reliability and
(continued on page 36)
Universitat de les Illes Balears (UIB) in Spain, Universitat Rovira i Virgili (URV) in Spain, and Mexico City’s EDS Chapter, with the technical co-sponsorship of the IEEE Electron Devices Society. Playa del Carmen is a quiet and friendly beach resort just south of famed Cancún. It is located in the northeast of the Mexican state of Quintana Roo in the Yucatán Peninsula, on the coast of the Caribbean Sea. It has excellent turquoise water beaches and it is not far from the Mayan ancient legacy of Chichen-Itza.

ICCDCS has established itself as the ideal gathering space for electronics professionals from all IEEE regions to meet their Region 9 counterparts in a relaxed and pleasant atmosphere. On this occasion, it was honored by sixty-six regular contributions, three keynote speeches and seven invited talks. Keynote speakers, M. S. Shur, C. Claeyss and M. J. Deen, talked about III-N transistors, contacts for III-V CMOS, and information technologies for health care, respectively. There were also seven invited talks by D. Flandre, T. Fjeldy, S. Selberherr, E. A. Gutiérrez, J. P. Raskin, J. J. Liu and M. S. Shur, dealing with, ultra-low power circuits, MOSFET modeling, memories, magneto-conduction, SOI technologies, ESD protection for nanowires and ballistic transport in FETs, respectively. Contributed presentations covered themes related to circuit design, silicon 3D transistor modeling, organic transistors, device reliability, sensors, materials characterization and communications, among other.

The biannual Region 9 EDS Chapter Meeting and Mini-Colloquium, organized by the EDS Region 9 Subcommittee for Regions/Chapters, were also at Playa del Carmen during the two days preceding ICCDCS. The conference committee thanks the efforts of the many people involved, both participants and organizers. The next ICCDCS will be held during 2014 at another attractive location in the Caribbean basin.

SEMINATEC 2012
The VII Workshop on Semiconductors and Micro & Nano Technology—SEMINATEC 2012, was organized by and held at Centro Universitário da FEI, in São Bernardo do Campo, State of São Paulo, Brazil, April 12–13. The workshop was coordinated in close collaboration with and co-sponsored by the IEEE Electron Devices Society (EDS) South Brazil Chapter, the EDS Student Branch Chapter of the State University of Campinas, the Solid-State Circuits Society (SSCS) South Brazil Chapter, the Brazilian Microelectronics Society, and NAMITEC Science & Technology National Institute. Funding was provided by Brazil’s National Council for Scientific and
USA, Canada & Latin America
(Regions 1-6, 7 & 9)

ED Phoenix
~by Steve Rockwell
The Waves and Devices Chapter of IEEE Phoenix, Arizona was honored, April 16, 2012 to have Dr. Renuka P. Jindal.

Prof. Jindal’s presentation described from a historical perspective how key technologies lead to the development of modern wireless and optical networks of terabit capacity with petabit capacity looming in sight. The meteoric advancement in telecommunication technology and communications bandwidths has been made possible by three key developments over the last 60 years. The first of these was the demonstration of the point contact bipolar transistor in 1947 which started the solid-state revolution, followed by the demonstration of the MOS Field-Effect-Transistor in 1960. The second key contributor was the development of Information Theory in 1948. The third key development which ignited this fire was the invention of laser in 1958 with a working demonstration in 1960. Serious efforts to transform this understanding into high performance lightwave systems started by the design of integrated electronics using MOS technology around 1980. However, initial attempts at boosting receiver sensitivity and data-rates were seriously hampered by a lack of understanding of the noise performance of the MOS device. Author’s contributions in this area not only led to a deeper understanding of the noise behavior of MOS devices but also produced an order of magnitude improvement in their performance.

Dr. Renuka P. Jindal (S’77-M’81-SM’85-F’91) received his Ph.D. degree in Electrical Engineering from University of Minnesota 1981. Upon graduation, he joined Bell Laboratories at Murray Hill, New Jersey. His experience at Bell Labs for over 22 years bridged both technical and administrative roles. Dr. Jindal received the Distinguished Technical Staff Award from Bell Labs in 1989. In December 2000 he received the IEEE 3rd Millennium Medal. From 2000 to 2008 he served as the Vice-President of Publications for the IEEE Electron Devices Society (EDS). From 2010 to 2011, Dr. Jindal served as the President of the IEEE Electron Devices Society. He is now an Endowed Professor in the Dept. of Electrical and Computer Engineering at University of Louisiana at Lafayette, and continues to actively be involved with the Society as Junior Past-President.

ED Santa Clara Valley
~by Toshishige Yamada
On November 4, 2011, the ED Santa Clara Valley Chapter held a half-day symposium, “Current Status and Future Directions of Non-Volatile Memory Technology,” at TI Auditorium. We appreciated their courtesy. The speakers and titles were Dr. A. Fazio, Intel, “Future direction of non-volatile memory in computer applications,” Dr. C. Dennison, Ovonyx, “Scaling challenges and market opportunity for phase change memory,” Dr. G. Sandhu, Micron, “Emerging memory opportunities and challenges,” Prof. M. Kozicki, Arizona State University and Adesto Technologies, “Ionic memory,” and Dr. J. Yang, HP Laboratories, “Metal oxide based nonvolatile memories – promises and challenges.” There were well beyond a hundred attendees and many active discussions.

In February, 2012, we had Dr. A. K. Allan, Intel, give the “2011 ITRS Update.” In March, we welcomed Prof. C.-M. Hu, UC Berkeley, who presented “FinFET/Trigate FET and Its SPICE Model,” which had more than a hundred people in attendance. In April, Prof. B. Yu, University at Albany, SUNY, gave a lecture on “2D Carbon/Semiconductor-Enabled Electronics.” The chapter co-sponsored a memory workshop, Nano Council organized, which had a hundred attendees.

Lastly, we would like to introduce our 2012 officers, Chair T. Yamada, Vice-Chair J. Watt, Secretary S. Sonkusale, Treasurer S. Bahl, Assistant Secretary S. Chopra, and Web Master V. Cao.

~Adam Conway, Editor

ICCDCS 2012
~by Rodolfo Quintero
The International Caribbean Conference on Devices, Circuits and Systems (ICCDCS) has been taking place biannually since 1995 at a number of locations within the Caribbean basin. The 9th edition, ICCDCS 2012, was held, March 14-17, in Playa del Carmen, Mexico. It was organized under the auspices of the Center for Research and Advanced Studies of the National Polytechnic Institute (Cinvestav) in Mexico, the