

TABLE OF CONTENTS

President's Message	1
December 2009 AdCom Meeting	3
Upcoming Technical Meetings	4
Society News	13
Regional and Chapter News	28
EDS Meetings Calendar	34

2010 IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE (PVSC)



The 35th IEEE Photovoltaics Specialists Conference will be held in gorgeous Honolulu at the Hawaii Convention Center (bottom right)

RENUKA JINDAL, NEW EDS PRESIDENT



The torch is passed! Renuka Jindal, right, assumes the EDS Presidency from Cor Claey's. EDS Senior Past President, Ilesanmi Adesida, hosted the event.

During the EDS AdCom meeting series, held in conjunction with the 2009 IEEE International Electron Devices Meetings (IEDM), Renuka Jindal became the 22nd President of the Electron Devices Society, taking over from Cor Claey's. Renuka is looking to build on the successes of his predecessors and plans to continue to expand the breadth and depth of all that EDS does and offers to its Members.

(continued on page 9)

The 35th IEEE Photovoltaic Specialists Conference is regarded as the premier technical conference for photovoltaics (PV) and will be held in scenic Honolulu, Hawaii, June 20–25, 2010. The PV Specialists Conference is a global gathering of PV scientists and engineers for the specific purpose of discussing PV technology from the basic research level, all the way through to performance of entire PV systems.

The PV Specialists Community

The first PV Specialists Conference was in 1962, classifying it as the original PV conference, and to this day it remains the focal point of the PV community in the US and worldwide. In the last few years

(continued on page 8)

NONSTOP EDS ACTION IN HAWAII THIS JUNE!

The fun starts June 15th and doesn't stop until the 25th with two highly prestigious EDS conferences, the VLSI Symposium and the PVSC, scheduled back-to-back in beautiful Honolulu, Hawaii. Why not maximize your time and dollars and attend both?

ELECTRON DEVICES SOCIETY

President

Renuka P. Jindal
University of Louisiana at Lafayette
E-mail: r.jindal@ieee.org

President-Elect

Paul K.L. Yu
Univ. of California at San Diego
E-mail: p.yu@ieee.org

Treasurer

Stephen A. Parke
Tennessee Tech University
E-mail: sparke@tntech.edu

Secretary

James L. Merz
University of Notre Dame
E-mail: jmerz@nd.edu

Jr. Past President

Cor L. Claeys
IMEC
E-mail: c.claeys@ieee.org

Sr. Past President

Ilesanmi Adesida
University of Illinois
E-mail: iadesida@uiuc.edu

Vice-President of Awards

Alfred U. Mac Rae
Mac Rae Technologies
E-mail: a.macrae@ieee.org

Vice-President of Educational Activities

Meyya Meyyappan
Center for Nanotechnology
E-mail: m.meyyappan@nasa.gov

Vice-President of Meetings

Bin Zhou
Freescale Semiconductor
E-mail: bin.zhao@ieee.org

Vice-President of Membership

Albert Z.H. Wang
University of California, Riverside
E-mail: aw@ee.ucr.edu

Vice-President of Publications

Samar Saha
SilTerraUSA, Inc.
E-mail: samar@ieee.org

Vice-President of Regions/Chapters

Juin J. Liou
University of Central Florida
E-mail: liou@mail.ucf.edu

Vice-President of Technical Activities

Joachim N. Burghartz
IMS Chips
E-mail: burghartz@ims-chips.de

IEEE Newsletters

Theresa Smith
IEEE Operations Center
E-mail: tsmith@ieee.org

Executive Director

Christopher Jannuzzi
IEEE Operations Center
E-mail: c.jannuzzi@ieee.org

Business Coordinator

Joyce Lombardini
IEEE Operations Center
E-mail: j.lombardini@ieee.org

IEEE prohibits discrimination, harassment, and bullying. For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

EDS AdCom

Elected Members-at-Large

Elected for a three-year term (maximum two terms) with 'full' voting privileges

2010	TERM	2011	TERM	2012	TERM
J. N. Burghartz	(2)	G. Baccarani	(2)	R. Huang	(2)
M. J. Chan	(2)	M. J. Deen	(2)	S. S. Iyer	(1)
S. Ikeda	(2)	S. Deleonibus	(1)	M. Meyyappan	(1)
R. J. Nikolic	(2)	F. Guarin	(1)	H.S. Momose	(2)
T. L. Ren	(1)	S. Saha	(1)	A. Nathan	(1)
R. M. Todi	(1)	H. Shang	(2)	M. Shur	(1)
J. J. Welser	(2)	J. W. Swart	(2)	B. Zhao	(1)
		P. K. L. Yu	(1)		

NEWSLETTER EDITORIAL STAFF

Editor-In-Chief

Ninoslav D. Stojadinovic
University of Nis
E-mail: ninoslav.stojadinovic@elfak.ni.ac.rs

REGIONS 1-6, 7 & 9

Eastern, Northeastern & South-eastern USA (Regions 1,2 & 3)

Ibrahim M. Abdel-Motaleb
Northern Illinois University
E-mail: ibrahim@ceet.niu.edu

Central USA & Canada (Regions 4 & 7)

Jamal Deen
McMaster University
E-mail: jamal@mcmaster.ca

Southwestern & Western USA (Regions 5 & 6)

Adam M. Conway
Lawrence Livermore Nat. Lab.
E-mail: conway8@llnl.gov

Latin America (Region 9)

Francisco J. Garcia Sanchez
University Simon Bolivar
E-mail: fgarcia@ieee.org

REGION 8

Eastern Europe & the former Soviet Union

Tomislav Suligoj
University of Zagreb
E-mail: tom@zemris.fer.hr

Scandinavia & Central Europe

Zygmunt Ciota
Technical University of Lodz
E-mail: ciota@dmcs.pl

UK, Middle East & Africa

Zhirun Hu
University of Manchester
E-mail: z.hu@manchester.ac.uk

Western Europe

TBD
E-mail:

REGION 10

Australia, New Zealand & South Asia

M.K. Radhakrishnan
NanoRel
E-mail: radhakrishnan@ieee.org

Northeast Asia

Kazuo Tsutsui
Tokyo Institute of Technology
E-mail: ktsutui@ep.titech.ac.jp

East Asia

Mansun J. Chan
Hong Kong Univ. of Sc. & Tech.
E-mail: mchan@ee.ust.hk

CONTRIBUTIONS WELCOME

Readers are encouraged to submit news items concerning the Society and its members. Please send your ideas/articles directly to either the Editor-in-Chief or appropriate Editor. The e-mail addresses of these individuals are listed on this page. Whenever possible, e-mail is the preferred form of submission.

NEWSLETTER DEADLINES

ISSUE	DUE DATE
January	October 1st
April	January 1st
July	April 1st
October	July 1st

The EDS Newsletter archive can be found on the Society web site at <https://www.ieee.org/portal/pages/society/eds/pubs/newsletters/newsletter.html>. The archive contains issues from July 1994 to the present.

IEEE Electron Devices Society Newsletter (ISSN 1074 1879) is published quarterly by the Electron Devices Society of the Institute of Electrical and Electronics Engineers, Inc. Headquarters: 3 Park Avenue, 17th Floor, New York, NY 10016-5997. Printed in the U.S.A. One dollar (\$1.00) per member per year is included in the Society fee for each member of the Electron Devices Society. Periodicals postage paid at New York, NY and at additional mailing offices. Postmaster: Send address changes to IEEE Electron Devices Society Newsletter, IEEE, 445 Hoes Lane, Piscataway, NJ 08855.

Copyright © 2010 by IEEE: Information contained in this Newsletter may be copied without permission provided that copies are not used or distributed for direct commercial advantage, and the title of the publication and its date appear on each photocopy.

DECEMBER 2009 AdCom Meeting Summary

Opening Remarks: The meeting was called to order at 8:00 a.m. by our Outgoing President, Cor Claeys, who commented on the fine facilities and atmosphere provided by the Baltimore Hilton Hotel, used as backup for our customary site, the Washington Hilton. Cor then called on Hiroshi Iwai, the outgoing **Senior Past President** of the Electron Devices Society, to provide us with his reflections on the State of the Society as a result of his many years of outstanding service to EDS. Hiroshi offered the following insights. He first noted the constant decrease of society members over recent years, even though the number of IEEE members has been increasing. He suggested ongoing and enhanced attention to new-member outreach through our conferences, mini-colloquia, distinguished lecture series, and publications. He noted that it is difficult for students to have papers accepted at our conferences, and suggested that we search for ways to increase student participation. The geographical distribution of our members is significant, particularly the decrease in membership in the U.S. and the increases in Asia. He said that we need to understand and benefit from the rapid economic growth and consequent rise of electronics in China, India, and Brazil, so that increased globalization of EDS in these areas is important. He felt that it would be helpful to increase interaction and collaboration between the various regions comprising EDS, and between EDS and the other societies. Finally, Hiroshi commented on the importance of developing programs that address new technical areas.

Secretary's Report: Jim Merz briefly described the last AdCom meeting, held in Mumbai, India, May 31st, which was a marvelous experience for the few who were able to attend. The outgoing Executive Director, Bill Van Der Vort, was roundly



James L. Merz

applauded for his outstanding contributions and his successor, Chris Jannuzzi, was welcomed with enthusiasm. We were reminded that EDS would be soon be reviewed by IEEE, and that the Institute was celebrating its 125th anniversary – which occasioned a large commemorative flat cake. (This secretary loves cake!) Jim then reminded all voting members that an important election would follow the AdCom meeting. The minutes of the meeting, which had been mailed previously, were approved unanimously.

President's Report: Cor Claeys began his report by bestowing Debt of Gratitude Certificates on those members who are leaving the AdCom (Steve Chung, Mark Lundstrom, Albert Wang, Xing Zhou, Hiroshi Iwai, Jon Candelaria, Ilesanmi Adesida, Bin Zhou, Zeynep Celik-Butler, and Mikael Ostling), and on Distinguished Lecturers who have served in good standing for at least the last five years (Vikram Dalal, Simon Deleoni-bus, Monuko du Plessis, Mark Lundstrom, Arokia Nathan, Shunri Oda, and Enrico Sangiorgi). A number of Ex-Officio appointments to AdCom were then approved unanimously. Cor reviewed the last two Technical Activities Board (TAB) meetings in Los Angeles (June) and New

Brunswick (November), at which a large number of periodical proposals were approved for various IEEE publications, several changes to the Operations Manual were approved, the re-establishment of the IEEE W.R.G. Baker Award was approved, recognizing an outstanding original work in the fundamentals of electrical engineering, electronics, computing and related arts and science, and the slate of nominees for 2011 Vice President-elect was approved.

Report on the Five-Year Review of the EDS and its Publications:

Renuka Jindal told us that the review was very favorable to EDS. Reviewers found that EDS has demonstrated success as a well-established and well-run society, with a broad range of activities providing valuable services and efficient budget management. Our best practices were described as globalization, our treatment of students and our GOLD program, and the development of many member benefits. Recommendations: We should consider alternatives for interaction with the Sensors Council, consider holding general elections, establish guidelines for all conference processes, and consider a number of actions concerning our publications (e.g., describe in detail the responsibilities of the Editor-in-Chief, provide written guidelines for all editors, establish editorial term limits, and integrate more fully some of our publications with relevant conferences.) It was also recommended that our web site needs considerable overhaul. In response, Renuka mentioned that effort is one of his primary goals for the coming year.

Treasurer's Report: Steve Parke provided a summary for the year 2008. The operating margin was reduced considerably, from \$524K to \$42K, and reserves from \$6.65M to

(continued on page 10)

UPCOMING TECHNICAL MEETINGS

2010 IEEE SYMPOSIUM ON VLSI TECHNOLOGY

The 30th Annual IEEE Symposium on VLSI Technology will be held June 15–17, 2010, at the Hilton Hawaiian Village in Honolulu, Hawaii. The VLSI Technology Symposium is jointly sponsored by the IEEE Electron Devices Society (EDS) and the Japan Society of Applied Physics (JSAP).

The VLSI Symposium is well recognized as one of the premiere conferences on semiconductor technology, and research results presented at the conference represent a broad spectrum of VLSI technology topics, including:

- New concepts and breakthroughs in VLSI process/device including Memory, Logic, RF, Analog, Imager, MEMS, etc.)
- Advanced gate stack and interconnect in VLSI process and devices
- Advanced patterning techniques for high density VLSI
- New functional devices beyond CMOS with a path for VLSI implementation
- Packing of VLSI devices including 3D-system integration

- VLSI process/device modeling
- Theories and Reliability related to the above devices
- New concepts and technologies for VLSI manufacturing

New for 2010 are two special “Focus Sessions” of invited papers by leading experts on:

- “Design Enablement” (circuit design and process technology interactions and co-optimization). Impact of disruptive device, process and materials technologies on circuit design (including design rule restrictions, device models, OPC, DFM...etc), product performance, and migration.
- “Heterogeneous integration of non-Si substrates/materials on Si substrate” (CNT, graphene, Ge, SiGe, III–V...etc), including their process integration, device architectures, performance and impact on CMOS roadmaps.

In addition to the innovative technical work presented at the conference, a one-day short course will be offered on the day preceding the conference, Monday June 14th.

Also preceding the conference is a satellite workshop on Silicon Nanoelectronics, which will be held at the Hilton Hawaiian Village, June 13–14. This workshop is sponsored by the Electron Devices Society and covers various aspects of VLSI related silicon nanoelectronics.

For more information visit web site: http://www-device.eecs.berkeley.edu/snw/2010_IEEE_Silicon_Nanoelectronics_Workshop/General_Information.html.

One of the unique strengths of the VLSI Technology Symposium is its close association with the Symposium on VLSI Circuits, which is held each year at the same location during the same week. The 2010 Symposium on VLSI Circuits will be held June 16–18, with a circuits-related short course offered on June 15th. To promote increased interaction between technologists and circuit designers a single registration fee enables attendees to attend both circuit and technology sessions. One of three evening “Rump Sessions” will be jointly sponsored on a topic of interest to both technologists and circuit designers. This joint session will complement two technology rump sessions held the same evening.

Among other unique features that differentiate the Symposium on VLSI Technology are its spirit of international collaboration and emphasis on creating an informal atmosphere where new ideas and technology directions can be debated and discussed. The location of the VLSI Symposium typically alternates between the United States and Japan, giving it a true international setting. Over 500 participants from around the world attended the



Hilton Hawaiian Village, Honolulu, Hawaii, with Diamond Head (Le'ahi) in the background

2009 Technology Symposium in scenic Kyoto, Japan.

The 2010 venue in Honolulu, Hawaii, also offers many scenic and cultural attractions. Travel to the other surrounding Hawaiian Islands, each of which offer a unique setting and flavor, is also relatively easy. A luau banquet hosted by the Symposium offers attendees an opportunity to further experience Polynesian food and culture. The Hilton Hawaiian Village Hotel, located on world-famous Waikiki Beach, is a world-class facility that offers a wide range of recreational opportunities. The Hotel is easily accessible by taxi from nearby Honolulu International Airport.

For further information, please visit our conference web site at <http://www.vlsisymposium.org>, or

contact the following conference secretariats:

Secretariat for VLSI Symposia (USA)
Widerkehr and Associates
19803 Laurel Valley Place
Montgomery Village, MD 20886 USA
Tel: +1 301 527 0900 ext. 2
Fax: +1 301 527 0994
E-mail: vlsi@vlsisymposium.org

Secretariat for VLSI Symposia (Japan)
c/o ICS Convention Design, Inc.
Chiyoda Bldg. 1-5-18 Sarugakucho
Chiyoda-ku, Tokyo 101-8449, Japan
Tel: +81 3 3219 3541
Fax: +81 3 3219 3626
E-mail: vlsisymp@ics-inc.or.jp

We cordially invite you to attend the 2010 Symposium on VLSI Technology to learn about recent

state-of-the-art advancements in semiconductor technology and take advantage of the many opportunities for technical and cultural interactions offered by the Symposium.

Charles Dennison
2010 Symposium Chairman
Ovonyx, Inc.

Masaaki Niwa
2010 Symposium Co-Chairman
Panasonic Corp.

Ming-Ren Lin
2010 Program Chairman
Global Foundries

Hitoshi Wakabayashi
2010 Program Co-Chairman
Sony Corp.

2010 IEEE/SEMI ADVANCED SEMICONDUCTOR MANUFACTURING CONFERENCE (ASMC)

CONFERENCE SET FOR JULY 2010 IN SAN FRANCISCO

After taking a year off, the IEEE/SEMI Advanced Semiconductor Manufacturing Conference (ASMC) is set to return to an annual schedule, complete with a new look and a new venue. Starting with this year's event, ASMC – which takes place July 11–13, 2010, at the San Francisco Marriott Marquis – will be held in conjunction with SEMICON West, the flagship annual exposition for the global semiconductor industry.

ASMC is the premier international technical conference serving the semiconductor industry, providing the venue and opportunity for technical managers, engineers, and other industry professionals to learn, network, and share knowledge on the latest best practices and concepts for semiconductor manufacturing. Each year, presentations at ASMC highlight innovations in semiconductor manufacturing processing, connecting technologists with ideas



San Francisco Marriott Marquis

© San Francisco Marriott - Western Region Asset Center, July 18, 2008

and information that can have an immediate impact in the lab and the fab. Conference details are located at www.semi/asmc2010.

The collocation with SEMICON West gives conference attendees additional access to new technologies and products for semiconductor manufacturing, as well as to a growing area of related microelectronics including LEDs/solid state lighting, printed and flexible electronics, MEMS, and photovoltaics. ASMC attendees will have free access to the SEMICON West exhibit halls, including sessions at the TechXPOT, TechSITE, and Extreme Electronics presentation stages on the show floor. More information about SEMICON West and related programs may be found at www.semiconwest.org.

ASMC is presented by the IEEE Electron Devices Society (EDS); the IEEE Components, Packaging, and Manufacturing Technology Society (CPMT); and SEMI. Peer-reviewed technical papers will be presented in the areas of Advanced Metrology, Advanced Equipment and Materials Processes, Advanced Process Control, Contamination Free Manufac-

turing, Data Management and Data Mining Tools, Defect Inspection and Reduction, Design for Manufacturability, Enabling Technologies, Equipment Reliability and Productivity Enhancements, Factory Automation, Green Factory, Industrial Engineering, Innovative Devices, Lean Manufacturing, Lithography Advances and Challenges, Through Silicon Via, Yield Enhancement and Learning, and Yield Methodologies.

ASMC 2010 will include keynotes from Matt Nowak, director of Advanced Technology, Qualcomm, speaking on 3-D interconnects, and Dr. Kelin Kuhn, Intel Fellow; director, Advanced Device Technology, Intel Corporation, who will discuss challenges in advanced processing. Bill McClean, president of IC Insights has been invited to provide an industry forecast.

Who should attend ASMC 2010?

Semiconductor professionals involved in production control, process control, process transfer, process applications, defect inspection, yield and cycle time improvement, yield methodology, cost reduction, preventative maintenance, line su-

pervision, device characterization, facilities fab operation, product management, project management, strategic marketing, and quality.

San Francisco Marriott Marquis

Formerly the San Francisco Marriott, the newly renovated San Francisco Marriott Marquis is located in the heart of San Francisco's central business district. Adjacent to the Moscone Convention Center, the San Francisco Marriott Marquis is also located near major shopping, dining, and tourist attractions, making it an ideal home base for visitors.

As part of the association with SEMICON West, all ASMC attendees will have access to the complete SEMICON West room block, including the San Francisco Marriott Marquis and dozens of other nearby hotels, some with rates as low as \$124 per night. For more information and to book, please visit the "Hotel/Travel" page at www.semiconwest.org.

*Margaret Kindling
Sr. Program Manager
SEMI
Washington, DC, USA*

2010 IEEE INTERNATIONAL INTERCONNECT TECHNOLOGY CONFERENCE (IITC)

THE CONFERENCE RETURNS TO THE SAN FRANCISCO BAY AREA WITH AN
EXPANDED TECHNICAL PROGRAM

With a renewed focus on 3D integration and advanced back-end memory, the EDS-sponsored IEEE International Interconnect Technology Conference (IITC) returns to the greater San Francisco Bay area this year. It is the industry's premier forum, dedicated to the advancement of interconnect solutions, featuring technical presentation on all aspects of interconnections for device, circuit- and system-level applications. Scheduled for June 7-9, 2010, at the San Francisco Airport

Hyatt Regency Hotel in Burlingame, California, IITC 2010 is expected to draw professionals in semiconductor design, processing and manufacturing technology from industry, academia and equipment suppliers around the world.

Recognizing the industry's continuing emphasis on 3D memory structures, the 13th annual IITC will feature a new session dedicated to back-end memory technologies, including phase-change memories (PCM), resistive RAM (RRAM), con-

ductive bridge RAM (CB-RAM), magnetoresistive RAM (MRAM) and 3D stacked NAND flash memories. Other new topic areas for IITC 2010 include presentations on the relationships between device-level interconnects, system-level interconnections and circuit interfaces; as well as continuing developments relating to 3D interconnect architectures for both logic and memory devices.

"As the semiconductor industry begins to reach the limitations of 2D scaling, chip designers

are pursuing research on monolithic 3D integration approaches for back-end compatible memory cells. As a premier conference for interconnects and back-end integration, IITC is the ideal forum to address these areas," said Michael Armacost, IITC 2010 Publicity Chair and Managing Director at Applied Materials, Inc. "Advanced interconnect technologies, such as 3D integration, are critical to achieving the performance needed in the next generation of semiconductor development. At this year's conference, we are continuing to expand the scope of the technical program to address new techniques, materials and processes in interconnects."

IITC 2010 continues to address fundamental interconnect performance issues, with presentations in the areas of process integration (for logic and/or memory); reliability; advanced interconnects and systems interconnections; through-silicon vias and 3D integration; packaging; novel materials and concepts; process modeling, and all back-end materials and unit processes associated with interconnect technology, including in-depth explorations of related manufacturing issues.

The San Francisco Airport Hyatt Regency Hotel is conveniently located 20 minutes from both Silicon Valley and downtown San Francisco. This traditional US venue is now one of three international locations for the conference, which will now rotate between Asia, the US and Europe. In 2009, IITC was held in Sapporo, Japan, while the 2011 edition will take place in Europe.

Oral and poster presentations at IITC 2010 will include the following topics:

Interconnect to Interconnections and Interfaces

- (for "More Moore" and "More than Moore" technologies)

3D Processes and Integration

- Materials, process integration, 3D with memory, interactions with packaging, reliability



In 2010, IITC returns to the San Francisco Bay area

Materials and Unit Processes

- Dielectric materials and associated deposition
- Metal deposition, planarization and patterning processes/equipment
- Novel or improved tools for interconnect metrology

Process Integration

- Multilevel interconnect processes, novel interconnect structures, contact/via integration, metal barrier and materials interface issues
- Integration processes and issues specific to logic or memory
- Novel non-volatile, interconnect embedded memories

Process Modeling

- CMP, metal/dielectric deposition and etching processes

Reliability

- Metal electromigration and stress voiding, dielectric integrity, thermal effects, passivation issues, interconnect reliability prediction/modeling.

Back-End Memories

- Memory Materials like Phase Change Memory (PCM), Resistive RAM (RRAM), Conductive Bridge RAM (CB-RAM) and Magnetoresistive RAM (MRAM)
- Concepts for select devices like diodes, MOSFETs, BJTs. Integration of these devices in 2D and monolithically stacked 3D arrays.
- Monolithic 3D stacking of NAND flash memory and DRAM

Interconnect Systems

- Interconnect performance modeling and high frequency characterization
- Interconnect system integration, novel architectures and advanced interconnect concepts

System-in-a-Package

- Advanced packaging concepts and novel IC interconnects

System-on-a-Chip

- Interconnect, design and processing of SOC, embedded memory processing, materials and integration, RF and high frequency passive components, MEMs and CMOS combinations, noise and cross-talk issues.
- Trade-offs between embedded memory and 3D

Novel Materials and Concepts

- Advanced interconnect concepts, optical interconnect,

superconductors, nanotechnology-based interconnects

Short Course

The popular IITC Short Course on Sunday, June 6th provides a unique venue for learning and professional interaction. It will address advanced interconnect process, design and reliability issues. Attendees benefit from a combination of tutorials on interconnect fundamentals, briefings on the latest interconnect technology advances, and direct interaction with experts actively working in the field.

Supplier Exhibits and Seminars

Supplier exhibits and seminars are included as an integral part of the IITC technical program. Held on the first and second days of the conference, the supplier seminars offer

additional learning and networking opportunities, and provide alternative forums to address specific technological challenges.

The IITC conference web site is <http://www.ieee.org/conference/iitc>. For additional information and inquiries regarding supplier exhibits and seminars, please contact Wendy Walker, IITC Administrator at +1 301-527-0900, Ext. 104, Fax: +1-301-527-0994, or E-mail: iitc@his.com.

General Co-Chairs of IITC 2010
Michael Shapiro (IBM)
Rudi Cartuyvels (IMEC)
Shin-puu Jeng, (TSMC)

Michael Armacost
2010 IITC Publicity Chair
Applied Materials
Sunnyvale, CA, USA

2010 IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE (PVSC)

(continued from page 1)

the conference has grown dramatically, doubling in size to reach over 1,500 attendees drawn from industry, academia, government labs, program managers, and the investor community. Year after year, the vibrant community the conference has fostered continually expands, sustained by the conference's support of the scientific community and its shared goal of advancing the technical frontier for photovoltaics.

Research results presented at the conference are published and widely accessible through IEEE Xplore®, making the archive of conference proceedings a whole and complete running record of PV research and results from around the globe.

Technical Program and Conference Highlights

The technical program for this year's conference follows in the tradition of

covering the full range of PV technologies – from crystalline and thin film to space and terrestrial systems – and introduces two new topical areas: Organic Photovoltaics and Advances in Characterization of Photovoltaics. Organic photovoltaic topics were previously categorized under Area 1: Fundamentals and New Concepts for Future Technologies, but conference organizers elevated it to its own topical area to emphasize the emerging importance of organic PV and dye-sensitized solar cells.

Advances in characterization and measurement techniques have been introduced as an entirely new topical area in this year's technical program. The purpose of this new area is to highlight advancements in measurement and analysis methods that are broadly applicable to myriad PV materials. Researchers attending these sessions will gain exposure to char-

acterization tools outside their area of specialization that may provide them with new ways to look at their own PV materials.

Technical Areas Overview

- Area 1: Fundamentals and New Concepts for Future Technologies
- Area 2: CIGS and CdTe Thin Film Solar Cells and Related Materials
- Area 3: III-V and Concentrator Technologies
- Area 4: Crystalline Silicon Technologies
- Area 5: Amorphous, Nano, and Film Si Technologies
- Area 6: Organic Photovoltaics
- Area 7: Space Technologies
- Area 8: Advances in Characterization of Photovoltaics
- Area 9: PV Modules and Terrestrial Systems
- Area 10: PV Velocity Forum: Accelerating the PV Economy

As an island state isolated from mainland energy sources, Hawaii was one of the early adopters of solar technology and is still actively adopting renewable energy with several Hawaiian power grids now at full capacity for renewables. Not only is Hawaii an ideal place to showcase the adoption and impact of renewable energy in the working power grid, it is also an excellent place to investigate the remaining challenges for PV integration. An auxiliary program during the conference will touch on policy, programmatic and systematic issues important for the sustained growth of PV installations, including workshops and discussion groups to identify the current challenges of grid-scale PV and explore potential solutions.

Exhibition Hall: Where Science and Industry Meet

The theme of this year's exhibition hall is the joining together of industry leaders and scientists. With more than 120 exhibitors expected, the PV Specialists exhibit hall provides the ideal venue for leading researchers from academic, government and industry labs to meet with the key business and financial decision makers who take leading-edge technologies from the lab to the fab. The exhibition hall will be co-located with the technical conference and poster sessions, and conference session breaks will be held within the hall to further increase interaction among all PV Specialists Conference participants.

A highlight of the exhibition hall this year will be a walk through PV's

past through a robust historical display. With a special emphasis on space photovoltaics as the roots of today's terrestrial PV technologies, special memorabilia will be on display from *Vanguard 1*, the first solar-powered satellite in space.

The 35th PV Specialists Conference committee is enthusiastic to invite IEEE members (member discounts offered) and their families to this year's conference. A full social program will parallel the conference, specially geared toward family activities. For further information, please visit: www.ieee-pvsc.org.

Robert Walters

2010 PVSC Conference Chair

*U.S. Naval Research Laboratory
Washington, DC, USA*

RENUKA JINDAL, NEW EDS PRESIDENT

(continued from page 1)

"I am honored to be elected to lead such an outstanding organization that has developed over the last 57 years. Starting from my involvement as a student member, author, reviewer, Editor, Editor-in-Chief to my term as Vice-President of Publications, and now to the role as President, EDS has been my professional home for 34 years. We are a volunteer-led, volunteer-driven society serving our members. As such, my presidency will be devoted to ensuring that every volunteer has the resources and necessary support from our enthusiastic staff, to satisfy our members' needs, leveraging technology to the fullest extent. As a global organization, we plan to build strategic partnerships

with stakeholders, worldwide and continue to be among the top within the IEEE family."

Along with Ade and Cor, EDS' Senior and Junior Past Presidents, Renuka is pleased to announce that Paul Yu of the University of California at San Diego, was selected by AdCom to become EDS President-Elect. For 5 years, Paul successfully served as EDS Vice-President of Education and his election is the next logical step in a distinguished tenure of service to the Society.

In other election news, Stephen Parke and James Merz were both re-elected to their posts as Treasurer and Secretary, respectively. For full coverage of the AdCom meeting series, please see page 3.

IEEE TECHNOLOGY MANAGEMENT COUNCIL

The IEEE Technology Management Council provides tools to enhance your career and organizational effectiveness. We can keep you current with managerial, business, and entrepreneurial thinking whether you are an executive, an aspiring manager, a technical professional, or student.

Visit www.ieee.org/tmc to join your colleagues today!

Renuka P. Jindal
EDS President 2010-2011
IEEE Electron Devices Society



DECEMBER 2009 AdCom Meeting Summary

(continued from page 3)

\$3.90M as a result of IEEE investment decline. Next year he expects reserves to increase to \$4.64M, with a net income of \$739K.

EDL and T-ED continue to provide substantial net income, projected to be \$318K and \$623K, respectively, for 2009. Our other journals contribute little to the bottom line, for a net income from all publications of approximately \$930K. The sale of conference proceedings is projected to be a net of \$943K for 2009, which is up from the previous year of \$862K, whereas conference net income is \$278K, down from \$453K. As a consequence, the net income from all awards, chapters, conferences, education and membership is slightly decreased from last year, \$788K, down from \$854K. All administrative costs for EDS, including the Executive Office, increased from \$1.7M in 2008 to a projected \$2.0M in 2009, primarily because of the costs of changing leadership.

Renuka Jindal's Review of the Executive Committee Meeting: The proposed Mission and Vision statements for EDS were discussed at length. Renuka pointed out that he had compared the statements with those used by NSF and NIST, and found strong synergies with them. The driving force of this exercise was to create new benefits for our members, providing outreach to students, etc. After an aborted attempt at real-time word processing and committee editing, the mission statement was approved as originally presented. Renuka also described the new short course DVDs that will be made available only to EDS members. An example would be the short course on 22 nm CMOS technology. Each lecture should fit on a single, affordable DVD that is well indexed, costing \$9.99 for students, \$29.99 for full members. They will be released one year after the conference.

Executive Director's Report: In the spirit of Bill Van Der Vort, our new Executive Director, Chris Jannuzzi, presented an impressive Executive Report. Chris outlined the duties of each of the eight-member EDS office staff team. He then discussed several of the many office projects, highlighting the new EDS-sponsored video on photovoltaics entitled "Catch the Sun." AdCom members were treated to a view of the two-minute trailer for the video. We also saw a glimpse of the new EDS web site, done in collaboration with IEEE. The development of the web site will be a high priority for the coming year, and member input to the Ad hoc web site committee, to be chaired by Paul Yu, is greatly encouraged.

Membership Report, given by Albert Wang: Albert commented that EDS is the sixth largest society in the Institute. However, our membership was down 4.3% as of mid-November. An important point is that although IEEE membership increased 3.9% overall, there seems to be a reluctance among IEEE members to participate in the work of the societies – society membership is down 1.0% overall, while EDS is down 4.3%. Consequently, Albert has been heavily involved in developing many activities to increase EDS membership, such as an IEDM on-site credit voucher promotion for students, distribution of promotional packets, and subsidy for unemployed or low income members. He used IEEE technical interest profiles to appeal to possible new members, online *treasures* such as seminars, lectures, videos, QuestEDS, etc. Albert said we should encourage faculty members to start student chapters and show the EDS flag *everywhere*! Another interesting suggestion was to develop a corporate membership category.

The Regions/Chapters Report, given by Juin Liou: EDS has one

of highest number of chapters (approaching 150) of all the societies and one of the best ratios of chapters to members. Juin showed the current distribution of chapters, with 14 new chapters in Region 10 (Asia and Pacific), and 3 in Region 9 (Latin America). He uses many metrics to assess the activity and effectiveness of chapters, and the Chapter-of-the-Year Award this year went to the East Ukraine Chapter. He felt that chapter subsidies should be dependent on increasing membership.

Educational Activities Report, given by Paul Yu: The Masters and Ph.D. Fellowship Committee, chaired by Agis Iliadis, selected the following students for Ph.D. Fellowships: Faisal Amir, University of Manchester, Pierre-Yves Delaunay, Northwestern University, Simon Guan, Tsinghua University, and Rinus Lee Tek Po, National University of Singapore. In addition, Masters Fellowships were awarded to Bin Gao, Carlos Polanco, and Nuo Xu. Note the global character of all these awards! Paul also said that 136 Distinguished Lecturers (DLs) gave 216 lectures this past year, slightly less than previous years, and four new DLs were added to the program. Plans are progressing to simplify the nomination procedure for fellowship awards, and to put the DL PowerPoint presentations on the EDS web site with audio. Another initiative was also described by Paul, called the Microfabrication Fellowship Pilot Program. Under this pilot program two non-Brazilian students from Region 9 would receive \$1000 each to attend a two-week training course on MOS device fabrication and testing at the University of Campinas in Brazil. Paul moved that this pilot program be established under the auspices of a Region 9 Committee,

which would report back to the AdCom at our December 2010 meeting – the motion was approved unanimously.

Publications Report, given by Samar Saha: Author feedback on Electron Device Letters has begun, providing useful information to the editors. The QuestEDS program, through which EDS members can ask questions of appropriate EDS experts, has been active and is receiving positive reactions. A new benefit for authors is the copy-editing service, now available for TED and EDL. Term limits have been set for editors, and a comprehensive package to train new editors is in place. Samar concluded that a few proposals for new journals are under discussion, along with a proposal to establish an EDS social networking site.

Technical Activities Report, by Joachim Burghartz: After reviewing the current list of 14 technical areas and the leaders in charge of each, Achim stressed the importance of developing new technical areas both through publications and conferences, and the need for communication and interactions between technical areas and with other IEEE societies that are technically relevant to EDS.

Meetings Report, by Jon Candelaria: After reviewing the history of EDS sponsored and co-sponsored conferences over a nearly 20 year period, Jon described the most vexing problem that he deals with, namely that a significant number of previously-EDS-sponsored meetings have now been placed on an “exceptions list”, postponing AdCom approval for on-going support until identified issues are addressed; for example many conferences have not reported back or closed out their books, or may no longer even exist! So Jon is going to develop an action plan to remedy this, and will engage more fully with the technical committees to review new requests for sponsorship and to strengthen and maintain

conference – EDS relationships. He then moved to approve the EDS Repeat Meetings List for 2011, which was approved unanimously.

Awards: There were several aspects of EDS Awards that were highlighted at this meeting.

Al Mac Rae began the discussion by reporting on the work of the Awards Committee that he chairs. He is in the process of simplifying the nomination forms for the various awards, and is seeking a better geographical distribution of members on the various selection committees to include more non-US representation. He then announced that the Andrew S. Grove Award was won by Bijan Divari of IBM, the J.J. Ebers Award went to Levush Baruch from NRL, and the Early Career Award to Chi On Chui of UCLA. Al stressed that electron device researchers have been very successful in winning major national awards, including four members of EDS who were winners of the 2009 IEEE Technical Field Awards, Bob Dennard who won the 2009 Medal of Honor (which is the IEEE’s highest honor), and the 2009 Nobel Prize winners! He mentioned that the transistor will be honored this week at IEDM and a bronze plaque placed at Bell Labs in Murray Hill; he then concluded, as always, with a strong pitch to all AdCom participants to nominate strong candidates for these many awards.

Cary Yang then presented the Distinguished Service Award to Tak H. Ning of IBM, and Mark Lundstrom presented the 2009 Education Award to David L. Pulfrey, University of British Columbia.

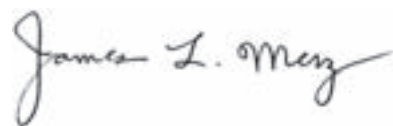
Finally, Hiroshi Iwai spoke about the selection of the 2009 IEEE EDS Fellows. Of the 53 who were nominated a total of 36 were elected fellow, and will be invited to the 2010 IEDM Conference for recognition.

Concerning **Nominations and Elections**, “Ade” Adesida presented two bylaw changes for consideration

and vote: (1) Motion: To change the terms of Secretary and Treasurer positions from a one-year to a two-year term, and (2) Motion: To require any Officer or Elected Member-at-large nominee to have previously served as an AdCom member for at least one year previously. Both motions passed unanimously.

After a brief luncheon break, a series of excellent reports were given on the progress of the IEDM Conference which starts on Monday, progress of chapter development and other activities in the various regions, and the current status of the GOLD program, the IEEE Women in Engineering Program (WIE), and the various EDS publications. With regard to EDS publications, Samar Saha moved to submit a proposal to TAB to establish a fast turn around publication called IEEE EDS Express; the motion passed unanimously. Usha Varshney described the Women in Engineering program as the largest international professional organization dedicated to promoting women engineers and scientists. With over 9000 members (approximately one-third of which are men), this organization has coordinators in all 10 of the IEEE regions and all of its societies. The mission of WIE is to inspire, engage, encourage, and empower IEEE women worldwide, with a vision of a vibrant community of IEEE women and men innovating the world of tomorrow.

After announcing that **the next AdCom meeting will take place in Stuttgart, Germany, June 5 and 6, 2010**, Cor Claeys adjourned the meeting at 3:45 PM.



*Respectfully Submitted,
Jim Merz,
EDS Secretary*

Secretarial Reflections

Do you feel as though you live in a FISH BOWL?

Are the eyes of the world on all that you do, especially your research and engineering breakthroughs in electron devices? Do colleagues, friends and acquaintances recognize the clarity of your teaching, insight of your technical management, and brilliance of your professional writing? If so, congratulations, that is exactly what we are

trying to achieve, as we seek to bring far greater visibility to the Electron Devices Society, and all of its members, and all of its activities. A major goal set by our new President, Renuka Jindal, is to significantly enhance the visibility of the Society, with an emphasis on renewal of our web site. He has empowered a new committee, led by Paul Yu, for this purpose. Send your ideas to Paul, or to me

JLM.

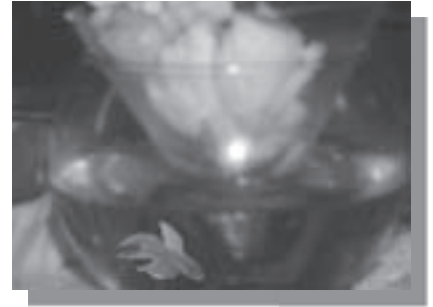


Photo of a lump crab appetizer at the ExCom dinner on December 5th, served to this hungry secretary in an exotic double bowl featuring a live tropical fish. The challenge was to eat the crab, not the fish.

PROGRESS MADE IN DEVELOPING TECHNOLOGIES FOR THREE HUMANITARIAN CHALLENGES

IEEE members, technologists, and others from 15 countries have begun working on technical solutions to three challenges facing developing countries: providing reliable sources of electricity, developing a data-transmission system for exchanging health information between remote and central medical offices, and electronically identifying patients and storing their health records.

The group's work is part of the *Humanitarian Technology Challenge*, a partnership between IEEE and the United Nations Foundation that involves IEEE members, humanitarian aid workers, technologists, and others working on technical solutions for problems that plague much of humanity. At a workshop held in October in Washington, D.C., the group agreed to test the following solutions.

Better Electricity

To provide reliable electric power to those not served by established grids, the team is developing an integrated system that uses photovoltaic panels, batteries, and a small wind generator. The system includes a computerized controller to handle battery charging and load management, so as to keep the electrical demand balanced with the available supply. With this system, users hope to be able to power LED lights, run water-purification and pumping stations, and perhaps power commu-

nications equipment. The group plans to stage a prototype next month in the United States before moving overseas.

Communication Improvements

In an effort to improve communication among health-care professionals in developing countries, engineers engaged with the Humanitarian Technology Challenge are designing a long-distance Wi-Fi system for transmitting medical data. A network of 2.4-gigahertz and 5.8-GHz Wi-Fi links could be installed, for example, between several small rural outposts and an urban medical facility. That facility would then be able to extend its Internet connection to remote medical offices.

This group is working with Wi-Fi equipment suppliers to test long-distance devices in the San Francisco Bay area. The group is also exploring partnering with IEEE sections and nongovernmental organizations in Bolivia, the Philippines, and Thailand to help them conduct field tests in those countries in April.

Identifying Patients

Another group is designing two different kinds of equipment that could help health-care workers identify patients who might not be able to identify themselves. The first is a system that keys off of distinctive physical characteristics; the second uses radio-frequency identification bracelets.

For the first system, the team is developing a self-service photo booth intended for new patients at a medical facility. Equipment in the booth not only takes a digital photo; it also measures the person's height and weight. The notion is that such images and measurements would aid doctors if the same patients later arrived at the facility but could not identify themselves.

The second system uses RFID bracelets, which would be worn by patients who are diagnosed with certain diseases that require monitoring and tracking, such as pneumonia, sepsis, and meningitis. The system ensures that no matter what clinic the patients go to, they have a minimal medical record on them at all times. The information from the bracelets is also stored in a Web portal that doctors can access to track whether the diseases are being spread, so they can administer vaccines or take other preventive measures. Plans are to test this system at health-care offices in villages near Karachi, Pakistan.

IEEE is seeking additional funding from foundations, nongovernmental organizations, and corporations for the field tests. Companies can assist by making cash or "in kind" contributions such as equipment. For more information about donations, send a query to donate@ieee.org.

*Anna Bogdanowicz
Asst. Editor, The Institute*

SOCIETY NEWS

EDS MEMBERSHIP COMMITTEE REPORT



*Albert Wang
EDS Vice-President
of Membership*

The total EDS membership count was 10,370 as of October 2009, showing a net loss from the total number of 10,845 in December 2008. An annual apple-to-apple comparison is not yet available today. Typically, we will have more renewal or new members signing in the November and December period because this is the traditional time when many would renew their IEEE and society memberships. In addition, we typically will gain new members during the on-site membership promotion at our flagship conference, IEDM, in early December. However, I would expect a net loss for 2009 when the final 2009 statistics are available. In a sense, such a loss in memberships count should not be a surprise to EDS, as well as to all other IEEE technical societies, which has been a clear trend in the past years. The recent economic crisis certainly makes people more sensitive to any spending that is not life-saving. The facts are that EDS remains a big player within IEEE, i.e., the 6th largest technical society, however, we are losing members. Therefore, it is critically important that we must work harder to develop new and meaningful benefits to our members and promote EDS values to people in the field of electron devices.

The global geographical breakdown for EDS membership follows: Regions 1–6 accounts for 52.9%, Region 7 has 2.1%, Region 8 takes 18.6%, Region 9 represents 1.9% and Region 10 contributes 24.5%. The statistics clearly demonstrate

that EDS is a truly global professional society today and we have been doing very well everywhere beyond the North America in recent years. This fact is certainly very positive because as globalization trends continue, one would only be survivable if it goes global. As to why does EDS, as well as other professional societies continue to lose members, it might be safe to state that it is the VALUE that matters.

When people, especially smart technical people, see significant and meaningful returns for their penny, no one could stop them from rushing in to become a member. On the other hand, if there are not enough and convincing values generated by the EDS membership, it is just not possible to convince anyone to join EDS. So, our focus shall be the EDS-exclusive values. As the sea level changes and the main old-day benefit of receiving discounted hard copies of IEEE journals disappears, we ought to create and promote new EDS values for people. For example, one major membership benefit is the sizable conference registration fee discount for IEEE members, which however is not an EDS-only membership benefit. After extensive discussions, we plan to try a new three-tier conference registration fee program, which would give a big discount to EDS members only at EDS financially sponsored conferences.

Several other measures have been implemented to boost our membership during 2009. Some show significant returns already.

- The popular Membership Fee Subsidy Program (MFSP), which subsidizes IEEE and EDS memberships for individuals with an annual income less than US\$13,400.

The MFSP program sponsored 162 members from 16 chapters worldwide in 2008 and subsidized 124 members in 13 chapters in 2009. The MFSP program has been playing a big role in jump-starting new chapters in emerging regions.

- The Technical Interest Profile (TIP) promotion program has shown major results in the past couple of years. The TIP program identifies potential IEEE members who are in the field of interest of EDS, however, are not EDS members yet. We send promotional emails to those potential members offering them free half-year EDS membership. The 2009 TIP promotion was sent to about 5,800 people and resulted in 203 new members.
 - The annual on-site membership credit voucher promotion continued at IEDM, generating about 100 members in 2008 and we expect a good result for 2009. This on-site credit voucher program was extended to the 2009 PVSC conference, which generated about 56 new members, including 29 new student members.
 - The continuation of the EDS annual new membership promotion that offers free EDS membership IEEE members who want to take advantage of the offer when they register for the IEDM. The return statistics shall be available soon. These on-site EDS membership promotion programs will continue for IEDM and PVSC, and may be considered for the 15 other EDS sponsored conferences.
- Reaching broadly to people with EDS interests is certainly critical to promoting the value of EDS.

We have continued our tradition to provide our Distinguished Lecturers with EDS promotional materials for presentation at the beginning of each DL lecture. A newly revised EDS presentation is available now.

- One vital membership benefit is the timely recognition of our member achievements, which serves to promote our members and help them with their career advancement. In this regard, IEEE Senior Membership and Fellow promotion are the keys. EDS continues to promote our members in this path. In 2009, more than 103 EDS members were elevated to the Senior Member grade.

Looking into 2010, we see the challenges and hopes simultaneously. There is no doubt that the slow economy will continue to cast its shadow on EDS membership development. Therefore, we need more fresh ideas and collective efforts to promote the EDS values. After all, only the concrete values may retain our EDS members and attract new members. The EDS value package must be solid, tangible and beneficial to career development and advancement in this tough economic time.

Hereby, I sincerely call upon everyone in the EDS community to stand up and offer your valuable ideas. No idea may be trivial and I shall promise that every single suggestion would receive serious consideration. In the

meantime, IEEE might not survive without globalization. Therefore, we must continue to look after every region in the world, from North America to any emerging area in Regions 8, 9 and 10. We must be open-minded; we must welcome every single idea; we must reach to each corner in the world; and we must work together and harder. This is the only way the EDS can survive and prosper in future!

My best wishes to all EDS friends for your career and life in 2010!

*Albert Wang
EDS Vice-President of Membership
University of California
Riverside, CA, USA
In the sunny Southern California*

EDS REGIONS 1-3 & 7 CHAPTERS MEETING SUMMARY



*Durga Misra
Chair, EDS SRC-North
America East*

On Sunday, December 6, 2009, on the sideline of IEDM 2009, the EDS North America East (NAE), Regions 1-3 & 7 held its biannual Chapters Meeting in Baltimore. It was presided over by EDS Vice-President of Regions/Chapters, Juin J. Liou and EDS Subcommittee for Regions and Chapters (SRC) North America East Chair, Durga Misra. EDS President Cor Claeys and EDS Executive Director Chris Jannuzzi also attended the meeting. The Regions 1-3 & 7 SRC Vice-Chairs, Murty Polavarapu and Karim Karim were also present.

The meeting began with a welcome address and opening remarks by Durga Misra. He gave an overview of EDS chapters and mentioned that the total number in the North

America East region is 28, out of which 18 are joint chapters with the recent addition of the CPMT/ED joint chapter under the IEEE Pittsburgh Section, formed in October 2009; 5 chapters seems to be inactive; in 2009 12 DL talks were reported and two mini-colloquia were held by two Chapters in the NAE Region, one by ED Mid-Hudson and the other by ED Kitchener-Waterloo. Prof. Misra also mentioned the various IEEE programs and services available to support chapters like [ieee.tv](http://vtools.ieee.org) and vTools (<http://vtools.ieee.org>). Also, a new initiative in recent years has been to hold a dinner meeting of EDS leadership (President, Past-Presidents, President-Elect and Executive Director) with local chapter leaders to discuss chapter activities. This meeting is always held prior to the EDS ExCom Meeting.

The attendees were then addressed by Prof. Juin J. Liou, EDS Vice-President of Regions/Chapters.

Juin announced the **2009 EDS Chapter of the Year Award, which was won by the ED/AP/AES/EMB/GRS/MTT/NPS East Ukraine Chapter**, for 'an outstanding record of sustained chapter activities that contribute substantially to the vitality of the Electron Devices Society'. Juin also reported on EDS chapter history, chapter statistics, chapter subsidies, recent chapter formations and potential new chapters.

The 2009 East Ukraine Chapter Chair, Dr. Oksana Shramkova, then discussed the "Chapter of the Year" award winning activities for the period July 1, 2008 to June 30, 2009. The chapter also received the Region 8 "Chapter of the Year" Award in 2008. One of the most exciting Distinguished Lecturers that the chapter hosted was the visit of Prof. Georg Boeck, *Chair of Microwave Engineering Lab, Technische Universitaet, Berlin, Germany* to IRE NASU in Kharkiy. During the chapter's

first year, they organized 4 major conferences with a wide range of topics and one mini-colloquium on Modern Challenges in Microwave Superconductivity, Photonics and Electronics. The conferences were (i) International Conference on Mathematical Methods in Electromagnetic Theory (MMET*08), (ii) International Symposium on Microwaves, Radar and Remote Sensing (MRRS-2008), (iii) International Conference on Advanced Optoelectronics and Lasers (CAOL'2008), and (iv) VIII Kharkiv Young Scientists Conference on "Radiophysics and Electronics, Biophysics." Hundreds of members and non-members benefited from these events. They also constituted a "Young Scientist Conference Travel Grant" with a certificate and \$150 USD cash award. In addition, several best paper awards are established by the chapter for IEEE members in various chapter-organized conferences. To encourage publication in international journals, an "International Publication Encouragement Award" was established for a paper published in any IEEE journal, by any Ukrainian author, in the technical field of the Chapter. The award consists of a certificate and a bottle of fine Crimean champagne.

Dr. Shramkova concluded her presentation with an outline of planned activities for 2010.

Several NAE chapters representatives attended the meeting and all gave presentations. Region 1 was represented by three chapters. The first report by the **ED Mid-Hudson Chapter Chair, Dr. Subu Iyer**, described his chapter's activities and the grand success of the Mini-Colloquium that they had just organized prior to IEDM 2009. The Chapter also held 20 technical talks including seven Distinguished Lecturer (DL) talks. The chapter is also very active in a successful program to introduce young girls to engineering through "Snap Circuit" activities. The Chair for the **ED/SSC New York Chapter, Prof. John Kymissis**, mentioned their technical meetings and how the young chapter was able to attract world class speakers. His talk was followed by a presentation by the **ED/CAS North Jersey Chapter Chair, Durga Misra**. Reports from Region 2 Chapters began with **Dr. Louis Hart, Chair of the newly formed Pittsburgh Chapter**, sharing his experiences on how they were successful in forming the new chapter in Pittsburgh, starting with the signature campaign to its first

technical meeting. He was happy to report that participation has already increased at their meetings. **Prof. Dimitris E. Ioannou** then outlined the activities of the **ED Washington & Northern Virginia Chapter** and mentioned how difficult it was to get participation in the D.C. area. From Region 3, **Prof. Paul Berger, Chair of the ED/Photonics Columbus Chapter**, discussed various technical meetings and expressed how he would like to have more support from the EDS community to schedule additional ones. The activities of the **ED Kitchener-Waterloo Chapter of Region 7** were then presented by **Prof. Karim Karim**. More than 50 people including students, faculty and industry members attended their chapter's recent, all-day Mini-Colloquium, with seven talks, including four DLs.

The chapter reports were followed by general discussions to improve member benefits and energize EDS chapters. The organizational efforts of Joyce Lombardini, EDS Business Coordinator, were highly appreciated.

*Durga Misra
Chair, EDS SRC-North America East
New Jersey Institute of Technology
Newark, NJ, USA*

EDS DISTINGUISHED LECTURERS PARTICIPATE IN THE 21ST WIMNACT - BEIJING, CHINA

The 21st Workshop and IEEE EDS Mini-colloquium on NAnometer CMOS Technology (WIMNACT), organized jointly by the ED Peking University and Tsinghua University Student Branch Chapters, was successfully held in the afternoon of January 7, 2010, at Peking University, Beijing, China. This is the first collaborative event organized by student chapters from the two top universities in China. The event was initiated by the Chair of the

EDS Subcommittee for Regions and Chapters – Asia & Pacific, Prof. Xing Zhou of Nanyang Technological University, Singapore, and coordinated by the respective student Chapter Advisors, Prof. Ru Huang and Prof. Tian-Ling Ren of Peking and Tsinghua Universities. Prof. Jianguo Ma, Advisor for the UESTC Student Branch Chapter in Chengdu, who recently joined Tianjin University, also participated in the workshop. The event was attended by more

than 60 people, including a group of Tsinghua University students.

Prof. Huang gave the welcome address, followed by a brief introduction to IEEE and EDS by Prof. Zhou. The Workshop began with Prof. Zhou's DL talk on "*Unified Regional Modeling Approach to MOS Compact Modeling*," followed by Prof. Ren, speaking on "*Ferroelectrics and Their Device Applications*." Rounding out the program was Prof. Ma's lecture on the topic



First row, starting 2nd from left: Tian-Ling Ren, Ru Huang, Xing Zhou, and Jianguo Ma, with some of the participants of the 21st WIMNACT

of "Electrothermal Large-signal Model of III-V FETs." These lectures covered a broad range of topics on current interests and also produced lively, interactive discussions. After the technical talks, Professors Ren and Huang shared their respective

student chapters' activities as well as planned events for 2010. Prof. Ma also stated his intention to start a new student branch chapter at Tianjin University. With this first successful partnership, all the chapter advisors agreed to have more such

joint events and proposed to coordinate a regional forum in the Beijing and Tianjin areas for future student chapter activities. Prof. Zhou gave his concluding remarks encouraging students to be proactive in initiating ideas and participating in volunteer activities. He also thanked the two chapters for their great efforts in organizing this WIMNACT.

*Ru Huang
Peking University*

*Tian-Ling Ren
Tsinghua University*

*Jianguo Ma
Tianjin University*

*Xing Zhou
Nanyang Technological University*

EDS DISTINGUISHED LECTURER VISITS THE NEWLY FORMED ED/CPMT PITTSBURGH CHAPTER

The Pittsburgh Section of IEEE received certification for a chapter of the Electron Devices Society (joint with the Components, Packaging, and Manufacturing Technology Society) in October 2009. Already it has held several events.

Most notable was the program conducted on January 26, 2010, by EDS Distinguished Lecturer, Dr. Juin J. Liou of the University of Central Florida. Twenty-two people heard

his presentation on 'Advanced On-Chip Electrostatic Discharge (ESD) Protection Solutions in CMOS/BiCMOS Technologies.' About half of the attendees were not (yet?) IEEE members. Engineers working in electronics assembly were in the audience, along with students from California University (California, Pennsylvania, in case you were wondering). Attendees indicated the lecture's technical level was such that they learned a

great deal, and were able to generate good questions during the discussion afterward.

Before the presentation, Dr. Liou toured a nearby printed circuit board manufacturer, Compunetics, and met with several EDS chapter members who work there.

Two events took place in late 2009. In November, new Chapter Chair, Louis Hart recounted his observations and experiences of the APEX electronics manufacturing show and technical conference. In December, University of Pittsburgh Department of Geology researcher, Byron Steinman described his work on 'Numerical model simulations of small, closed basin lake sediment core $\delta^{18}\text{O}$ records.'



EDS Distinguished Lecturer, Dr. Liou and ED/CPMT Chapter Chair, Louis Hart (1st row, 3rd & 4th from left), with lecture attendees and chapter members

*Louis Hart
ED/CPMT Chapter Chair
Compunetics
Monroeville, PA, USA*

EDS MEMBER NAMED WINNER OF THE 2009 IEEE EDUCATIONAL ACTIVITIES BOARD MERITORIOUS ACHIEVEMENT AWARD IN CONTINUING EDUCATION

The IEEE EAB Meritorious Achievement Award in Continuing Education recognizes IEEE members for efforts to foster the maintenance and improvement of education through the process of accreditation engineering, engineering technology, computer science programs and applied science programs. The award consists of \$1,000 and a brass and walnut plaque. The 2009 Award was presented to Meyya Meyyappan "for contributions to the education of practicing professional in the emerging field of nanotechnology." He was presented with a plaque and check at the IEEE November Board Series in New Brunswick, New Jersey.



Meyya Meyyappan is Chief Scientist for Exploration Technology at the Center for Nanotechnology, NASA Ames Research Center in

Moffett Field, California. Until June 2006, he served as the Director of the Center for Nanotechnology as well as Senior Scientist. He has been a member of EDS for over 25 years and his early research interests included device and process modeling. In recent years, he has been very active in IEEE. He served as the President of the IEEE's Nanotechnology Council in 2006–2007. He is currently EDS Distinguished Lecturer. He served as a member of the IEEE Fellow Committee from 2008–2010.

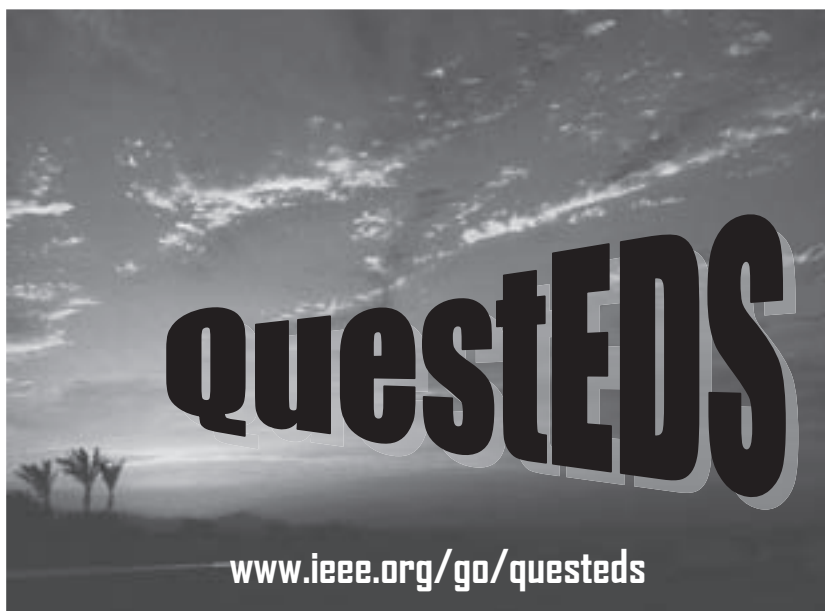
Dr. Meyyappan is a founding member of the Interagency Working Group on Nanotechnology (IWGN) established by the Office of Science and Technology Policy (OSTP). The IWGN is responsible for putting together the National Nanotechnology Initiative.

Dr. Meyyappan has authored or co-authored over 190 articles in peer-reviewed journals and made over 200 Invited/Keynote/Plenary Talks in nanotechnology subjects across the world. His research interests include carbon nanotubes and various inorganic nanowires, their growth and characterization, and application development in chemical and biosensors, instrumentation, electronics and optoelectronics.

Dr. Meyyappan is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), the Electrochemical Society (ECS), the American Vacuum Society (AVS), the Materials Research Society (MRS) and the California Council of Science and Technology. For his contributions and leadership in nanotechnology, he has received numerous awards including: a Presidential Meritorious Award; NASA's Outstanding Leadership Medal; Arthur Flemming Award given by the

Arthur Flemming Foundation and the George Washington University; IEEE Judith Resnick Award; IEEE-USA Harry Diamond Award; AIChE Nanoscale Science and Engineering Forum Award. For his sustained contributions to nanotechnology, he was inducted into the Silicon Valley Engineering Council Hall of Fame in February 2009. For his educational contributions, he has received: Outstanding Recognition Award from the NASA Office of Education; the Engineer of the Year Award (2004) by the San Francisco Section of the American Institute of Aeronautics and Astronautics (AIAA); IEEE-EDS Education Award; IEEE-EAB (Educational Activities Board) Meritorious Achievement Award in Continuing Education.

*Alfred U. Mac Rae
EDS Vice-President of Awards
Mac Rae Technologies
Berkeley Heights, NJ, USA*



2009 EDS DISTINGUISHED SERVICE AWARD

The IEEE Electron Devices Society is extremely proud of the services that it provides to its members. Its members generate the premier new developments in the field of electron devices and share these results with their peers and the world at large by publishing their papers in EDS journals and presenting results in its meetings. This is a global activity that is effective because of the efforts of numerous volunteers. Many of these volunteers labor in relative obscurity and their only reward being the satisfaction that they receive in being an important part of a successful organization, namely of the IEEE Electron Devices Society. One means of thanking these volunteers is to recognize their contributions through the EDS Distinguished Service Award. This award for 2009 was presented to Tak H. Ning at the IEEE International Electron Devices Meeting (IEDM) in Baltimore, Maryland, on December 7, 2009.



Tak H. Ning received his grade- and high-school education in Hong Kong. He came to the U.S. under the auspices of the Institute of International Education to attend Reed College in 1964, receiving a B.A. degree in physics in 1967. He then studied at the University of Illinois at Urbana-Champaign, obtaining a Ph.D. degree in solid-state physics in 1971. For his thesis, he developed a theory for impurities in silicon taking into consideration the six conduction-band valleys and their symmetry. He remained at the University of



Tak H. Ning (left), accepting the 2009 EDS Distinguished Service Award from Cor Claeys, EDS President 2008-2009

Illinois as a research assistant professor for two years during which time he developed a theory for the oxide-charge scattering of electrons in MOS inversion layers. He joined IBM as a Research Staff Member at the Thomas J. Watson Research Center in 1973.

During the early part of his IBM career, Dr. Ning and his colleagues made significant contributions to the understanding of hot-electron effects and electron and hole trapping in MOSFET's, including the discovery and modeling of substrate-hot-electron effects. They demonstrated the shallow-emitter effect and its dependence on emitter-contact material. He was co-inventor of the polysilicon-emitter self-aligned bipolar transistor, which is the basis of all modern bipolar transistor technology. He was co-inventor of the substrate-plate trench capacitor DRAM cell, which was widely used in multiple generations of DRAM products, and is still used in embedded DRAM. As senior manager of the silicon device technology department between 1982 and 1991, he directed and contributed to the development of submicron bipolar and

CMOS technologies in IBM Research as well as led his team in exploring SOI and EEPROM devices. He was appointed an IBM Fellow, the highest technical honor in IBM, in 1991.

Dr. Ning has authored or co-authored more than 120 technical papers and 36 U.S. patents. The second edition of the book *Fundamentals of Modern VLSI Devices*, which he co-authored with Yuan Taur, was published in August this year. The first edition was published in 1998 and translated into Japanese in 2002.

Throughout his career, he has been actively involved in IEEE activities, starting with being a member of the 1979 Device Research Conference Program Committee. He is a Fellow of the American Physical Society and of the IEEE, and a member of the US National Academy of Engineering. He has received several awards, including the Electrochemical Society 2007 Gordon E. Moore Medal, the IEEE EDS 1989 J.J. Ebers Award, the IEEE 1991 Jack A. Morton Award, and the 1998 Pan Wen-Yuan Foundation (Taiwan) Outstanding Research Award.

Dr. Ning resides with his wife, Teresa, in Yorktown Heights, New York. They have two daughters, Adrienne, who works for a bioinformatics company in the Bay Area in California, and Brenda, who works for a global consumer product company in Englewood Cliffs, New Jersey.

*Steven J. Hillenius
EDS Distinguished Service
Award Chair
Semiconductor Research
Corporation
Durham, NC, USA*

2009 EDS J.J. EBERS AWARD WINNER

The 2009 J.J. Ebers Award, the prestigious Electron Devices Society award for outstanding technical contributions to electron devices, was presented to Dr. Baruch Levush of the Naval Research Laboratory (NRL), Washington, D.C., at the IEEE International Electron Devices Meeting (IEDM) in Baltimore, Maryland, on December 7, 2009. This award recognizes Dr. Levush *"For contributions to the development of widely applied simulation tools in the vacuum electronics industry"*.



Baruch Levush was born in 1950 in the northern region of Siberia in the city Yakutsk in the former USSR. He received his M.Sc (Physics) de-

gree from Latvian University in Riga, Latvia in 1972. In 1973 he immigrated to Israel where he carried out his Ph.D. work in plasma physics at Tel Aviv University. Upon completing his Ph.D. research in 1981, he received the Dr. Chaim Weizmann Postdoctoral Fellowship and spent several years as a post-doctoral fellow at the University of Maryland (UMD) - College Park. He joined the Institute for Plasma Research (IPR) at the UMD as a Research Scientist in 1985. After a decade at the IPR, Dr. Levush joined the Naval Research Laboratory (NRL) as the Head of the Theory and

Design Section of the Vacuum Electronics Branch, Electronics Science and Technology Division. In 2003 he became the Head of the Vacuum Electronics Branch.

Dr. Levush's research involves coherent radiation generation using electron beams. Early in his career, he focused on developing theories and computational models of the nonlinear interaction of electromagnetic modes in free electron lasers and gyro-devices. In his current research, he is actively involved in developing theoretical models and computational tools for analyzing the operation of vacuum electron devices and in inventing new concepts for high power amplifiers that operate at frequencies ranging from 1 to 1000 GHz.

In 1997, Dr. Levush became responsible for developing a suite of new design codes for vacuum electron devices under the auspices of the Office of Naval Research. The simulation tools pioneered by his research team have been universally adopted by the vacuum electronics industry, and are used prolifically in support of new vacuum electron device development at the NRL, industry, small business and academia. He is a Fellow of IEEE since 2001 and has received numerous awards, including the Robert L. Woods Award of the U.S. Department of Defense (for his role in the successful development of a 10 kW average power, W-band gyro-klystron) (1999), the NRL Award

of Merit for Group Achievement as part of the 94 GHz Radar Team (2002), the R&D100 Award for MICHELLE, a 3D Charge-Particle-Beam Optics software tool (2006), the IEEE International Vacuum Electronics Conference Award (2007), the NRL's E.O. Hulburt Annual Science Award (NRL's highest civilian honor for scientific achievement) (2007) and the Captain Robert Dexter Conrad Award for scientific achievement (2009).

NRL's Vacuum Electronics Branch is the principal center for vacuum electronics research and development in the U.S. and Dr. Levush frequently provides advisory services to support external research programs in vacuum electronics. He is the co-author of more than 170 journal articles.

Baruch lives in Potomac, Maryland, with his wife Ruth, who he met 32 years ago at Tel Aviv University, from which she received a law degree. Last year, Baruch and Ruth became empty nesters after their third daughter, Karen, left for college to study special education. The oldest daughter, Efrat, is enjoying her graphic design career and the second daughter, Michelle, is finishing her Master's Degree in occupational therapy. Baruch likes to play tennis and he is avid reader of books on world history, politics and history of religion.

Louis C. Parrillo
EDS J.J. Ebers Award Chair
Parrillo Consulting
Austin, TX, USA

2010 EDS J.J. EBERS AWARD CALL FOR NOMINATIONS

The IEEE Electron Devices Society invites the submission of nominations for the 2010 J.J. Ebers Award. This award is presented annually for outstanding technical contributions to electron devices. The recipient(s) is awarded a certificate and a check for \$5,000, presented in December at the IEEE International Electron Devices Meeting (IEDM).

Nomination forms can be requested from Laura Riello (l.riello@ieee.org), EDS Executive Office, or on-line at www.ieee.org/eds/. The deadline for the submission of nominations for the 2010 award is July 1, 2010.

2009 EDS Education Award Winner

The EDS Education Award recognizes an IEEE/EDS Member from an academic, industrial, or government organization with distinguished contributions to education within the fields of interest of the IEEE Electron Devices Society. The 2009 award was presented to David L. Pulfrey of the University of British Columbia, Vancouver, Canada, at the IEEE International Electron Devices Meeting in Baltimore, Maryland, on December 7, 2009. The award cites Professor Pulfrey *"For contributions to the teaching of semiconductor devices at both the undergraduate and graduate levels."*



David Pulfrey obtained the B.Sc. and Ph.D. degrees in electrical engineering from the University of Manchester, England, in 1965 and

1968, respectively. He attended university on a scholarship from the regional electric power authority, which meant that he concentrated on courses and research far from the field of electron devices. He is essentially self-taught in solid-state electronics, and he believes that learning about devices in this way has attuned him particularly well to the nature of the difficulties that

many students face in trying to master this profound subject. His success in helping students avoid or overcome these difficulties has led to recognition at the local, provincial, and international levels: inaugural winner in 1990 of the University of British Columbia's Teaching Prize in Applied Science; 2009 winner of the Teaching Award for Excellence in Engineering and Geoscience Education from the Association of Professional Engineers and Geoscientists of British Columbia; and now the EDS Education Award.

Professor Pulfrey believes that attention to the fundamental details is the best way to give students the ability to appreciate the workings of today's devices, and to participate in the development of tomorrow's devices. This philosophy illumines his latest book *"Understanding Modern Transistors and Diodes"*, which is to appear in January 2010, and is also evident in his other books: *"Photovoltaic Power Generation,"* 1979; *"Introduction to Semiconductor Devices"* (with N.G. Tarr), 1989; and in book chapters on HBTs for Wiley's *Encyclopedia of Electrical and Electronic Engineering*, 1999, and for Roblin and Rohdin's book *"High-speed heterostructure devices"*, 2002.

Professor Pulfrey was the inaugural appointee to PMC-Sierra's in-house university, where he delivered courses

on "Deep sub-micron electronics" and, most recently, on "Nanoelectronics". Additionally, he has given guest graduate courses on "Modern semiconductor devices" at the Technical University of Vienna and at the University of Pisa. As a Gledden Distinguished Fellow at the University of Western Australia, he has given public lectures on both "Prospects for photovoltaics" and "Nanotransistors". As an EDS Distinguished Lecturer, he gave lectures on "Carbon nanotube FETs" to the Mexico City Chapter. His book on photovoltaics led to an invitation to give a course on "Photovoltaics engineering" at the Institute of Engineering in Kathmandu. This location enabled him to indulge his passion for trekking, and he went above 6000m on Island Peak. He tries to ensure that all his graduate students experience the joys of hiking, and his forays with them into Canada's West Coast Mountains have helped to forge the life-long friendships that he enjoys with many of them.

His greatest friends remain his family: his wife Eileen, retired home economist, and his children Simon, Tim and Louisa, all health-care professionals.

Mark Lundstrom

2009 EDS Education Award Chair

Purdue University

West Lafayette, IN, USA

2010 EDS Education Award Call for Nominations

The IEEE Electron Devices Society invites the submission of nominations for the 2010 Education Award. This award is presented annually by EDS to honor an individual(s) with distinguished contributions to education within the fields of interest of the IEEE Electron Devices Society. The recipient is awarded a certificate and a check for \$2,500, presented at the International Electron Devices Meeting (IEDM).

Nomination forms can be found on the EDS web site at http://www.ieee.org/portal/pages/society/eds/awards/EDS_Education_Award.html or can be requested from Laura Riello (l.riello@ieee.org), EDS Executive Office.

Please send completed nomination forms to: IEEE Operations Center, Attn: Laura Riello, 445 Hoes Lane, Piscataway, NJ 08854 USA

Nominations are due by September 1, 2010

WILLIAM VAN DER VORT HONORED BY THE SOCIETY AND IEDM EXECUTIVE COMMITTEE

William Van Der Vort, retired EDS Executive Director, was honored by the Society at its December Ad-Com Dinner. Bill was presented with a memory book containing letters full of warm regards and appreciation from many IEEE volunteers and staff. Photos of his many adventures with EDS were also submitted and incorporated into a volume of Bill's



(from left to right) William Van Der Vort, Alfred U. Mac Rae (EDS Vice-President of Awards), Cor L. Claeys (EDS President, 2008–2009)

history with the Society, to which he was so dedicated.

The IEDM executive committee also wanted to thank Bill for all his support of the conference over the years. A custom award was designed and presented to him at the IEDM Plenary Session. Bill accepted all this attention with his customary quiet dignity.

2009 EDS EARLY CAREER AWARD WINNER

At the June 2008 EDS AdCom Meeting, EDS approved a new award, the EDS Early Career Award. This award recognizes an IEEE/EDS Graduate of the Last Decade (GOLD) member at the time of nomination who is making contributions in an EDS field of interest area.

The first EDS Early Career Award was presented to Professor Chi On Chui of the University of California, Los Angeles, California, at the EDS GOLD Lecture held in conjunction with the IEEE International Electron Devices Meeting in Baltimore, Maryland, December 6, 2009.



Chi On Chui was born in Hong Kong, PRC. He received the B.Eng. degree in Electronic Engineering (with highest honors) from the

Hong Kong University of Science and Technology (HKUST) in 1999, and the M.S. and Ph.D. degrees in Electrical Engineering from Stanford University in 2001 and 2004, respectively. He joined the Intel Corporation as a Senior Device Engineer in 2004 to research and evaluate post-silicon transistor technologies for high performance logic applications. During

his tenure with Intel, he served as a Researcher-in-Residence at the University of California, Berkeley and at Stanford University. From 2005–2006, he was also appointed Consulting Assistant Professor of Electrical Engineering at Stanford University. In January 2007, he joined the faculty of the University of California, Los Angeles (UCLA) as an Assistant Professor of Electrical Engineering. Since 2009, he has been an elected Member of the UCLA's California NanoSystems Institute (CNSI).

Dr. Chui is an early advocate of the use of high mobility semiconductor in MOSFETs and seminally demonstrated the incorporation of nanoscale high-permittivity gate dielectrics for germanium MOS device applications. His research activities are presently in nanostructure devices and technology for nanoarchitectonics, biomedical electronics, and nanoelectronics.

Dr. Chui has received several awards including HKUST's Academic Achievement Award (AAA) in 1999, the Intel Foundation Ph.D. Fellowship in 2003, the Microsoft Academic Research Grant in 2003, and the Okawa Foundation Award in 2007. In addition, his works have won the best paper awards at the IEEE 60th Device Research Conference (DRC) in 2002 and the 13th Workshop on Dielec-

trics in Microelectronics (WoDiM) in 2004. Dr. Chui has also delivered one keynote speech and numerous invited talks, is a named inventor on three issued patents, and few other pending patents in semiconductor device technology. He has authored or co-authored more than 75 peer-reviewed archival journal and conference papers (including two review papers and 21 invited papers) and four book chapters.

Dr. Chui is a Senior Member of the IEEE and a past member of the Materials Research Society (MRS). He has served on the International Advisory Committee of the International Symposium on Advanced Fluid Information and Transdisciplinary Fluid Integration (AFI/TFI) and the IEEE International Conference on Computer, Control & Communication (IEEE-ICC4), as well as serving on the Technical Program Committee of the IEEE International Electron Devices Meeting (IEDM) and IEEE International Conference on Electron Devices and Solid-State Circuits (EDSSC).

Chi On enjoys sight-seeing and eating good food with his wife and daughter.

*Renuka P. Jindal
EDS Early Career Award Chair
University of Louisiana at Lafayette
Lafayette, LA, USA*



CALL FOR NOMINATIONS 2010 IEEE EDS EARLY CAREER AWARD

Description: Awarded annually to an individual to promote, recognize and support Early Career Technical Development within the Electron Devices Society's field of interest.

Prize: An award of US\$1,000, a certificate; and if needed, travel expenses not to exceed US\$1,500 for a recipient residing in the US and not to exceed US\$3,000 for a recipient residing outside the US to attend the award presentation.

Eligibility: Candidate must be an IEEE EDS GOLD (Graduate of the Last Decade) member and must have received his/her first professional degree within the 10th year defined by the August 15 nomination deadline and has made contributions in an EDS field of interest area. Nominator must be an IEEE EDS member. Previous award winners are ineligible.

Selection/Basis for Judging: The nominator will be required to submit a nomination package comprised of the following:

- The nomination form that is found on the EDS web site, containing such technical information as the nominee's contributions, accomplishments and impact on the profession or economy and a biographical description.
- A minimum of two and a maximum of three letters of recommendation from individuals familiar with the candidate's technical contributions and other credentials, with emphasis on the specific contributions and their impact.

The basis for judging includes such factors as; the demonstration of field leadership in a specific area; specific technical contribution(s); impact on the profession or economy; originality; breadth; inventive value; publications; honors; and other appropriate achievements.

Schedule: Nominations are due to the EDS Executive Office 15 August each year. The candidate will be selected by the end of September, with presentation to be made in December.

Presentation: At the annual GOLD Lecture that is held in conjunction with the International Electron Devices Meeting (IEDM) in December. The recipient will also be recognized at the December EDS AdCom Meeting.

Send completed package to: IEEE Operations Center, EDS Executive Office, EDS Early Career Award, 445 Hoes Lane, Piscataway, NJ 08854 USA.

For more information contact: l.riello@ieee.org or visit: http://www.ieee.org/portal/pages/society/eds/awards/early_career_award.html

TRANSACTIONS ON SEMICONDUCTOR MANUFACTURING

2008 BEST PAPER AWARD



Duane S. Boning
T-SM Editor-in-Chief

The IEEE Transactions on Semiconductor Manufacturing Best Paper Award is presented to the authors of that paper considered by the Transactions' Editorial Staff and re-

viewers to be the outstanding paper published during the year. The Award is based on the accuracy, originality, and importance of the technical concepts, as well as the quality and readability of the manuscript. The Best Paper is also based on the immediate or potential impact that this work will have on the overall semiconductor manufacturing industry.

The Editorial Staff is pleased to announce that the paper entitled "Optical Proximity Correction with Linear Regression," by Allan Gu and Avidesh Zakhor has been recognized as the best paper published in the 2008 Transactions. This paper, which appeared in the May 2008 issue, has been chosen for its contribution of methods for optical proximity correction (OPC) by which one can accelerate the refinement of mask layouts to compensate for the non-ideal optical and process effects in optical lithography. Fast linear regression techniques are proposed to predict polygon fragment movements, prior to model-based OPC. The approach is shown to reduce the number of iterations

required in model-based OPC, cutting OPC run time by approximately one-third in an example logic design. The paper is a valuable contribution and step forward in presenting methods to compensate for manufacturing process limitations, and to decrease product development time in IC design and manufacturing.



in 2007, both from the University of California, Berkeley. His research interests include signal processing, machine learning, numerical simulations, and applications to semiconductor manufacturing. He is currently an Engineer at Intel.

Allan Gu (M'07) received the B.S. degree in electrical engineering and computer science and the M.S. degree in electrical engineering,



degrees from the Massachusetts Institute of Technology, Cambridge, in 1985 and 1987, respectively, all in electrical engineering. In 1988, she joined the Faculty at the University

Avidesh Zakhor (F'01) received the B.S. degree from California Institute of Technology, Pasadena, in 1983, and the S.M. and Ph.D.

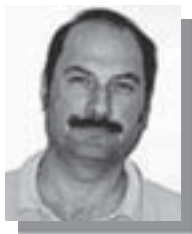
of California, Berkeley, where she is currently a Professor in the Department of Electrical Engineering and Computer Sciences. Her research interests are in the general area of image and video processing, multimedia communication, and 3-D modeling. She holds five U.S. patents and is the coauthor of the book *Oversampled A/D Converters*. She co-founded OPC Technology, in 1996, which was later purchased by Mentor Graphics, in 1998, Truvideo, in 2000, and UrbanScan, Inc., in 2005. Prof. Zakhor was a General Motors Scholar from 1982 to 1983, was a Hertz Fellow from 1984 to 1988, and received the Presidential Young Investigators (PYI) Award, and Office of Naval Research (ONR) Young Investigator Award, in 1992. From 1998 to 2001, she was an elected member of IEEE Signal Processing Board of Governors. She received the Okawa Prize in 2004. Together with her students, she has won a number of best paper awards, including the IEEE Signal Processing Society, in 1997, IEEE Circuits and Systems Society, in 1997 and 1999, International Conference on Image Processing, in 1999, and Packet Video Workshop, in 2002.

Duane S. Boning
T-SM Editor-in-Chief
Massachusetts Institute
of Technology
Cambridge, MA, USA

STATUS REPORT FROM THE 2009 EDS MASTERS STUDENT FELLOWSHIP WINNERS



Paul K.L. Yu



Agis A. Iliadis

The IEEE EDS approved the establishment of the Electron Devices Society Masters Student Fellowship Program. The Program is designed to promote, recognize, and support Masters level study and research within the Electron Devices Society's Field of Interest.

In July 2009, EDS announced the winners of the 2009 Fellowships'. The three winners were: Bin Gao, Peking University; Carlos Polanco, Pontifica Universidad Javeriana; and Nuo Xu, University of California, Berkeley. The winners are pursuing distinctly different research topics in electron devices for their Masters degrees. The following are brief progress reports provided by the award winners.



the Ph.D. program. He is continuing

Bin Gao is continuing to pursue his M.S. degree in Microelectronics at Peking University in Beijing, China, and will soon apply to

his research in the area of resistive random access memory (RRAM). Recently, he is mainly working on designing high performance metal-oxide based RRAM device. He has focused his work on reducing RRAM's programming/erasing current, and improving RRAM's uniformity, retention and scalability. Bin has published his works in IEDM 2008 (San Francisco, USA), VLSI 2009 (Kyoto, Japan) and EDL as the first author.



Carlos Polanco started his Ph.D. in Electrical Engineering at the University of Virginia in the fall of 2009. He is mainly focused on theoretic-

cal modeling of electrokinetic signal transduction devices under the supervision of Prof. Nathan Swami. Particularly, he is working on enhancing the concentration of target particles at specific zones using dielectrophoresis. Carlos is also researching on how the particles reach the zones and how the temperature changes as a consequence of the whole process.



Nuo Xu is pursuing his M.S. degree in Electrical Engineering at University of California, Berkeley. His current research

interests are focused in both design for manufacturability and device physics fields. For DFM research, Nuo is developing a fast-CAD tool to evaluate mechanical stress induced transistor variations, and using this methodology to predict 45 nm technology circuit performance. On device physics topics, he is working on a fully quantum simulation to study stress impact for scaled Planar and Multi-gate FETs. For the past few years, Nuo Xu had authored/co-authored more than 10 papers and presented at several conferences like IEEE VLSI, IEDM and SISPAD.

The IEEE EDS is proud to support Engineering Education in Electron Devices world-wide.

*Paul K.L. Yu
EDS President-Elect
University of California at San Diego
La Jolla, CA, USA*

*Agis A. Iliadis
EDS Masters Student
Fellowship Chair
University of Maryland
College Park, MD, USA*



FINAL CALL FOR NOMINATIONS 2010 IEEE EDS PhD STUDENT FELLOWSHIP

Description: One year fellowships awarded to promote, recognize, and support PhD level study and research within the Electron Devices Society's field of interest: The field of interest for EDS is 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 and signal processing.

It is expected that three fellowships will be awarded, with the intention of at least one fellowship being given to eligible students in each of the following geographical regions every year: Americas, Europe/Middle East/Africa, and Asia & Pacific. Only one candidate can win per educational institution.

Prize: US\$5,000 to the student and if necessary funds are also available to assist in covering travel and accommodation costs for each recipient to attend the IEDM for presentation of award plaque. The EDS Newsletter will feature articles about the EDS PhD Fellows and their work over the course of the next year.

Eligibility: Candidate must: be an IEEE EDS student member at the time of nomination; be pursuing a doctorate degree within the EDS field of interest on a full-time basis; and continue his/her studies at the current institution with the same faculty advisor for twelve months after receipt of award. Sponsor must be an IEEE EDS member. Previous award winners are ineligible.

Basis for Judging: Demonstration of his/her significant ability to perform independent research in the fields of electron devices and a proven history of academic excellence.

Nomination Package:

- Nominating letter by an EDS member
- Two-page (maximum) statement by the student describing his or her education and research interests, accomplishments and graduation date
- One-page biographical sketch of the student (including student's mailing address and email address)
- One copy of the student's under-graduate and graduate transcripts/grades. Please provide an explanation of the grading system if different from the A-F format.
- Two letters of recommendation from individuals familiar with the student's research and educational credentials. Letters of recommendation can not be from the nominator.

Timetable:

- Nomination packages are due at the EDS Executive Office no later than May 15, 2010
- Recipients will be notified by July 15, 2010
- Monetary awards will be given by August 15, 2010
- Formal presentation of the awards will take place at the IEDM Awards Ceremony in December 2010.
- Nomination packages can be submitted by mail, fax or e-mail, but a hard copy must be received at the EDS Office.

Send completed package to:

IEEE Operations Center
EDS Executive Office
EDS PhD Student Fellowship
445 Hoes Lane
Piscataway, NJ 08854
USA

For more information contact:

edsfellowship@ieee.org
or visit: <http://www.ieee.org/society/eds/education/fellowship.xml>

36 EDS MEMBERS ELECTED TO THE IEEE GRADE OF FELLOW EFFECTIVE 1 JANUARY 2010

Joerg Appenzeller, Birck Nanotechnology Center, West Lafayette, IN, USA
for contributions to carbon nanotube transistors and circuits

Jennifer Bernhard, University of Illinois at Urbana-Champaign, Urbana, IL, USA
for development of multifunctional, re-configurable, and integrated antennas

Sandoval Carneiro, Federal University of Rio De Janeiro, Rio De Janeiro, Brazil
for leadership in power systems research and engineering education

Amitava Chatterjee, Texas Instruments Inc., Dallas, TX, USA
for contributions to complementary metal oxide semiconductor device technology and on-chip electrostatic discharge protection

Mariesa Crow, Missouri University of Science & Technology, Rolla, MO, USA
for contributions to power engineering education and to computational methods for power system analysis

Paul Dodd, Sandia National Laboratories, Albuquerque, NM, USA
for contributions to the understanding and simulation of single-event effects in microelectronics

Long-Sheng Fan, National Tsing Hua University, San Jose, CA, USA
for contributions to Micro Electro-Mechanical Systems

Ian Ferguson, Georgia Institute of Technology, Atlanta, GA, USA
for the development of semiconductor materials and devices for infrared and ultraviolet sensor applications

Yogesh Gianchandani, University of Michigan, Ann Arbor, MI, USA

for contributions to silicon-based microactuators and on-chip microplasmas

Gennady Gildenblat, Arizona State University, Tempe, AZ, USA
for contributions to modeling of metal-oxide semiconductor field effect transistors

Charles Goldsmith, MEMtronics Corporation, Plano, TX, USA
for development of micro-electro-mechanical capacitive switches

Masashi Horiguchi, Renesas Technology Corp., Tokyo, Japan
for contributions to circuit technologies for high-density low-power memories

Dimitrios Ioannou, George Mason University, Fairfax, VA, USA
for contributions to reliability and characterization of silicon-on-insulator devices and materials

Mohammad Karim, Old Dominion University, Norfolk, VA, USA
for leadership in engineering education through creation of interdisciplinary programs

Takamaro Kikkawa, Hiroshima University, Hiroshima, Japan
for contributions to interconnect technologies for integrated circuits

Fanny Klett, Fraunhofer Institute Digital Media Technology, Ilmenau, Germany
for contributions to development and application of educational technologies

Rhee Jin Koo, Dongguk University, Seoul, Korea
for contributions to Gallium Arsenide, Microwave and Millimeter-wave Monolithic Integrated Circuits

Richard Lai, Northrop Grumman Aerospace Systems, Redondo Beach, CA, USA
for development and space-qualified insertion of millimeter-wave transistor and integrated-circuit technologies

Yusuf Leblebici, Swiss Federal Institute of Technology, Lausanne, Switzerland
for contributions to reliability and design techniques for integrated circuits and systems

Patrick Lenahan, Pennsylvania State University, University Park, PA, USA
for contributions to understanding of radiation damage and reliability of metal-oxide semiconductor devices

Chang Liu, Northwestern University, Evanston, IL, USA
for contributions to bio-inspired and polymer micro electro-mechanical systems

Rich Liu, Macronix International Co. Ltd., Hsinchu, Taiwan
for leadership in electron-beam mask writing, interconnects, and non-volatile technology development

Francisco Mena, University of Seville, Sevilla, Spain
for contributions to the analysis and physical understanding of planar structures, anisotropic media, and metamaterials

Kaizad Mistry, Intel Corporation, Hillsboro, OR, USA
for contributions to high performance complementary metal-oxide semiconductor technology and reliability

Arokia Nathan, University College London, London, UK

for contributions to thin film transistor technologies

Kwok Ng, Semiconductor Research Corp (SRC), Durham, NC, USA
for contributions to the optimization of intrinsic parasitics in metal-oxide semiconductor field-effect transistor design

Yasuhisa Omura, Kansai University, Osaka, Japan
for contributions of silicon on insulator devices technology, analysis, and modeling

Fan Ren, University of Florida, Gainesville, FL, USA
for contributions to processing technologies for compound semiconductor devices

Thomas Skotnicki, STMicroelectronics, Crolles, France

for contributions to development of metal-oxide semiconductor field effect transistor models and advanced semiconductor technologies

Jordi Sune, Universitat Autònoma de Barcelona, Barcelona, Spain
for contributions to the understanding of gate oxide failure and reliability methodology

Nobukazu Teranishi, Panasonic Corporation, Kyoto, Japan
for contribution to the development of charge-coupled device image sensors

Charles Weitzel, Mesa, AZ, USA
for contributions to compound semiconductor technology and microwave devices

Jinming (Jimmy) Xu, Brown University, Providence, RI, USA

for contributions to sensor materials and bio-nano electronics

Shumpei Yamazaki, Kanagawa, Japan
for contributions to, and leadership in the industrialization of non-volatile memory and thin film transistor technologies

Howard Yang, Montage Technology Co. Ltd., Shanghai, China
for leadership in mixed-signal integrated circuit design and manufacturing

Jian Zhao, Rutgers University, Piscataway, NJ, USA
for contributions to vertical silicon carbide devices and process technologies

Hiroshi Iwai
2009 EDS Fellows Chair
Tokyo Institute of Technology
Yokohama, Japan



CONGRATULATIONS TO THE 23 EDS MEMBERS RECENTLY ELECTED TO IEEE SENIOR MEMBER GRADE!

Jeffrey Andle
Subramaniam Arulkumaran
Gary Beane
Michael Beaver
Theodore Freeman
Laurence Gagliani
Subrata Halder
Adnan Harb

Sung Hwang
Daniele Ielmini
Karim Karim
Nazir Kherani
Thomas Kuech
Koichi Maezawa
John Marketon
Kyu Min

Anurag Mittal
Tohru Mogami
Claudia Reyes-Betanzo
Adrienne Stiff-Roberts
*Philip Beow Yew Tan
Jonathan Tucker
Mehmet Yuce

* = Individual designated EDS as nominating entity

If you have been in professional practice for 10 years, you may be eligible for Senior Membership, the highest grade of membership for which an individual can apply. New senior members receive a wood and bronze plaque and a credit certificate for up to US\$25 for a new IEEE society membership. Upon request a letter will be sent to employers, recognizing this new status. For more information on senior member status, visit <http://www.ieee.org/web/membership/senior-members/status.html>

To apply for senior member status, fill out an application at <http://www.ieee.org/organizations/rab/md/smelev.htm>

REGIONAL AND CHAPTER NEWS

USA, CANADA & LATIN AMERICA (REGIONS 1-6, 7 & 9)

ED Boise

- by Shyam Surthi

As a part of the ED Boise Chapter initiative to promote technical activities, we held two events using the IEEE Expert Now course (video format) "Challenges Near the Limit of

CMOS Scaling," by Prof. Yuan Taur of The University of California – San Diego. The attendees had an opportunity to learn about new materials/devices required for continued CMOS scaling to 10-nm regime and participated in discussions led and moderated by local experts in the field of CMOS devices.

The first event was held December 2, 2009, at Boise State University's College of Engineering. The event was moderated by Steve Groothuis of SimuTech Group, the EDS Chapter Chair for 2008–2009. The event was a great success with attendance of 57,

of which 36 were students and the rest being faculty and engineers. Of the 57 attendees, almost half were IEEE members.

The second event was held December 14, 2009, at Micron Technology, Inc., 8000 South Federal Way, Boise, Idaho. This was a joint event with co-sponsorship from Micron's Technical Leadership Program (TLP) and was moderated by David Hwang, a Distinguished Member of Technical Staff within Micron's TLP. This event was attended by 25 engineers.

IEEE provided feedback surveys for all attendees to complete after the event and judging from the response, the feedback was positive with attendees appreciating the opportunity to participate in this learning event. We hope to provide quality educational materials via IEEE programs to enhance local educational activities and further support the value of IEEE Membership for members in the Boise area. The IEEE Expert Now Courses are based on the best IEEE educational tutorials and workshops: (http://www.ieee.org/web/education/Expert_Now_IEEE/index.html).

~ Adam Conway, Editor



Attendees at the Boise State University participating in the short course, "Challenges Near the Limit of CMOS Scaling"



ED Boise Chapter Membership Chair, Shyam Surthi, introducing the IEEE Expert Now course

WOLTE 9

-by Marcelo Pavanello

The Ninth International Workshop on Low Temperature Electronics - WOLTE 9, will be held June 21–23, 2010, at the Casa Grande Hotel Resort & Spa, in the beautiful seaside city of Guarujá, in the State of Sao Paulo, located in Southeast Brazil. The aim of this workshop is to provide an international forum for discussing recent research and development results in the area of low temperature electronics and its applications including, among others: semiconductor devices at low temperatures; low and high TC superconductor

devices; cryogenic amplifiers; cryogenic MEMS and NEMS; optoelectronics at low temperatures; digital electronics at low temperatures; molecular and biogenic devices, circuits and systems.

WOLTE is a biannual international conference which evolved from the former European Workshop on Low Temperature Electronics originated 16 years ago in Grenoble, France. WOLTE 9 is being organized by Centro Universitário da FEI and the University of Sao Paulo with the technical support of the ED South Brazil Chapter. It is sponsored by The Cryogenic Society of America and MOSIS. The Workshop is planned around a single track of oral plenary sessions complemented by tutorial and poster sessions.

Additional information can be found at <http://www.fei.edu.br/wolte9>, or by contacting the General Chair: Marcelo Pavanello (pavanello@fei.edu.br).

~**Francisco J. García-Sánchez**,
Editor

EUROPE, MIDDLE EAST & AFRICA (REGION 8)

SAFE 2009

- by Jurriaan Schmitz

The Semiconductor Advances for Future Electronics (SAFE) workshop, took place in Veldhoven, The Netherlands, November 26–27, 2009, with approximately 100 researchers attending the program. This year's focus was on novel transistor and sensor technologies and renewable energy.

The SAFE workshop is technically co-sponsored by the Electron Devices Society and the ED Benelux Chapter, which donates the best poster and best flash presentation awards. During the meeting the Else Kooij Award was presented to the best young researcher in the field of semiconductor technology and IC design. The 2009 prize was won by



Dr. Hansson with the sculpture of LOCOS, commemorating Dr. Else Kooij, name giver of the prize

Dr. Andreas Hansson for his Ph.D. work on "A Composable and Predictable On-Chip Interconnect". Dr. Hansson completed his work at the Technical University of Eindhoven, under the supervision of Professors Goossens and Corporaal.

~ **Cora Salm**, Editor

ASIA & PACIFIC (REGION 10)

ED/SSC Hong Kong

- by K. P. Pun

Chapter organizes a night safari to promote environmental awareness

The ED/SSC Hong Kong Chapter and the Kadoorie Farm and Botanic Garden of Hong Kong, an organization promoting conservation of biodiversity, co-organized a Night Safari on October 31, 2009. This is part of the efforts of the Hong Kong ED/SSC Chapter to play a more important role to help bridge technology to the environment. During the event, two biologists from the farm instructed members about the wildlife in Hong Kong and South China, the impact of light pollution to wildlife and how a good street-light design could minimize the disturbance to them. With the help of modern electronic devices, members were able to trace the activities of various living, natural inhabitants such as the audio signal emitted by various types of bats and the mechanical structure of eagle wings which enables them to attack their prey without being noticed. Members also observed, in close proximity, five hedgehogs and were also amazed by the fact that some flowers, spectacted for attracting pollinators, naturally fluoresce like electron devices, absorbing and emitting light at different wavelengths. There were lively discussions between the biologists and electrical engineers on how technologies can help to preserve the wildlife, such as using directional light with LED, together with optical sensors to avoid unnecessary light pollution. All the participating members agreed



Night Safari attendees at the Kadoorie Farm and Botanic Garden of Hong Kong

that the night safari was a rewarding and interesting experience, and would encourage all other members of the Society to spread environmental awareness in our daily work/life.

ED Peking University

- by Runsheng Wang

The ED Peking University (PKU) Student Chapter recently held two distinguished lecture talks.

On November 9, 2009, Prof. Kei May Lau of Hong Kong University of Science and Technology, was invited to deliver a lecture entitled "Hetero-epitaxy of III-V Compounds on Silicon Substrates by MOCVD for Device Applications". She explained that by using metamorphic growth of III-V materials, high quality devices can be directly grown and fabricated on Si substrates, which will allow continued use of the traditional and ever improving manufacturing technologies for Si. There were about 50 attendees at the talk and afterwards Prof. Lau shared her research experience with our members and students.

On October 19, 2009, Prof. Bin Yu of the State University of New York, visited our chapter and representing the Electron Devices Society, presented the 2009 IEEE EDS Master Student Fellowship to Mr. Bin Gao, one of our chapter members. He also delivered a Distinguished Lecture entitled "Green Energy: An Overview of Solar



Prof. Bin Yu (2nd from the right) presenting the 2009 IEEE EDS Master Student Fellowship to Bin Gao, a chapter member (2nd from the left), pictured with Prof. Hong Mei, Dean of EECS at PKU (1st from the right) and Prof. Yilong Hao, Director of IME at PKU (1st from the left)

Photovoltaic Cell from Technology/Market Perspectives". He first gave an overview on solar PV from a technology perspective, including the migration of three generations and the major technology barriers. Then he discussed the market landscape, historical statistics, "PV Moore's Law", market dynamics, and projected future trends. There were about 40 attendees at the seminar. At the completion of his lecture, Prof. Yu visited two of the research groups at the Institute of Microelectronics (IME), PKU, where he enjoyed talking with some of the students and faculty members there.

ED Xian

- by Yimen Zhang

The 2009 International Conference on Electron Devices and Solid-State Circuits was successfully held at the Grand Park Hotel in Xian, China, November 25-27, 2009. The conference was jointly sponsored by the IEEE ED Xian Chapter, the IEEE ED/SSC Hong Kong Chapter, the Shaanxi IC Industry Association and Xidian University. It attracted more than 150 attendees from over 15 countries.

During the 3-day event, two key note talks, 11 invited papers and 135 technical papers were presented. The first keynote talk entitled, "The Complete Semiconductor Transistor," was delivered by Prof. Chih-Tang Sah, who has pioneered the work in device physics. The second keynote talk entitled, "The Future Development of Mixed Signal IC in Nanotechnology," was presented by Dr. Byeong-Ha Park from Korea, Vice President of Samsung. The keynote talks provided a good review on the history of the transistor and the most recent developments of advanced applications. These topics attracted significant interest from the audience. In the regular sessions, the conference covered more than 20 interesting technical areas, including Nano Devices, Carbon Nanotube and Nanofiber Devices, Thin Gate Dielectrics, Wide Band-gap Semiconductor



Prof. Kei May Lau (3rd from the left, 1st row) pictured with Prof. Ru Huang, Chapter Advisor (4th from the left), Runsheng Wang, ED PKU Chapter Chair (5th from the left, back row) and some of the chapter members who attended the talk



Opening Ceremony Address given by Prof. J. J. Liou, EDS Vice-President of Regions/Chapters



Audience at the Plenary talks of EDSSC 2009



The winners of the 9th MFSK Award and "The Chapter of the Year" at the 9th Kansai Colloquium Electron Devices Workshop: Dr. Suzuki (left), Dr. Sasaki (right) and the Chairperson Prof. Omura (center)

Devices, RF Integrated Circuits, Compound Semiconductor Devices Digital and Analog IC, System on Chip, Strained SiGe Materials-Semiconductor Memory, Wireless Communication Circuits, Data Processing IC, High Voltage Circuit, Power Management Circuits, Semiconductor Sensors, Optical Devices, MEMS and so on.

This was the first major event held by the ED Xian Chapter and the experience earned during the organization of the conference will enable the chapter to host even larger scale events in the future. In addition to all the presenters who contributed to the success of the conference, the Xian Chapter would like to acknowledge the support of the Xian IC industrial Center and the School of Microelectronics of Xidian University for organizing the activity.

~ Mansun Chan, Editor

ED Kansai

- by Michinori Nishihara

The 9th Kansai Colloquium Electron

Devices Workshop was successfully held at Kansai University Centenary Memorial Hall, Osaka, Japan, October 22, 2009, with 44 participants.

In this workshop, 14 excellent papers, whose authors were from the Kansai area, were specially selected from major conferences such as the IEDM and technical papers on electron devices published during the past 12 months. The original authors presented the papers. The program was divided into four sections, (1) CMOS Device, Process, Circuit, (2) Display, Sensor, Emerging, (3) Compound, Quantum, and (4) Modeling, Reliability.

The Award Committee selected one paper from student presenters for the 9th IEEE EDS Kansai Chapter MSFK (Message From Spirited Kansai) Award and the winner was Dr. Ayuta Suzuki, for his paper titled "Molecular Dynamics Simulations of Low-k SiO₂ CH film etching by fluorocarbon plasmas." The committee also selected one paper for the IEEE EDS Kansai Chapter of the

Year Award. The winning paper by Dr. Yuichiro Sasaki was entitled "Conformal Doping for FinFETs and Precise Controllable Shallow Doping for Planar FET Manufacturing by a Novel B₂H₆/Helium Self-Regulatory Plasma Doping Process." All the presented papers were excellent and inspired many questions and discussions, given that they were selected from already qualified papers in major conferences and technical journals.

This workshop is playing a very important role by encouraging student and young engineers in the industry to extend their technical work and career.

ED Korea

- by Jong-Ho Lee

The ED Korea Chapter hosted two EDS Distinguished Lectures during the last months of 2009. Both events were held at the School of EECS, Seoul National University, Seoul, Korea.

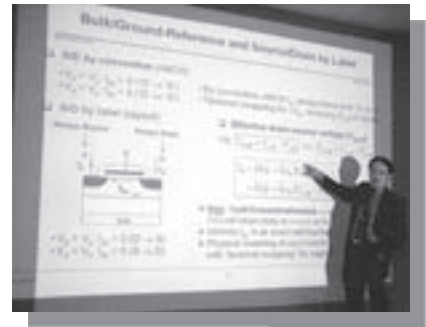
The first lecture in November, by Prof. Albert Chin from the National Chiao-Tung University, Taiwan, was entitled "High-k dielectric and metal-gate application for logic and memory devices." Prof. Chin's talk had approximately 20 participants and was very useful for the attendees to understand the physical properties of various high-k dielectrics in the MIM capacitor, CMOS devices, and non-volatile memory devices.



Participants at the Kansai Colloquium Electron Devices Workshop, October 22, 2009



Prof. Albert Chin (9th from left), pictured with participants of his Distinguished Lecture in November



Dr. Zhou delivering his EDS Distinguished Lecture at the ED/MTT/SSC Penang Chapter



Prof. Juin J. Liou (8th from right), pictured with participants after his Distinguished Lecture in December

Prof. Juin J. Liou from the University of Central Florida, Orlando, delivered an EDS Distinguished Lecture on "Electrostatic Discharge (ESD) Challenges in Silicon Nanowire Technology," on December 18th. His DL attracted more than 20 attendees who listened to Prof. Liou giving an overview on ESD sources, models, protection schemes, and testing, followed by the investigation of ESD robustness of the advanced Si nanowire devices. After Prof. Liou's talk, the chapter held a

meeting to plan for the 2011 IPFA (International Symposium on the Physical and Failure Analysis of Integrated Circuits), which is scheduled to be held in Korea.

~ Kazuo Tsutsui, Editor

ED/MTT/SSC Penang

- by Yut H. Chow

The chapter was delighted to welcome Dr. Xing Zhou, an EDS Distinguished Lecturer. This was Dr. Zhou's first visit to the chapter, as Chair of the EDS Subcommittee for Regions/

Chapters – Asia & Pacific.

Dr. Zhou's lecture was held on December 22, 2009 and began with an introduction to the IEEE ED Society and its chapters around the world. He encouraged non-IEEE members in attendance to join the organization. His lecture entitled "Unification of MOS Compact Models with the Unified Regional Modeling Approach", described the difficulties with generating a model that was universal, for various types of CMOS devices used in different applications and valid for all regions of operation. Dr. Zhou described the modeling philosophy and methodology used for the Xsim compact model creation, which is based on unified regional surface-potential solutions for generic double-gate (including SOI and nanowire) MOSFETs with common/independent-gate biasing and with/without body contact. Dr. Zhou explained that a particularly attractive feature is the unified framework, within which new and emerging devices can be accommodated with the same model formulation.

The lecture attracted 27 attendees; most of them from industries in the Penang Free Industrial Zone multinational corporations. The chapter would like to thank Dr. Zhou for making the effort to deliver the EDS Distinguished Lecture, and the IEEE EDS SRC-AP for sponsoring this event.

REL/CPMT/ED Singapore

- by Kin-Leong Pey

The Chapter organized a series of talks over the past three months.



Lecture attendees with Dr. Xing Zhou (5th from left, 1st row)

The first two lectures were held on October 6th at Nanyang Technological University and three on December 7th, at the National University of Singapore:

- Dr. Steven H. Voldman, Intersil Corporation, USA, and EDS Distinguished Lecturer, "Latchup in Semiconductor Components and Systems"
- Prof. J. J. Liou, University of Central Florida and EDS Distinguished Lecturer, "Compact Modeling of Silicon Controlled Rectifier for Electrostatic Discharge Computer-Aided Design Applications"
- Mr. Jan de Vreugd, Delft University of Technology, Netherlands, "Determination of Mechanical Properties of Molding Compound"
- Mr. Gerd Schlottig, Infineon Technologies AG, Delft University of Technology and Fraunhofer Institute, "Delamination of the Si-EMC interface: Why and How?"
- Mr. An Xiao, Delft University of Technology, Netherlands, "Temperature Moisture and Mode Mixity Dependent Interfacial Toughness of EMC-Copper (Oxide) Interfaces for Semiconductor Applications".

The Singapore Chapter also hosted EPTC 2009, 11th Electronics Packaging Technology Conference, December 9–11, 2009 at the Shangri-La Hotel, Singapore. This



Prof. J. J. Liou (5th from the right) with some participants of his DL on October 16, 2009

premier international conference is jointly sponsored by the IEEE CPMT Society and the Singapore Exhibition and Convention Bureau. The 3-day event featured Keynote Addresses, Executive Forum, Short Courses, Workshops, Exhibitions, Technical Sessions and Social Networking activities. A total of 173 papers were selected for oral presentations and 21 papers selected for poster presentations. These papers covered a wide spectrum of topics including Advanced Packaging Technology, Material & Processes, Electrical Simulation & Signal Integrity, Mechanical Simulation & Structural Integrity, Interconnect Technology, Quality & Reliability and Emerging Technology. In spite of the slowdown in business activities, there were over 350 delegates from 25 countries, 41 universities, 15 research institutes and 34 corporations at the conference.

Professor Rao Tumalla of Georgia Institute of Technology and Professor Fujio Masuoka of Unisant's Electronics, delivered keynote addresses at the opening of the conference. EPTC 2009 was honored to have Dr. William Chen, President of the IEEE CPMT Society, to organize and chair the Executive Forum entitled "Electronics & Semiconductor Leading the Economic Recovery". The forum speakers were from KPMG, Texas Instruments, Fraunhofer Institutes and ASE. Dr. Charles Bauer of Tech Lead, chaired a workshop on "Challenges and Opportunities of 3D Packaging". The conference also held 4 well attended short courses led by industrial and academic experts. This year the table-top exhibition consisted of 11 companies who shared and promoted their services and products at EPTC 2009.

~ Xing Zhou, Editor

INTEL INTERNATIONAL SCIENCE AND ENGINEERING FAIR (INTEL ISEF) 2010

The Intel ISEF 2010 will bring together the world's most creative, intelligent and resourceful high school students from around the US and over 50 other countries to compete for over \$3 million in awards and scholarships. This science and engineering fair showcases cutting-edge projects and provides participants with a unique opportunity to network with fellow students and fair volunteers from academia, industry, and governmental organizations.

Learn more about how to become involved in the Intel ISEF 2010 as a judge, a volunteer, or a sponsor by visiting the website www.isef2010sanjose.org.



EDS MEETINGS CALENDAR

(As of 15 March 2010)

THE COMPLETE EDS CALENDAR CAN BE FOUND AT OUR WEB SITE:
[HTTP://WWW.IEEE.ORG/SOCIETY/EDS/MEETINGS/MEETINGS_CALENDAR.XML](http://www.ieee.org/society/eds/meetings/meetings_calendar.xml). PLEASE VISIT!

May 2 - 6, 2010, * **IEEE International Reliability Physics Symposium**, Location: Hyatt Regency Orange County, Anaheim, CA, USA, Contact: David Barber, E-Mail: dbarbsta@aol.com, Deadline: 10/9/09, www: <http://www.irps.org>

May 8 - 11, 2010, T, **International Conference on Microwave and Millimeter Wave Technology**, Location: TBD, Chengdu, China, Contact: Bingzhong Wang, E-Mail: bzh-wang@uestc.edu.cn Deadline: 1/10/10 www: <http://www.mws-cie.org/icmmt2010/index.php>

May 10 - 13, 2010, T, **International Electrostatic Discharge Workshop**, Location: Castle of Tutzing, Tutzing, Germany, Contact: Lisa Pimpinella, E-Mail: lpimpinella@esda.org, Deadline: 11/20/09, www: <http://www.esda.org/iew.htm>

May 10 - 11, 2010, T, **International Workshop on Junction Technology**, Location: FuXuan Hotel at Fudan University, Shanghai, China, Contact: Yu-Long Jiang, E-Mail: yljjiang@fudan.edu.cn, Deadline: 1/15/10, www: <http://www.iwj2010.com>

May 13 - 14, 2010, T, **IEEE International Meeting for Future of Electron Devices**, Location: Kansai, Location: Kansai University Centenary Memorial Hall, Takatsuki, Japan, Contact: Yasuo Inoue, E-Mail: inoue.yasuo@renesas.com, Deadline: 2/3/10, www: <http://www.imfedk.org/>

May 16 - 19, 2010, * **International Conference on Microelectronics**, Location: University of Nis, Nis, Serbia, Contact: Ninoslav Stojadinovic, E-Mail: ninoslav.stojadinovic@elfak.ni.ac.rs, Deadline: 10/16/09, www: <http://miel.elfak.ni.ac.rs/>

May 16 - 19, 2010, * **IEEE International Memory Workshop**, Location: The Shilla, Seoul, Seoul, Korea, Contact: Jungdal Choi, E-Mail: jdchoi@samsung.com, Deadline: 1/20/10, www: <http://www.ewh.ieee.org/soc/eds/imw/>

May 18 - 20, 2010, @ **IEEE International Vacuum Electronics Conference**, Location: The Portola Plaza Hotel in Monterey, Monterey, CA, USA, Contact: Ralph Nadell, E-Mail: rnadell@pcm411.com, Deadline: 1/15/10, www: <http://www.ivec2010.org>

May 23 - 25, 2010, T, **IEEE Radio Frequency Integrated Circuits Symposium**, Location: Anaheim Convention Center, Anaheim, CA, USA, Contact: Yann Deval, E-Mail: yann.deval@ieee.org, Deadline: 1/5/10, www: <http://www.rfic2010.org>

May 23 - 27, 2010, T, **IEEE International Power Modulator and High Voltage Conference**, Location: Atlanta, GA, USA, Contact: Frank Hegeler, E-Mail: frank.hegeler@nrl.navy.mil, Deadline: 1/31/2010, www: <http://www.eng.auburn.edu/pmhc2010/index.html>

May 31 - June 4, 2010, @ **IEEE International Conference on Indium Phosphide and Related Materials**, Location: Takamatsu Symbol Tower, Kagawa, Japan, Contact: Takatomo Enoki, E-Mail: tenoki@aetl.ntt.co.jp, Deadline: 12/31/2009, www: <http://www.iprm.jp/>

June 6 - 9, 2010, * **IEEE International Interconnect Technology Conference**, Location: Hyatt Regency at San Francisco Airport, Burlingame, CA, USA, Contact: Wendy Walker, E-Mail: wendyw@widerkehr.com, Deadline: 2/1/10, www: <http://www.his.com/~iitc/>

June 6 - 10, 2010, @ **International Symposium on Power Semiconductor Devices & Integrated Circuits**, Location: International Conference Center Hiroshima, Hiroshima, Japan, Contact: Tomoyuki Yamazaki, E-Mail: yamazaki-tomoyuki@fujielectric.co.jp, Deadline: 10/30/09, www: <http://www.ipsd2010.com>

June 13 - 14, 2010, @ **IEEE Silicon Nanoelectronics Workshop**, Location: Hilton Hawaiian Village, Honolulu, HI, USA, Contact: Stephen Goodnick, E-Mail: stephen.goodnick@asu.edu, Deadline: 3/17/10, www: <http://www-device.eecs.berkeley.edu/snw/>

June 14 - 16, 2010, T, **International Conference on Microwaves, Radar and Wireless Communication**, Location: Reval Hotel Lietuva, Vilnius, Lithuania, Contact: Borisas Levitas, E-Mail: levitas@ieee.org, Deadline: 1/17/10, www: <http://www.mikon-2010.lt>

June 15 - 17, 2010, @ **IEEE Symposium on VLSI Technology**, Location: Hilton Hawaiian Village, Honolulu, HI, USA, Contact: Phyllis Mahoney, E-Mail: phyllism@widerkehr.com, Deadline: 1/1/10, www: <http://www.vlssymposium.org/index.html>

June 16 - 18, 2010, T, **IEEE Symposium on VLSI Circuits**, Location: Hilton Hawaiian Village, Honolulu, HI, USA, Contact: Phyllis Mahoney, E-Mail: phyllism@widerkehr.com, Deadline: 1/25/10 www: www.vlssymposium.org

June 20 - 25, 2010, * **IEEE Photovoltaic Specialists Conference**, Location: Hawaiian Convention Center, Honolulu, HI, USA, Contact: Americo Forestieri, E-Mail: pvsc@wowway.com, Deadline: 2/15/10, www: <http://www.ieee-pvsc.org/PVSC35/>

June 21 - 23, 2010, T, **Device Research Conference**, Location: University of Notre Dame, Notre Dame, IN, USA, Contact: Patrick Faye, E-Mail: pfay@nd.edu, Deadline: 3/1/10, www: <http://www.deviceresearchconference.org>

June 21 - 23, 2010, T, **International Workshop on Low Temperature Electronics**, Location: Casa Grande Hotel Resort & Spa, Guarujá, Brazil, Contact: Marcello Antonio Pavanello, E-Mail: pavanello@fei.edu.br, Deadline: 3/5/10, www: <http://www.fei.edu.br/wolte9>

June 24 - 26, 2010, T, **International MIXDES Conference**, Location: Hotel Orbis Wroclaw, Wroclaw, Poland, Contact: Mariusz Orlikowski, E-Mail: mariusz@dmcs.p.lodz.pl, Deadline: 2/28/10, www: <http://www.mixdes.org>

June 28 - July 1, 2010, T, **University/Government/Industry Microelectronics Symposium**, Location: Purdue University, Purdue, IN, USA, Contact: Mary Jo Totten, E-Mail: tottenm@purdue.edu, Deadline: 2/15/2010, www: <http://www.purdue.edu/discoverypark/Nanotechnology/UGIM/>

July 5 - 9, 2010, T, **American Electromagnetics Conference**, Location: Fairmont Chateau Laurier, Ottawa, Canada, Contact: Shelly Girardin, E-Mail: shelly@ee.umanitoba.ca, Deadline: 1/5/10, www: http://antem.ee.umanitoba.ca/antem_amerem2010

July 5 - 9, 2010, T, **IEEE International Symposium on the Physical and Failure Analysis of Integrated Circuits**, Location: Suntec Singapore Int'l Convention & Exhibit. Ctr., Singapore, Singapore, Contact: Jasmine Leong, E-Mail: ipfa@pacific.net.sg, Deadline: 1/18/10, www: <http://ewh.ieee.org/reg/10/ipfa>

July 11 - 13, 2010, * **IEEE/SEMI Advanced Semiconductor Manufacturing Conference**, Location: San Francisco Marriott, San Francisco, CA, USA, Contact: Margaret Kindling, E-Mail: mkindling@semi.org, Deadline: 2/2/10, www: <http://www.semi.org/asmc2010>

August 3 - 5, 2010, T, **Lester Eastman Biennial Conference on High Performance Devices**, Location: Rensselaer Polytechnic Institute (RPI), Troy, NY, USA, Contact: Greg DeSalvo, E-Mail: Greg.DeSalvo@NGC.com, Deadline: 5/25/10, www: <http://www.ecse.rpi.edu/conf/LEC2010/>

August 18 - 20, 2010, T, **International Symposium on Low-Power Electronics and Design**, Location: TBD, Austin, TX, USA, Contact: Vojin Oklobdzija, E-Mail: voj@ieee.org, Deadline: 3/5/2010, www: <http://www.islpd.org>

August 25 - 27, 2010, T, **Mediterranean Microwave Symposium**, Location: Middle East Technical Univ-Northern Cyprus Campus, Guzelyurt, Turkey, Contact: Mohammed Essaaidi, E-Mail: m.essaaidi@ieee.ma, Deadline: 5/16/10, www: <http://www.mms.ncc.metu.edu.tr/>

September 6 - 8, 2010, T, **International Conference on Simulation of Semiconductor Processes and Devices**, Location: Royal Hotel Carlton, Bologna, Italy, Contact: Rita Mambelli, E-Mail: rmambelli@arces.unibo.it, Deadline: 3/6/10 www: <http://sispad2010.arces.unibo.it>

September 6 - 9, 2010, T, **Symposium on Microelectronics Technology & Devices**, Location: TBD, Sao Paulo, Brazil, Contact: João Antônio Martino, E-Mail: martino@lsi.usp.br, Deadline: 3/19/10, www: <http://www.sbmicro.org.br/sbmicro>

September 6 - 10, 2010, @ **IEEE World Conference on Photovoltaic Energy Conversion**, Location: Feria Valencia, Valencia, Spain, Contact: Americo Forestieri, E-Mail: pvsc@wowway.com, Deadline: 1/30/10, www: <http://www.wcpec.org>

September 13 - 16, 2010, T, **European Solid-State Device Research Conference**, Location: Hotel Barcelo Renacimiento, Sevilla, Spain, Contact: Angel Rodríguez-Vázquez, E-Mail: angel@imse-cnm.csic.es, Deadline: 4/10/10, www: <http://www.essdrc2010.org>

September 13 - 17, 2010, T, **International Crimean Microwave Conference "Microwave & Telecommunication Technology"**, Location: Sevastopol National Technical University, Sevastopol, Ukraine, Contact: Sergey Smolskiy, E-Mail: smolskiysm@gmail.com, Deadline: 5/20/10, www: <http://www.crimico.org/en/>

September 19 - 21, 2010, T, **IEEE Conference on Intelligent Transportation Systems (ITSC)**, Location: Tivoli Ocean Park Hotel, Madeira Island, Portugal, Contact: ITSC 2010 Sec-

retariat, E-Mail: itsc2010@isr.uc.pt, Deadline: 3/15/10, www: <http://itsc2010.isr.uc.pt>

September 19 - 22, 2010, T, **IEEE Custom Integrated Circuits Conference**, Location: Double Tree Hotel, San Jose, CA, USA, Contact: Melissa Widerkehr, E-Mail: melissaw@widerkehr.com, Deadline: Not Available, www: <http://www.ieee-cicc.org>

September 20 - 24, 2010, T, **International Conference on Electromagnetics in Advanced Applications**, Location: SMC Conference and Function Centre, Sydney, Australia, Contact: Roberto Graglia, E-Mail: roberto.graglia@polito.it, Deadline: 2/26/10, www: <http://www.iceaa-offshore.org/>

September 22-24, 2010, T, **10th International Scientific-Technical Conference on Actual Problems of Electronic Instrument Engineering**, Location: Novosibirsk State Technical University, Novosibirsk, Russia, Contact: Alexander V. Gridchin, E-mail: ieenensk@yandex.ru, Deadline: 05/15/2010, www: <http://www.nstu.ru/apie>

September 22 - 24, 2010, T, **International Conference on Solid-State Devices and Materials**, Location: The Tokyo University, Tokyo, Japan, Contact: Shoji Tajima, E-Mail: ssdm_secretariat@intergroup.co.jp, Deadline: 5/7/10, www: <http://www.ssdm.jp>

September 27 - 28, 2010, T, **IEEE European Microwave Integrated Circuits Conference**, Location: CNIT, Paris, France, Contact: Gilles Dambrine, E-Mail: gilles.dambrine@iemn.univ-lille1.fr, Deadline: 2/7/10, www: <http://eumw2010.iemn.univ-lille1.fr/>

September 27 - 30, 2010, T, **IEEE International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory**, Location: Tbilisi State University, Tbilisi, Georgia, Contact: Mykhalyo Andriychuk, E-Mail: andr@iapmm.lviv.ua, Deadline: 8/1/10, www: <http://ewh.ieee.org/r8/ukraine/georgian/DIPED/>

September 28 - October 1, 2010, T **International Conference on Advanced Thermal Processing of Semiconductors**, Location: Hilton University of Florida Conference Center, Gainesville, FL, USA, Contact: Bo Lojek, E-Mail: blojek@atmel.com, Deadline: 5/31/10, www: <http://www.ieee-rtp.org/>

October 3 - 8, 2010, T **Electrical Overstress/Electrostatic Discharge Symposium**, Location: John Ascuaga Nugget Hotel, Reno, NV, USA, Contact: Lisa Pimpinella, E-Mail: lpimpinella@esda.org, Deadline: 1/29/10, www: <http://www.esda.org/>

October 3 - 6, 2010, * **IEEE Compound Semiconductor IC Symposium**, Location: Portola Hotel, Monterey Convention Center, Monterey, CA, USA, Contact: Lisa Boyd, E-Mail: l.boyd@ieee.org, Deadline: 5/7/10, www: <http://www.csics.org/>

October 4 - 6, 2010, * **IEEE Bipolar/BiCMOS Circuits and Technology Meeting**, Location: Radisson Hotel & Suites, Minneapolis, MN, USA, Contact: Janice Jopke, E-Mail: ccsevents@comcast.net, Deadline: 5/3/10, www: <http://www.ieee-bctm.org/>

October 7, 2010, T, **Workshop on Compact Modeling for RF/Microwave Applications**, Location: Radisson Austin Hotel, Austin, TX, USA, Contact: Ramses Van Der Toorn, E-Mail: ramses.van.der.toorn@ieee.org, Deadline: 5/3/10, www: <http://cmrf.ewi.tudelft.nl>

October 11 - 15, 2010, T, **European Symposium on Reliability of Electron Devices, Failure Physics and Analysis**, Location: Summit Hotel, Gaeta, Italy, Contact: Giovanni Busatto, E-Mail: busatto@unicas.it, Deadline: 3/14/10, www: <http://www.esref2010.unicas.it>

October 11 - 13, 2010, * **International Semiconductor Conference**, Location: Hotel Sinaia, Sinaia, Romania, Contact: Cristina Buiiculescu, E-Mail: cas@imt.ro, Deadline: 6/1/10, www: <http://www.imt.ro/cas/>

October 12 - 15, 2010, T, **IEEE Nanotechnology Materials and Device Conference**, Location: The Clement Monterey, Monterey, CA, USA, Contact: Xiaoping Yun, E-Mail: yun@ieee.org, Deadline: 6/15/10, www: Not Available

October 11-14, 2010, * **IEEE International SOI Conference**, Location: Catamaran Resort & Spa, San Diego, CA, USA, Contact: Bobbi Armbruster, E-Mail: bobbi@bacmnc.com, Deadline: 05/14/2010, www: <http://www.soiconference.org/>

October 25-27, 2010, T, **8th International Conference on Advanced Semiconductor Devices & Microsystems**, Location: Smolenice Castle, Smolenice, Slovakia, Contact: ASDAM 2010, E-mail: asdam@asdam.stuba.sk, Deadline: 05/15/2010, www: <http://www.kme.elf.stuba.sk/asdam/index.php>

November 25-26, 2010, T, **International Electron Devices and Materials Symposium**, Location: National Central University, Jhongli, Taiwan, Contact: Jin-Wei Shi, E-mail: jwshi@ee.ncu.edu.tw, Deadline: 07/15/2010, www: <http://www.iedms2010.ee.ncu.edu.tw>

December 19-22, 2010, T, **International Conference on Microelectronics**, Location: Sofitel El Gezira, Cairo, Egypt, Contact: Mohab Anis, E-mail: manis@vlsi.uwaterloo.ca, Deadline: 06/14/2010, www: <http://www.ieee-icm.com>

May 22-26, 2011, * **IEEE International Symposium on Power Semiconductor Devices & Integrated Circuits**, Location: Paradise Point Resort & Spa, San Diego, CA, USA, Contact: Mohamed Darwish, E-mail: mdarwish@maxpowersemi.com, Deadline: 10/25/2010, www: <http://www.ispsd2011.com/>

2009 EDS CHAPTER OF THE YEAR AWARD

The EDS Chapter of the Year Award is presented annually to recognize an EDS Chapter for the quality and quantity of the activities and programs implemented during the prior July–June period.

On December 7, 2009, at the IEEE International Electron Devices Meeting (IEDM) held in Baltimore, Maryland, the ED/AES/AP/EMB/GRS/MTT/NPS East Ukraine Chapter received the EDS Chapter of the Year Award, which included a certificate and check for \$1,000. The award was received by Oksana Shramkova, Chapter Chair.

The East Ukraine Chapter has been very active to stimulate the growth of the Society and to increase the membership value. In the past year, the Chapter sponsored and held 4 conferences/workshops, 1 mini-colloquium consisting of 33 talks



Oksana Shramkova, East Ukraine Chapter Chair, accepting award from Cor Claeys, EDS President

and 14 technical meetings. I want to congratulate the Chapter for providing the exemplary contributions and enhanced values to the members of the Electron Devices Society.

*Juin J. Liou
EDS Vice-President of
Regions/Chapters
University of Central Florida
Orlando, FL, USA*