IEEE
ELECTRON DEVICES SOCIETY
Newsletter

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2009 IEEE International Reliability Physics Symposium (IRPS)

The 2009 IRPS will be held in Montreal, Quebec, Canada

The 47th IEEE International Reliability Physics Symposium (IRPS) will be held at the Fairmont The Queen Elizabeth Hotel, Montreal, Quebec, Canada, April 26-30, 2009. For nearly 50 years, IRPS has been the leading conference in the area of microelectronics reliability. This comprehensive meeting is an ideal opportunity for scientists and engineers to present their latest results and also to stay current with recent developments in the reliability community.

IRPS was started in the 1960s by the military and aerospace communities, and is now jointly sponsored by the IEEE Electron Devices Society and the IEEE Reliability Society. The meeting has consistently drawn attendees from North America, Europe, Asia, and other parts of the world. This year, to reflect the trend towards the increasing number of fables companies, a new technical focus on fables semiconductor companies is being introduced. Tutorials and papers, which address the technical challenges assuring product reliability in a fabless/foundry environment, will be part of the program.

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Your Comments Solicited

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

IEEE

ELECTRON DEVICES SOCIETY

EDS AdCom
Elected Members-at-Large
Elected for a three-year term (maximum two terms) with 'full' voting privileges

2008	Term	2009	Term	2010	Term
G. Baccarani	(1)	S. S. Chung	(2)	J. N. Burghartz	(2)
J. Deen	(1)	R. Huang	(1)	M. J. Chan	(2)
F. J. Garcia-Sanchez	(2)	R. P. Jindal	(1)	S. Ikeda	(2)
J. B. Kuo	(1)	M. Lundstrom	(2)	R. J. Nikolic	(2)
J. J. Liou	(2)	H. S. Momose	(1)	J. J. Wesler	(2)
H. Shang	(1)	A. Z.H. Wang	(2)	T.-L. Ren	(1)
J. W. Swart	(1)	X. Zhou	(2)	R. M. Todi	(1)
S. Tyagi	(1)				

NEWSLETTER EDITORIAL STAFF

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.

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June 2008 AdCom Meeting Summary

James L. Merz

The 2008 Spring meeting of the IEEE Electron Devices Society was called to order by President Cor Claeys on Sunday, June 1 at the Divani Caravel Hotel in Athens, Greece. In his introduction, Cor gave a brief but charming history of the city of Athens, and the historical background of the Mycenae Room, in which this meeting took place.

Executive Reports

President's Report. After unanimous approval of the minutes of the December 2007 AdCom meeting, **President Claeys** thanked John Xanthakis for doing an excellent job on local arrangements for this meeting in Athens. In particular, Cor pointed out John's extensive work on the preparation and distribution of attendee visa letters for both the AdCom Meeting and the mini-colloquia, needed for many of the attendees to come to Greece. Cor then stated that the following Ex-Officio Member appointments have been proposed since the December 2007 AdCom Meeting:

Chih-Hung (James) Chen as Member of Compact Modeling Technical Committee, and M. Jagadesh Kumar as Member of Educational Activities and Publications committees. Both of these appointments were approved unanimously by the AdCom members.

Cor then highlighted the first TAB Meeting of the year, last February. Discussions took place at the TAB involving approval of the first phase of a new periodical which will be launched by the Solid State Circuits Society, replacing the SSCS's newsletter, and a periodical that will be launched by the Council on Electronic Design Automation, entitled "Embedded Systems Letters". He also reported that there was much discussion about the concept of creating a "technology driven and marketplace defined" roadmap that would identify common technologies pertinent to many of the societies.

Report of the President-Elect, Renuka Jindal, on the ExCom meeting of May 31. Renuka reviewed the main areas of discussion by ExCom members, much of which centered on EDS membership and the participation of members at AdCom meetings. An important point was made, namely that elected and ex-officio members with voting privileges are not allowed to miss two consecutive meetings, according to the bylaws, and that this rule has sometimes been broken. Renuka exhorted all voting members to attend these meetings, as the broad spectrum of insights and opinions offered by members is essential for the Electron Devices Society to realize its potential of leadership in the critical fields that it fosters. He spoke about the Society's interest in being involved with new technologies and how this is in line with IEEE's Humanitarian Technology Challenge.

An interesting discussion took place about the possibility of publishing an on-line, rapid turn-around journal, EDS Express. It was initially proposed that this could be a vehicle to publish other good papers that don't make it into Electron Devices Letters, and that it could be **faster** than EDL. It was widely felt that quality should be foremost, and the editors are looking for feedback about the need and value of such a publication.

Two other issues were discussed: (1) AdCom voted unanimously that EDS will co-sponsor the new SSCS Magazine, and (2) it was reported that the Executive Committee (ExCom) decided to discontinue the practice in 2009 of sending free subscriptions of Nanotechnology Magazine to members.

Treasurer's Report, Steve Parke. The report was given by Bill Van Der Vort in Steve's absence. Basically the EDS financial situation is very sound, unlike the U.S. federal budget. No bail-out is required for the Electron Devices Society! The 2007 pre-audit budget is more than twice that expected, due primarily to a large interest income and an IEEE infrastructure credit. Bravo to Steve and all members of the AdCom for their continued fiscal responsibility; too bad this meeting was not held in Washington to set an example! The 2009 EDS Membership Fee will be $12 for members.

Executive Director's Report, Bill Van Der Vort. Bill's report had 29 bullet items. Let me just hit the highlights.

April Brown is developing a survey of members and non-members to gather information on their needs. Work is progressing; the survey will soon be distributed.

Work is ongoing regarding the many EDS awards, including consolidation of several award brochures into one, initiation of a Chapter of the Year Award nomination form, and the development of a proposal for an Early Career Award.

Several proposals are underway to enhance EDS visibility, such as increasing funding for maintenance of the EDS website, more short courses on the web (IEEE Expert Now), distribution of an EDS banner to those chapters requesting it, the planned development of new chapters in China and India, posting of more symposium proceedings on IEEE Xplore, and enhancement of QuestEDS, the electronic service available to EDS members who have technical questions that other members might be able to answer.

Report from the Vice-President of Membership, Albert Wang. The

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Upcoming Technical Meetings

2009 IEEE International Memory Workshop (IMW)

Photo courtesy of Pascale Mazoyer

.....and Chips

The first IEEE International Memory Workshop (IMW) will be held at The Hyatt Regency Hotel in Monterey, California from Sunday, May 10th, through Thursday, May 14th (morning), 2009. In response of the growing global interest in Nonvolatile & Memory technologies, the previous Nonvolatile Semiconductor Memory Workshop (NVSMW) and International Conference on Memory Technology and Design (ICMTD) have merged together and will meet annually in May.

While last year the combined (23rd NVSMW & 3rd ICMTD) conference was held in Europe, in 2010 the IMW will be held in Asia, in order to facilitate local participation, in 2011 back to the US and in 2012 back to Europe again, and so on. The conference is sponsored by the IEEE Electron Devices Society.

The convergence scenario of consumer, computer and communications electronic systems are requiring an exponential growth of code and mainly data in all the electronic systems.

While in the past we could associate to a specific market segment a memory technology (ex. Computer & DRAM, mobile communications & Flash NOR, Consumer DSC & Flash NAND), now more and more we are considering a memory system stacking different NVMs and xRAM memories (and often uController to facilitate the interfacing and the managing of the overall memory) in order to fit the need of any "convergent" application–wise electronic system. The memory system and all its implications in term of memory densities, technology performances, packaging, and interfacing become more and more of interest.

In addition, the scaling scenario both in term of "Moore's law", and "more than Moore", identifying limitations and enhancements of memory technologies by technology nodes and by new concepts or materials, indicates clearly and strongly again the perspective of a memory system.

The IMW wants to answer to this need, widening the scope from Nonvolatile Memory technology and design, which have been successfully discussed in more than 30 years of NVSMW to the other Memory technologies and design, which were the focus of ICMTD, in the view of the memory system.

Innovation is our tradition: IMW widens its focus while maintaining the positive characteristics of a workshop. IMW is a unique forum for both specialists in all aspects of memory (nonvolatile & volatile) microelectronics and novices wanting to gain a broader understanding of the field. Attendees represent industry leaders, both professional and academic researchers, involved with semiconductor non-volatile & volatile memory development and production along with end users of memory products. Principal topics for discussion at IMW are: device physics; silicon processing; product testing; new technologies, including multi-level-cell approaches; programmable logic; memory cell design; integrated circuits; solid state disks and memory cards; memory reliability; and new applications.

For many years, the attendance for the NVSMW conference was around 100 (first held in 1976). In recent years, however, the attendance has grown considerably, reflecting the large growth in the memory market, particularly flash memory and embedded memory on logic cores, with the attendance at the last few conferences being in excess of 300. The ICMTD has shown similar numbers with around 150 participants. The conference is attended by a wide international community from North America, Europe, Japan and other Asian countries.

A record 86 abstracts were submitted last year to the first Joint NVSMW/ICMTD conference and 40 were selected for the conference (~45% acceptance rate with high global diversity)

An important goal of IMW is to provide an informal environment to encourage discussions among participants and lively interactions. There will be morning and afternoon technical sessions, along with a lively evening panel discussion on a hot topic in the non-volatile memory field. Technical interaction among presenters and attendees is encouraged through question and answer sessions and allotting ample time after the formal paper presentations for further in-depth discussions. Organized breaks, including snacks and the conference dinner and lunch are provided as opportunities to meet and exchange ideas with colleagues. Breakfasts are also provided. The morning and afternoon technical sessions are organized in a manner to provide ample time for the informal exchange and to enjoy the beauty of the Monterey area.

The hotel is conveniently situated in the Monterey peninsula and allows fast access to many sights. Among favorite destinations are: the famous Fisherman's Wharf, Cannery Row, The Monterey Bay Aquarium, 17-Mile Drive, nearby Carmel and the many tranquil sights of natural beauty of the Monterey coastline and the fine dining

experiences of the area. The Hyatt Regency is located at: One Old Golf Course Road, Monterey, California.

More information about the conference can be found at the conference website—http://www.ewh.ieee.org/soc/eds/imw/. Please visit this website for the Call for papers. The submission deadline is January 7, 2009.

With world class leaders in the industry attending and the high quality of papers selected, the first IMW conference will be a great launch.

We look forward to seeing you at the 2009 IMW next May in Monterey!

Giuseppe Crisenza
2009 IMW General Chair
Numonyx b.v.
Agrate Brianza, Italy

Pascale Mazoyer
2009 IMW Technical Chair
STMicroelectronics
Crolles, France

Tamer San
2009 IMW Finance Chair
Texas Instruments
Dallas, Texas, USA

2009 IEEE International Conference on Microelectronic Test Structures (ICMTS)

The IEEE Electron Devices Society is sponsoring the 2009 IEEE International Conference on Microelectronic Test Structures (ICMTS) to bring together designers and users of test structures to discuss recent developments and future directions for the use of test structures for semiconductor process evaluation. The 22th ICMTS conference will be held at the Embassy Suites Mandalay Beach Resort in Oxnard, California, USA, March 30-April 2, 2009.

Test structures have played a critical role in the rapid advancement of semiconductor manufacturing technology. Test structures uniquely designed to isolate and emphasize individual artifacts of the manufacturing process continue to play a key role in meeting the many challenges of advancing semiconductor technology as highlighted by The International Technology Roadmap for Semiconductors. Additionally, the decades of silicon-based test structure understanding is now being applied in a variety of nanotechnology applications.

ICMTS began with an inaugural event in 1984 as a NIST Workshop. It has been held every year since then, with joint NIST/IEEE sponsorship for the past 15 or more years. Since 1988, ICMTS has provided a forum for the test structure design and user community to meet and discuss these important challenges and report on the most recent developments in this field. To this end ICMTS focuses on the design, fabrication and characterization of test structures for process and material evaluation, reliability and process failure analysis, manufacturing process control, device and circuit modeling, sensors and devices as well as associated measurement techniques and data analysis. ICMTS is one of the few international IEEE-sponsored conferences that move between Europe, Asia, and the USA in a three-year cycle.

Original papers presenting new developments in silicon, compound semiconductor, MEMS, and nanotechnology microelectronics test structure research, implementation, and applications as well as test structures aimed at new materials and devices characterization are presented. Papers are selected based upon the merit of the work and to demonstrate the broad spectrum of test structure design and use by a worldwide community. Papers will be presented that discuss test structures and methods for:

- Material and Process Characterization
- Replicated Feature Metrology on Silicon and on Masks
- Technology R&D, Yield Enhancement, Process Integration, and Production Process Control
- Foundry/Fabless Interface Strategies and Design for Manufacturing (DFM)
- Manufacturing of Integrated Circuits
- Nanotechnology, Displays, MEMs, Sensors, and Emerging Devices
- Device & Circuit Modeling
- Measurement Utilization Strategy
- Reliability and Product Failure Analysis

All lecture sessions are held sequentially as one track, with ample time for fruitful discussion among delegates to the conference. The Technical Program Committee will present a Best Paper award. A one-day Tutorial Short Course on Microelectronic Test Structures will precede the conference on March 30, 2009. There will be an equipment exhibition relating to test structure measurements. The conference will be held on Wednesday night with the backdrop of Air Force One at the Ronald Reagan Museum, and an optional post-conference excursion will be announced at a later date.

Oxnard, California, provides a beach front hotel for this year's conference and has average year-round high temperatures between 66-74°F. Located 60 miles northwest of Los Angeles, the Oxnard area provides opportunities for whale watching, boat trips to the Channel Islands National Monument, and road trips to the central California wine

country or along the famed Pacific Coast Highway.

For those with further interest in microelectronic test structures, past ICMTS conference proceedings are available from the IEEE. More information can be found at http://www.see.ed.ac.uk/ICMTS/.

Greg Yeric
2009 ICMTS General Chair
ARM
Austin, Texas, USA

2009 International Vacuum Electronics Conference (IVEC)

St. Peter's Basilica

The Tenth International Vacuum Electronics Conference (IVEC 2009) will be held in Rome, Italy, April 28-30, 2009. The meeting will take place at the Angelicum, Pontifical University of Saint Thomas Aquinas and is sponsored by the European Space Agency (ESA) with technical co-sponsorship from the IEEE Electron Devices Society (EDS).

IVEC was originally created in 2000 by merging the US PowerTubes Conferences and the European Space Agency TWTA Workshops, and has now expanded to a fully international conference, being held every other year in the US, and in Europe and Asia alternately every fourth year. After Kitakyushu, Japan in 2007 and Monterey, USA in 2008, IVEC 2009 returns to Europe for the celebration of its tenth anniversary in the magnificent city of Rome. The "Eternal City" is home to some of the most famous and ancient architectural wonders such as the Coliseum, the Roman Forum and the Pantheon, some dating back over two thousand years. From Ancient Roman times to Medieval, Renaissance to Neoclassicism eras, influences can be seen in every corner of this buzzing city of over 2.7 million inhabitants, known also for its gastronomy and busy nightlife.

IVEC has become the worldwide forum for all players in the field of Vacuum Electronics, drawing together representatives of academia, research institutes, industry, institutions and users. For systems developers, IVEC will provide unique insight into the absolute latest developments of vacuum electron devices. These devices continue to provide power and performance for advanced electromagnetic systems, especially at higher frequencies. Rapid technological advances in the vacuum electron device area, as well as new and improved devices, are making it possible for systems to achieve reliability and capabilities well beyond those of any fielded today.

IVEC 2009 will open the first day with a plenary session featuring invited speakers covering several subjects of broad interest. This session will be followed by two and a half days of parallel technical sessions that will include both oral and poster presentations. As in past conferences, the technical meeting and social events will provide a unique opportunity to renew friendships with colleagues and friends, interact with customers, and meet students. A highlight of the meeting will be the presentation of the IVEC Award for Excellence in Vacuum Electronics, which will take place during the plenary session on the first day, and a Best Student Paper Award given during the Conference dinner. Complete details about the meeting and these awards can be found on the IVEC 2009 web site.

The technical subject categories of the papers presented at the conference will cover a broad range of classic vacuum electron devices, including traveling wave tubes, crossed field devices, klystrons, inductive output tubes, fast wave devices, free electron lasers, pulse compression devices, high pulsed power devices, plasma filled amplifiers, triodes, tetrodes, pentodes and switches. In the area of vacuum microelectronics, IVEC is seeking papers on field emitter arrays, microwave and millimeter wave devices, displays, sensors, and terahertz devices. Under systems and subsystems, IVEC is including components such as electron sources, guns, collectors etc., microwave and millimeter-wave power modules, electronic power conditioners, power supplies, linearizers, amplifier/antenna coupling, device and subsystem integration, reliability and life. Under the heading of theory and technologies, IVEC is seeking papers on computer analysis and modeling, novel materials, electron emission, surface charging, RF and high voltage breakdown, linearity, intermodulation, noise, measurement techniques, miniaturization and thermal control. IVEC also seeks papers in the area of applications of vacuum electron devices such as defense, radar, telecommunications, medicine, and particle accelerators.

Being IVEC 2009 is organized by the European Space Agency, a special technical session will be dedicated this year to the technologies and applications of vacuum electronics in space. Space represents a major challenge for application of vacuum electronics, which constantly pushes the technology beyond its limits. This session is intended to be a forum of information and discussion between the various players in the field (satellite/payload manufacturers and operators, tube industry, government/institutions, etc.)

and to address the main challenges of future space missions. For this special session, papers are more specifically sought on space applications (e.g., telecommunications, navigation, TT&C, radio-science, and radar), space technology (e.g., reliability, temperature management and control), space systems and subsystems (e.g., linearizers, electronic power conditioners, MPMs, multiport amplifiers, and future payload architectures).

A detailed list of technical subject categories can be found on the IVEC 2009 website. Papers on all these topics are sought and two-page abstracts shall be submitted electronically by December 23, 2008.

For further information, please visit the IVEC 2009 website: http://www.ivec2009.org/.

Marinella Aloisio
2009 IVEC General Technical Chair
European Space Agency
Noordwijk, The Netherlands

2009 IEEE International Reliability Physics Symposium (IRPS)

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The highlight of the conference consists of three days of parallel technical sessions in which scientists and engineers working in the area of microelectronics reliability present their original research. The presentations focus on areas such as identification of new failure mechanisms in emerging technologies, improvement in understanding of known failure mechanisms, and demonstration of new techniques for reliability evaluation. Technologies addressed include silicon-based integrated circuits, compound semiconductor devices, and emerging devices such as organic electronics and nanoelectronics. Specific topical areas to be addressed at IRPS 2009 are:

- Product Reliability and Burn-In
- Non-Volatile Memory
- Qualification Strategies
- Circuits
- Assembly and Packaging
- Failure Analysis
- MEMS
- Device and Process
- Transistor
- Interconnects
- Device Dielectrics
- ESD and Latch-Up
- Process Induced Damage
- Nanoelectronic Device Reliability

In addition to the technical platform presentations, presenters submit papers that discuss their work in more depth. Electronic copies of all conference papers will be provided to each attendee.

Other opportunities at the conference include:

Tutorial Program. Two days of tutorials will be presented covering various areas of microelectronics reliability. Examples of tutorial topics are areas such as fables/foundry reliability requirements, high-k stack reliability, BEOL reliability, and fundamentals of reliability wear-out mechanisms. For each tutorial, a recognized expert collects and presents key information, offering a comprehensive overview of the topic to the attendees. This provides people new to the field with a thorough introduction to the topic, and also affords experienced researchers an opportunity to review and discuss with their colleagues important reliability issues and challenges that are currently faced in the industry. Copies of the presenters' slides will be provided to attendees.

Reliability Year-In-Review. At the year-in-review, a summary of the most significant new developments in the reliability community over the past year is given. This serves as a convenient, single source of information for attendees to keep current with the recent reliability literature. A copy of the year-in-review slides will be provided to attendees.

Evening Workshops. The evening workshops provide attendees with an opportunity to discuss key areas of concern in an informal setting under the guidance of a moderator experienced in the field. Many of the workshops are directly coupled to the technical program, thereby providing a venue for in-depth discussion of the topic.

Evening Poster Session. The poster session provides an additional opportunity for authors to present their original research. The setting is informal and allows for easy discussion between authors and other attendees.

Equipment Demonstrations. Held in parallel with the tutorial and 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.

Best paper, best poster, and best student paper awards will be given. To qualify for the best student paper award, the IRPS presenter must be a student and must also be the first author of the paper.

Finally, this is an exciting year for IRPS. This will be the first IRPS held outside of the United States. We encourage everyone to consider attending this year's IRPS in beautiful Montreal, Canada. Montreal is actually two cities in one: a beautiful "old" city and an active "modern" city. Come be a part of the excitement and join us at IRPS 2009!

For further information, visit the IRPS website, www.irps.org. You may also contact the 2009 IRPS General Chair, Ronald Lacoe, either by e-mail at ronald.c.lacoe@aero.org, or by phone at 1-310-336-0118. We look forward to seeing you in Montreal!

Robert Kaplar
2009 IRPS Publicity Chair
Sandia National Laboratories
Albuquerque, NM, USA

JUNE 2008 ADCOM MEETING SUMMARY

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major thrust of Albert's report is that membership in North America continues to decline, whereas it is increasing in all other regions of the world. Nearly a dozen initiatives to increase membership were reviewed, as this is considered essential to the health and well-being of the Electron Devices Society. Albert's report was counterbalanced by the **Report from the Vice-President of Regions/Chapters, Juin Liou,** who stated that the number of chapters has grown by about 40% since 2001, most of that growth having been in China and India, and there are 46 potential new chapters with which Juin is working.

Educational Activities were reported by Vice-President, Paul Yu, who discussed the Distinguished Lecturer Program and its success. Paul presented a report that gave a history of the usage & cost of the EDS Distinguished Lecturer Program. In 2007 there were 196 lectures given. As of May 2008, a total of 149 lectures were given. The success of this program is due to more DLs being engaged in the program and an increase in the number of Mini-Colloquia held.

Vice-President Renuka Jindal, in his Publications Report, explained that the Awards Program, which includes the George Smith and Paul Rappaport Awards, is a big part of the Publications Committee program. After reviewing circulation and financial statistics for several EDS publications, Renuka sought, as an action item, enhanced advertisement of EDS Member benefits such as the EDS Archival DVD, Annual DVD Update Package, QuestEDS, IEDM Short Course DVD, and electronic delivery of publication TOCs, to all EDS chapter chairs.

April Brown, in her Vice-President of Technical Activities Report, provided more detail about the status of the member/non-member survey, and she discussed the Technical Committee report that was used to enhance the technical committee levels of activity. Each Technical Committee Chair was asked to choose and carry out two activities that they could initiate and which they believe would show substantial progress by the end of the year.

The Vice-President for Fellows Evaluation, Hiroshi Iwai, reported that the Committee is evaluating 52 Fellow nominations received by EDS this year, and that the newly-elected IEEE Fellows will be announced shortly after the November IEEE Board of Directors meeting. **Ilesanmi Adesida, Nominations and Elections Chair,** presented a lengthy report in which he first spoke about encouraging colleagues to elect people who are committed, active participants in EDS, and who want to contribute to the Society, and he addressed the problem of attendance at AdCom meetings that has already been noted above. Ade then discussed in detail a number of possible changes to the AdCom and Officer election processes that would enhance these elections. Ade proposed two Action Items that should be presented at the December AdCom meeting: (1) To develop a proposal for changes to the EDS Constitution and Bylaws concerning the Officer and AdCom election process, (2) To develop a proposal for changes to the EDS Bylaws concerning the attendance requirement for elected members with vote.

An important presentation and discussion followed, led by **Ravi Todi, the EDS IEEE GOLD Committee representative,** concerning the EDS interest and support for students and young professionals studying and working on electron devices. Called the GOLD initiative, GOLD stands for Graduates of the Last Decade; it was established to better serve these important members of the Society by getting young members involved is society activities, effectively bridging the gap between student, GOLD and senior members, and helping young professionals with career opportunities within the EDS Field of Interest. Three motions were made and unanimously approved during the course of this discussion: (1) To provide funds for the GOLD Committee and the Career Assistance subcommittee, (2) To provide funds for a Student/GOLD Ambassador Program, where Ambassadors would share personal experiences with students and speak about the benefits of joining EDS, and (3) To approve an Early Career Award for high potential students. It was generally felt that assisting and mentoring our young career-track individuals was key to the health not only of this Society, but of "society" in general!

Bill Van Der Vort then described a number of proposed initiatives for EDS for 2009 that would continue and enhance the many active thrusts of the Society. Six of these initiatives were quickly approved. Finally, **Cor Claeys** moved to adjourn the June 1, 2008, Athens meeting of the AdCom with an exhortation to explore and enjoy the fine weather and incredible historical grandeur of this beautiful city. The motion passed with enthusiasm.

The next AdCom meeting will take place in San Francisco on Sunday, December 14, 2008. The 2009 Spring ExCom/AdCom Meeting will be held in Mumbai, India on May 30-31. Mumbai, formerly **Bombay**, is the capital of the Indian state of Maharashtra and the financial capital of India. With an estimated population of thirteen million, it is the most populous city in India and the second most populous city in the world. Mumbai lies on the west coast of India and has a deep natural harbour.

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EDS Launches a Host of New Initiatives for Young Professionals

Ravi M. Todi

In an effort to increase value for young professionals, EDS has launched a host of new initiatives. As the EDS IEEE GOLD representative, I am happy to report on these new initiatives.

EDS GOLD COMMITTEE

An EDS GOLD AdHoc Committee dedicated to better serving students and young professionals is established. This committee is charged to establish programs:

- to better serve the needs of students and recent graduate professionals
- to get young members involved in society activities
- to effectively bridge the gap between student, GOLD and senior members
- to increase and provide sustained membership growth
- to help young professionals with career opportunities within EDS' field of interest

The committee will be composed of 20 members with 14 serving on Technical sub-committees, 5 on the existing standing committees and 1 student representative. The details are outlined below:

- Educational Activities
- Meetings
- Membership
- Publications
- Regions/Chapters
- Technical Activities (14 technical sub-committees)
- Student representative

In addition to the creation of an EDS GOLD AdHoc committee, we will be creating a Career Assistance Sub-Committee, responsible for developing materials and programs for providing career guidance and assistance to students and young members. The committee will draw from the GOLD AdHoc committee for 50% of its membership and the other 50% will be drawn from existing EDS committees.

EDS STUDENT/GOLD AMBASSADOR LECTURER PROGRAM

The Student/GOLD Ambassador Program is a joint initiative from the EDS GOLD and Education committees. The key objectives of this program are: (1) to better serve needs of Student and Recent Graduate Professionals; (2) to provide effective communication between student branch chapters; (3) to develop stronger student branch chapters and to expand student branch chapters and (4) to increase student branch chapters and provide sustained growth in membership.

To start the program, there will be one ambassador appointed for each of the five following geographical areas (same as subcommittees for Regions/Chapters): North America East (Regions 1-3 & 7); North America West (Regions 4-6); Europe, Middle East & Africa (Region 8); Latin America (Region 9); and Asia & Pacific (Region 10). More details on this program are to be made available on the EDS web site soon.

IEEE ELECTRON DEVICES SOCIETY EARLY CAREER AWARD

EDS approved the establishment of an Early Career Award at its June 2008 AdCom meeting and if approved by IEEE, the call for nominations for the first award will go out in early 2009.

The EDS Early Career Award will be awarded annually to promote, recognize and support Early Career Development within the Electron Devices Society's field of interest.

To be eligible, the candidate must be an IEEE EDS GOLD member at the time of nomination and is making contributions in an EDS field of interest area. The nominator must be an IEEE EDS member. Previous award winners are ineligible. A stipend 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 at the annual EDS GOLD Lecture, held in conjunction with the IEEE International Electron Devices Meeting (IEDM).

More details to be made available, once the award is officially approved by IEEE.

NEW STUDENT ARTICLE ADDED TO THE EDS NEWSLETTER

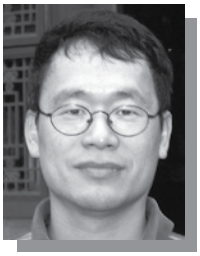
To help promote student chapter activities and membership, the Society has decided to reinstate the Chapter Student/Young Engineer feature in the EDS Newsletter. The biannual articles will be written by members of EDS student branch chapters. An EDS GOLD Committee member will contact student chapters in the various regions and solicit members to

write about their personal experiences related to involvement with the chapter, and to share their best practices for having successful events. A full page will be dedicated to this new feature and we will encourage authors to submit photos related to their chapter events.

Any initiative is only as successful as volunteers make it. So if you are interested in becoming active and get involved with any of these new initiatives, please contact me immediately. Please send me an e-mail indicating what you would like to be involved with, including your short bio. If you are interested in serving on the GOLD committee, you will be expected to attend at least one meeting a year, and typically there is no financial support available to attend this meeting. For any additional information please contact Ravi Todi (rtodi@ieee.org).

Ravi M. Todi
IEEE GOLD Committee
Representative
IBM
East Fishkill, NY USA

EDS Nanotechnology Committee Report

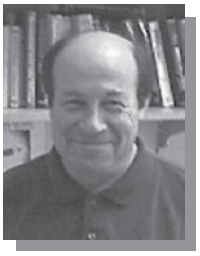


Edwin C. Kan

The Nanotechnology Technical Committee of the IEEE Electron Devices Society (EDS) has eight committee members from diverse regions and reports to the EDS AdCom directly. On the other hand, the IEEE Nanotechnology Council (NTC), is a multi-disciplinary entity comprised of 21 IEEE member societies, reporting directly to the IEEE. Since the electron device is a major part of nanotechnology in terms of both application and patterning technology, the two committees are working together on a Special Issue for *IEEE Transactions on Nanotechnology*, devoted to the research activities on integrated electronic devices with interface to biomolecules and living cells. Not only lithography is approaching the sub-30nm resolution in commercial integrated circuits (IC), but hybrid techniques for handling bottom-up nanostructures are also maturing. We can envision that electronic interface to molecules and cells with nanoscale precision be integrated to commercial IC substrates with information processing and communication circuits. Many paradigm-shift biomedical and environmental applications can be enabled by these new capabilities of sensing and manipulation in the individual molecular and cellular levels. Although many research approaches have a widely interdisciplinary nature, common techniques of nanofabrication, information acquisition and modeling are shared. The Special Issue will focus on the *electronic and electrochemical* interface instead of generic interface to nanostructures, and hence research emphasizing only on microfluidic devices or optical response is not included. General areas of interest include, but are not limited to, integrated biolmolecular and bio-sensors, integrated patch-clamp based devices, electrochemical modeling of interface, novel electronic devices for bio-interface, electrostatic modeling of cell activities and reliability and control of long-term drift of the interface. The submission deadline is targeted at April 2009 and eventual publication date in January 2010. Nine guest editors across a wide spectrum of nanotechnology expertise have been assembled, and solicitation will be sent to a broad list of research groups.

Edwin C. Kan
EDS Nanotechnology
Technical Committee Chair
Cornell University
Ithaca, NY, USA

EDS Optoelectronic Devices Committee Report



Shaya Fainman

The Optoelectronic Devices Technical Committee (ODTC) of the EDS was reactivated in 1998 with the reappointment of Chennupati Jagadish, who served two terms as the Chair. Leda Lunardi was the Chair of the committee from January 2003 to the end of 2007. Since January 1, 2008, Shaya Fainman (University of California, San Diego, La Jolla, CA, USA) has been the new Chair of the committee, consisting of Scott A. Hamilton (MIT Lincoln Laboratory, Lexington, MA, USA), Uriel Levy (Hebrew University in Jerusalem, Israel), Leda Lunardi (North Carolina State University, NC, USA), Nasser Peyghambarian (University of Arizona, Tucson AZ, USA), David Plant (McGill University, Montreal, Canada), Stephen E. Ralph (Georgia Institute of Technology, Atlanta, GA, USA), Rengarajan Sudharsanan (Spectrolab Inc., Sylmar, CA, USA), Osamu Wada (Kobe University, Kobe, Japan), and P. K. L. Yu (University of California, San Diego, La Jolla, CA, USA).

The ODTC members would like to thank retiring colleagues, Yi-Jen Chiu (National Sun Yat-Sen University, Koahsiung, Taiwan, ROC), Lorenzo Faraone (University of Western Australia, Crawley, Australia) and

P. S. Zory, Jr. (University of Florida, Gainesville) for their services during the past few years.

The main mission of the OTDC is to ensure that the field of optoelectronics is sufficiently covered by EDS. More specifically the various functions include:

- To identify topics for special issues or review articles of EDS sponsored journals
- To review requests for EDS sponsored or co-sponsored conferences, technical meetings or workshops with sufficient and effective coverage of the field of optoelectronics and photonics
- To initiate workshops in the emerging areas of optoelectronic devices
- To participate in EDS sponsored journals and steering committees (like the Journal of LightwaveTechnology)
- To act as liaison with other technical committees within EDS (e.g. Compound Semiconductor Devices and Circuits), within IEEE (LEOS, MTTS) or other societies (OSA, SPIE) with similar interests

Some topics for workshops suggested during last few years include:

- Nanophotonics
- Metamaterials
- Photonic lightwave circuits
- Computational modeling for optoelectronics
- Silicon photonics and optoelectronics
- Chip-scale optical communication and signal processing
- Optoelectronics for data centers
- Data aggregation technologies
- Photonic architectures and devices for LANs and access networks

The OTDC meets once a year during the EDS AdCom meeting series in December at the IEDM, in either Washington, D.C. or San Francisco, CA. For any comments or suggestions, please contact: Shaya Fainman, Department of Electrical and Computer Engineering, University of California, San Diego, 9500 Gill man Drive, La Jolla, CA 92093-0407; Phone: (858) 534-8909; FAX: (858) 534-1225; E-mail: fainman@ece.ucsd.edu.

Shaya Fainman
EDS Optoelectronic Devices
Technical Committee Chair
University of California
San Diego, CA, USA

2010 IEEE Call for Fellow Nominations

Nominations are now being accepted for the IEEE Fellows Class of 2010. Members of this prestigious group now number 6000 out of IEEE's total of 375,000 members. These Fellows are the visionaries, the pioneers and technology leaders in their field as well as worldwide influential members.

If you know of an IEEE colleague who is a 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, you can nominate this person in one of four categories: Application Engineer/Practitioner, Educator, Engineer/Scientist or Technical Leader.

To nominate an IEEE Senior member or to learn more about these categories and the Fellow program, visit the Fellow Web site at http://www.ieee.org/fellows. The deadline for nominations is 1 March 2009.

Announcement of the 2008 EDS PhD Student Fellowship Winners

Paul K.L. Yu

Agis A. Iliadis

The Electron Devices Society PhD Student Fellowship Program was designed 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.

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 four 2008 EDS PhD Student Fellowship winners. Brief biographies of the 2008 recipients appear below. Detailed articles about each PhD Student Fellowship winner and their work will appear in forthcoming issues of the EDS Newsletter.

Ahmad Ehteshamul Islam was born in Sylhet, Bangladesh in 1979. He received his B.S. in Electrical and Electronic Engineering (EEE) from Bangladesh University of Engineering and Technology (BUET) in 2004, securing highest CGPA among the EEE graduates. During 2004-2005, he worked as a Lecturer in EEE, BUET. He is currently enrolled in a Ph.D. program under the supervision of Professor M. Ashraful Alam in the School of Electrical and Computer Engineering, Purdue University, West Lafayette. His current research focuses on the impact of defect formation in semiconductor devices. He has authored and co-authored more than 15 journal and conference papers. He received several awards during his undergraduate period for maintaining excellent academic standing. He was also involved as a student team leader (2002-2003) and a faculty co-supervisor (2004-2005) of EEE, BUET team in International Future Energy Challenge 2003 and 2005 competitions, respectively. Currently, he is a student member of the IEEE Electron Devices Society and American Physical Society and also serves as a reviewer for several IEEE journals.

Jay Mody received his B.E. degree in Electronics and Telecommunications Engineering from University of Mumbai, India, in 2001, the M.S. degree in Electrical Engineering from Syracuse University, USA in 2005. Since 2005, he is pursuing his Ph.D. degree under the supervision of Prof. Dr. Ir. Wilfried Vandervorst at Interuniversity Micro-Electronics Centre (IMEC) and the Department of Physics and Astronomy, Katholieke Universiteit Leuven, Belgium.

The topic of his doctoral research is "Dopant and Carrier Profiling in FinFET - Based Structures". The research centers on development of Scanning Spreading Resistance Microscopy (SSRM) technique for routine quantitative 3D-carrier profiling in FinFET-based devices with sub-nm resolution. He has authored or co-authored 18 technical papers that have appeared in reviewed journals and conference proceedings. He received the Best Student Paper Award for the paper titled "Characteristic of Operational Transconductance Amplifier Circuit in the Microwave Frequency Range" at the 8th International Conference on Electromagnetic Interference and Compatibility.

Runsheng Wang received the B.S. degree in Microelectronics from Peking University, Beijing, China, in 2005. He is currently pursuing his Ph.D. degree in the Institute of Microelectronics, Peking University, under the guidance of Prof. Ru Huang.

His current research work is on novel nano-device simulation, fabrication and reliability, with focus on Si nanowire transistors and multi-gate devices. In 2007, he co-established the EDS Peking University Student Branch Chapter and serves as the Chair from Jan. 2008 to the present. He currently serves as the student secretary for the incoming 9th International Conference on Solid-State and Integrated-Circuit Technology (ICSICT) to be held in Beijing, Oct. 2008. He received the First Place Best Student Paper Award from International Semiconductor Technology Conference (ISTC) in 2008.

Jiahui Yuan received his B.Eng. degree in 2005 from the Department of Electronic Engineering, Tsinghua University, Beijing, China, and the M.S. degree in Electrical and Computer Engineering from Georgia Institute of Technology (Georgia Tech), Atlanta, GA, USA, in 2007. He is currently working toward the Ph.D. degree at Georgia Tech in Professor John D. Cressler's silicon-germanium (SiGe) devices and circuits research team. His master's thesis was entitled "SiGe HBTs Operating at Deep Cryogenic Temperatures" and his current research interests include the cryogenic operation of SiGe heterojunction bipolar transistors (HBTs) for space exploration systems, and the scaling of SiGe HBTs for sub-mm wave and TeraHertz applications.

Paul K.L. Yu
EDS Vice-President of
Educational Activities
University of California at San Diego
La Jolla, CA, USA

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

IEEE

CALL FOR NOMINATIONS

2009 IEEE EDS PhD Student Fellowship

ELECTRON DEVICES SOCIETY

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 six 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, 2009
- Recipients will be notified by July 15, 2009
- Monetary awards will be given by August 15, 2009
- Formal presentation of the awards will take place at the IEDM Awards Ceremony in December 2009
- 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 Program
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

2009 IEEE EDS MASTERS STUDENT FELLOWSHIP

FINAL CALL FOR NOMINATIONS

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. Five 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 certificate 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 and Accomplishments. 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
- A letter of recommendation from an individual 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 March 15, 2009
- Recipients will be notified by May 15, 2009
- 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
- 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 Masters Student Fellowship Program
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

EDS Senior Member Program

Albert Wang

The Electron Devices Society established the EDS Senior Member Program to both complement and enhance the IEEE's Nominate-a-Senior-Member Initiative and make IEEE/EDS members aware of the opportunity and encourage them to elevate their IEEE membership grade to Senior Member. This is the highest IEEE grade for which an individual can apply and is the first step to becoming a Fellow of IEEE. If you have been in professional practice of 10 years, you may be eligible for Senior Membership.

New Senior Members receive an engraved wood and bronze plaque and a credit certificate for US$25 to be used towards a new IEEE society membership. Upon your request, the IEEE Admission & Advancement Department will send a letter to your employer recognizing this new status as well. The URL to request this letter is http://www.ieee.org/organizations/rab/md/empl_notification_form.html

As part of the IEEE's Nominate-a-Senior-Member Initiative, the nominating entity designated on the member's application form will receive US$10 from IEEE for each application approved for Senior Member grade when there are at least five approved applications. As an EDS member, we would appreciate it if you could indicate on your Senior Member application form that EDS is your nominating entity.

Please be aware that even if you decide to list EDS as your nominating entity, you still need to have an IEEE member nominate you along with two other references. Your nominator and your references all must be active IEEE members holding Senior Member, Fellow or Honorary Member grade.

For more information concerning Senior Membership, please visit http://www.ieee.org/web/membership/senior-members/index.html. To apply for Senior Member grade, please complete an application form, which is available at http://www.ieee.org/web/membership/senior-members/application.html. You can also request a hard copy Senior Member packet via mail or fax by contacting IEEE Admissions and Advancements Department, Attn: Denise Howard, 445 Hoes Lane, Piscataway, NJ 08854, USA, Fax: +1 732 463 9359, E-mail: d.howard@ieee.org.

We strongly encourage you to apply for IEEE Senior Membership to enhance your career. At the same time, you'll be helping EDS.

Thank you for supporting IEEE and EDS.

Albert Wang
EDS Vice-President of Membership
University of California
Riverside, CA, USA

Report on the IEEE EDS Mini-Colloquium, Cambridge University, United Kingdom

The IEEE Electron Devices Society (EDS) Compact Modeling Technical Committee (CMTC) in collaboration with the IEEE AP/ED/LEOS/MTT UK/RI Chapter, held an EDS mini-colloquium (MQ) on September 12, 2008, at the Møller Centre, Cambridge, UK, in conjunction with the 1st IEEE International Workshop on "Compact TFT modeling for circuit simulation (CTFTM08)," on September 11, 2008. The objective of this EDS sponsored MQ was to achieve technical perspective on "Advanced electron device technology and modeling" by invited EDS Distinguished Lecturers (DL) and student researchers working in the field. There were seven technical presentations including two graduate student researchers and five DLs with a total attendance of about 15. The small attendance allowed all the presentations to be interactive with active participations from the attendees.

The MQ began with a welcome address from the IEEE AP/ED/LEOS/MTT UK/RI Chapter Chair, Prof. A. Rezazadeh of Manchester University, followed by a brief overview of the overall EDS activities by Dr. S. Saha, Chair of the EDS CMTC. In addition, Dr. Saha demonstrated on the Internet how to access the EDS QuestEDS member benefit web page (http://www.ieee.org/portal/pages/society/eds/membership/QuestEDS.html) to submit technical questions in the EDS technical field-of-interest and get an answer from the experts in the field within two weeks of submission of the question. The invited

EDS Distinguished Lecturers, organizers, and some attendees at the EDS Mini-Colloquium at Cambridge, UK. From left to right, sitting: Mr. A. Ahnood, Prof. A. Rezazadeh, Dr. S. Saha, and Prof. J.A. Jimenez Tejada; standing: Prof. A. Nathan, Prof. S. Cristoloveanu, Prof. M.J. Deen, Prof. B. Iñiguez, and Dr. S. Mijalkovic

speakers and the respective technical presentations are:

- Prof. M.J. Deen, Mc Master University, Canada, "Compact modeling of silicon-based, low-cost, highly integrated biosensors."
- Prof. A. Rezazadeh, Manchester University, UK, "Design and modeling of multilayer technology for 3D MMIC applications."
- Prof. B. Iñiguez, Universitat Rovira i Virgili, Spain "Small-signal compact modeling of multiple-gate MOSFETs."
- Prof. S. Cristoloveanu, Institute of Microelectronics, France, Electromagnetics, and Photonics, France, "Compact advanced SOI devices: Typical mechanisms and characterization."

Prof. M.J. Deen talked on "Compact modeling of silicon-based, low-cost, highly integrated biosensors"

- Prof. W.I. Milne, Cambridge University, UK, "Carbon nanotubes and nanowires."
- Mr. C.-W. Hsieh (student), Cambridge University, UK, "Formation of composite organic thin film transistors with nanotubes and nanowires."
- Y. Zhang (student), Cambridge University, UK, "Hybrid CMOS device utilizing zinc oxide nanowire and single walled carbon nanotube thin film transistors."

The MQ was organized by Dr. S. Saha, EDS CMTC Chair in collaboration with Prof. A. Nathan, London Center for Nanotechnology (LCN), Prof. A. Rezazadeh, IEEE AP/ED/LEOS/MTT UK/RI Chapter Chair, and the LCN student, Mr. M. Bauza, as the event coordinator. Detailed information on the EDS MQ and CTFTM08 workshop at the Møller Centre, Cambridge, UK, is located on the chapter website: http://ewh.ieee.org/r8/ukri/mtt_ed_ap_leo/.

Samar Saha
EDS Compact Modeling Technical Committee Chair
Silterra USA Inc.
San Jose, CA, USA

Report on the IEEE EDS Mini-Colloquium, Gramado, Brazil

The ED South Brazil Chapter activities in September, were focused on supporting the organization of the 23rd Symposium on Microelectronics Technology and Devices – SBMicro 2008, held in Gramado, Brazil, September 2-4, 2008 and also a Mini-Colloquium, which was scheduled on the day prior to the SBMicro 2008 event.

This symposium was organized by two Brazilian scientific societies: SBMicro (Brazilian Microelectronics Society) and SBC (Brazilian Computer Society) and was technically co-sponsored by the IEEE Electron Devices Society.

This Mini-Colloquium was sponsored by IEEE EDS and served as a tutorial day and as an appeal to all attendees of this conference, attracting more attention to the technology and devices issues as they relate to the advances for systems and circuits integration in the near term roadmap and also beyond. During

From left to right: J.A. Martino (USP); J.W. Swart (CTI and UNICAMP); F. Guarin (IBM/USA); S. Bampi (UFRSG), C. Mazure (SOITEC/France)

this event several tutorial presentations and invited seminars were given by several Distinguished Lecturers from EDS like:

- Fernando Guarin from IBM, USA, "Microelectronic Reliability Topics for Advanced CMOS and SiGe Technologies"
- Mark Lundstrom, Purdue University, USA - "Nanoscale Transistors: Ultimate Silicon and Beyond and Nanowire/Nanotube Transistors: Physics, Status, and Prospects".
- Siegfried Selberherr, Austria – panel discussion on "Challenges of the Nanoscale Era".

The other presentations at the Mini-Colloquium were delivered by:

- Carlos Mazure, SOITEC, France, "Fundamentals and Challenges of SOI Technologies and Applications"
- Paul G. Jespers, Catholic University at Louvain-la-Neuve, Belgium, "Sizing CMOS circuits by means of the gm/ID methodology and a compact model".

The program co-chairs of the SBMicro conference were Jacobus W. Swart (CTI and UNICAMP-University of Campinas) and Siegfried Selberherr (TU Wien). For the Mini-Colloquium, Sergio Bampi (UFRGS-Federal Uni-

versity of Rio Grande do Sul) and Joao Antonio Martino (USP-University of Sao Paulo), added valuable contributions to its organization.

These seminars were attended by over 80 people, many of them members of the chapter, and others from various regions of Brazil, Latin America, the USA, Asia and Europe.

Another important point at the opening ceremony of the conference was the delivery of the EDS Region 9 Outstanding Student Paper Award. This year the laureate was Fernando de Souza Campos, Ph.D. student at UNICAMP, Brazil, for his paper "A Multisampling Time-domain CMOS Imager with Syschronous Readout Circuit", co-authored by F. de Souza Campos, O. Marinov, N. Faramarzpour, J. Deen, J. W. Swart, published at the 20th Symposium on Integrated Circuits and System Design - SBCCI 2007, Rio de Janeiro, September 2007.

The SBMicro symposium was held together with the Symposium on Integrated Circuits and System Design, SBCCI 2008 and The Microelectronics Student Forum, all under the name Chip in The Pampa, referring to the south Brazil region, where Gramado is located. The Chip in The Pampa event gathered over 350 people in total.

Joao Antonio Martino
ED South Brazil Chapter Chair
University of Sao Paulo
Sao Paulo, Brazil

Report on the IEEE EDS Mini-Colloquium, Bogotá, Colombia

The newly formed ED Colombia Chapter was formally launched with a very successful Mini-Colloquium held September 8, 2008, at the "Pontificia Universidad Javeriana" and September 9, 2008, at the "Universidad de los Andes" in Bogotá, Colombia. During the two days the total attendance was in excess of 160 students and professionals. This event was filled with a wealth of knowledge and information, hosting five internationally recognized distinguished lecturers. They presented topics on different fields of interest in the Electron Devices Society.

Dr. Hiroshi Iwai from the Tokyo Institute of Technology, delivered a very interesting talk where he covered topics on the Past and Present State of Electron Devices and then proceeded to elaborate on the Future of Nano-CMOS after Scaling Limit. Dr. Cor Claeys from IMEC, Belgium, gave a lecture on Processing and Defect Control of Advanced Ge Devices. Professor Adelmo Ortiz Conde from the "Universidad Simon Bolivar", Caracas, Venezuela, spoke about Integration Methods for Parameter Extraction and for the evaluation of distortion in Electronic Devices. Dr. Fernando Guarín from IBM Microelectronics, East Fishkill, New York, delivered a talk discussing Microelectronic Reliability Topics for Advanced CMOS and SiGe Technologies. Edmundo Gutierrez from the Mexican National Institute for Astrophysics, Optics and Electronics INAOE in Puebla, presented information regarding the Mexican National Laboratory of Nanoelectronics and current research projects. The last speaker was the President of the IEEE Colombia Section, Jose David Cely, who stressed the importance and multiple benefits of joining the IEEE as well as the various societies.

The event was funded, organized and supported by several local universities, with most of the funding obtained from the IEEE EDS Distinguished Lecturer Program.

Germán K. Yamhure
ED Columbia Chapter Chair
Pontificia Universidad Javeriana
Bogota, Columbia

From left to Right: Dr. Cor Claeys from IMEC, Belgium, President of EDS; Professor Adelmo Ortiz Conde, Universidad Simon Bolivar, Caracas, Venezuela; Dr. Hiroshi Iwai from the Tokyo Institute of Technology; Edmundo Gutierrez from the Mexican INAOE, Dr. Fernando Guarin from IBM, and Jose David Cely, President of the IEEE Colombia Section

The Bogotá EDS Mini-colloquium was a big success and was attended by faculty and students from many Colombian universities

Report on the IEEE EDS Mini-Colloquium, Guangzhou, China

An IEEE EDS Mini-Colloquium (MQ) was held in Guangzhou, China, on September 24, 2008, as part of the 14th Youth Annual Conference of CIE on Electronic Products Manufacture and Quality Reliability (CIE-YC). CIE-YC was organized by the Chinese Institute of Electronics (CIE) and the fifth research institute of MII, China (China Ceprei Labs). CEPREI also organized the IEEE EDS Mini-Colloquium that was integrated into the CIE-YC Symposium. The Chairman of CIE-YC and the IEEE EDS Mini-Colloquium was Prof. Xuedong Kong from Ceprei. The MQ and invited Distinguished Lecturers (DL) were sponsored by the EDS DL Program and the Subcommittee for Regions/Chapters–Asia Pacific (SRC-AP).

The goals of the IEEE EDS Mini-Colloquium were to present and discuss recent advances in topics related to electronic products design, reliability and environmental adaptability technology. Two famous experts were invited to the conference to give talks, regarding different topics in the field of emerging technology of microelectronics. Three EDS Distinguished Lecturers gave talks at the mini-colloquium.

Prof. Xuedong Kong (President of China Ceprei labs) presented a lecture on "New R&D in reliability of electronic micro-assembly technology". He presented the reliability of design and product in electronic micro-assembly, such as thermal design, interconnects and Known Good Die (KGD).

Prof. Yue Hao (Vice-President of Xidian University) disserted on "GaN based device and its development in reliability". He discussed development of the growing method, material quality, and electrical characteristics of GaN materials and its heterojunctions, with a specially focus on the reliability issues. Further attention should be paid on research of high performance GaN devices and its reliability mechanisms.

Prof. Xing Zhou (Nanyang Technological University, Singapore, EDS DL) addressed in his talk on "Unified Compact Modeling of Emerging Multiple-Gate MOSFETs". He presented solution methods towards a unified MOS compact model based on the unified regional modeling (URM) approach. He showed a first step towards unification of MOS compact models for the existing bulk/SOI and emerging MG MOSFETs with seamless transitions and selectable accuracy.

Prof. Hei Wong (City University of Hong Kong, EDS DL) conducted a lecture presenting on "Instability of High-k Dielectric Films and Its Influence on the Reliability of Nanoscale MOS Devices". He presented a systematic overview of the properties and instability of emergent high-k gate dielectric materials, and the effects of the aforementioned instability issues on the MOS device operation were discussed.

Prof. Tian-Ling Ren (Tsinghua University, EDS DL) talked about "Ferrite-Integrated Inductor for RF IC". He examined novel high performance on-chip passive inductor on radio-frequency integrated circuits (RF IC), showing and discussing several promising material series for the inductor applications and the ferrite integration processes including the sol-gel spin-coating, low-temperature ferrite-powder-mixed-photoresist selective coating/filling, and ferrite film etching.

The CIE-YC and IEEE EDS Mini-Colloquium was attended by more than 110 people, coming both from academia and industry. Attendees considered the conference as very successful, in terms of organization, technical quality of the contributions and opportunities for discussions.

MQ speakers (from right): Tian-Ling Ren, Xuedong Kong, Shichang Zou (CIE-YC speaker), Xing Zhou, Hei Wong, and MQ organizer, Yun Huang (ED Guangzhou Chapter)

Xuedong Kong
IEEE ED Guangzhou Chapter Chair
Chair of the 14th Youth Conference of CIE
China Ceprei Laboratories
Guangzhou, China

Yun Huang
IEEE ED Guangzhou Chapter Treasurer
14th Youth Conference of CIE
China Ceprei Laboratories
Guangzhou, China

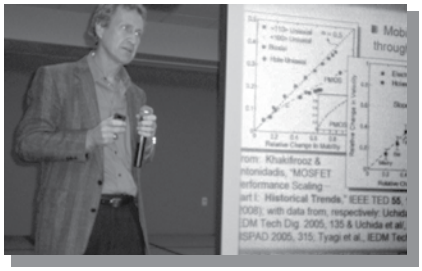
Xiaoying Cui
Secretary of the 14th Youth Conference of CIE
China Ceprei Laboratories
Guangzhou, China

Report on the IEEE EDS Mini-Colloquium, Santa Clara, California

The Electron Devices Society (EDS) Compact Modeling Technical Committee (CMTC), in collaboration with the ED Santa Clara Valley (SCV) Chapter and the Santa Clara University (SCU) Student Chapter, hosted a mini-colloquium (MQ) on October 10, 2008, at SCU, Santa Clara, CA. The objective of this mini-colloquium was to provide technical perspective to the local technical community on the "New Frontiers of Compact Modeling" by EDS Distinguished Lecturers (DL). There were six talks with a total attendance of about 40. The detailed information of the MQ is posted at: http://www.ewh.ieee.org/r6/scv/eds/announcements/2008_EDS_MQ.pdf.

The event was started with a welcome address by Prof. C. Yang, chair of the Electrical Engineering Department at SCU, followed by three talks in the morning session. Prof. J.J. Liou from the University of Central Florida, presented the first talk on "Compact modeling of silicon control rectifier for electrostatic discharge (ESD) computer-aided applications." First of all, he provided an overview of the ESD sources, models, and protection schemes. Then he discussed the detailed modeling approach for the computer-aided design and simulation of silicon controlled rectifier as the robust ESD protection device. The second speaker, Prof. M.J. Deen of McMaster University, Canada, presented "Noise issues in advanced silicon devices and circuits." Prof. Deen discussed the low-frequency (LFN) and high-frequency (HF) noise sources and models in modern silicon devices and circuits. For LFN, he showed that the increase of noise-to-DC current ratio may compromise the circuit performance in the near future and presented state-of-the-art new techniques for the characterization of multilevel random-telegraph-signal (RTS) observed in deep submicron devices. On HF noise, he presented physics-based models for the noise sources of interest in deep submicron MOSFETs. An analytical method along with closed-form solutions to determine RF noise parameters of MOSFETs from its noise figure (NF) measurements with arbitrary source impedance including experimental verifications was discussed. Finally, he provided a brief overview of noise in circuits and presented results from different types of oscillators and RF amplifiers. The third talk on "Modeling and characterization of RF/analog and noise using HiSIM2" was given by Prof. N. Sadachika from Hiroshima University, Japan. Prof. Sadachika showed that the HiSIM2 includes basic MOSFET models that are valid for modeling higher-order phenomena required for modeling and characterization of RF/analog and noise performance in nanoscale devices and circuits. He also showed that the HiSIM-HV compact MOS model, an extension of the core HiSIM2 model, is developed to accurately model high voltage transistors.

The afternoon session started with the talk by Prof. Y. Taur et al., "Compact modeling of multi-gate MOSFETs," and presented by Mr. B. Yu (graduating Ph.D. student) from the University of California, San Diego, CA. First of all, Mr. Yu described a core model based on the analytical potential solutions for the highly symmetric double-gate (DG) and surrounding-gate (SG) MOSFETs and then extended the core model into a complete compact model by incorporating quantum and short-channel effects, and capacitance formulations. Finally, the generalization of the symmetric model for less symmetric structures like quadruple-gate, triple-gate, Ω-gate, and Π-gate devices was discussed. The second talk, "Nanoscale MOSFET physics: Observation from non-compact modeling studies," was given by Prof. L.F. Register from the University of Texas, Austin. Prof. Register discussed the challenges of modeling transport phe-



Professor Register speaking on "Nanoscale MOSFET physics: Observation from non-compact modeling studies"

EDS Distinguished Lecturers and the organizers of the Santa Clara University EDS mini-colloquium. From left to right: Ms. A. Delacruz, Mr. Z. Marks, Prof. C. Yang, Prof. N. Sadachika, Mr. B. Yu, Prof. L.F. Register, Dr. S. Saha, Prof. M.J. Deen, Prof. J.J. Liou, T. Yamada, and Prof. P.K. Yu

nomena in nanoscale devices due to various physical effects and emerging technologies including velocity overshoot and ballistic transport, quantum confinement in the conduction band, strain-silicon, high-K dielectric, hybrid orientation technology, and so on. Using both quantum-corrected semi-classical Monte Carlo and full quantum transport simulations (with first-principles scattering) to address this increasingly complex transport physics, Prof. Register showed how the interplay among these physical processes and alternative technologies can affect device performance and define the new frontiers of compact modeling. The final presentation was offered by Prof. Paul Yu from the University of California, San Diego, CA, on "Wafer bonding for heterogeneous integration." Wafer bonding is a technique to integrate different semiconductors together in order to obtain hybrid structures. In this talk, Prof. Yu discussed three generic types of bonding typically used in heterogeneous integration such as direct bonding where bonding is performed without any interlayer, insulator bonding using an insulating interlayer that can be dielectric or polymer, and metal bonding using a metallic interlayer, and the advantages and limitations of each type of bonding. He, also, presented some preliminary results of metal bonding using isothermal solidification (ITS) process with either pre-patterning or post-patterning approach that have been developed for GaAs/Si integration.

The mini-colloquium was organized by Dr. S. Saha, Chair of EDS CMTC and EDS SCV Chapter, Prof. T. Yamada from SCU, and SCU Student Chapter President, Mr. Z. Marks with Prof. Cary Yang as the advisor and Ms. A. Delacruz of EE department, SCU, as the event coordinator. All the talks were interactive with active participations from the attendees.

Samar K. Saha
EDS Compact Modeling Technical Committee Chair
SilTerra USA Inc.
San Jose, CA, USA

JUNE 2008 Adcom Meeting Summary

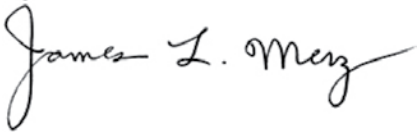
(continued from page 8)

Mumbai's port handles over half of India's maritime cargo. Mumbai is the commercial and entertainment centre of India.[1] All members are warmly encouraged to attend both of these meetings.

Reminiscences of a Two-Timer. This writer has been gratified to see an amazing change in the posture of the Electron Devices Society during my membership over a period of some 30 or more years. This is my second attempt to serve as Secretary – I figure that if I keep trying I might someday get it right. During my first tenure, 1994-97, I witnessed a growing realization that EDS had to become global. Having lived a year in Japan in the 1980s and a year in Germany in 1959-60, I was all for it. Discussions during ExCom and AdCom meetings became increasingly focused on meetings in exotic places and the formation of overseas chapters, and all of this was just starting to happen. In 1996 I became heavily involved in administrative duties at Notre Dame, and felt I had to relinquish my responsibilities as Secretary. John Lowell stepped in and served the Society admirably for 10 years – we thank you, John, for your outstanding service. When John decided that enough was enough, I was ready for another turn, and you and your colleagues elected me. Many thanks, but don't expect me to travel with a complete wine cellar. What I found when I returned to duty was a transformed Society, even as society itself had been transformed. Now you have spring meetings in places like Beijing, Athens, and Mumbai, and I am fortunate to be part of it. EDS is benefiting greatly, not only from the broader technical vision

that this enables, but also in terms of membership and activity – as North American activity wanes, worldwide enthusiasm blossoms. What a great run you have had in the last ten years!

Respectfully submitted, Jim Merz, EDS Secretary



[1] Wikipedia, The Free Encyclopedia – Mumbai (http://en/wikipedia.org/wiki/Mumbai)

QuestEDS

QuestEDS is an EDS member benefit service where EDS members can submit questions online concerning the EDS field of interest and can view online the answers provided by experts in the field.

Questions and answers are posted online in QuestEDS Questions and Answers within two weeks.

Why QuestEDS? Technological advancements dictate how we do business in this information age. This is especially true in the publication world where access to the world-wide-web has resulted in a paradigm shift. Libraries have relinquished their role as portals of technical information, their function being taken over by web portals via your desktop or laptop. Making this information available almost for free presents unique challenges to professional societies such as IEEE EDS. One of our traditional values as a provider of highly-prized technical information is being eroded. We feel that one way to inject new value in the membership is via QuestEDS. This new service provides a means of fulfilling the needs of our members by yet another level of service which has hitherto not existed.

As an EDS member, simply by logging on to the web-site, you can ask questions on any technical matter within the Field-of-Interest of EDS. The methodology to process these requests is parallel to the way we handle submission of a manuscript to our publications. The questions will be handled by an editor with the authority of outright rejection if in the judgment of the editor the question is outside the Field-of-Interest of EDS, is a request for evaluation of competing commercial products, or help on a take-home exam or the like. Experts within and outside IEEE will be consulted. Our goal is to provide a timely response in TWO WEEKS. The response will be posted on the QuestEDS webpage accessible to EDS members, but without explicit reference to either the source of the question or the answer.

We hope to enhance the value of EDS membership by this new service making this society more meaningful globally to technical professionals including academicians, practicing engineers, researchers and students. We would like to hear from you, whether you are pleased with this new service or have suggestions on how to enhance it further. Please click the feedback button to send your valued input.

Renuka P. Jindal
EDS President-Elect and
Vice-President of Publications
IEEE Electron Devices Society

Please visit the EDS website at:
http://www.ieee.org/portal/pages/society/eds/membership/QuestEDS.html
to take advantage of this new tool.

Regional and Chapter News

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

2009 DRC

- by David J. Gundlach

Each year the Device Research Conference brings together leading scientists, researchers, and graduate students from varied disciplines in academia and industry to share their latest research and discoveries in the field of electron devices. The 2009 conference will be held June 22-24 at Penn State University, University Park, PA. The university setting of the conference encourages frank and open technical discussion on recent breakthroughs and advances in device research, and provides a great atmosphere for social events. The technical program is comprised of invited, oral, and poster presentations. The conference will hold three evening rump sessions aimed at engaging the audience in a vigorous and charged discussion on the future directions of competing device technologies. Additionally, the Device Research Conference has a tradition of strong graduate student participation. To encourage student submission the conference offers reduced registration and travel support for students, and a Best Student Paper Award.

The Device Research Conference is coordinated with the Electronic Materials Conference which will be held during the same week, from June 24-26, 2009. This coordination recognizes the close relationship between device and electronic materials research and provides for fruitful exchange of information between attendees of both conferences.

~ Ibrahim M. Abdel-Motaleb, Editor

ISQED 2009

- by Ali A. Iranmanesh

The 10th anniversary of the International Symposium on Quality Electronic Design (ISQED '09) will be held March 16-18, 2009, at the DoubleTree Hotel, San Jose, CA, USA.

ISQED spans three days, Monday through Wednesday, in five parallel tracks, hosting over 120 technical presentations, six keynote speakers, panel discussions, workshops/tutorials, vendor exhibition, and other informal meetings. In addition to embedded tutorials, the conference proceeds by a single full-day tutorial track on Monday, March 16. These tutorials explore low power electronic design, phase change memory, statistical techniques, and other critical topics, presented by experts. Plenary sessions will be held on the mornings of Tuesday, March 17 and Wednesday, March 18. Industry leaders from Synopsys, Mentor, Magma, Samsung, other leading organizations will discuss the issues surrounding progress in electronic design and quality in the last decade and expected changes over the next decade. ISQED Technical sessions start on Tuesday, March 17, and continue until the afternoon of Wednesday, March 18. The program consists of over twenty four technical sessions featuring over 120 papers on various challenging topics such as EDA Methodologies, Interoperability and Reuse, Design for Manufacturability & Quality, Design Verification and Design for Testability, Package - IC Co-Design, Design of Reliable Circuits and Systems, Power-conscious Devices; Interconnects; and Circuits, Physical Design, Methodologies & Tools, Emerging/Innovative Process & Device Technologies and Design Issues, and System Level Design Methodologies and Tools.

ISQED is a leading Electronic Design & Design Automation conference, aimed at bridging the gap among electronic design tools and processes, integrated circuit technologies, processes & manufacturing, to achieve design quality. ISQED is the pioneer and leading international conference dealing with design for manufacturability and quality issues front-to-back. ISQED is held in technical co-sponsorship with IEEE EDS, and IEEE CASS, and in co-operation with ACM/SigDA. IEEE and ACM members will receive a discount toward conference registration.

The latest conference program can be found in the official web site at www.ISQED.org

~ Samar Saha, Editor

ED/MTT/EMB Brasília

- by José Camargo da Costa

The ED/MTT/EMB Brasília Chapter continued with its series of seminars and workshops. On August 29, 2008, it organized a two-hour technical seminar at Universidade de Brasília, entitled "Organic Light-Emitting Diodes". Dr. Arturo Escobosa, from CINVESTAV, Mexico, was the special invited speaker for this occasion. Dr. Arturo Escobosa is known internationally for his R&D activities in Optoelectronics. He is an IEEE Senior member, IEEE EDS Educational Activities Committee and Partner of

Audience attending Dr. Escobosa's presentation held at Universidade de Brasília, Brazil

our Chapter. The seminar presented a comprehensive and up-to-date description of organic light-emmiting devices operation, applications and future perspectives. There was a very active participation of the audience, and the many interesting questions and answers motivated additional informal meetings, which took place after the conclusion of the official seminar. Dr. Escobosa's visit enhanced the possibilities of future cooperation with Universidade de Brasília and CINVESTAV. For additional information contact Professor José Camargo da Costa at camargo@ene.unb.br.

ED Recife

- by Edval Santos

On August 14-15, the 3rd Workshop on Electron Devices was held in Recife. The two-day event was organized around the visit of the EDS Distinguished Lecturer, Prof. Adelmo Ortiz-Conde, from Simon Bolivar University, Venezuela. He presented a lecture "On Integration-Based Methods For Device Parameter Extraction and Distortion Evaluation." Lectures were also presented by Isabela Vasconcelos on "SOI Technology for Harsh Environments", and Edval Santos on "SOI Technology at Ldn/Ufpe". The event was a success, with many participants from the Chapter.

The 4th Workshop on Electron Devices is planned for November 7th. There will be lectures by Magali Estrada on "Polymeric Devices: Basic Issues, Fabrication And Applications", Antonio Cerdeira Altuzarra on "Compact Model For Symmetric Doped Double-Gate Mosfets", both from CINVESTAV Mexico, and Edval Santos, on "Memristor and Memristive Circuits".

Lecturers and attendees of the 4th Workshop on Electron Devices, held at Simon Bolivar University, Venezuela

We would like to announce that the ED Recife Chapter has a new Treasurer, Electronic Engineer, Isabela B. Vasconcelos, MEE.

~ Jacobus W. Swart, Editor

EUROPE, MIDDLE EAST & AFRICA (Region 8)

MIEL 2008

- by Ninoslav Stojadinović

The 26th International Conference on Microelectronics (MIEL 2008) was held May 11-14, 2008, at the Faculty of Electronic Engineering, University of Nis, Serbia. The conference was organized by the IEEE ED/SSC Serbia and Montenegro Chapter in cooperation with the Faculty of Electronic Engineering (University of Niš), Ei-Holding Co., and National Society for ETRAN, under co-sponsorship of the IEEE Electron Devices Society, in cooperation with the of IEEE Solid-State Circuits Society, and under auspices of Serbian Ministry of Science, Serbian Academy of Science and Arts, Academy of Engineering Sciences of Serbia and City Assembly of Nis.

The Workshop on Nanotechnologies, held on May 11th, attracted a lot of interest and was an excellent introduction to the main technical program, which consisted of ten regular sessions: Nanotechnologies, Microsystem Technologies, Opto and Microwave Devices and ICs, Processes and Technologies, Physics and Modeling, Modeling and Simulation, Reliability Physics, System Design, Circuit Design and Testing, and Circuit and System Design. The attendees, 37 domestic and 95 foreign, came from 36 different countries. The total of 18 keynote invited papers and 118 regular contributions (75 in oral sessions and 43 posters) were presented. The conference proceedings (two volumes, 607 pages) were published through the IEEE Conference Publications Program.

The keynote invited speakers were: A. Lakhtakia (Pennsylvania State University, USA), S. Oda (Tokyo Institute of Technology, Japan), Z. Djurić (IHTM-CMTM, Belgrade, Serbia), E. Sangiorgi (University of Bologna, Cesena, Italy), P.I. Hagouel (Thessaloniki, Greece), Z. Petrović (Institute of Physics, Belgrade, Serbia), C.K. Sarkar (Jadavpur University, Kolkata, India), R. Singh (Clemson University, USA), R.S. Popović (EPFL, Lausanne, Switzerland), S. Dimitrijev (Griffith University, Nathan, Australia), L.K. Nanver (Delft University of Technology, The Netherlands), M.J. Deen (McMaster University, Hamilton, Canada), P. Colpo (European Commission Joint Research Centre, Ispra, Italy), V. Litovski (University of Nis, Serbia), M. Lundstrom (Purdue University, West Lafayette, USA), S. Selberherr (Technical University of Vienna, Austria), G. De Mey (University of Ghent, Belgium), and S. Mijalković (Silvaco Technology Centre, Cambridge, United Kingdom).

Based on evaluation of the quality of the papers and presentations, three Best Paper Awards were presented to E. Miranda (Universitat Autonoma de Barcelona, Bellaterra, Spain) for an oral paper "Progressive Breakdown Dynamics in HfSiON/SiOn Gate Stacks", to N. Nedev (Universidad Autonoma de Baja California, Mexico) for a poster paper "Memory Effect in MOS Structures Containing Amorphous or Crystalline Silicon Nanoparticles", and to V. Martinez (ST Microelectronics, Crolles, France) for a student paper "How to Monitor Metal-Insulator-Metal (MIM) Capacitors Dielectric reliability". In addition, Microelectronics Reliability journal awarded the paper "Cor-

Professor Enrico Sangiorgi (center) addressing the audience at MIEL 2008 Opening Session

Professor Ninoslav Stojadinović addressing the audience at MIEL 2008 Opening Session

relation Between Flicker Noise and Current Linearity in Ferromagnetic-GaAs-metal Tunnel Contacts" by K. Fobelets (Imperial College London, United Kingdom).

Among best traditions of MIEL, the social program of this year's conference issue was particularly rich, with a conference banquet and gala-dinner as highlights. Besides the high quality of presentations, MIEL conferences are generally flavored by friendly atmosphere and great hospitality of the local people. This special charm adds to very positive impressions the participants bring from the conference, and is one of the reasons why one rarely attends MIEL just once: one who comes will almost certainly come again. So, we are very much looking forward to welcoming old and new friends at MIEL 2010.

ED Poland

- by Zygmunt Ciota

On September 19, 2008, Łodz, Poland, a meeting took place between the IEEE ED Poland Chapter and the Microelectronics Section of Committee of Electronics and Telecommunication of the Polish Academy of Science. It began with a presentation by Dr. Rafal Kielbik and Lukasz Kotynia: *"PERPLEXUS - Novel Approach to Parallel Computing"*. Afterwards, two important topics were discussed: an improvement of the educational system and an initiative of an electronic project, gathering the biggest centers of micro- and nanoelectronics in Poland. After the meeting all the participants had an opportunity to take part in the opening of the Microelectronics and Computer Science Research Centre of the Technical University of Lodz. They visited the new laboratories and auditoria and later enjoyed the banquet.

~ Zygmunt Ciota, Editor

PATMOS 2008

- by José Monteiro

The eighteenth edition of the International Workshop on Power and Timing Modeling, Optimization and Simulation - PATMOS 2008 – took place last September 10-12, at Calouste Gulbenkian Foundation, in Lisbon, Portugal. This edition of PATMOS was organized by INESC-ID, a leading R&D institute in Portugal, and Instituto Superior Técnico, TU Lisbon. Close to 70 researchers, from all points of the globe, were present at the workshop.

The PATMOS objective is to provide a forum to discuss and investigate emerging challenges in methodologies and tools for the design of upcoming generations of integrated circuits and systems. The technical program focuses on timing, performance and power consumption, as well as architectural aspects. Particular emphasis is given to modeling, design, characterization, analysis and optimization. Besides technical sessions with oral presentations, the program included poster sessions that allow for a more informal interaction. The proceedings were published by Springer in the Lecture Notes in Computer Science (LNCS) series.

For this edition, the program included three outstanding keynote speakers: Ted Vucurevich, Chief Technology Officer (CTO) of Cadence Design Systems; Sani Nassif, Manager of the Tools and Technology Department at IBM Austin Research Laboratory; and Floriber-

International Workshop on Power and Timing Modeling, Optimization and Simulation held in Lisbon, Portugal

Prof. Nikolay I. Sinitzyn, Saratov Branch IRE RAS, giving plenary lecture on medical applications of millimeter radiation

to Lima, Technical Marketing Manager of the Analog Business Group, Chipidea - MIPS Technologies.

In complement to the prestigious technical program, the workshop included two interesting social events: a reception at the "Padrão dosDescobrimentos", with a great view of the Tagus River and the Jerónimo Monestary, and a banquet at "Páteo Alfacinha", which, besides the traditional food, offers a recreation of the old Lisbon.

More detailed information regarding this workshop can be obtained through the URL http://algos.inesc-id.pt/patmos08.

~ Cora Salm, Editor

AP/ED/MTT/CPMT/NPS Saratov/Penza

- by Nikita M. Ryskin

The 8th International Conference "Actual Problems of Electron Devices Engineering" (APEDE'08), was held in Saratov, Russia, October 24–25. The conference was hosted by Saratov State Technical University. At the Conference, 5 plenary lectures and more than 70 oral reports were presented by researchers from many regions of Russia and abroad. The work was organized in 3 sections: Microwave Electronics and Nanoelectronics, Microwave Theory and Techniques, and Power Electronics. Exhibitions of the production of electronic equipment companies were also organized. The 500 page volume of conference proceedings was published and distributed among the participants. The Saratov/Penza Chapter supported the conference technically and financially. IEEE members, Professor Vladislav A. Tzarev and Dr. Alexey Y. Mikhailichenko, served as Conference Chairman and Executive Secretary, respectively. Prof. N.M. Ryskin (Chapter Chair) served as a member of the Technical Program Committee and co-chaired the Section "Microwave Theory and Techniques". The Chair of the Technical Program Committee was Yuriy Gulyaev, Chair of the Russian IEEE Section.

On Friday, September 26th, the Chapter held the Annual Workshop "Electromagnetics of Microwaves, Submillimeter and Optical Waves". The workshop was organized as a part of the XII International School on Optics, Laser Physics and Biophysics "Saratov Fall Meeting" held by the Saratov SPIE Chapter. Nearly 30 IEEE members and guests attended the Workshop, with 7 papers devoted to electromagnetic wave propagation in waveguides structures, vacuum and solid state microwave devices, etc.

~Tomislav Suligoj, Editor

ASIA & PACIFIC (Region 10)

ED Japan

- by Mitsumasa Koyanagi

A DL talk entitled, "Circuit Parameter Optimization of Various MOS Structures for Process Variability using Plackett- Burman Technique," was given by Prof. Arun N. Chandorkar (Institute of Technology, India), at Tokyo Institute of Technology, Yokohama, Japan, on July 11, 2008. His DL talk initially looks into various variability issues in technology scaled-down devices including FinFETs from ITRS point of view and then suggest a statistical method namely Plackett-Burman technique, which can predict the influence of multiple process parameters on various circuit parameters. More than 20 people attended this DL meeting and enjoyed the lecturer's meaningful talk.

Another DL talk entitled, "Defect Engineering Challenges of Advanced Ge Technologies," was given by Dr. Cor Claeys (IMEC, Belgium) at Tokyo Institute of Technology, Yokohama, Japan, on August 21, 2008. Dr. Claeys is President

Participants of the July 11, 2008 DL meeting, (fourth from left, back row) Prof. T. Arun N. Chandorkar, Indian Institute of Technology, India

Participants of the DL meeting held on August 21, 2008 and EDS Distinguished Lecturers, Dr. Cor Claeys, EDS President (5th from left), and Prof. Hiroshi Iwai, Partner and EDS Jr. Past President (7th from left)

of EDS and director of advanced semiconductor technologies in IMEC. In his lecture, some advanced Ge processing modules were reviewed from a viewpoint of defect control and engineering. Shallow junctions, contact technology and integration aspects were discussed. This DL meeting attended by 30 people was very stimulating and fruitful.

In addition, for the third quarter of this year, the ED Japan Chapter held three joint technical meetings with the Japan Society of Applied Physics, etc.

ED Korea

- by Jong-Ho Lee

On September 4, 2008, the ED Korea Chapter Chair bestowed a recipient with the best paper award at the 8th RF Integrated Circuit Technology Workshop. The Chapter supports the award annually. The title of the best paper, "Post-linearization of differential CMOS low noise amplifier using cross-coupled FETs", was presented by Mr. Tae-Sung Kim and Prof. Byung-Sung Kim of Sungkyunkwan University. The workshop was held on September 4-6 at the Ramada Plaza Hotel in Jeju, Korea. In this workshop, 51 panelists on 11 key technology areas, discussed actively on technological issues, challenges, and trends.

The ceremony of awarding prizes at the 8th RF Integrated Circuit Technology Workshop in Jeju, Korea

ED/SSC/MTT Taegu

- by Andy Chung

Chapter Chair, Prof. Yoon-Ha Jeong (POSTECH), invited Dr. Meyya Meyyappan of Ames Research Center, NASA, for a DL lecture on "Carbon Nanotubebased Nanotechnology", on August 25, 2008, at POSTECH, Pohang, Korea. Dr. Meyyappan provided an overview of topics on CNT properties, growth techniques, patterned growth, vertical alignment, challenges in controlling the diameter, chirality and characterization. He described applications to chemical

Dr. Meyyappan delivers an EDS DL lecture on "Carbon Nanotube-based Nanotechnology" at POSTECH

and bio sensors in depth. The three hour lecture was attended by about 60 students, POSTECH researchers and chapter members. It was sponsored by the National Center for Nanomaterials Technology (NCNT), Pohang.

~ Kazuo Tsutsui, Editor

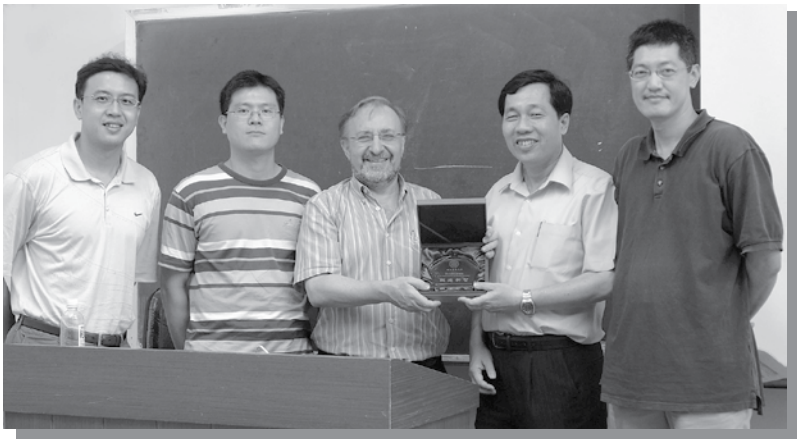
ED Taipei

- by Steve Chung

The ED Taipei Chapter held a workshop in the 3rd quarter of 2008. The topic of this workshop, "Power Semiconductor Devices and Design Criteria," was held July 7-10 and 14-15, at the National Tsing-Hua University (NTHU), Hsinchu. The workshop was hosted by the Center for Advanced Power Technologies of NTHU and sponsored by the chapter. The speaker was Dr. Leo Lorenzo from Infineon Technologies China Co. Ltd. In this workshop, several topics of interest were covered: (1) The fundamentals of semiconductor power device physics, (2) Power semiconductor concepts for Power MOSFET's, IGBT's and SiC, (3) Devices limiting factors from the concept of device and circuit points of view, (4) Driving and protection of power semiconductors. More than 60 registered for this workshop and half of them were student members. Many engineers from the science park also showed much interest as a result of the importance of power management ICs development. The chapter also took the opportunity to do a membership promotion, in which 20 graduate students were solicited to join IEEE EDS as student members, with the benefit of a waiver of the registration fee for this workshop.

One of the two major conferences in the region, 2008 International Electron Devices and Materials Symposia (IEDMS), will be held November 28-29 at National Chung-Hsing University, in central Taiwan. Our EDS members are the key members of the conference. The paper selection has been completed. For more details of the conference, please check the web site http://iemds2008.ee.nchu.edu.tw

~ Hei Wong, Editor



Guest Speaker with ED Taipei members, (from left) Chih-Fang Huang, Kung-Yen Lee, Leo Lorenzo (the speaker), Chen-Hsin Lien, Po-Tai Cheng

ED Bangladesh

- by Anisul Haque

The Chapter organized a half-day seminar on Nano Systems and Processes in BUET, Dhaka, on June 22, 2008. Four presentations, as shown in the following table, were given, with Prof. A.M.M. Safiullah, Vice Chancellor, BUET, attending as the Chief Guest. Approximately 70 faculty members and students attended the event.

The following two technical talks were also organized by the ED Bangladesh Chapter:

1. Dr. Samir M. Iqbal, Assistant Professor, Electrical Engineering, The University of Texas at Arlington, USA, gave a talk on *From MEMS to NEMS: Engineering Smart Sensors* on June 23, 2008 at the East West University Auditorium. Dr. Iqbal discussed advances in nano-fabrication and research at the cross roads of engineering and biological science. An overview was given of some novel frameworks that have been used for the detection of important biological species like DNA and proteins. More than 100 faculty members and students attended.
2. Dr. Zia Karim, Director, Business Development and technology, AIXTRON Inc., USA, gave a talk on *Atomic Layer Deposition Technology for the Semiconductor and Nanotechnology Industry – Challenges and Opportunities* on July 6, 2008 at the East West University Auditorium. Dr. Karim discussed the fundamentals of Atomic layer Deposition Technology and its applications. More than 75 students and faculty members of the different engineering departments attended.

Speaker	Presentation title
Prof. Md. Quamrul Huda, EEE, BUET	Silicon processing in nano dimensions
Dr. Sharif M. Mominuzzaman, EEE, BUET	Carbon nanotubes and related structures – new materials for the 21st century
Prof. Q. D. M. Khosru, EEE, BUET	Modeling and characterizing deca-nano MOS devices
Dr. Samir M. Iqbal, EE, UT Arlington	From MEMS to NEMS: engineering smart sensors

Dr. Zia Karim giving presentation on ALD in East West University, Bangladesh

Seminar on VLSI CAD tools conducted at Muthayammal Engineering College, Rasipuram

ED India

- by M. Madheswaran

The IEEE ED India Chapter has taken lots of initiatives to promote the importance of Electron Devices by conducting seminars, sponsoring conferences as well as workshops. The Chapter Chair has delivered lectures at various places and inaugurated the activities of the IEEE student chapter. A brief report on various activities is given below.

Events Sponsored:

1. International Conference on "Recent Advances in Microwave Theory and Applications" on November 21-24, 2008, at Department of Physics, University of Rajasthan, Jaipur, India.
2. 2nd National Workshop on Advanced Optoelectronic Materials and Devices (AOMD-2008) December 22-24, 2008, at the Department of Electronics Engineering, Institute of Technology, Banaras Hindu University, Varanasi, India.
3. One-day Seminar on TCAD, IC CAD Technologies and FPGA Design, September 20, 2008, at Department of Electronics and Communication Engineering, Muthayammal Engineering College, Rasipuram, India.

Dr. Madheswaran inaugurated the activities of the IEEE Student Chapter at St. Joseph's College of Engineering and Technology and delivered a Lecture on Electron device Concepts for future Nanoelectronics

Lectures Delivered:

1. Dr. M. Madheswaran, Chapter Chair, delivered a lecture on Electron Device Concepts for future Nanoelectronics at St. Joseph's College of Engineering and Technology, Palai, Kerala, on July 19, 2008. Around 200 students of Electronics, Electrical and Instrumentation Engineering Department participated and benefited.
2. Dr. M. Madheswaran delivered a lecture on Nanotechnology at James College of Engineering & Technology, Nagarcoil, Tamilnadu on August 22, 2008. The Department of Electronics and Communication Engineering organized the event and more than 250 students and many staff members have attended. The benefits of IEEE membership were explained and the students' chapter is also planned to inaugurate in the near future.

CPMT/ED/R Singapore

- by Alastair Trigg

The 2008 IEEE 15th International Symposium on the Physical and Failure Analysis of Integrated Circuits (IPFA 2008) was held July 7-11, 2008. The week began with six half-day tutorials on reliability and failure analysis spread over two days. The symposium itself began on the Wednesday with two high profile keynote papers. In the first, Professor Dimitri Antoniadis from MIT looked into the future of high performance CMOS while in the second, Dr. Raj Master from AMD explained the challenges of packaging and cooling advanced digital devices such as microprocessors. During the symposium over 50 papers were presented orally together with almost

Professor Dimitri Antoniadis presenting the first keynote paper

18 poster presentations. There were 7 invited papers and the best papers from ISTFA and ESREF were presented. An equipment exhibition with 37 exhibitors was held in parallel with the symposium, and this year IPFA was generously supported by three industry sponsors, FEI Company, Phoenix X-Ray, and Raith. For the first time IPFA organized a competition, the Art of Failure Analysis, in which FA practitioners submitted artistic, unusual and imaginative pictures with some equally imaginative titles.

Additional activities in the third quarter included one seminar, one DL talk, and one technical talk. Eight talks focusing on the front-end reliability research from Nanyang Technological University (NTU) and Indian Institute of Technology, Bombay (IIT-Bombay) were presented in a half-day seminar on "Reliability Study of Logic and Flash Memory Devices" held at NTU on July 14th. This was co-organized by NTU, the IIT-Bombay, and the CPMT/ED/R Singapore Chapter.

On July 24th, Professor Souvik Mahapatra from IIT Bombay, India, gave a DL talk on Nonvolatile Flash Memory, and on July 30, 2008 Dr Frank L. Wei from Philips Lumileds Lighting Co., gave a presentation on "Observations of Electromigration-Induced Extrusion Failures in Cu/low-k Interconnects."

Planning is well underway for the Chapter's other flagship conference, EPTC 2008, which will be held in Singapore December 9-12, 2008. Registration is now open and full details of EPTC can be found at the website: http://www.eptc-ieee.net

ED SJCE

-by Arun Raj

With endless pursuits, the ED SJCE sub-chapter, yet again came out with flying colors in organizing a series of workshops and talks, thus standing true to the words '*Redefining Technicality'*.

A *Technical visit* to the "Fabrication Lab" of the ECE Department of the Indian Institute of Science, Bangalore, was made by the students under the guidance of Dr. Navakanta Bhat (Prof., ECE Dept, IISc), who explained the detailed working of the Fabrication process.

The major activities done by ED SJCE in the previous semester were:

- For the first time in SJCE, a *Robotics Workshop* was organized. Conducted by Techsouls, a Bangalore-based company, the workshop witnessed the participants building their own robots which came alive at the end of the workshop.

- During *Cyberia'08*, the national level technical fest conducted by IEEE SJCE, the EDS played an important part in conducting two electronics events. *EmbedMe* was a national level 8051 assembly programming contest and *Robo-Eureka* was a national level robotics project presentation contest. EDS also designed a LED scroll board for *Cyberia'08* for the display of current updates.

- *Weekly tests and quizzes* based on Basic Electronics were conducted throughout the semester to help the students to improve their technical skills.

~ Xing Zhou, Editor

Participants of the Robotics workshop

EDS MEETINGS CALENDAR
(As of November 11, 2008)

The complete EDS Calendar can be found at our web site:
http://www.ieee.org/society/eds/meetings/meetings_calendar.xml Please visit!

January 18 - 22, 2009, T **IEEE Radio and Wireless Symposium**, Location: Omni Hotel, San Diego, CA, USA, Contact: Afshin Daryoush, E-mail: rws2009@ece.drexel.edu, Deadline: 7/28/08, www: http://rawcon.org/index.html

January 19, 2009, @ **International Workshop on Compact Modeling**, Location: Pacifico Yokohama, Yokohama, Japan, Contact: H Mattausch, E-mail: hjm@hiroshima-u.ac.jp, Deadline: 11/30/08, www: Not Available

February 8-12, 2009, T **IEEE International Solid-State Circuits Conference**, Location: San Francisco Marriott, San Francisco, CA, Contact: Diane Melton, E-mail: isscc@courtesyassoc.com, Deadline: 9/22/08, www: www.isscc.org/isscc

February 11 - 13, 2009, T **Spanish Conference on Electron Devices**, Location: Santiago de Compostela, Spain, Contact: Manuel Aldegunde Rodrguez, E-mail: manuelantonio.aldegunde@usc.es, Deadline: Not Available, www: Not Available

February 24 - 28, 2009, T **IEEE International Conference on the Experience of Designing and Application of CAD Systems in Microelectronics**, Location: Hotel Fortuna, Polyana, Ukraine, Contact: CADSM Organizing Committee, E-mail: cadsm@polynet.lviv.ua, Deadline: 12/20/08, www: http://lp.edu.ua/CADSM/cgi/about.php

March 16 - 18, 2009, T **IEEE International Symposium on Quality Electronic Design**, Location: Double Tree Hotel, San Jose, CA, USA, Contact: Tanay Karnik, E-mail: tanay.karnik@intel.com, Deadline: 10/10/08, www: http://www.isqed.org/

March 19 - 20, 2009, T **International Semiconductor Technology Conference**, Location: Shanghai New Int'l Expo Center, Shanghai, China, Contact: April Peng, E-mail: apeng@semi.org, Deadline: Not Available, www: semiconchina.semi.org/cistc

March 19 - 20, 2009, T **Workshop on Ultimate Integration of Silicon Devices**, Location: Aachen University, Aachen, Germany, Contact: Max Lemme, E-mail: lemme@amo.de, Deadline: 1/18/09, www: www.ulisconference.org

March 27 - 28, 2009, T **IEEE International Siberian Conference on Control and Communication**, Location: Tomsk State University of Control Systems, Tomsk, Russia, Contact: Sergei Lukianov, E-mail: ieee@main.tusur.ru, Deadline: 12/10/08, www: www.comsoc.org/tomsk

March 30 - April 1, 2009, T **IEEE Sarnoff Symposium on Advances in Wired and Wireless Communications**, Location: Nassau Inn, Princeton, NJ, USA, Contact: Kyriakos Manousakis, E-mail: kyriakos@research.telcordia.com, Deadline: 12/1/08, www: http://ewh.ieee.org/r1/princeton-centraljersey/2009_Sarnoff_Symposium/

March 30 - April 2, 2009, @ **International Conference on Microelectronic Test Structures**, Location: Embassy Suites Mandalay Beach Resort, Oxnard, CA, USA, Contact: Wendy Walker, E-mail: wendyw@widerkehr.com, Deadline: 9/15/08, www: http://www.see.ed.ac.uk/ICMTS

April 3 - 3, 2009, T **IEEE Workshop on Microelectronics and Electron Devices**, Location: Boise Center on the Grove, Boise, USA, Contact: Shyam Surthi, E-mail: ssurthi@micron.com, Deadline: 1/26/09, www: www.ewh.ieee.org/r6/boise/wmed2009/WMED2009.html

April 20 - 21, 2009, T **IEEE Wireless and Microwave Technology Conference**, Location: Marriott Suites Sand Key, Clearwater, FL, USA, Contact: Xun Gong, E-mail: xungong@mail.ucf.edu, Deadline: 9/15/08, www: www.wamicon.org

April 26 - 30, 2009, * **IEEE International Reliability Physics Symposium**, Location: Fairmont Queen Elizabeth Hotel, Montreal, Canada, Contact: Ronald Lacoe, E-mail: ronald.c.lacoe@aero.org, Deadline: Not Available, www: http://www.irps.org/

April 27 - 29, 2009, T **International Symposium on VLSI Technology, Systems and Applications**, Location: The Ambassador Hotel, Hsinchu, Taiwan, Contact: Clara Wu, E-mail: clara@itri.org.tw, Deadline: 12/31/08, www: http://vlsitsa.itri.org.tw/2009/General

April 27 - 30, 2009, T **International Symposium on VLSI Design, Automation and Test**, Location: Ambassador Hotel, Hsinchu, Taiwan, Contact: Elodie Ho, E-mail: elodieho@itri.org.tw, Deadline: 10/19/08, www: http://vlsidat.itri.org.tw/2009/General

April 28 - 30, 2009, @ **International Vacuum Electronics Conference**, Location: Angelicum, Pontifical Univ. of St. Thomas Aquinas, Rome, Italy, Contact: Marinella Aloisio, E-mail: Marinella.Aloisio@esa.int, Deadline: 12/23/08, www: www.ivec2009.org

May 10 - 12, 2009, * **IEEE/SEMI Advanced Semiconductor Manufacturing Conference**, Location: Pullman Hotel, Berlin, Germany, Contact: Margaret Kindling, E-mail: mkindling@semi.org, Deadline: 3/31/09, www: http://www.semi.org/asmc2009

May 10 - 14, 2009, @ **IEEE International Conference on Indium Phosphide and Related Materials**, Location: Marriott Newport Beach Hotel & Spa, Newport Beach, CA, USA, Contact: Mary Hendrickx, E-mail: m.hendrickx@ieee.org, Deadline: Not Available, www: http://www.i-leos.org

May 10 - 14, 2009, * **IEEE International Memory Workshop**, Location: Hyatt, Monterey, CA, USA, Contact: Tamer San, E-mail: t-san@ti.com, Deadline: Not Available, www: http://www.ewh.ieee.org/soc/eds/imw/

May 18 - 21, 2009, T **International Electrostatic Discharge Workshop**, Location: Stanford Sierra Conference Center, Lae Tahoe, CA, USA, Contact: Lisa Pimpinella, E-mail: info@esda.org, Deadline: 11/14/08, www: Not Available

May 26 - 29, 2009, T **International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication**, Location: Marco Island Marriott Beach Resort, Marco Island, FL, USA, Contact: Elizabeth Dobisz, E-mail: elizabeth.dobisz@hitachigst.com, Deadline: 1/9/09, www: http://www.eipbn.org/

May 27 - 29, 2009, T **International Workshop on Computational Electronics,** Location: Tsinghua University, Beijing, China, Contact: Zhiping Yu, E-mail: yuzhip@tsinghua.edu.cn, Deadline: 1/15/09, www: www.iwce.org

June 1 - 2, 2009, T **IEEE International Workshop on Electron Devices and Semiconductor Technology**, Location: Mumbai, India, Contact: Chen Yang, E-mail: yangchen99@mails.tsinghua.edu.cn, Deadline: Not Available, www: Not Available

June 1 - 3, 2009, * **IEEE International Interconnect Technology Conference**, Location: Royton Sapporo Hotel, Sapporo, Japan, Contact: Wendy Walker, E-mail: wendyw@widerkehr.com, Deadline: 1/19/09, www: http://www.ieee.org/conference/iitc

June 7 - 9, 2009, T **IEEE Radio Frequency Integrated Circuits Symposium**, Location: Boston Convention Center, Boston, MA, USA, Contact: Tina Quach, E-mail: tina.quach@ieee.org, Deadline: 1/6/09, www: www.rfic2009.org

June 7 - 12, 2009, * **IEEE Photovoltaic Specialists Conference**, Location: Philadelphia Marriott Downtown, Philadelphia, PA, USA, Contact: Americo Forestieri, E-mail: pvsc@wowway.com, Deadline: 1/14/09, www: www.pvsc34.org

June 11 - 12, 2009, T **International Workshop on Junction Technology**, Location: Kyoto University Clock Tower, Kyoto, Japan, Contact: Kazuo Tsutsui, E-mail: ktsutsui@ep.titech.ac.jp, Deadline: 3/2/09, www: http://www.iwailab.ep.titech.ac.jp/IWJT/index.html

June 14 - 18, 2009, @ **TRANSDUCERS - International Conference on Solid-State Sensors, Actuators and Microsystems**, Location: Adams Mark Hotel, Denver, CO, USA, Contact: Khalil Najafi, E-mail: najafi@eecs.umich.edu, Deadline: 12/1/08, www: http://www.transducers09.org/

June 14 - 18, 2009, @ **International Symposium on Power Semiconductor Devices & Integrated Circuits**, Location: Axa Auditorium, Barcelona, Spain, Contact: Jose Millan, E-mail: jose.millan@cnm.es, Deadline: 11/3/08, www: www.ispsd09.com

June 16 - 18, 2009, @ **IEEE Symposium on VLSI Technology**, Location: Rihga Royal Hotel, Kyoto, Japan, Contact: Phyllis Mahoney, E-mail: phyllism@widerkehr.com, Deadline: 2/1/09, www: http://www.vlsisymposium.org

June 25 - 28, 2009, T **International Image Sensor Workshop**, Location: Bergen, Norway, Contact: Eric Fossum, E-mail: fossum@imagesensors.org, Deadline: 2/27/09, www: www.imagesensors.org

August 30 - September 4, 2009, T **Electrical Overstress/Electrostatic Discharge Symposium**, Location: Disneyland Hotel, Anaheim, USA, Contact: Lisa Pimpinella, E-mail: info@esda.org, Deadline: 1/9/09, www: wwww.esda.org

September 9 - 11, 2009, @ **International Conference on Simulation of Semiconductor Processes and Devices**, Location: Hotel Del Coronado, San Diego, CA, USA, Contact: Fely Barrera, E-mail: sispad06@gloworm.stanford.edu, Deadline: 2/20/09, www: http://www-tcad.stanford.edu/sispad09/

September 14 - 18, 2009, T **International Conference on Electromagnetics in Advanced Applications**, Location: Centro Congressi Torino Incontra, Torino, Italy, Contact: Guido Lombardi, E-mail: info@iceaa.polito.it, Deadline: 2/28/09, www: www.iceaa.net

September 29 - October 2, 2009, T **International Conference on Advanced Thermal Processing of Semiconductors**, Location: Marriott Hotel Albany, Albany, NY, USA, Contact: Bo Lojek, E-mail: blojek@atmel.com, Deadline: 5/31/09, www: www.ieee-rtp.org

October 11 - 14, 2009, * **IEEE Compound Semiconductor IC Symposium**, Location: Sheraton Greensboro Hotel at Four Seasons, Greensboro, NC, USA, Contact: Marko Sokolich, E-mail: msokolich@hrl.com, Deadline: 5/8/09, www: http://www.csics.org/

October 12 - 14, 2009, @ **IEEE Bipolar/BiCMOS Circuits and Technology Meeting**, Location: TBD, Capri, Italy, Contact: Janice Jopke, E-mail: ccsevents@comcast.net, Deadline: 3/16/09, www: http://www.ieee-bctm.org

October 12 - 14, 2009, * **International Semiconductor Conference**, Location: Sinaia Hotel, Sinaia, Romania, Contact: Cristina Buiculescu, E-mail: cas@imt.ro, Deadline: 6/10/09, www: www.imt.ro/CAS

December 2009, * **IEEE International Electron Devices Meeting**, Location: Hilton Hotel, Baltimore, MD, USA, Contact: Phyllis Mahoney, E-mail: phyllism@widerkehr.com, Deadline: Not Available, www: http://www.ieee.org/conference/iedm

EDS Distinguished Lecturer Visits University of Brasília, Brazil

The ED/MTT/EMB Brasília Chapter continued with its series of seminars and workshops. On August 18, 2008, it organized a two-hour technical seminar at Universidade de Brasília, entitled "On integration-based methods for device parameter extraction and distortion evaluation". Dr. Adelmo Ortiz-Conde, from Universidad Simón Bolívar, Caracas Venezuela, was the special invited speaker for this occasion. Dr. Ortiz-Conde is known internationally for his R&D activities in parameter extraction. He is an IEEE Senior member, IEEE EDS Distinguished Lecturer and Partner of our Chapter. The seminar presented a comprehensive and up-to-date description of parameter extraction methods and distortion evaluation, based on integration. There was a very active participation of the audience, and the many interesting questions and answers motivated additional informal meetings, which took place after the conclusion of the official seminar. The following day, Dr. Ortiz-Conde met with different research groups of Universidade de Brasília to discuss ongoing collaborative activities. For additional information contact Professor José Camargo da Costa at camargo@ene.unb.br

Dr. Ortiz-Conde during his presentation held at the University of Brasília, Brazil

José Camargo da Costa
ED/MTT/EMB Brasília Chapter Chair
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