IEEE
ELECTRON DEVICES SOCIETY
Newsletter

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EDS Announces Two Celebrated Members in 2012

The EDS Celebrated member award recognizes our most venerated alumni. Those of us in EDS can take pride in the accomplishments of our Celebrated Members and draw from them inspiration to achieve more because it is not only their work, but ours as well, that can help transform the world around us. For 2012, we are fortunate to announce two new Celebrated Members: **Prof. Chihtang Sah** who was recognized at the Semiconductor IEEE Interface Specialists Conference in San Diego on December 7th; and Nobel Laureate **Prof. Leo Esaki** who was recognized at the IEEE International Electron Devices Meeting on December 10th.

Look for expanded coverage of new Celebrated Members on the EDS Website and in the April edition of the EDS Newsletter.

2013 IEEE Conference on Electron Devices and Solid State Circuits (EDSSC)

The Hong Kong Polytechnic University

The IEEE International Conference on Electron Devices and Solid-State Circuits (EDSSC), first initiated by the IEEE ED/SSC Hong Kong Chapter in 2003, has been a series of very successful conferences. It provides a stimulating environment for experts and academics to disseminate research and development results in the broad field of Electron Devices and Solid-State Circuits.

In recent years, the conference has been held in various cities in Asia such as Tainan, Xian, Tianjin and Bangkok while returning back to Hong Kong in alternate years. We are pleased to announce that the 9th EDSSC will be held at The Hong Kong Polytechnic University (PolyU) in Hong Kong, China, June 3–5, 2013.

Professor Philip Chan (The Hong Kong Polytechnic University), Professor J.J. Liou (University of Central Florida) and Professor

(continued on page 5)

Your Comments Solicited

Your comments are most welcome. Please write directly to the Editor-in-Chief of the Newsletter at ninoslav.stojadinovic@elfak.ni.ac.rs.

IEEE

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 http://eds.ieee.org/eds-newsletters.html. The archive contains issues from July 1994 to the present.

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Upcoming Technical Meetings

2013 IEEE International Reliability Physics Symposium (IRPS)

The IEEE International Reliability Physics Symposium (IRPS) is the world's premier forum for leading-edge research addressing developments in the Reliability Physics of devices, materials, circuits, and products. IRPS is the conference where **emerging Reliability Physics challenges** and possible solutions to achieve realistic End-of-Life projections are first discussed. This year, the IRPS will be held at Hyatt Regency Monterey Resort & Spa in Monterey, California, USA. Scheduled for April 16–18, 2013, the IRPS will commence with two full days of tutorials and year-in-review on Sunday, April 14th and Monday, April 15th.

The IRPS draws presentations and attendees from industry, academia and governmental agencies worldwide. No other meeting presents as much leading work in so many different areas of reliability of electronic devices, encompassing silicon device, non-silicon device, process technology, nanotechnology, optoelectronics, photovoltaic and MEMS technology.

For the IRPS 2013, we are emphasizing **Reliability Compact Modeling** and **Circuit Simulation** with sub-topics such as methodologies for reliability simulation, reliability simulator calibration and checkers. We are also emphasizing **Electronic Systems reliability** comprehending complex applications such as automotive, space, communications, medical, screening techniques and system monitoring.

IRPS 2013 will also feature increased participation in the fields of Advanced CMOS scaling, GaN, new materials introduction, new processes or integration strategies, and/or fundamentally new device architectures. The conference will offer a full slate of tutorials, evening panel debates and workshops, invited plenary talks in addition to an **outstanding technical program**.

SRIKANTH KRISHNAN

Monterey's coast line offers wonderful views and panoramas…just a few minutes away from the Conference Center

The hotel is located in Monterey's downtown which is one of the more beautiful coastal cities of California. Today, Montery is most commonly known for its beautiful coastline, its world-class aquarium and from the many John Steinbeck novels that used the town as their setting including Cannery Row and Tortilla Flat.

IRPS consists of three days (Tues–Thurs, April 16–18) of plenary and parallel technical sessions presenting original, state-of-the-art work.

Other opportunities at the symposium include:

- Two-Day **Tutorial Program** (Sunday–Monday April 14–15). The IRPS tutorial program is a comprehensive two-day event designed to help both the new engineer and experienced researcher. The tutorial program contains both beginner and expert tracks, and is broken down into topic areas that allow the attendee to participate in tutorials relevant to their work with minimum conflicts between subject areas.
- **Year in Review** Session (Monday April 15). These seminars provide a summary of the most significant developments in the reliability community over the past year. This serves as a convenient, single source of information for attendees to keep current with the recent reliability literature. Industry experts serve as the "tour guide" and save you time by collecting and summarizing this information to bring you up to date in a particular area as efficiently as possible.
- Evening **Poster Session**. The poster session will provide an additional opportunity for authors to present their original research. The setting is informal and allows for easy discussion between authors and other attendees.
- Evening Session **Workshops**. These workshops enhance the symposium by providing the attendees an opportunity to meet in informal groups to discuss key

SRIKANTH KRISHNAN

The 2013 IRPS Poster session is going to be held off-site at the Chateau Julien wine estate in Carmel Valley

reliability physics topics with the guidance of experienced moderators. Some of the workshop topics are directly coupled to the technical program to provide a venue for more discussion on the topic.

- **Vendor Exhibits**. Held in parallel with the technical sessions, the equipment demonstrations provide a forum for manufacturers of state-of-the-art laboratory equipment to present their products. Attendees are encouraged to visit the manufacturers' booths for information and demonstrations.
- **IRPS Paper Awards**. IRPS bestows awards for Best Paper, Outstanding Paper, Best Poster and Best Student Talk. The Best Paper author is typically invited to present the paper at ESREF in October.
- As part of our emphasis on Reliability Compact Modeling and Circuit Simulation, we have arranged with the **Compact Modeling Council** to co-locate their quarterly standards meeting (on April 18,19) along with us in Monterey for the first time ever. This will better enable IRPS participation by the CMC's compact modeling and circuit simulation experts, facilitating greater interaction between them and Reliability experts.

For registration and other information, visit the IRPS 2013 home page at http://www.irps.org/. The IRPS committee members look forward to seeing you in April.

Vincent Huard
2013 IRPS Publicity Chair
STMicroelectronics

Srikanth Krishnan
2013 IRPS General Chair
Texas Instruments

2013 International Conference on Microelectronic Test Structures (ICMTS)

The 26th International Conference on Microelectronic Test Structures (ICMTS) will be held at Osaka University Nakanoshima Center, Osaka, Japan, bringing together designers and users of test structures to discuss recent developments and future directions. The conference will be held on March 26–28, 2013, preceded by a one-day Tutorial Short Course on Microelectronic Test Structures on March 25th. The conference will be held in cooperation with the Institute of Electronics, Information and Communication Engineers, and the Japan Society of Applied Physics and will be sponsored by the IEEE Electron Devices Society, and the Association for Promotion of Electrical, Electronic and Information Engineering.

The ICMTS 2013 will consist of 42 papers in 10 oral sessions and there will be an equipment exhibition relating to test structure measurements.

A test structure is key characterization vehicle for process development, device development, circuit design and its production and its importance is increasing. ICMTS has brought engineers and researchers together to discuss recent developments and future directions of test structure research over the past two decades. Topics of ICMTS have been expanded as semiconductor technologies and application advance.

Osaka Castle

The topics to be covered by the technical program of the conference include:

Material and Process Characterization: Evaluation of high-k gate dielectrics, resistivity, mobility, stress, contact resistance, and interconnect measurements.

Manufacturing of Integrated Circuits and MEMS: Evaluation of individual and groups of integrated circuits, device and MEMS process steps and elements: transistors, diodes, mechanical structures, device isolation, memory cells and interconnect. Assessment of MMICs, RF components, 3D integration, and multi chip packages.

MEMS and NEMS: Test structures and methods for evaluating electromechanical devices, such as actuators, sensors, and switches devices, and for evaluating nanosize and unique device such as carbon nanotube transistor.

TSV technology for 3 D structure: Test structure for evaluating of TSV process and layout dependence of electrical characteristics.

Large Area Electronics and Emerging Devices: Test structures for evaluating displays, printed / flexible devices, power devices, photovoltaics, as well as emerging devices, such as organic / oxide-based / biomolecular / spintronic devices, ReRAMs, nanostructures, and related materials.

Device and Circuit Modeling, Parameter Extraction: Model parameter extraction, RF device modeling, de-embedding, pulsed measurements, DC / AC / high frequency measurement techniques, and applications.

Compact model for design: Development of compact model for new device and phenomenon such as organic device and variability of MOSFET characteristics.

Noise characterization: Test structure and methods for characterization and modeling of flicker noise, random telegraph noise, and thermal noise of MOSFET.

Reliability Test Structures: Test structures and methods for transistor / thin film / dielectric / interconnect reliability evaluation, quality assurance, thermal monitoring and analysis, accelerated wafer level tests, wafer level burn-in, and reliability prediction.

Matching and Variability Test Structures: Test structure and methods for mismatch / variability characterization and modeling of components (transistors, resistors, capacitors, inductors, mechanical components) and circuits.

Yield Enhancement and Production Process Control: Yield enhancement structures and methods, yield modeling, statistical process control, defect estimation structures and methods, failure identification and characterization, many-component / matrix test circuitry for technology assessment, evaluation of design-manufacturing interactions (DFY).

Test Structure Design Methods: Design flows for automated design, verification strategies, design for analysis, parameterized design, and related design issues.

Test Structure Utilization Strategy: Test equipment, probing and programmable testing for process diagnostics, test throughput optimization, database and data analysis methods, statistical data analysis, expert systems, and related techniques.

Osaka is easy to access from Osaka and Kansai International Airports by train and bus. It takes about 15 minutes to go to Osaka University Nakanoshima Center by bus. This famous city includes Osaka Castle with its beautiful Golden Tea Room. You will be able to enjoy some Osaka foods and see many Cherry blossoms in March.

For registration and other information, please visit the conference website: http://www.if.t.u-tokyo.ac.jp/ICMTS13/

The ICMTS committee members look forward to seeing you in March 2013.

Tatsuya Ohguro
2013 ICMTS General Chairman
Toshiba Corporation
Yokohama, Japan

2013 IEEE Conference on Electron Devices and Solid State Circuits (EDSSC)

(continued from page 1)

Paul Yu (University of California at San Diego) are the Honorary Chairs of the Conference and we are pleased to receive tremendous support from our leading academia and professionals all over the world.

The EDSSC 2013 marks a range of related topics of interests, but not limited to Analog Circuits; Biomedical Circuits; Digital and Memory Circuits; Memory Device and Technology; RF & Microwave Circuits; Power Management Circuits; Sensors, Imagers and MEMS; Data Conversion Circuits; Wireless and Wireline Communication Circuits; Thin Gate Dielectrics; Device Reliability; Energy Efficient Devices; Emerging Devices; Nanoelectronics; Organic Devices; Photonic Devices and RF & Microwave Devices. Experts and academics in the broad field of Electron Devices and Solid-State Circuits are invited to share their research and development results. Professionals, scholars and students from worldwide are called on to participate.

2013 is the 10th Anniversary of EDSSC and it marks a strategic year for the conference. In collaboration with the Electron Devices and Solid-State Circuits Societies, it is shifted to the month of June instead of December—an effort of the ED/SSC Hong Kong Chapter to work closer with the EDS and SSCS headquarters by hosting the mid-year EDS Board of Governors meeting. In fact, the first EDSSC in 2003 was planned to be held in June, but was postponed to December due to the difficulty for speakers to travel during the SARS period. We hope the return to the initial schedule will bring even greater successes to EDSSC in the future.

For updates about the conference, please visit http://sites.ieee.org/edssc2013. For inquiry, please e-mail, edssc2013@polyu.edu.hk.

Charles Surya
2013 EDSSC Co-Chair
The Hong Kong Polytechnic University
Hong Kong, China

Philip Mok
2013 EDSSC Co-Chair
The Hong Kong University of Science and Technology
Hong Kong, China

Society News

Announcing New Appointments to the EDS Executive Committee

Please join us in congratulating Xing Zhou and Jamal Deen, on their recent appointments to the EDS Executive Committee, as Vice-President of Regions/Chapters and Vice-President of Membership, respectively.

Dr. Xing Zhou is a dedicated and long-time volunteer, serving on numerous administrative committees, publication boards and as an EDS Distinguished Lecturer. He plans to continue the good works of his predecessor, Juin J. Liou, and is already leading the EDS region/chapter teams in new collaborative efforts world-wide.

Dr. Xing Zhou obtained his B.E. degree in electrical engineering from Tsinghua University in 1983, M.S. and Ph.D. degrees in electrical engineering from the University of Rochester in 1987 and 1990, respectively. He is currently a tenured associate professor in the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore. His past research interests include Monte Carlo simulation of photocarrier transport and ultrafast phenomena as well as mixed-mode circuit simulation and CAD tool development. His recent research mainly focuses on nanoscale CMOS compact modeling and technology/device simulations. He has given more than 100 IEEE EDS Distinguished Lectures and invited talks at various universities as well as industry and research institutions. He has been invited to visit several universities, including Stanford University (1997 and 2001), Hiroshima University (2003), Universiti Teknologi Malaysia (2007), Fudan University (2011), and Tokyo Institute of Technology (2011 and 2012). He is the founding chair for the Workshop on Compact Modeling (WCM) in association with the NSTI Nanotechnology Conference. Dr. Zhou is an elected member of the IEEE EDS Administrative Committee in 2004–2009 and 2010–2013, chair of the EDS Asia Pacific Subcommittee for Regions/Chapters in 2007–2012, and a member of the EDS Compact Modeling, Membership, Publications, and Educational Activities committees. He has been a senior member of IEEE since 1999, an EDS Distinguished Lecturer since 2000, and an editor for the IEEE Electron Device Letters since 2007.

Dr. Jamal Deen is a well-known contributor to EDS publication editorial boards, technical committees and EDS Distinguished Lectures. As the Vice-President of Membership, he plans to be a strong advocate to increase the value of EDS membership, building on the foundation of Albert Wang's vision for the electron device community.

Dr. M. Jamal Deen (Fellow IEEE) was born in Georgetown, Guyana, South America. He completed a Ph.D. degree (1985) in Electrical Engineering and Applied Physics at Case Western Reserve University, Cleveland, Ohio, U.S.A. His Ph.D. dissertation was on the design and modeling of a new CARS spectrometer for dynamic temperature measurements and combustion optimization in rocket and jet engines, and was sponsored and used by NASA, Cleveland, USA. He is currently Professor of Electrical and Computer Engineering, McMaster University, holder of the Senior Canada Research Chair in Information Technology and Director of the Micro- and Nano-Systems Laboratory. His research interests are microelectronics/nanoelectronics, optoelectronics, nanotechnology and their emerging applications to health and environmental sciences. His research record includes more than 450 peer-reviewed articles (about 20% are invited), 1 textbook on "Silicon Photonics – Fundamentals and Devices", 20 edited books and conference proceedings, 16 invited book chapters and 6 awarded patents that have been used in industry.

As an undergraduate student at the University of Guyana, Dr. Deen won the Chancellor's medal as the second best graduating student in the University and the Irving Adler prize as the best mathematics student (1978). As a graduate student, he was a Fulbright-Laspau Scholar from 1980 to 1982 and an American Vacuum Society Scholar from 1983 to 1984. He was an NSERC Senior Industrial Fellow in 1993 and is a Distinguished Lecturer of the IEEE Electron Device Society since 2001. His awards and honors include the 2002 Thomas D. Callinan Award and the 2011 Electronics and Photonics Division from the Electrochemical Society; the Distinguished Researcher Award, Province of Ontario in 2001; a Humboldt Research Award from the Alexander von Humboldt Foundation in 2006; an IBM Faculty Award in 2006; the Eadie Medal from the Royal Society of Canada in 2008;

and the 2011 Fessenden Medal from IEEE Canada. He also received degree Doctor of Engineering – honoris causa from University of Waterloo in 2011 and Doctor – honoris causa from the University of Granada in 2012.

Dr. Deen's peers have elected him Fellow in nine national academies and professional societies including The Royal Society of Canada (FRSC) – The Academies of Arts, Humanities and Sciences of Canada, The Indian National Academy of Engineering (FINAE-Foreign), The American Physical Society (FAPS) and The Electrochemical Society (FECS). In addition, he was elected an Honorary Member of the World Innovation Foundation (WIF) – the foundation's highest honor.

EDS is honored to have these two outstanding professionals involved with our Society and members of our Executive Committee.

EDS Members Active in IEEE Affairs

Cary Yang

At the November, 2012 TAB meeting, the IEEE Board of Directors appointed EDS President (2000–2001) Cary Yang as Vice Chair of the 2013 IEEE Awards Board. The IEEE Awards Board administers the awards and recognition programs of the IEEE.

Through its awards program, the IEEE advances the interest of its members by recognizing their contributions in advancing the fields of interest of IEEE. By this means, the image and prestige of the organization, its members, and the profession are all enhanced.

EDS congratulates Cary and wishes him the best in this important appointment. We take this opportunity to encourage other EDS members wishing to serve the society at the IEEE level, to contact the EDS executive office to learn more and to get involved!

Call For Nominations – IEEE Fellow Class of 2014

IEEE Fellow is a distinction reserved for select IEEE members. The honor is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest.

If you know of an IEEE colleague who is a Senior Member or Life Senior Member in good standing, has completed five years of service in any grade of IEEE Membership and who has made an outstanding contribution to the electronic or electrical engineering profession in any of the IEEE fields of interest, you can nominate this person in one of four categories: Application Engineer/Practitioner, Educator, Research Engineer/Scientist or Technical Leader.

Nominations for the Fellow Class of 2014 are now being accepted.

To learn more about the Fellow program and the application process, visit the Fellow Web Site at http://www.ieee.org/fellows. The deadline for nominations is 1 March 2013.

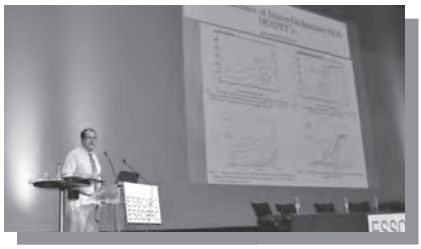
IEEE Andrew S. Grove Award Presented at 2012 ESSDERC/ESSCIRC Plenary

The IEEE Andrew S. Grove Award, sponsored by the IEEE Electron Devices Society, recognizes outstanding contributions to solid-state devices and technology. This year's award was presented during the 2012 ESSDERC/ESSCIRC plenary session, to Dr. Jean-Pierre Colinge from Taiwan Semiconductor Manufacturing Company (TSMC)," for contributions to silicon-on-insulator devices and technology." As one endorser wrote, "Without Jean-Pierre's visionary and competent contributions, SOI would have remained for a much longer time as a niche. I believe that his strong actions and enthusiastic beliefs were crucial for supporting the development of SOI technology."

The 42nd Solid-State Device Research Conference (ESSDERC) was organized in Bordeaux, France, September 18–20, 2012. This is the most prestigious, European-based conference in the field of semiconductor device physics and technology. The Proceedings of the conference are published in IEEE *Xplore*. The conference is organized in parallel with the sister-conference European Solid-State Circuits Conference (ESSCIRC), focusing on design and circuit aspects. This year,

IEEE Division I Director, Cor Claeys, honoring Dr. Jean-Pierre Colinge from TSMC for receiving the 2012 Andrew S. Grove Award during the 2012 ESSDERC meeting in Bordeaux, France

a total of 130 submissions originating from 28 countries were received for ESSDERC, including 83 papers coming from Europe, 37 from Asia-Pacific and 10 from North-America. This is proof of the truly international nature of ESSDERC. The Technical Program Committee, comprised of roughly 110 world-class experts from academia and industry, selected 67 papers for oral presentations.



Dr. Jean-Pierre Colinge from TSMC giving his Award speech during the ESSDERC-ESSCIRC conference

Highlights of the event were:

- Seven invited paper sessions
- Two joint ESSDERC/ESSCIRC sessions have been organized: the first one dedicated to compact modeling and the second dedicated to reliability and variability.
- Twelve plenary presentations by outstanding guest speakers completed the program by focusing on highly relevant topics selected by the Technical Program Committees of both conferences.

In addition to the conference programs, a pre-conference day with introductory tutorials and a post-conference day with workshops showcasing work currently being carried out by European research consortia were also held. The next ESSDERC/ESSCIRC conference will take place on September 16–20, 2013, in Bucharest, Romania. More details can be found on the website www.essderc.org.

Cor Cleays
IEEE Division 1 Director
IMEC
Leuven, Belgium

Thomas Zimmer
2012 ESSDERC Technical Program Chair
IMS-University of Bordeaux
Bordeaux, France

Congratulations to the 26 EDS Members Recently Elected to IEEE Senior Member Grade!

Mohammad Abdullah
Elad Alon
Devesh Datta
Mukta Farooq
Faruk Fonthal Rico
Matthew Grupen
Mike Hamilton
Travis Hebig
Bohr Ran Huang
Lupco Karadzinov
Thomas Kazior
Eric Keiter
HingWah Lee
Karl Raymond Luck
Ali Kemal Okyay
Phil Oldiges
Taiichi Otsuji
Tayfun Ozdemir
Marty Richardson
Javier Salcedo
Kenji Takhashi
Gregory Triplett
Vishal Trivedi
K. Venkateswaran
Pierre Verlinden
Jing Wang

* 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 the on-line application: http://www.ieee.org/organizations/rab/md/smelev.html. Please remember to designate the Electron Devices Society as your nominating entity!

Announcement of the 2012 EDS Ph.D. Student Fellowship Winners

Meyya Meyyappan
EDS Vice-President of Educational Activities

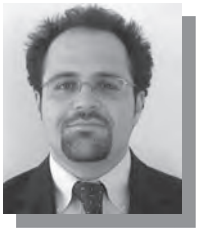
Agis Iliadis
EDS PhD & Masters Student Fellowship Chair

The Electron Devices Society Ph.D. Student Fellowship Program was designed to promote, recognize, and support Ph.D. 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.

The Society is concerned with research, development, design and manufacture related to materials, processing, technology, and applications of such devices, and scientific, technical, educational and other activities that contribute to the advancement of this field.

EDS proudly announces three EDS Ph.D. Student Fellowship winners for 2012. Brief biographies of the recipients appear below. Detailed articles about each Ph.D. Student Fellowship winner and their work will appear in forthcoming issues of the EDS Newsletter.

Bin Gao (S'08) received the B.S. degree in physics from Peking University, Beijing, China, in 2008, where he is currently working toward the Ph.D. degree in microelectronics. From October 2010 to January 2011, he was a Visiting Student with Nanyang Technological University, Singapore and from March 2012 to June 2012, a Visiting Student with Stanford University, USA. He is the author and co-author of over 40 papers, including 7 IEDM and VLSI papers. The total citation of his work is over 200. He is a frequent reviewer of EDL, T-ED, APL, JAP, and Nanotechnology, etc. His current research interests include Resistive switching Random Access Memory (RRAM) design, fabrication, characterization, modeling and simulation, and novel application.



Jacopo Franco received his B.Sc. and M.Sc. degrees in Electronic Engineering from the University of Calabria, Italy, in 2005 and 2008 respectively. He is currently working in the CMOS Device Reliability group of IMEC, Leuven, Belgium. In addition, he is working toward his Ph.D. degree on the topic of "Interface Stability and Reliability of Ge and SiGe transistors for future CMOS applications/" in collaboration with the ESAT Dept. of KU Leuven. He has authored or co-authored more than 50 publications in international journals and conferences proceedings, and he holds one international patent. In 2009 Mr. Franco received the IEEE Ed Nicollian Award for Best Student Paper at the Semiconductor Interface Specialists Conference.

Shimeng Yu (S'10) received the B.S. degree from Department of Microelectronics, Peking University, China, in 2009, and the M.S. degree from Department of Electrical Engineering, Stanford University, USA, in 2011, where he is currently working toward the Ph.D. degree under the supervision of Prof. H.-S. Philip Wong. He has been working on the fabrication, characterization, and modelling of the emerging resistive switching memory and its applications for neuromorphic computation system since 2008. He has first-authored one book chapter, and 5 IEDM papers, and several papers on this topic appearing in *IEEE Transactions on Electron Devices, IEEE Electron*

Device Letters, Applied Physics Letters, Nanotechnology, Phys. Rev. B, etc. His papers have been cited more than 200 times in the past three years with H-index 9.

Shimeng Yu had a summer internship in IMEC, Belgium, in 2011, and a summer internship at the IBM TJ Watson Research Center, USA, in 2012. He was awarded the Stanford Graduate Fellowship 2009-2012, IEEE Electron Devices Society Masters Student Fellowship 2010, and IEEE Electron Devices Society Ph.D. Student Fellowship 2012.

Meyya Meyyappan
EDS Vice-President of Educational Activities
NASA Ames Research Center
Moffett Field, CA, USA

Agis Iliadis
EDS Ph.D. & Masters Student Fellowship Chair
University of Maryland
College Park, MD, USA

CALL FOR NOMINATIONS

2013 IEEE Electron Devices Society 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 EDS Administrative Committee meeting for presentation of the 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. Nominator 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 cannot be from the nominator.

Timetable:

- Nomination packages are due at the EDS Executive Office no later than **May 15, 2013**
- Recipients will be notified by July 15, 2013
- Monetary awards will be given by August 15, 2013
- Formal award presentation will take place at the EDS Administrative Committee Meeting in December 2013.
- A hard copy of all nomination packages must be received by mail at the EDS Office no later than the May 15 deadline in order to be eligible for the award.

Send completed package to: IEEE Operations Center
EDS Executive Office – PhD Student Fellowship Program
445 Hoes Lane, Piscataway, NJ 08854 USA

For more information contact: edsfellowship@ieee.org

Visit the EDS website: http://eds.ieee.org/eds-phd-student-fellowship-program.html

EDS-ETC

Engineers Demonstrating Science:
an Engineer Teacher Connection

ED/SSC Hong Kong Supported an Experimental Pull-out Class for Engineering

The IEEE ED/SSC Hong Kong Chapter and Hong Kong University of Science and Technology hosted a special class at an elementary school in Hong Kong for the Spring 2012 school term. This was a pilot project of ESMA (Engineering-Science-Mathematics Approach) using Snap Circuit Kits provided by the IEEE Electron Devices Society's EDS-ETC Program: **E**ngineers **D**emonstrating **S**cience: an **E**ngineer **T**eacher **C**onnection.

The belief of the program is that children are born as engineers and they build / disassemble things without hesitation. Given the limited attention span of K-6 children, the course uses easy-to-follow, step-by-step instructions to introduce concrete and abstract scientific concepts. Finally simple mathematics quantification is also covered to reinforce abstract concept development, which is an essential skill for life-long engineering science studies.

The LEGO-like Electronic Snap Circuits of ELENCO, provided by the IEEE ED Society, were used in classes. Typically the completion time of a project was 5 to 10 minutes for children age of 7 to 9; and 2 to 8 minutes for children age of 10 to 12. Thus Snap Circuit Kits are an age-appropriated learning tool for K-6 students. The Kits engage students within their natural attention span and pique their interest for subsequent discussion.

With innovative curriculum and careful selection of age-appropriate learning tools, such as the Snap Kits EDS provided, the learning efficiency and outcomes of Project ESMA are potentially higher than those of traditional learning approaches for math and science. Ages 7 to 12 can be the optimal point to expose students to engineering pre-college outreach and the ESMA model can be applied to a wide audience with trained, in-school science teachers.

Circuit building with Electronic Snap Circuits

Developing a sense of industry

Eric Z. Ma
Secretary
IEEE Hong Kong Section

Projeto ELECTRON

"Discovering The New Engineering Potential Talents of our Time"

During the first semester of 2012, the IEEE Universidade de Brasília Student Branch, part of IEEE Centro-Norte Brasil Section, began an exciting new program called Project ELECTRON. The project is supported by the Electron Devices Society's EDS-ETC Program, Engineers Demonstrating Science: an Engineer Teacher Connection.

The project's main goal is to give Brasilia's public high school students a different view of science and engineering, as well as demystify this field of study, so students can bring new ideas to improve technology.

Brasília's student branch invited IEEE volunteers to be the teachers. Using the fantastic Snap Circuits Kits made by Elenco©, and provided by the IEEE Electron Devices Society (EDS), the volunteers planned class activities and experiments to help the students learn about engineering. Besides the exposure to the kits, as well as to experiments and basic engineering concepts, the most important thing students gained was enthusiasm and passion about science and engineering.

This initiative enables students to see if they are passionate about any science and engineering field of study. The twinkle in their eyes says everything. Some of them will likely decide to study exact sciences because of what IEEE members taught and showed in the lessons.

The fact that the volunteers who are teaching are as young as the high school students that are being taught is really important for the continuity of the project. The approximate age helps on the understanding of the lecture, since they speak the same "language".

Holding hands, students testing the Human Transistor Circuit

At the Science and Technology week event in Brasilia. This photo was submitted to the IEEE Day 2012 Photo Contest

For all those reasons, the IEEE Universidade de Brasília Student Branch strongly recommends that all student branches around the world start similar success projects to encourage the community to participate and familiarize themselves with technology.

There is nothing better than making a positive difference in someone else's life. Better yet it is the junction between this action and passion over technology.

Rafael Amaral Shayani
IEEE Universidade de Brasília Student Branch
Brasilia, Brazil

CALL FOR NOMINATIONS

2013 IEEE Electron Devices Society Masters Student Fellowship

Description: One-year fellowships awarded to promote, recognize, and support graduate Masters level study and research within the Electron Devices Society's field of interest: 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.

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/Mid-East/Africa, Asia & Pacific. Only one candidate can win per educational institution.

Prize: US$2,000 and a plaque to the student, to be presented by the Dean or Department head of the student's enrolled graduate program.

Eligibility: Candidate must: be an IEEE EDS student member at the time of nomination; be accepted into a graduate program or within the first year of study in a graduate program in an EDS field of interest on a full-time basis; and continue his/her studies at a graduate education institution. Nominator must be an IEEE EDS member and preferably be serving as the candidate's mentor or faculty advisor. Previous award winners are ineligible.

Basis for Judging: Demonstration of his/her significant ability to perform research in the fields of electron devices and proven history of academic excellence in engineering and/or physics as well as involved in undergraduate research and/or supervised project.

Nomination Package:

- Nominating letter by an EDS member who served as candidate's mentor or faculty advisor.
- Two-page (maximum) statement by the student describing his or her education and research interests, accomplishments and graduation date. This can include undergraduate, graduate and summer internship research work.
- One-page biographical sketch of the student (including student's mailing address and e-mail address)
- One copy of the student's transcripts/grades
- One letter of recommendation from an individual familiar with the student's research and educational credentials. Letters of recommendation cannot be from the nominator.

Timetable:

- Complete nomination packages are due at the EDS Executive Office no later than **April 15, 2013**
- Recipients will be notified by June 15, 2013
- Monetary awards will be presented by the Dean or Department Chair of the recipient's graduate program at the beginning of the next academic term.
- A complete hard copy of all nomination packages must be received by mail at the EDS Office no later than the April 15 deadline in order to be eligible for the award.

Send completed package to: IEEE Operations Center
EDS Executive Office – Masters Student Fellowship Program
445 Hoes Lane, Piscataway, NJ 08854 USA

For more information contact: edsfellowship@ieee.org
Visit the EDS website: http://eds.ieee.org/eds-masters-student-fellowship-program.html

Report on the IEEE EDS Mini-Colloquium (WIMNACT-34), Held in Xi'an, China

A series of EDS Distinguished Lectures (WIMNACT-34) and a mini-colloquium (MQ-2012) were successfully held at Xidian University, Xi'an, China, October 28th. The events were organized by the ED Xi'an Chapter, the Innovation and Talent Introduction Base of Micro-Nano Electronics and Wide Band-gap Semiconductors in Xidian University, and the National Key Discipline Laboratory of Wide Band-gap Semiconductor Technologies.

The one-day MQ-2012 included nine invited distinguished speakers from the USA, Belgium, Austria, Hong Kong, Singapore and Taiwan. The program covered a wide area in microelectronics.

The invited talks were as follows:

- *"Opportunities and Challenges for CMOS Technology Based on High-Mobility Channel Materials,"* T. P. Ma, Yale University, USA
- *"Recent Development of Electrostatic Discharge (ESD) Protection of RF integrated Circuits,"* Juin J. Liou, University of Central Florida, USA
- *"A Unified Compact Model for Generic Heterostructure HEMTs,"* Xing Zhou, Nanyang Technological University, Singapore
- *"Radiation Hardness of State-of-the-art Si and Ge-based CMOS Technologies,"* Cor L. Claeys, IMEC, Belgium
- *"How Living Cells and Integrated Circuits Talk to Each Other?,"* Mansun Chan, HKUST, HK
- *"Extension of Moore's Law Via Strained Technologies,"* Steve S. Chung, National Chiao Tung Univ., Hsinchu, Taiwan
- *"New Channel High Mobility MOSFET from Ge to GaN,"* Albert Chin, National Chiao Tung Univ., Hsinchu, Taiwan
- *"A Proposed High Manufacturability Strain Technology for High-k /Metal Gate SiGe-Channel Ultra-Thin Body SOI CMOSFET,"* W. K. Yeh, National University of Kaohsiung, Taiwan
- *"The SiC–SiO_2 Interface: A Unique Advantage of SiC as a Wide Energy-Gap Material,"* Jisheng Han, Griffith University, Australia

WIMNACT-34 was sponsored by the EDS Distinguished Lecturer Program and co-sponsored by the ED Xi'an Chapter and Xidian University. There were 9 speakers and more than 200 attendees, including professors, IEEE members, students and the local professionals in Xi'an. All of the lectures were of great interest and highly appreciated. This was a successful workshop, which means not only a series of excellent and valuable talks were delivered, but also deep academic exchanges were made. We would like to acknowledge the IEEE EDS and its Distinguished Lecturer Program for enhancing the activities of the ED Xi'an Chapter.

Yimen Zhang
ED Xi'an Chapter Chair
Xidian University
Xi'an, China

The WIMNACT-34 Audience

WIMNACT-34

Message from the EDS Newsletter Editor-in-Chief

Ninoslav D. Stojadinovic
EDS Newsletter
Editor-in-Chief

I would like to introduce a new addition to the EDS Newsletter Editorial Staff, Jonathan Terry, of the University of Edinburgh, whose biography follows. Dr. Terry will now be coordinating news for Europe, the Middle East and Africa. It is my pleasure to welcome him as a new editor for the *EDS Newsletter*.

Dr. Jonathan Terry is a Senior Member of the IEEE and the Treasurer of the Scottish Chapter of the IEEE Electron Devices Society. He is a senior research fellow at the University of Edinburgh in the Institute for Integrated Micro and Nano Systems and an honorary research fellow at Heriot-Watt University. His research centers on the development of More-than-Moore application. This is the integration of novel materials and processing techniques with standard foundry-produced CMOS technology. Jonathan also teaches within the University's School of Engineering, including postgraduate courses on Microfabrication Techniques. Jonathan can be contacted at jonterry@ieee.org.

Once again, I welcome the new editor and wish him success. Please contact your respective Regional Editor directly with news items. A listing of EDS Regional Newsletter Editors is available on page two of this publication.

Ninoslav D. Stojadinovic
EDS Newsletter Editor-in-Chief
University of Nis
Nis, Serbia

EDS Distinguished Lecturer Program

The EDS Distinguished Lecturer Program exists for the purpose of providing EDS Chapters with a list of quality lecturers who can potentially give talks at local chapter meetings. To arrange for a lecture, the EDS chapters should contact the individual directly. A general guideline for the visit, but not the absolute rule, is that the lecturer should be able to include the meeting site with an already planned travel schedule at a small incremental cost to the travel plan. Alternatively, a prior coincident travel plan would not be required if the lecturer is already located within an approximate fifty mile radius of a meeting site. Although the concept of the program is to have the lecturers minimize travel costs by combining their visits with planned business trips, EDS will help subsidize lecturer travel in cases where few/no lecturers will be visiting an area and/or a chapter cannot pay for all the expenses for a lecturer trip.

For more information on the Program or for a listing of distinguished lectures, please visit the EDS website at www.ieee.org/eds or contact the EDS Executive Office (l.riello@ieee.org).

QuestEDS

Samar Saha
EDS Vice-President of Publications

Interested in knowing why it's not possible to measure the built-in voltage of a PN junction using a voltmeter? Do you need to understand the best way to derive an expression for the average thermal velocity of an electron? Or are you curious about what quantum dots and wires are? The answers to these questions and more are available through the QuestEDS Question and Answer page.

To ask a question not already addressed on the Q&A page, visit www.ieee.org/go/questeds. Technical experts answering the questions posed represent academic, government, and industry sectors.

Questions are grouped into nine technical categories and two general ones. Technical categories cover subject areas like semiconductor and device physics, process technology, device characterization, technology CAD, compact modeling, VLSI interconnects, photovoltaics, and quantum electronics. Subject areas addressed are anticipated to expand in the future. Two other categories address questions pertaining to educational activities and general inquiries about society membership. Within a two week time frame from when the question is asked, an answer is posted online. Incoming questions are handled by an editor-in-chief who ensures that they fall within the technical scope of EDS and that they are adequately answered.

For the answer to this recent submission, visit http://eds.ieee.org/member-sign-in-form.html?notauth=1. Your IEEE login is required to view the answer page. After authentication you will be redirected to the answer page, where you can select the appropriate topic link.

Device Physics
Question 057-12 "In a MOSFET at equilibrium (all the 4 terminals are open circuited) charge transfer takes place either from the metal to the semiconductor (SC) or from the SC to metal due to a nonzero contact potential between the metal and SC. But the material between the metal and SC is an insulator. My question is how such charge transfer takes through an insulator?

Samar Saha
EDS Vice-President of Publications
SuVolta, Inc.
Los Gatos, CA, USA

Members Making News

President Barack Obama Awards EDS Members The National Medal of Technology and Innovation

It is with great pleasure that EDS recognizes Jayant Baliga, Rakesh Agrawal, and Michael F. Tompsett for receiving the National Medal of Technology and Innovation. As the United States' highest award for technology innovation, this is indeed a great honor and no small tribute to their outstanding careers. EDS congratulates Jay, Rakesh, and Michael for their achievements. It is an honor to count them among the society's membership.

EDS members make enormous contributions to not only our field, but to the world at large. We take particular pride when our colleagues are recognized in an extraordinary manner, such as these recent awards given by President Obama. The National Medal of Technology and Innovation recipients join other illustrious EDS members who have made vital contributions such as Nobel Laureates Charles K. Kao, Willard S. Boyle, George Smith and Herb Kroemer.

Those of us in EDS can take pride in the accomplishments of members like these and draw inspiration from their work to continue, in the words of EDS's vision statement, promoting excellence in the field of electron devices for the benefit of humanity.

Congratulations, gentlemen. You make EDS proud.

Regional and Chapter News

USA, Canada & Latin America (Regions 1-6, 7 & 9)

ED Mid-Hudson Valley

–by Fernando Guarin

On Wednesday June 27th, the ED Mid-Hudson Valley Chapter hosted Dr. Alberto Valdes-Garcia, who shared insights from his present research work on silicon-integrated millimeter-wave communication systems and carbon electronics. During his "Development of Graphene-Based RF Integrated Circuits" talk, he explained how the potential of any new material to make a significant impact into the modern world of microelectronics is contingent on its ability to achieve scalable integration into practical circuits. Dr. Valdes-Garcia indicated that after the successful demonstration of graphene devices with cut-off frequencies in the GHz-range, the next major step to move graphene technology forward into the practical domain of RF electronics will be to address the challenges associated with circuit integration. His presentation summarized the recent development and characterization of graphene-based integrated circuits. Detailing how the first wafer-scale process developed for graphene RFIC integration on SiC wafers was introduced along with the design and measurements of a 5-GHz down-conversion mixer. Next, a frequency doubler fabricated on CVD graphene was presented as a proof-of-concept of graphene-based circuits in a 200 mm platform. Finally, some of the special properties if these ICs (such as their low sensitivity to temperature variations), and the remaining challenges for graphene RFIC technology were discussed.

~ Fernando Guarin, Editor

2013 RFIC

–by Li Lin

The 2013 IEEE Radio Frequency Integrated Circuits Symposium (RFIC 2013) will be held in Seattle, Washington, USA, June 2–4, 2013. The 2013 RFIC will be held in conjunction with the IEEE MTT-S International Microwave Symposium (IMS).

This year's conference will solicit papers describing original work in RFIC design, system engineering, system simulation, design methodology, RFIC circuits, fabrication, testing, and packaging to support RF applications in areas such as, but not limited to:

- **Wireless Mobile ICs:** 3G/4G/LTE, WCDMA, TD-SCDMA, HSPA, WiMax, Mobile TV
- **Wireless Connectivity:** WLAN, 802.11xx, Bluetooth, FM, GPS, UWB, Wireless HD
- **Low Power Transceivers:** RFID, NFC, Zigbee, WPAN, WBAN, Biomedical, Sensor Nodes
- **RF Front-End Circuits:** RF and mm-wave LNAs, Mixers, VGAs, Integrated FEM
- **Mixed-Signal RF & Analog Baseband Circuits:** RF and BB Converters (ADC/DAC), Subsampling/Oversampling Circuits, and all analog baseband circuits including filters and modulators
- **Reconfigurable and Tunable Frontends:** SDR/Cognitive Radio, Wideband/Multi-band Front-Ends, Digital RF circuits/architectures, RF BIST, and reconfigurable data converters
- **Large-Signal Circuits:** Power Amplifiers (RF & mm-Wave), Drivers, Advanced TX circuits, Linearization

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Seattle Space Needle

- **VCOs and Frequency Multipliers:** RF and mm-Wave VCOs, Frequency Multipliers
- **Frequency Generation Circuits:** PLLs, Synthesizers, ADPLL, DDS, Frequency Dividers
- **Modeling and CAD:** Active/Passive Devices, Packaging, EM Simulation, Co-Simulation
- **Device Technologies:** CMOS, SOI, SiGe, GaAs, MEMS, Reliability, Characterization, Testing
- **mm-Wave SOCs:** mm-wave SOC and SIP systems above 20 GHz for data, video, and imaging apps
- **High-Speed Data Transceivers:** Wireline, Wireless, Optical Transceivers, CDRs for High-Speed Data links

More information can be found on the conference website at, http://www.rfic2013.org.

ED Santa Clara Valley

–by Toshishige Yamada

In August, the chapter invited Dr. K. Ahmed, to give a talk on "Nanoscale CMOS Contacts: Science and Technology." Switching speed in advanced CMOS transistors has become limited by the increasing parasitic resistance, which is dominated by the always shrinking source/drain contact area (< 50 nm). The solution is to reduce contact resistivity. Dr. Ahmed discussed specific contact resistivity targets and how to achieve these aggressive targets using new contact architectures and equipment platforms. He also raised the challenges for the new channel materials.

On October 25th, we co-sponsored the Fourth Annual IEEE-SCV Soft Error Rate (SER) Workshop with other IEEE chapters. Dr. P. Su of Cisco was the Chair of the Workshop which provided a unique forum for component manufacturers, assembly houses, and electronic system manufacturers to exchange innovative ideas and recent results on the measurement, monitoring, and control of alpha emission from packaging materials and manufacturing processes.

In October and November, we welcomed Dr. R. Rogenmoser, SuVolta, "Device Consideration for Low Power VLSI circuits" and Dr. A. Bergemont, Maxim, "Analog and Mixed-Signal Technologies," respectively. All of our EDS seminars were held at TI auditorium, Santa Clara, with their courtesy.

For further information on our chapter, please visit http://www.ewh.ieee.org/r6/scv/eds/index.html.

~ Adam Conway, Editor

2012 SBMicro

–by João Antonio Martino, Gilson Wirth, Henri Boudinov, Fred Cioldin and Jacobus W. Swart

The 27th Symposium on Microelectronics Technology and Devices, SBMicro 2012, took place from August 30 to September 2, 2012, in Brasília, Brazil. It was organized by two Brazilian scientific societies: SBMicro (Sociedade Brasileira de Microeletrônica) and SBC (Sociedade Brasileira de Computação) and was technically co-sponsored by the Electrochemical Society and the IEEE Electron Devices Society. The SBMicro symposium is a forum held annually in Brazil dedicated to fabrication and modeling of microsystems, integrated circuits and devices. The goal of the symposium is to bring together researchers in the fields of processing, materials, characterization, modeling and TCAD of integrated circuits, optoelectronics and MEMS. An additional symposium was held at the same place and time in conjunction with SBMicro 2012: the 25th Symposium on Integrated Circuits and Systems Design. It was also organized by the same two local societies. Both symposia are being held together since 2000, with a total attendance of more than 300 participants. Local EDS chapters sponsored a registration fee-free tutorial session which was held during the first day of the conference. This full day tutorial session included three lectures by EDS Distinguished Lecturers: *"Contact Technology Schemes for Advanced Ge and III-V CMOS Technologies,"* by Cor Claeys from IMEC, Belgium; *"Nanotechnology in Electronics and Optoelectronics,"* by Meyya Meyyappan, from NASA, USA; and *"Compact Variability Modeling for Nanoscale MOSFET Devices,"* by Samar Saha, from the University of Colorado, USA. Additionally, two EDS Distinguished

EDS Distinguished Lecturers at Tutorial Day before SBMicro 2012: David Harame (upper-left), Cor Claeys (center), Meyya Meyyappan (upper-right) and Samar Saha (lower-left)

Lecturers presented invited talks as part of the SBMicro 2012 program: *"Nanoenabled Sensors for Security, Biomedical And Industrial Applications,"* by Meyya Meyyappan and *"History and Future Directions in SiGe BiCMOS Technology and Its Applications,"* by David Harame, from IBM, USA.

Following his participation at SBMicro 2012, IEEE Fellow David Harame, visited the EDS Student Chapter at University of Campinas (UNICAMP), in Campinas, and the ED South Brazil Chapter, in São Paulo, where he delivered an additional Distinguished Lecture entitled, *"Advances in Silicon Technology for Wireless."* The lecture was presented to a large student and faculty audience at the Faculty of Electrical and Computer Engineering of UNICAMP, and at the Polytechnic School of the University of Sao Paulo (USP). Dr. Harame took the opportunity to visit the Clean Room Labs and discuss ongoing microelectronics research at UNICAMP and USP.

The 2012 SBMicro Best Paper Award was conferred to Felipe Neves Souza and Renan Trevisoli Doria, both Ph.D. students at USP. The winning papers were: 1) *"Temperature Influence on Nanowire Tunnel Field Effect Transistors,"* by F. Neves, M. D. V. Martino, P. G. D. Agopian, J. A. Martino, R. Rooyackers, D. Leonelli and C. Claeys, and 2) *"Accounting for Short Channel Effects in the Drain Current Modeling of Junctionless Nanowire Transistors,"* by R. Trevisoli, R. Doria, M. de Souza and M. Pavanello.

The 28th Symposium on Microelectronics Technology and Devices, SBMicro 2013, will take place in Curitiba, Paraná, in the south of Brazil, from September 3–6, 2013. Topics of interest include, but are not limited to: semiconductor processing, IC, optoelectronics and MEMS fabrication; novel materials and devices; reliability; technology CAD; displays; thermal effects and models; nanoelectronics; device characterization and modeling; microsystem networks, sensors and actuators; package and technology roadmaps; packaging; photovoltaic technology, plasma technology and engineering education. Important deadlines are: Submission: March 31, 2013; Notification of Acceptance: May 18, 2013; Camera-ready: June 1, 2013. For more information go to http://www.sbmicro.org.br/sbmicro and/or contact the program co-chairs: Jacobus Swart (jacobus@ieee.org) and Fernando Guarin (guarinf@us.ibm.com).

~ Francisco J. Garcia Sanchez, Editor

Europe, Middle East & Africa (Region 8)

New Chapter of the IEEE Electron Devices Society – ED Scotland

–by Jonathan Terry

A new chapter representing the EDS members of Scotland has been formed. At the inaugural meeting, Professor David Cumming of the University of Glasgow was elected as Chapter Chairman. Other officers elected were Dr. Jonathan Terry of the University of Edinburgh as Treasurer and Dr. Bhaskar Choubey of the University of Glasgow as Secretary and Events Organizer.

Prof. David Cumming
ED Scotland Chapter Chair

A range of events and activities, including a Mini-Colloquium on Microsystems, are being planned for the Chapter's first year and details will be circulated in due course.

Further information on the Chapter will shortly be made available at http://sites.ieee.org/ukri-eds/.

~ Jonathan Terry, Editor

2012 ISPS

–by Jan Vobecky

For twenty years, the International Seminar on Power Semiconductors

The ISPS´12 seminar was held in Prague, Czech Republic

(ISPS) has provided a forum for technical discussion in the area of power semiconductor devices and their applications. As in the past, the ISPS'12 is organized jointly by the IET and IEEE at the Faculty of Electrical Engineering, Czech Technical University in Prague. The seminar included four keynote speaker lectures (two from academia and two from industry), several oral and poster sessions, and two social events in the charming city of Prague.

At the request of the General Chairman Prof. V. Benda, the round table discussion focused on the future of the seminar. The group overwhelming voted to continue to hold ISPS in Prague, offering their full support to facilitate the workshop's continued success. Being closest to Prague, Prof. J. Lutz from TU Chemnitz has kindly volunteered to provide support to Professors. V. Benda, P. Hazdra and J. Vobecky in organizing this event in 2014.

Open Discussion at the Workshop on Micro and NanoElectronics in Rome

ED Italy

–by Andreas Wild

The 3rd Edition of the Workshop on Micro and NanoElectronics, was held in Rome, Italy, October 4–5, 2012.

On the first day, many technical talks on the state of research on non-silicon solid-state devices were given by researchers from Universities, Research Centers and Industries from across Europe. Researchers had the opportunity to present the state of art of their activities and the latest developments of their laboratories within the framework of a national context. The following European Countries were represented: France, Belgium, United Kingdom and Italy. Contributions covered topics from photovoltaics, flexible and organic electronics, optical interconnects; up to graphene.

The focus of the second day was on the trends and perspectives of research on semiconductors and nanoelectronics in Europe. People from the European Community, the European Electronics and Technology Platforms, together with the Presidents and Directors of European Research Agencies and Associations participated. An exciting discussion took place with General Managers and Directors from industry, investment banks and academia. As a result, an executive board composed of representatives of the Public and Private Research on Semiconductors was born, with the precise goal of establishing a continuous and fruitful collaboration with the Italian government toward the identification of strategic lines of industrial development and research roadmaps of interest for the Country.

ED Spain

–by Benjamin Iñiguez

The NEPHOS (Nanoelectronic and Photonic Systems) Group of the Department of Electronic Electrical and Automatic Control Engineering of the Universitat Rovira I Virgili (URV, Tarragona, Catalonia, Spain) and the ED Spain Chapter organized three international events in June 2012 related to electron devices:

On June 21–22, 2012, the 10th Graduate Student Meeting on Electronic Engineering was held in Tarragona. It is an annual event devoted to graduate students, which combines plenary talks by prestigious researchers and student presentations. In the 2012 edition, six plenary presentations were given, with four of them targeting issues related to electron devices. Dr. Simon Deleonibus (CEA-LETI, MINATEC, Grenoble, France) gave a talk, as EDS Distinguished Lecturer, entitled "Advances in Nanoelectronics and Functional Diversifications." Prof. Goce Arsov (Ss Cyril and Methodius University, Skopje, Macedonia) conducted a lecture targeting thermal considerations in power electronics. Dr. Fréderic Cunin (Institut Charles Gerhardt Montpellier, France) made a presentation addressing porous silicon for the construction of biosensors and for biomedical applications. In addition, Dr. Polona Umek (Jožef Stefan Institute, Ljubljana, Slovenia) gave a talk entitled "Hydrothermal synthesis and the Influence of Hydrothermal Reaction Parameters on the Morphology and Dimensions of Sodium Titanate and MnO_2 nanostructures."

The 8th International Conference on Organic Electronics (ICOE 2012) took place in Tarragona from June 25–27, 2012. It is one of the major conferences on organic devices, circuits and materials for organic electronics. The participation was higher than 110 attendees. The Chairperson was Prof. Benjamin Iñiguez (URV), who is an EDS Distinguished Lecturer. There were a total of 13 invited speakers, with four of them giving talks as EDS Distinguished Lecturers. Prof. Jamal Deen (McMaster University, Hamilton, Ontario, Canada),

addressed the compact modeling of organic transistor. Prof. Magali Estrada (CINVESTAV, Mexico), targeted the characterization and modeling of frequency dependences of the OTFT capacitances. Prof. Takao Someya (University of Tokyo, Japan), gave a talk entitled "Ultraflexible and stretchable organic transistor integrated circuits for bio/medical applications." Prof. Lluís F. Marsal (URV), conducted a lecture on nanostructured organic solar cells.

Finally, on June 28–29, the 2nd Training Course on Compact Modeling (TCCM) was held in Tarragona. It included 12 lectures on topics related to the compact modeling of advanced electron devices. It was partly funded by the European Union project called "COMON" (Compact Modeling Network). The Chair Person of TCCM was Prof. Benjamin Iñiguez (URV), who is also the Coordinator of the COMON Project. More than 50 people, mostly young researchers, attended the event. Three of the presentations were made by EDS Distinguished Lecturers. Prof. Jamal Deen (McMaster University, Hamilton, Ontario, Canada), EDS DL, addressed the modeling of high frequency noise. Prof. Antonio Cerdeira (CINVESTAV, Mexico), EDS DL, conducted a lecture on Double-Gate MOSFET compact modeling. Prof. Giovanni Ghione (Politecnico di Torino, Italy), EDS DL, targeted the thermal modeling of RF and microwave devices. Prof. Raphaël Clerc (INPG, Grenoble, France), gave a talk on the modeling of tunneling and quasi-ballistic transport. Dr. Colin C. McAndrew (Freescale, Phoenix, Arizona), targeted statistical modeling techniques. Prof. Frédéric Martinez (University of Montpellier 2, France), presented a lecture about low frequency noise modeling in MOS devices. Dr. David Jiménez (Autonomous University of Barcelona, Catalonia, Spain), addressed quantum confinement and carbon nanotube modeling. Dr. Romain Ritzenthaler (IMEC, Belgium), talked about 2D and 3D modeling of Tri-Gate MOSFETs. Prof. Mike Brinson (*Metropolitan* University of London, UK), gave a talk entitled "QucsStudio: A second generation Qucs software package for compact semiconductor device model development based on interactive and compiled equation-defined modeling techniques plus circuit simulation." Dr. Peter Lee (Elpida Memory, Japan, and Vice-Chair of the Compact Modeling Council), conducted a lecture on DRAM modeling and reviewed the activities of the Compact Modeling Council. Dr. Franz Sischka (Agilent Technologies, Böblingen, Germany), spoke on S-parameter and nonlinear RF modeling. Finally, Dr. Thomas Gneiting (AdMOS, Germany), explained techniques to characterize Flicker noise in MOS devices and made a practical demonstration.

Some of the lecturers of the 2nd Training Course on Compact Modeling (TCCM), from left to right: Prof. Jamal Deen, Prof. Benjamin Iñiguez, Dr. Colin C. McAndrew and Dr. Peter Lee

ED/CAS Switzerland

–by Jan Vobecky

The 2012 IEEE ED/CAS Swiss Student Workshop took place on the Irchel Campus, of the University of Zurich, September 14, 2012. Students from different institutions presented their recent advances in

ED/CAS Swiss Student Workshop 2012 at ETH Zurich

Circuits and Systems and Electron Devices. The workshop included a fun contest, keynote speaker, demo and poster session, and concluded with an outdoor barbeque and sporting events. The workshop attracted 20 attendees from various institutes in Basel, ETH Zurich, and University of Zurich. Sixty persons attended the keynote speech. We hope to organize this event next year in the Southern part of Switzerland. For further information, visit our webpage http://www.ieee.ch/chapters/cas-ed/cas-ed-news/2012-09-14/.

~Jan Vobecky, Editor

Prof. Cary Yang giving his EDS DL at Tsinghua University

Asia & Pacific (Region 10)

ED Tsinghua University

–by Haiming Zhao

In July, the ED Tsinghua University Student Branch Chapter invited Professors Cary Yang and Kukjin Chun to visit Tsinghua and give technical talks. Both of the activities were held in the Institute of Microelectronics of Tsinghua University, and hosted by Professor Tianling Ren, advisor to the student chapter.

On July 9th, Cary Yang, from Santa Clara University, gave an EDS Distinguished Lecturer on compact circuit models for one-dimensional nanostructures. The event was attended by two professors and sixteen students, five of whom were from UCR. Dr. Yang described a method to extract compact circuit models for one-dimensional nanostructures from measured high frequency characteristics.

The second event on July 12th, featured Kukjin Chun, a Professor from Seoul National University, and the IEEE Region 10 vice chair of member activities, also serving on the section/subsection Elevation Committee for the region. Prof. Chun gave a talk on multi mode/band transceivers. He demonstrated a wireless transceiver which would be useful for 4th generation mobile communications covering mobile WiMAX and WLAN up to 5 GHz regime, to match with IEEE 802.11n and 802.16e standards.

~Mansun Chan, Editor

2012 IPFA

–by J. M. Chin

The 19th International Symposium on the Physical and Failure Analysis of Integrated Circuits (IPFA) was held July 2–6, 2012, at the Sands Expo and Convention Center, Marina Bay Sands Singapore. The week began with six half-day tutorials on Monday and Tuesday, covering various aspects of integrated circuit reliability and failure analysis techniques. The symposium began on Wednesday, July 4th with an excellent keynote paper by Professor Chenming Hu, from the University of California, Berkeley. Professor Hu gave a detailed presentation on the new transistor scaling path with the FinFET as well UTB-SOI FET.

The symposium had 45 oral papers, 36 poster presentations and 10 invited papers. The Best Papers from the 36th International Symposium for Testing and Failure Analysis (ISTFA 2011) in USA and 22nd European Symposium on Reliability of Electron Devices, Failure Physics and Analysis (ESREF 2011) were presented. The invited speakers included:

- Professor R. Heiderhoff (University of Wuppertal, Germany), *"Advanced SEM/SPM Microscopy"*
- Professor A. Shakouri (Purdue University, USA), *"Ultrafast Submicron Thermal Characterization of Integrated Circuits"*
- Dr K. Croes (IMEC, Belgium), *"Reliability Concerns in Copper TSV: Methods and Results"*
- Professor C. Boit (TUB Berlin University of Technology, Germany), *"Qualitative Aspects of Optical*

Professor Chenming Hu giving a Keynote address at IPFA 2012 (left), and a token of appreciation presented to Chenming Hu by the IPFA 2012 General Chair, J. M. Chin

IC Debug Using State-of-the-Art Backside Preparation"

- Professor J. J. Liou (University of Central Florida, USA), *"Novel Electrostatic Discharge (ESD) Protection Solution in GaAs pHEMT Technology"*

The best oral papers and best posters were also selected from the conference. The Best paper on Failure Analysis will be presented at ISTFA 2012 in Phoenix, Arizona, USA and Best Paper on Reliability will be presented at ESREF 2012 in Cagliari, Italy, as exchange papers.

As the conference entered its 25th year, a special luncheon was arranged in celebration. The Art of Failure Analysis photo contest was held, which again proved popular with many interesting and imaginative pictures of Failure Sites. An equipment exhibition with more than 30 exhibitors was held in parallel with the symposium.

~ M. K. Radhakrishnan, Editor

ED Japan

–by Akira Toriumi

Dr. Tohru Mogami, NEC Corporation, gave a Distinguished Lecture (DL) at The University Tokyo, Tokyo, on July 20, 2012. His lecture on R&D Technology and Production Technology in Advanced Si-CMOS reviewed recent advances of new technology from metal gate/high-k to FinFET technology down to 2x nm generation. He pointed out that Si technology is still ongoing, and new materials and new structures will be developed, and that R&D technology is becoming quite near to production technology. More than 30 people attended this lecture, and learned a lot on the Si technology perspective.

On the same day as the DL, the IRPS 2012 Report Meeting was also held at the university. After a general review of IRPS 2012 by Dr. M. Sato (Toshiba), the following speakers reviewed their IRPS 2012 presentations: Dr. S. Fujii (Toshiba), Dr. C. Yoshida (LEAP), Dr. L. Zhang (Toshiba), Dr. N. Yamaguchiya (Renesas Semiconductor), Dr. H. Nakamura (Renesas Electronics) and Dr. T. Uemura (Fujitsu Semiconductor). Over 30 attendees enjoyed the discussions on the latest device reliability issues and the new analyzing technologies of dopant distributions.

Dr. Tohru Mogami, giving a DL at the University of Tokyo

IRPS 2012 Report Meeting at the University of Tokyo, Tokyo, Japan, July 20, 2012

ED Kansai

–by Michinori Nishihara

The ED Kansai Chapter held a technical meeting on July 25, 2012, at the Osaka Center of Josho Gakuen, Osaka, Japan, with two prestigious lecturers and 38 participants. The first speaker was Prof. Kenji Shiraishi, an IEEE Distinguished Lecturer, from University of Tsukuba. The title of his lecture was "New Development of Interface Physics and Next Generation Devices." He reviewed a brief history of interface physics with much attention to industrial applications, stressing the importance of understanding the nano-scale interface of the most advanced electron devices. Prof. Shiraishi then discussed the future of semiconductors as it is struggling from lacking a clear road map for "beyond CMOS" technology.

Kenji Shiraishi, University of Tsukuba

Masaaki Kuzuhara, Fukui University

The second lecturer, Prof. Masaaki Kuzuhara of Fukui University, spoke about "The Most Recent Trend of Nitride Semiconductor Transistor Technology." Professor Kuzuhara described very rapid fT improvement of GaN power devices such as 190 GHz in 2008 to 350 GHz in 2011 based on aggressive scaling. He predicted that GaN power devices will become one of the key technologies in the near future and fT competition will continue.

~Kuniyuki Kakushima, Editor

EDS MEETINGS CALENDAR
(As of 15 November 2012)

The complete EDS Calendar can be found at our web site: http://eds.ieee.org. Please visit.

02 Jan - 04 Jan 2013
2013 IEEE International Nanoelectronics Conference (INEC)
Conf Record :20696
Location: Singapore , Singapore
Contact : Hong Wang
Tel : +6567904358
Fax :
E-mail: ewanghong@ntu.edu.sg
Deadline : 02 Oct 2012
www : http://www.inec2013.org/index.html

12 Feb - 14 Feb 2013
2013 Spanish Conference on Electron Devices (CDE)
Conf Record :21134
Location: Valladolid , Spain
Contact : Dr. Jose Represa Fernandez
Tel : +34 629 732878
Fax :
E-mail: jrepresa@ee.uva.es
Deadline : 11 Jan 2013
www : http://www.cde2013.es

25 Feb - 26 Feb 2013
2013 International Symposium on Next-Generation Electronics (ISNE)
Conf Record :20005
Location: Kaohsiung , Taiwan
Contact : Nai-Hsiang Sun
Tel : +886 7 6577711
Fax : +886 7 6577205
E-mail: snh@isu.edu.tw
Deadline :
www : http://

04 Mar - 06 Mar 2013
2013 14th International Symposium on Quality Electronic Design (ISQED)
Conf Record :30530
Location: Santa Clara CA , USA
Contact : Ali Iranmanesh
Tel : 650-868-8844
Fax : 408-573-0200
E-mail: ali@isqed.org
Deadline : 10 Jan 2013
www : http://www.ISQED.org

19 May - 23 May 2013
2013 25th International Conference on Indium Phosphide and Related Materials (IPRM)
Conf Record :30689
Location: Kobe , Japan
Contact : Yoshiaki Nakano
Tel : +81-3-5452-5151
Fax : +81-3-5452-5156
E-mail: nakano@rcast.u-tokyo.ac.jp
Deadline :
www : http://www.csw-jpn.org/index.php?IPRM2013

21 May - 23 May 2013
2013 14th International Vacuum Electronics Conference (IVEC)
Conf Record :21029
Location: Paris , France
Contact : Dr. Marinella Aloisio
Tel : +31 71 565 6704
Fax : +31 71 565 4596
E-mail: marinella.aloisio@esa.int
Deadline : 15 Mar 2013
www : http://www.ivec2013.org

21 May - 23 May 2013
2013 IEEE Energytech
Conf Record :21305
Location: Cleveland OH , USA
Contact : Prof. Wyatt Newman
Tel : +1 216 368 6432
Fax :
E-mail: wsn@case.edu
Deadline : 01 Apr 2013
www : http://energyTech2013.org

26 May - 30 May 2013
2013 25th International Symposium on Power Semiconductor Devices & IC's (ISPSD)
Conf Record :21023
Location: Kanazawa , Japan
Contact : Dr. Katsumi Satoh
Tel : +81 92 805 3227
Fax : +81 92 805 3881
E-mail: Sato.Katsumi@cb.MitsubishiElectric.co.jp
Deadline : 10 Mar 2013
www : http://www.ispsd2013.com/

16 Jun - 21 Jun 2013
2013 IEEE 39th Photovoltaic Specialists Conference (PVSC)
Conf Record :20112
Location: Tampa FL , USA
Contact : Dr. Ryne P. Raffaelle
Tel : +1 585 475 2055
Fax :
E-mail: rprsps@rit.edu
Deadline : 10 Jun 2013
www : http://www.ieee-pvsc.org/PVSC39/

02 Jul - 05 Jul 2013
2013 Twentieth International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD)
Conf Record :30622
Location: Kyoto , Japan
Contact : Yukiharu Uraoka
Tel : +81-743-72-6060
Fax : +81-743-72-6060
E-mail: uraoka@ms.naist.jp
Deadline : 12 Mar 2013
www : http://www.amfpd.jp

12 Sep - 13 Sep 2013
2013 International Siberian Conference on Control and Communications (SIBCON 2013)
Conf Record :30855
Location: Tomsk , Russia
Contact : Oleg Stukach
Tel : +73822260299
Fax : +73822260299
E-mail: tomsk@ieee.org
Deadline : 30 Jul 2013
www : http://sibcon.sfu-kras.ru

22 Sep - 25 Sep 2013
2013 IEEE Custom Integrated Circuits Conference - CICC 2013
Conf Record :18692
Location: San Jose CA , USA
Contact : Melissa Widerkehr
Tel : +1 301 527 0900
Fax : +1 301 527 0994
E-mail: melissaw@widerkehr.com
Deadline :
www : http://www.ieee-cicc.org

19 Mar - 21 Mar 2013
2013 14th International Conference on Ultimate Integration on Silicon (ULIS)
Conf Record :21357
Location: Coventry , United Kingdom
Contact : Prof. David Leadley
Tel : +44 2476524114
Fax : +44 2476150897
E-mail: d.r.leadley@warwick.ac.uk
Deadline : 07 Jan 2013
www : http://www.ulisconference.org

25 Mar - 28 Mar 2013
2013 IEEE International Conference on Microelectronic Test Structures (ICMTS)
Conf Record :21133
Location: Osaka , Japan
Contact : Tatsuya Ohguro
Tel : +81 45 776 5697
Fax : +81 45 776 4104
E-mail: tatsuya.ooguro@toshiba.co.jp
Deadline : 14 Jan 2013
www : http://www.see.ed.ac.uk /ICMTS/

12 Apr - 12 Apr 2013
2013 IEEE Workshop on Microelectronics and Electron Devices (WMED)
Conf Record :21252
Location: Boise ID , USA
Contact : Timothy M. Hollis
Tel : +1 208 954 9704
Fax : +1 208 368 3426
E-mail: thollis@ieee.org
Deadline : 08 Feb 2013
www : http://www.ewh.ieee.org /r6/boise/wmed2013/WMED2013.html

14 Apr - 18 Apr 2013
2013 IEEE International Reliability Physics Symposium (IRPS)
Conf Record :16752
Location: Monterey CA , USA
Contact : Phyllis Mahoney
Tel : +1 301 527 0900
Fax :
E-mail: phyllism@widerkehr.com
Deadline : 01 Jan 2013
www : http://www.irps.org

22 Apr - 24 Apr 2013
2013 International Symposium on VLSI Design, Automation and Test (VLSI-DAT)
Conf Record :21321

26 May - 29 May 2013
2013 5th IEEE International Memory Workshop (IMW)
Conf Record :30663
Location: Monterey CA , USA
Contact : Pranav Kalavade
Tel : 4087655249
Fax :
E-mail: pranav.kalavade@intel.com
Deadline : 08 Mar 2013
www : http://www.ewh.ieee.org /soc/eds/imw/

02 Jun - 04 Jun 2013
2013 IEEE Radio Frequency Integrated Circuits Symposium (RFIC)
Conf Record :30527
Location: Seattle WA , USA
Contact : Lawrence Kushner
Tel : 603-885-3279
Fax : 603-885-8256
E-mail: kushner@ieee.org
Deadline : 15 Mar 2012
www : http://www.rfic2013.org /index.html

03 Jun - 05 Jun 2013
2013 IEEE International Conference of Electron Devices and Solid-State Circuits (EDSSC)
Conf Record :20930
Location: Hong Kong , Hong Kong
Contact : Mansun Chan
Tel : +852 23588519
Fax : +852 23581485
E-mail:
mchan@ust.hk,edssc2013@polyu.edu.hk
Deadline :
www : http://www.polyu.edu.hk /feng/edssc2013/

06 Jun - 07 Jun 2013
2013 13th International Workshop on Junction Technology (IWJT)
Conf Record :30347
Location: Kyoto , Japan
Contact : Parhat Ahmet
Tel : +81 45 924 5174
Fax : +81 45 924 5584
E-mail: parhat@ep.titech.ac.jp
Deadline : 15 Apr 2013
www :
http://www.iwailab.ep.titech.ac.jp /IWJT/

11 Jun - 13 Jun 2013
2013 Symposium on VLSI Technology
Conf Record :30784
Location: Kyoto , Japan

06 Oct - 09 Oct 2013
2013 IEEE Compound Semiconductor Integrated Circuit Symposium (CSICS)
Conf Record :30122
Location: Monterey CA , USA
Contact : Francois Colomb
Tel : +1 978-684-5435
Fax :
E-mail:
francois_y_colomb@raytheon.com
Deadline :
www : http://www.csics.org

06 Oct - 08 Oct 2013
2013 European Microwave Integrated Circuit Conference (EuMIC)
Conf Record :30843
Location: Nuremberg , Germany
Contact : Wolfgang Heinrich
Tel : +49 30 6392 2620
Fax :
E-mail: w.heinrich@eumwa.org
Deadline : 14 Jun 2013
www : http://www.eumweek.com

07 Oct - 10 Oct 2013
2013 IEEE Bipolar/BiCMOS Circuits and Technology Meeting - BCTM
Conf Record :30279
Location: Bordeaux , France
Contact : Bruce Hecht
Tel : +1 781-937-1535
Fax : +1 781-937-1702
E-mail: Bruce.Hecht@analog.com
Deadline :
www : http://http://ieee-bctm.org/

07 Oct - 10 Oct 2013
2013 IEEE International SOI Conference (SOI)
Conf Record :30572
Location: Monterey CA , USA
Contact : Joyce Hooper
Tel : 818-795-3768
Fax : 818-855-8392
E-mail: joyce@imf.la
Deadline :
www : http://www.soiconference.org

21 Oct - 23 Oct 2013
2013 IEEE International Conference on Microwaves, Communications, Antennas and Electronic Systems (COMCAS)

Location: Hsinchu , Taiwan
Contact : Elodie Ho
Tel : +886 3 5919039
Fax : +886 35820420
E-mail: elodieho@itri.org.tw
Deadline : 31 Jan 2013
www : http://vlsidat.itri.org.tw /2013/General/

Contact : Ran Yagasa
Tel : +011-81-3-3219-3541
Fax :
E-mail: vlsisymp@ics-inc.co.jp
Deadline :
www : http://www.vlsisymposium.org

Conf Record :30834
Location: Tel Aviv , Israel
Contact : Shmuel Auster
Tel : +972 8 857-5982
Fax :
E-mail: auster@ieee.org
Deadline : 01 Aug 2013
www : http://www.comcas.org

22 Apr - 24 Apr 2013
2013 International Symposium on VLSI Technology, Systems and Application (VLSI-TSA)
Conf Record :21322
Location: Hsinchu , Taiwan
Contact : Sherry Chu
Tel : +886 3 5914388
Fax : +886 3 582 0221
E-mail: sherrychu@itri.org.tw
Deadline : 31 Oct 2012
www : http://vlsitsa.itri.org.tw /2013/General/

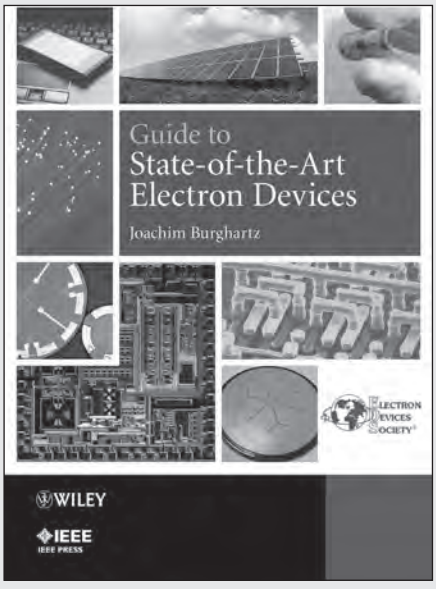
13 Jun - 15 Jun 2013
2013 IEEE International Interconnect Technology Conference - IITC
Conf Record :30493
Location: Kyoto , Japan
Contact : Shinichi Ogawa
Tel :
Fax :
E-mail: shin1.ogawa1@gmail.com
Deadline : 28 Jan 2013
www : http://www.his.com/~iitc/

04 Dec - 07 Dec 2013
2013 IEEE 44th Semiconductor Interface Specialists Conference (SISC)
Conf Record :20912
Location: Arlington VA , USA
Contact : Alexander Demkov
Tel : +1 512 471 8560
Fax :
E-mail: demkov@physics.utexas.edu
Deadline :
www : http://www.ieeesisc.org/

14 May - 16 May 2013
2013 24th Annual SEMI Advanced Semiconductor Manufacturing Conference (ASMC)
Conf Record :30274
Location: Saratoga Springs NY , USA
Contact : Margaret Kindling
Tel : 1-202-289-0440
Fax :
E-mail: mkindling@semi.org
Deadline : 25 Apr 2013
www : http://www.semi.org /asmc2013

16 Jun - 19 Jun 2013
2013 71st Annual Device Research Conference (DRC)
Conf Record :30747
Location: South Bend IN , USA
Contact : Ioannis Kymissis
Tel : 2128544023
Fax :
E-mail: johnkym@ee.columbia.edu
Deadline : 15 Mar 2013
www : http://drc.ee.psu.edu/

06 Dec - 13 Dec 2013
2013 IEEE International Electron Devices Meeting (IEDM)
Conf Record :11125
Location: Washington DC ,
Contact : Ms. Phyllis W. Mahoney
Tel : +1 301 527 0900 (Ext.103)
Fax : +1 301 527 0994
E-mail: phyllism@widerkehr.com
Deadline :
www : http://



EDS Guide to State-of-the-Art Electron Devices

To commemorate EDS's 35th Anniversary the IEEE Electron Devices Society has published the EDS Guide to State-of-the-Art Electron Devices. This comprehensive full-color publication, edited by EDS Vice-President of Technical Activities, Joachim Burghartz, contains 21 chapters by 70 contributors. A historic timeline runs throughout the book, highlighting three key time periods/eras in the electron device field.

Foreword by Nobel laureate George E. Smith

Look for more information soon, on the EDS website, http://eds.ieee.org/.

Copies are scheduled to be available from Wiley and IEEE Press in March 2013. Special discounts will be offered at EDS sponsored conferences and through EDS chapters.

EDS Announces Administrative Committee now Board of Governors

At the June AdCom meeting in Leuven, Belgium, the ED administrative committee unanimously voted to change its name to Board of Governors. Recently, the final approval for this change was granted by IEEE Technical Activities.

Henceforth, the EDS's AdCom will be known as the EDS Board of Governors or BoG. All roles and functions of the BoG will remain as they were under the AdCom moniker, however this new name more accurately reflects the volunteer-led, volunteer-driven spirit of the society and is therefore an important distinction.

"AdCom" is a well-known, heavily-used term within the society and it will no doubt take some time for the change to "BoG" to take hold, but look for this transition to begin immediately, starting with the "AdCom" section of the EDS site in the coming weeks.