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Editor-in-Chief: Krishna Shenai

IEEE Electron Devices Society Newsletter

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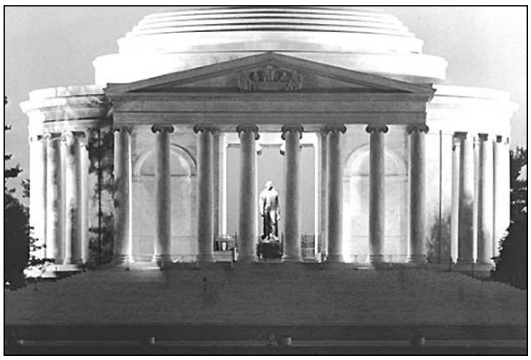
Contributions Welcome

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. All contact information is listed on the back cover 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

2001 IEEE International Electron Devices Meeting (IEDM)



The 2001 IEEE International Electron Devices Meeting will be held at the Washington Hilton and Towers Hotel, Washington, D.C., December 3 to 5, 2001. IEDM is the premier conference for presenting advances in silicon and compound semiconductor devices and processes. It is the annual technical meeting of the IEEE Electron Devices Society, rotating in location between Washington, DC and San Francisco. IEDM is the largest semiconductor device conference in the world, drawing attendees from Europe, Asia, and the US. High quality contributions from industry, academia, and government are all presented at the conference.

The heart of the IEDM is the technical program. No other meeting presents as much leading work in so many different areas of microelectronics. The IEDM offers students, scientists, and engineers an opportunity to hear about the latest work being done in their disciplines and related areas and affords them the opportunity to speak directly with the experts working in these areas.

The meeting highlights include three plenary presentations by prominent experts, twenty-one invited talks on all aspects of advanced devices and technologies, two evening panel discussions on future challenges to the industry, and the presentation of IEEE/EDS prestigious awards.

The areas to be covered in this year's conference are:

- CMOS Devices,
- CMOS and Interconnect Reliability,
- Detectors, Sensors, and Displays,
- Integrated Circuits and Manufacturing,
- Modeling and Simulation,
- Process Technology,
- Quantum Electronics and Compound Semiconductor Devices,
- Solid State Devices, and
- A new session on "Emerging Technologies"

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Your Comments Solicited

Your comments are most welcome. Please write directly to the Editor-in-Chief of the Newsletter at the address given on the back cover page.

Electron Devices Society

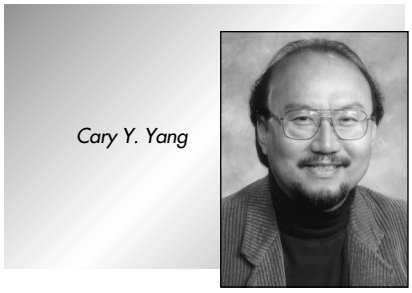
EDS ADCOM ELECTED MEMBERS-AT-LARGE

Term Expires:

2001	*2002*	**2003*
A. S. Brown (2)	C. L. Claeys (1)	I. Adesida (2)
T. P. Chow (2))	J. A. Dayton, Jr. (1)	T. Hiramoto (1)
K. F. Galloway(1)	M. Fukuma (1)	L. Lunardi (1)
S. J. Hillenius (1)	K. M. Lau (1)	A. A. Santos (2)
C. Jagadish (1)	K. Lee (1)	S. C. Sun (2)
M. A. Shibib (2)	M. L. Ostling (1)	H. S. P. Wong (1)
R. Singh (1)	D. L. Pulfrey (1)	P. K. L. Yu (2)
	K. Shenai (2)	

Number in parenthesis represents term.
* Members elected 12/00

Message from the President



As I approach the end of my term, which happens to coincide with the end of the first half-century of our Society, I feel most fortunate to have the opportunity to report to you progress of new initiatives for the past year. Detailed narratives on some of these initiatives are reported elsewhere in this issue or in upcoming issues of this Newsletter.

The Graduate Student Fellowship Program was launched and three awards were made this year. The pool of applicants had outstanding credentials and I commend the Graduate Fellowship Subcommittee, chaired by Arlene Santos, and the judges for their dedicated efforts since the program's inception. We extend our heartfelt congratulations to the recipients of these awards, Tusharkanti Ghosh, Sergei Kucheyev, and Yee-Chia Yeo, for their superb qualifications and best wishes for future success in their chosen field.

Five live Short Courses on four different topics have been offered under the Independent Short Courses Program that began in 2000. Attendance to these events ranged from 12 to 113. Video tapes of the first three courses are now available through the IEEE Education Office. Our Education Chair, I. Adesida (Ade), is leading an effort to re-structure this program, and to include more direct involvement from industry.

Ade is also overseeing a consolidation of the Distinguished Lecturers Program. Issues related to acceptable level of activity for each lecturer, access by chapters, and visibility of the program are being addressed by his committee.

The new initiatives of the Membership Committee, chaired by James Kuo, have resulted in a 3% net growth in the twelve-month period ending June 30, 2001. The most notable of these are the membership fee subsidy program for low-income individuals and the senior member promotion program to further benefit our chapters. Both of these are parallel to existing IEEE-wide programs for membership growth.

The implementation of a centralized system for manuscript processing for *Electron Device Letters* and *Transactions on Electron Devices* has been completed. We are all grateful to the current and previous Publications Chairs, Renuka Jindal and Steve Hillenius, and the Executive Office staff for making this a reality. Preliminary results for *Electron Device Letters* (first publication to use the new system) show that the average manuscript turn-around time has been reduced significantly.

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Upcoming Technical Meetings

IEDM

(continued from page 1)

CMOS Devices focuses on device physics, novel MOS device structures, CMOS scaling issues, high performance and low power devices. Other topics of interest include high-frequency, analog and noise behavior of MOS devices, SOI device issues and device measurement and characterization. This session will provide attendees with the latest advances in CMOS devices as well as projections of future device architectures.

CMOS and Interconnect Reliability will cover all aspects of CMOS reliability including both front-end and back-end processing issues. Topics will span a large spectrum including ultra thin gate dielectric wearout and breakdown, interconnect reliability, ESD, and soft error issues. In addition, reliability issues for BiCMOS and SOI technologies will be addressed.

Detectors, Sensors and Displays play a major role in information delivery. Sessions in this area will cover critical devices, structures, and integration for imaging, displays, detectors, sensors, and micro electromechanical systems (MEMS). Included in these sessions will be CCDs, TFTs, and organic, amorphous, and polysilicon devices. Invited papers in emerging areas such as organic materials used for photonic applications, molecular electronics for biological applications and micro mechanical programmable diffraction gratings will be featured this year.

The Integrated Circuits and Manufacturing sessions will cover advances in integrated circuits, novel memory cell concepts, and full process integration and manufacturing for memory, logic and mixed mode applications including high performance architectures, multifunction integrated circuits, low power circuits, RF and mixed signal technologies. Other topics of interest include technology for failure analysis and yield modeling as well as process control and manufacturing methodologies.

Modeling and Simulation are important aspects of electronic device development. Sessions in this area will deal with analytical, numerical, and statistical approaches to modeling electron devices, isolation and interconnect technologies. Topics will include circuit and device level modeling, fabrication processes and equipment modeling, algorithms, characterization, and parameter extraction. Invited talks on compact modeling for deep submicron CMOS and full quantum simulation, design and analysis of silicon tunnel devices, HEMTs, and RTDs will be presented.

The Process Technology sessions will cover front-end and back-end modules for fabrication of CMOS, memory, and BiCMOS devices. The sessions will cover lithography, etching, planarization, silicidation, shallow junction formation, interconnect technologies, and new materials including high- and low-k dielectrics.

The IEDM conference provides a forum for introducing new device concepts in electronics and photonics. This year the Quantum Electronics and Compound Semiconductor Devices sessions will feature the latest results in compound semiconductor and wide-bandgap materials and devices. Topics will cover a wide range of discrete devices including FETs, HBTs, lasers, and photodetectors. Other topics being featured this year are self-assembly, nano- and molecular scale devices, optical interconnects, integrated optoelectronics, and photonic integrated circuits. Invited talks on single electron memory devices, wide bandgap RF devices, and antimonide heterostructures for millimeter wave applications will be presented.

Solid State Devices are increasingly in demand for varied applications in areas ranging from the automotive to communication industries. Sessions in this area will cover integrated power/current/voltage devices, silicon and silicon germanium bipolar transistors, novel analog and digital devices and technologies, integrated RF components, and single electron devices in silicon and silicon germanium. Featured this year will be invited papers on semiconductor technologies for high-speed optical networks and ferroelectric random access memories.

The Emerging Technologies session is a special feature of the conference, which is being brought back this year. The session is entitled "Interconnecting Devices," and consists entirely of invited talks from experts in the field. This year's chosen subject is of critical importance today, due to the increasing need for very high bandwidth operation by high-speed computing, networking, and Internet applications. The talks will cover a broad range of emerging technologies, including optical and wireless interconnects and novel three-dimensional chip and wiring structures, all aimed to address the challenges of high-speed communication both across a chip and between chips. In addition to giving the IEDM attendees a good overview of future technologies, the session will also serve as a launching pad for a lively debate on the topic in the evening panel session to which it is linked: "Interconnecting Devices for the Terabit Era."

Short Courses

A popular feature of the IEDM is the short course program held the Sunday before the conference formally begins. The two short courses that make up the program will be offered on Sunday, December 2. They provide attendees with the opportunity to learn about new emerging areas and to benefit from direct contact with the lecturers who are experts in the field. Introductory material for general audiences is also included.

This year, the Short Course subjects will be "Device and Process Technology for sub-70 nm CMOS," organized by Dr. Suresh Venkatesan of Motorola and "Advanced Memory Technology and Architecture," organized by Dr. Kunio Nakamura from NEC.

Plenary Presentations

The IEDM conference will include three plenary presentations dealing with future trends in semiconductor technologies. Dr. Johan Daneels, President and CEO of Alcatel Microelectronics will discuss "How deep submicron technology will boost Internet appliances in the digital home network." Dr. Ananth Dodabalapur of Bell Laboratories, Lucent Technologies will talk on "Organic and Polymer Active Devices," and Dr. Yukou Mochida of Fujitsu Laboratories will describe the "Future Directions and Technology Requirements of Wireless Communications."

Panel Sessions

IEDM'01 will continue the tradition of holding evening panel sessions on important topics of interest to the electronics community. This year the topics will be: "Beyond the Roadmap: 10 nm Scale Devices?" moderated by Prof. Dimitri Antoniadis, and "Interconnecting Devices for the Terabit Era," moderated by Dr. James Hutchby.

Late News Papers

The submission date for regular papers has already passed but a limited number of late-news papers will be accepted for presentation. If you have recent outstanding new developments you wish to publish at the conference, please submit by September 13, one original of your proposed paper (including artwork) and 25 copies to Phyllis Mahoney, IEDM, 101 Lakeforest Boulevard, Suite 400B, Gaithesburg, MD 20877, USA. Accepted late-news papers and accompanying figures will be printed as received in the Technical Digest.

Further Information

For registration and other information, visit the IEDM 2001 Home Page on the World Wide Web at http://www.ieee.org/conferences/iedm, or contact Conference Manager Phyllis Mahoney, Suite 400B, 101 Lakefront Boulevard, Gaithesburg, MD, 20877, USA; TEL: (301) 527-0900, ext. 103; FAX (301) 527-0994; or E-Mail: phyllism@widerkehr.com.

The Washington, DC, area provides many attractions for visitors and we encourage attendees to explore them in the off hours of the conference. The IEDM organizers and committee members look forward to seeing you in December 2001.

Judy Hoyt
MIT
Cambridge, MA

2001 IEEE Semiconductor Interface Specialists Conference (SISC)

The 2001 IEEE Semiconductor Interface Specialists Conference (SISC) will be held November 28–December 1, 2001, in Washington, D.C., immediately prior to the IEDM. The SISC provides a unique, workshop-style forum for device engineers, solid-state physicists, and materials scientists to discuss issues associated with semiconductor/insulator interfaces, the physics of insulating thin films, and the interaction among materials science, device physics, and state-of-the-art technology.

The conference emphasis is on silicon-based devices, including the SiC and SiGe systems, and topics evolve with the state-of-the-art. Invited and contributed talks are complemented by informal events designed to encourage lively discussion and debate including a poster presentation session.

The program includes talks from all areas of MOS science and technology, including but not limited to the following:

- alternative and high-k gate dielectric materials,
- physics of thin dielectrics and their interfaces,
- gate-dielectric conduction and breakdown,
- silicon carbide and its interfaces,
- physical and electrical characterization of Si/SiO2 interfaces,
- micro-roughness measurement, modeling, and device-related effects,
- hot carrier, plasma damage and radiation effects,
- nitrogen-containing oxides and stacked interfaces,
- surface cleaning technology and effects on dielectrics and interfaces,
- novel oxidation, deposition, and etching techniques, and
- theory of oxide and interface defects

Preliminary List of Invited Speakers and Topics for SISC 2001:

Howard Huff, Sematech (USA), *General Industry Overview of High K Dielectrics*

John Hauser, NC State University (USA), *High K Gate Dielectric University Activity*

Wanda Andreoni, IBM Zurich (Switzerland), *Ab-Initio Calculations on High K Dielectrics*

John Suehle, NIST (USA), *Reliability Characterization of Advanced Gate Dielectrics*

Ben Kaczer, IMEC (Belgium), *Impact of Oxide Breakdown on FET and Circuit Operation*

Len Feldman, Vanderbilt University (USA), *Oxides on SiC for Power MOSFETs*

Martin S. Brandt, Technische Universitaet Muenchen (Germany), *Capacitively-Detected Magnetic Resonance on Semiconductor/Oxide Interfaces and FETs*

Generous hospitality allows attendants to focus on enjoying the conference. Hors d'oeuvres, wine, and cheese encourage interaction among poster authors and other conference participants at Thursday's poster session. Friday afternoon has no scheduled talks, to allow time tomeet informally, relax, or visit local attractions. On Friday evening the conference hosts a banquet and awards ceremony, complete with the now-famous (and always riotous) limerick contest. The limericks never fail to give the conference presentations, people and events an entirely new perspective!

This year will be the 32nd meeting of SISC. The first meeting was held in 1965 and attendance was by invitation. The conference, now public, alternates between the east and west coasts, and meets just before the IEDM. An important goal of the conference is to provide an environment that encourages interplay

between scientific and technological issues. Invited and contributed talks, as well as a lively poster session, are presented in an informal setting designed to encourage discussion, and conference participants enjoy numerous opportunities for social gatherings with renowned scientists and engineers. Abstracts for contributed talks were due August 6, 2001.

This year's SISC will continue the tradition of presenting an award memorializing Prof. E. H. Nicollian. The award will be given for the best student presentation. Ed Nicollian was a pioneer in the exploration of metal oxide semiconductor (MOS) systems. His contributions were important to establishing SISC in its early years, and he served as the Technical Chair in 1982. With John Brews, he wrote the definitive book *MOS Physics and Technology*.

The 2001 SISC is sponsored by the Electron Devices Society of the IEEE, and will be held immediately prior to the IEEE IEDM.

For information and general inquiries about SISC, please see the conference webpage at http://www.ieeesisc.com or contact the Arrangements Chair, Bob Wallace, at the Department of Materials Science, University of North Texas, P.O. Box 305310, Denton TX 76203-5310. TEL: (940) 369-7834, FAX: (940) 565-4824, E-Mail: rwallace@unt.edu.

Bob Wallace
University of North Texas
Denton, Texas

2001 IEEE Conference on Nanotechnology (IEEE-NANO)

I cordially invite you to come to Maui, HI, and participate in the IEEE-NANO 2001 conference to be held 28–30 October, at the Outrigger Wailea Resort. This is the first IEEE conference on nanotechnology, sponsored by the IEEE Nanotechnology Committee and by four cosponsoring societies: Robotics and Automation Society (RAS), Electron Devices Society (EDS), Industrial Electronics Society (IES), and Circuits and Systems Society (CASS). This first IEEE Nanotechnology Conference promises to be quite an exciting event, featuring plenary speaker Richard Smalley from Rice University, 1996 Nobel Laureate in Chemistry for the discovery of fullerenes. Other plenary speakers include Phaedon Avouris from IBM, Stella Pang from University of Michigan, and Chun-Yen Chang from National Chiao-Tung University.

Nanotechnology deals with the ability to work at the atomic and molecular levels to create materials and structures with properties that are yet to be known. Chemists and physicists have been fabricating and investigating materials at the atomic level for several decades. An impetus was the lecture in 1959 by Richard Feynman, "There is Plenty of Room at the Bottom." In that lecture, he stipulated there were exciting new discoveries yet to be made if one could fabricate materials and devices at the atomic/molecular scale, but he pointed out that a new class of miniaturized instrumentation was needed to manipulate and characterize the properties of these nanomaterials and nanostructures.

Fortuitously by the 1980s instruments were invented to allow us to visualize and manipulate individual atoms one at a time, including scanning tunneling microscopes, atomic force microscopes, scanning probe microscopes, and others. Together with these new tools, advances in lithographic techniques also allowed us to manufacture nanoscale structures, including e-beam machines and nanoimprinters. Then there was the tremendous expansion of computational capabilities, enabled by advances in VLSI technology, which allowed us to model and simulate materials and their behavior at the nanoscale. Then there was the discovery of carbon fullerenes and nanotubes. The convergence of these scientific advances has led many scientists and engineers to believe that nanotechnology is on the verge of a new industrial revolution.

Those of you who work in VLSI electronics are familiar with the continued downscaling of the FET in CMOS. There is no doubt that today's state-of-the-art technology at 0.035-μm channel length will continue to shrink further. However, it is no secret that most engineers agree that the devices will face the limits of physics when the dimension reaches 0.010 μm, or 10 nm. On top of that the gate oxide continues to be thinner and thinner, in proportion to device shrinking, to a little over ten angstroms. For VLSI technology to continue its growth path, there is no question that we will need advances in nanotechnology, including nanolithography, nanoimprint, nanomaterials, nanostructures, and other fabrication techniques.

The IEEE-NANO 2001 is a three-day conference featuring two parallel sessions each day and covering all aspects of nanotechnology. There are sessions on nanodevices, quantum dots, and nanoelectronic circuits and architectures. There are sessions on nanocrystalline materials, nanomaterial fabrication and characterization. There are sessions on nanomagnetics, nanostructures, and nanorobotics. Then there are sessions on tools for manipulating atoms one at a time, such as atomic force microscopy.

The venue for the conference is the Outrigger Wailea Resort Hotel in Maui, HI. Maui is well known for its scenic beauty and the world-famous beaches, as well as the world's largest dormant volcano, the Haleakala. The Outrigger is enclosed in 22 oceanfront tropical acres and has just gone through a $25 million renovation. It has five freshwater outdoor swimming pools, and is adjacent to three superb golf courses. The end of October, as any other time of the year, is an excellent time to visit Maui and Hawaii. So come one and come all to the first IEEE conference on nanotechnology. For registration and other information on IEEE-NANO 2001, please visit the website at http://www.mein.nagoya-u.ac.jp/IEEE-NANO.

Clifford Lau
Corporate Programs ONR
Arlington, VA

2001 IEEE International Integrated Reliability Workshop (IRW)

The 2001 IEEE International Integrated Reliability Workshop (IRW), sponsored by the IEEE Reliability Society and the IEEE Electron Devices Society, will be held at the Stanford Sierra Camp on the shore of Fallen Leaf Lake near South Lake Tahoe, CA, October 15–18, 2001. This workshop provides a unique forum for open and frank discussions of all areas of reliability research and technology for present and future semiconductor applications.

The technical portion of the 2001 workshop is being organized by Dr. Linda Head of Rowan University and will focus on six main areas:

- Wafer Level Reliability Tests and Test Approaches,
- Identification of Reliability Effects,
- New or Existing Reliability Characterization and Prediction Models,
- Reliability Test Structures,
- Customer Product Reliability Requirements / Manufacturer Reliability Tasks, and
- Designing-in-Reliability (Circuits, Processes, Products).

Hot topics include Cu interconnects; reliability of deep sub-micron; high speed, high frequency devices; new dielectric systems; and reliability modeling and simulation.

The IRW is quite a bit different from a typical technical conference. From the moment you arrive, after winding slowly back to the south shore of Fallen Leaf Lake, you realize that you are taking part in something special. Attendees stay in cabins without TVs or phones, dress is casual (suits, ties, and high heels are shunned), affiliations are downplayed, and meals are taken at the lodge dining room, family-style. Attendees of the workshop are expected to participate actively. You feel yourself drawn into technical discussions from the start. Every aspect of this conference, from the isolated location to the format of the technical program, is designed to get attendees to interact.

Located just a short scenic drive (less than two hours) from Reno, the Stanford Sierra Camp is situated at 6000 ft in the High Sierra on Fallen Leaf Lake. Attendees stay in cabins nestled amid the pines and cedars along the shoreline. All cabins have decks and breath-taking views of the lake and surrounding peaks (don't worry, the cabins also have warm beds and hot showers; phone booths are available in the lodge). This peaceful setting, free from the distractions and annoyances of modern life, presents a terrific opportunity to get to know your colleagues, including internationally renowned experts. This is an opportunity not usually available at bigger, more hectic reliability conferences. Instead of watching TV, participants spend their evenings at poster sessions, discussion groups, and special interest groups (SIGs), all with refreshments provided to stimulate discussions.

One unique aspect of this workshop is the opportunity for every attendee to present a poster of their own research, no matter what state it is in. Just arrange for space when you register or bring last-minute results in your briefcase or backpack. Your ideas will be accommodated. This is a great way to share that new project you are working on and to get world-class feedback. The poster presentations are even eligible for a two-page write up in the conference proceedings. The **open poster sessions** are but one example of the opportunities for interaction that sets the IRW apart from other conferences.

Another distinction of the IRW is the moderated **Discussion Groups** that are held in the evenings. Organized this year by Prasad Chaparala of National Semiconductor, the Discussion Groups topics are: 1) Single Event Upsets (SEU), 2) WLR Monitoring, 3) Product Qualification/Burn In, 4) Gate Oxide Integrity, 5) Electromigration, and 6) Designing for Reliability. Lively conversation and debate among participants is promised and written summaries will be included in the workshop proceedings.

For those with the stamina, the Discussion Groups are followed by the **Special Interest Group meetings** or SIGs (as attendees refer to them). The SIGs are composed of small groups of researchers and engineers who often continue their conversations and collaborations even after they leave the workshop. Every attendee has the opportunity to become part of an existing SIG or to suggest a new topic and start one of their own. One particularly successful example is the Thin Oxide Integrity SIG which has met for several years and collaborated to produce award winning presentations at other reliability meetings. Be warned, remnants of the SIG discussions sometimes rage on into the wee hours of the morning.

Yet another advantage of attending the IRW is the **Tutorial Short Course**, presented by world class experts and included at no additional cost. The tutorials review basic topics as well as the latest developments. They are designed to be beneficial to newcomers as well as experienced members of the reliability community. The tutorials are organized this year by Al Strong of IBM.

Last, but certainly not least, attendees have Wednesday afternoon off to enjoy activities such as hiking (with the annual trek to the top of Mt. Tallac as a favorite goal), volleyball, canoeing, biking, walking, or just conversing by the lake, all in the fresh clean mountain air. This free afternoon is a great way not only to network but to build long-lasting friendships.

Additional information about the workshop is available on the IRW website at http://www.irps.org/irw, or by contacting SAR Associates at 301 N. Madison Street; Rome, NY 13440, TEL: (315) 339-3968; FAX: (315) 336-9134. Note: If you want to take part in this event, please register early as space at the Stanford Sierra Camp is limited to roughly 120 attendees and the workshop has sold out in the past.

On behalf of the 2001 International Integrated Reliability Workshop Committee, we look forward to meeting you in Lake Tahoe!

Abdullah Yassine
Advanced Micro Devices
Austin, Texas

2001 IEEE Gallium Arsenide Integrated Circuits Symposium (GaAs IC)

On behalf of the organizing committee and the IEEE Electron Devices Society, Microwave Theory and Technology Society, and Solid-State Circuits Society, I invite you to be a part of the upcoming 2001 IEEE GaAs IC Symposium. This year's symposium will be held October 21–24 in Baltimore, MD, at the Renaissance Harborplace Hotel. Over the last 23 years, the IEEE GaAs IC Symposium has become the preeminent international forum on developments in integrated circuits using GaAs, InP, SiGe, GaN, and SiC, as well as other compound semiconductor devices. In 2001, the Symposium continues its tradition of presenting the best from around the world in high frequency microelectronics. This year's program continues to demonstrate the developments in commercial wireless and optical communications technology. Major focus areas of this year's GaAs IC Symposium, organized by Tim Henderson of TriQuint and the Technical Program Committee, include state-of-the-art circuits and technology for:

- Wireless and broadband communications,
- Very high-speed optical communications,
- Highly efficient, linear, power amplifiers,
- Optoelectronics for optical interconnect, and
- Millimeter-wave systems

The technical sessions will highlight all aspects of technology: device development and fabrication, characterization and modeling, IC design and testing, high volume manufacturing, reliability, and system applications. We will also continue the discussion that we started last year on the topic of a technology roadmap for III-V compound semiconductor ICs. Hot new results obtained this summer will be presented in the "Late News" session.

This year we have five exciting Panel Sessions spread over the three days of the technical sessions. These are intended to be timely, thought-provoking, educational, and possibly even controversial. The topics are as follows:

Panel Session 1: **"So What's Your Technology Good For?"**
Panel Session 2: **"CAD Shootout"**
Panel Session 3: **"40 Gb/s ICs"**
Panel Session 4: **"OEICs: Reality or Laboratory Curiosity?"**
Panel Session 5: **"High Voltage, High Power PAs"**

The 23rd IEEE GaAs IC Symposium keeps up our tradition of providing focused educational opportunities through our Short Course and Primer Course, both held on Sunday, October 21. Chris Bozada from the USAF has organized a very interesting and highly applicable one-day Short Course on "Optical Fiber Systems" taught by five industry experts. The course starts with an overview of fiber systems, their design, IC requirements and technology trade-offs. Then, two sections are devoted to IC design issues, firstly the various amplifiers: transimpedance, limiting, AGC and modulator and LASER drivers, and following that serialisers, deserialisers (SERDES - aka multiplexers & demultiplexers) and clock and data recovery (CDR) designs. The important topic of system and subsystem packaging and integration are tackled next, followed by a discussion of photonics for RF applications. Finally, all short course instructors will offer their opinions on the future trends of the technology.

Stephen Long and Donald Estreich will present our Primer Course, which is not only an excellent tutorial on compound semiconductor electronics but is presented within the context of this year's symposium contents. You have the opportunity to learn of new products from the approximately 40 exhibitors in the GaAs IC Technology Exhibition, and potential customers for the latest commercially available GaAs ICs can hear about these in the Vendor Product Forum, organized by Bill Peatman of Anadigics and Norman Chiang of California Eastern Labs. This forum will review recent wireless product developments from some of the leaders in the industry. Questions we hope to address include 1) What recent improvements have been made to the HBT regarding performance and reliability, 2) Is there a role for enhancement mode FETs as alternatives to the HBT, 3) What are the technology choices for 2.5 and 3G handset power amplifiers, 4) How much integration inside the PA module is required, and 5) What new material developments may impact wireless development going forward.

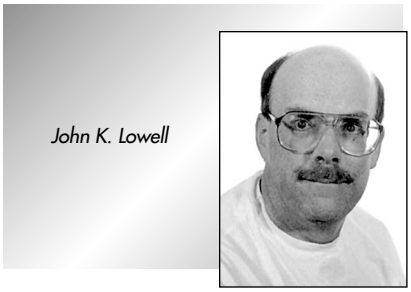
To complement the full technical program, we have provided several social events to allow interactions with colleagues while catching up with the newest technology available on the market. These events include the Sunday evening Opening Reception, the Monday evening Technology Exhibition Reception, and the Tuesday evening of fun, science, and an Imax movie at the Baltimore Science Center. Finally, I want to announce the winners of our 4th Outstanding Paper Award from the 2000 Symposium: M. Sokolich, C. Fields, B. Shi, Y. K. Brown, M. Montes, R. Martinez, A. R. Kramer, S. Thomas III, and M. Madhav of HRL Laboratories for their paper "A Low Power 72.8GHz Static Frequency Divider Implemented In AlInAs/InGaAs HBT IC Technology." We hope you'll join us in Baltimore for the 23rd IEEE GaAs IC Symposium.

To find out more, please visit the Symposium website at http://www.gaasic.org.

John Sitch
Nortel Networks
Nepean, ON, Canada

Society News

Spring 2001 EDS AdCom Meeting Summary


John K. Lowell

The Spring 2001 meeting of the EDS AdCom was held on July 7 at the Westin Stamford & Westin Plaza Hotel in Singapore in collaboration with the IEEE Int. Symposium on Physical & Failure Analysis of Integrated Circuits (IPFA).

Officers & Chairs Reports

President, Cary Yang, opened the meeting with a hearty thanks to M.K. Radhakrishnan (CPMT/ED/R Singapore Chapter Chair) and his officers for hosting the AdCom visit. Following formal acceptance of the minutes from the December 2000 meeting and the new meetings list, he elaborated on several IEEE actions having an important impact of the EDS. The Y2000 deficit has had a major impact on the IEEE's finances and budget. Consequently, technical society reserves will be used to cover the shortfall, and EDS is no exception. Our IEEE deficit assessment under this new arrangement was $871.9K. In addition, another reduction (possibly up to twice this amount) is likely to occur again in 2001 if the stock market remains depressed. The apportionment is based on the amount of "reserves per member," and EDS enjoys the fourth highest reserve of all the technical societies at $6.8M. In addition to the stock market, this situation is also due to IEEE keeping its infrastructure costs frozen and not increasing member rates over the past few years. In general, IEEE enjoys good financial health but its operations will require changes such as a freeze on spending reserves and increasing costs. At this point the Y2002 expectations are unknown, and while planning for a balanced budget (assuming a 6% ROI) continues, it is possible that a third levy may be required. In addition, increases in membership dues (+$15) and IEEE package products are expected. The projected Institute budget should evolve to spending only 5% return on our investment. Ensuing AdCom discussions centered on what EDS can or should do to confront this issue. On the surface it would appear that EDS is being penalized for being successful and practicing good fiscal habits. However, all IEEE entities are affected, and in truth, all their respective funds belong to IEEE. Our representatives are being heard at TAB meetings and at the Board level. Suggested modifications to EDS spending to deal with this situation are being discussed.


EDS President, Cary Y. Yang, gives his opening remarks for the July 2001 EDS AdCom meeting in Singapore.

Bill Van Der Vort, standing in for April Brown, gave the Treasurer's Report. In general, the Y2000 budget matched the estimated figures. The publication cost of the EDS Membership Directory was significantly higher than budgeted, primarily due to the growth in the EDS membership the past two years. While the directory is available both in published and electronic form, the EDS AdCom recently voted to publish it every two years rather than annually to save costs. *T-ED* income from voluntary page charges and nonmember fees were slightly down, and both the *ECS Letters* and the EDS CD-ROM Package showed a slight loss. Revenue from the IEEE Book Broker program continues to be very good, returning $441K to EDS. Due to another successful year, EDS surplus for Y2000 was $537.7K. As also stated previously, EDS has $6.8M in its present reserves with a $236K budgeted surplus for 2001 independent of what fiscal support will be required from IEEE. The net budgeted surplus for Y2002 is $569.3K. Costs incurred from Graduate Student Fellowship support, continued globalization, Executive Office costs, and chapter subsidies are expected to rise in 2001. AdCom has approved increases for regular and permanent membership fees, and *EDL* & *T-ED* subscriptions for both members and non-members.

The Executive Office report was given by Bill Van Der Vort. Since December, he and his staff have been busy with a variety of projects such as continuation of the EDS oral histories booklet, and support for the IEEE TAB Nanotechnology Committee. Both of these efforts are discussed in greater detail later in this article. In addition, they have worked with EDS officers and committees on the budgets for *J-MEMS*, *T-SM*, and *M-C&D* to meet the fiscal challenges outlined above, implementation of the Regions/Chapters restructuring and Chapter Partners Program, coordination of the biennial Region 10 Chapters Meeting, the rollout of the Senior Membership incentive, implementation of a worldwide program to subsidize memberships for low-income members, development of a proposed half-year membership promotion, and continuation of providing administrative support for the Independent Short Course Program. Other major accomplishments have been the coordination of the Graduate Student Fellowship program, the distribution of a policy letter to all the Distinguished Lecturers,

putting in improvements to streamline the Distinguished Lecturers program as a whole, putting in a new manuscript system for *T-ED*, completing the move of the *T-ED* publications office, and ongoing support for the *T-DMR*. As the year progresses, the Executive Office will be involved in the ongoing support for many of the tasks discussed below, as well as with putting together a biennial meeting of the Region 9 chapters, increasing the Distinguished Lecturers program visibility by expanding its information on the EDS website, providing web-site support for the technical committees, and arranging the 8th EDS Meeting Organizers Workshop.

As of December 31, 2000, EDS membership stood at 13,283 as reported by James Kuo, Membership Chair. While this number is still dominated by Regions 1-6, Regions 8 and 10 are increasing, with Region 10 growing the fastest. The total number represents a net gain of 2.5% from 1999 with the number of permanent members up almost 400 over the same year. Special membership projects such as on-site promotions at IEDM and ISSCC have added 200 members. Other new recruiting packages offering free EDS membership to any IEEE member added another 31 members this year. The committee also provided special membership packets to all EDS Distinguished Lecturers, coordinated the annual TIP mailing to non-EDS members who indicated EDS as an interest, and renewed the membership and publication arrangement for eleven East European chapters. This year EDS implemented a new membership fee subsidy program to chapters supporting persons with income under $8,600, a limit set by IEEE guidelines. So far, three chapters (or a total of 24 members) are taking advantage of this offer. Another initiative designed to encourage qualified members to apply for IEEE Senior Membership status has resulted in fifty new Senior Members. James also outlined a new proposal to extend a free, half-year membership in EDS to new IEEE, non-EDS members. A similar strategy was successfully used by the IEEE Communications Society (ComSoc) doubling its membership. If approved, the program would cost $31K in its first year and $57K in the second. Projections indicate that EDS could potentially add 6,000+ new members in the initial year, and 5,500 more in the second based on an estimated 12% return. While the idea is attractive, AdCom discussion pointed out that ComSoc is different than EDS, and what worked for them may not have the same result for EDS. In addition, in light of the fiscal issues mentioned above, EDS must be judicious about "costs-per-member" against a potential influx of new members. The proposal will be discussed again in December.

As reported by Hiroshi Iwai, Regions/Chapters Chair, EDS currently has 103 chapters worldwide, including 8 student branches. The recent division of chapter management into five subcommittees (SRCs), namely North America East/Canada, North America West, Latin America, Europe/Africa/Middle East, and Asia/Pacific, has allowed for a geographic redistribution of chapter partners with clearly established responsibilities.

Ilesanmi Adesida, Chairman of Educational Activities, summarized the major educational programs: Distinguished Lecturers (DL), the EDS Graduate Student Fellowship, Vanguard Independent Short Courses, and Outreach. On the DL side, a letter was composed (to be distributed biannually) to all participants reminding them of their responsibilities. Specifically, that to remain in the DL program, each lecturer must give (at least) one lecture every two years. Forty-five DL lectures have already been given/are scheduled for 2001 that is commensurate with the Y2000 numbers and costs. Information on the EDS Graduate Fellowship program is given later in this article. The Vanguard Independent Short Courses program is an effort pointed to providing timely education to practicing engineers. Five courses have been given so far in 2001 covering the topics of RF CMOS, Fiber Optics, Modeling for Design and Reliability, and High-K Dielectrics with one class being presented in Taiwan. At this point, the committee is reviewing and assessing the outcome of these classes looking at pricing, materials, topics, quality, and member interest. Since the program is running a significant deficit, due mostly to increased costs and undersubscribed classes, EDS needs to improve the infrastructure, find local champions, solicit region and chapter leaders, technical committees, and involve a new industrial relations committee (see below) to improve these offerings. At this point, the courses will continue at 1-2 classes per year but will critically look at better topic selection and possibly industrial support or sponsorship. The Outreach program continues to support chapter formation in "disadvantaged" areas worldwide.

Reporting for the Publications Committee, Chair, Renuka Jindal, cited editorial policy and procedures, quality, speed, recognition, circulation and budget as the principal tasks for his group. The Publications Committee in 2001 is considering adding representatives from all EDS-sponsored and co-sponsored publications, the EDS Meetings Committee, and EDS technical committees. This expanded group will be better suited to deal with manuscript review uniformity, resolution of authorship disputes, proper referencing of previous work, and other editorial policy issues. General quality continues to improve as publication metrics become established. Renuka is looking at impact factors, or some other custom metric based on citations, to judge the use and quality of EDS publications such as *T-ED* and *EDL*. Both these journals now enjoy centralized manuscript handling through the IEEE office in Piscataway, which has streamlined the entire publication process. This year's Rappaport award winner is "SON (Silicon-on-Nothing)—An Innovative Process for Advanced CMOS" by M. Jurczak and co-authors, published in T-ED November 2000 (Vol.47, No.11). Recognition for EDS authors continues to grow as the Rappaport award runner-up will now receive a recognition letter and possibly be nominated for IEEE prize paper awards. Editors too will be honored when they retire with special ceremonies at a conference of their choosing. The EDS 50th anniversary "best paper" selection of seminal papers from *T-ED*, *EDL*, and IEDM continues to be discussed, but difficulties have arisen in judging worthy contributions published after 1994 when only using citation index, since not enough time has elapsed to collect a hundred citations or more. For this collection, it is harder to deem the definition of "best." With the trend towards electronic publishing increasing, the committee is working to understand its impact on circulation. This also impacts the budget as EDS deals with the $100K cost of providing online access to EDS publications with a possible reduction of the number of journals offered electronically. Renuka also announced that the forthcoming *T-ED* Special Issue on bipolar devices will include an invited paper by Jim Early. In conclusion, he discussed efforts to obtain the rights to a historic limerick recorded by Bell Labs staff at the 1957 DRC which will be referenced in the Special Issue on Bipolar Devices and made available on IEEE *Xplore*.

Meetings Chair, Ken Galloway, announced that 135 meetings are expected in 2001. Of these, 33 will be sponsored/cosponsored, 93 are technically sponsored, and 9 remain cooperatively supported. Since 1999, when IEEE started charging penalty fees for late conference closings, EDS has paid $6,478.00. Almost all these charges were assessed in the first eighteen months. Copies of the Photovoltaic Specialists Conference (PVSC) Archival CD-ROM given to EDS could potentially generate up to $120K in extra income. The CD-ROM includes all past proceedings from 1962 to the 28th PVSC.

Committee Reports

Since December, our Technical Committee (TC) Coordinator Chair, Steve Hillenius, has been soliciting representatives from all the technical committees to serve on the Publications and Meetings Committees. Narain Arora heads the recently formed (as of March 2001) Compact Modeling TC. The charter of this group is to identify, examine, and evaluate current models for active/passive components used for circuit simulation emphasizing models for components/interconnect required for chip design. They have established a website, and a 1-day seminar targeted for the September FSA meeting is in the works. The TC will also hold its first workshop on MOSFET modeling in April 2002 with an interconnect modeling workshop in conjunction with IEEE Interconnect Symposium to follow in 2002. Narain's talk listed other planned activities including continued work with WCM-MSM in 2002, tutorials on existing models, and an online journal on compact modeling (proposed).

Next, Cary Yang reported on the 2001 Fellows Evaluation, and on a couple of new EDS initiatives. On the Fellows front, 46 nominations for Fellow were received down slightly from last year's numbers. As usual, the winners will be announced in November. Bruce Griffing and Cary Yang have led an effort to examine ways to open AdCom elections to the general membership and to make the election process generally more efficient. Some of these first efforts have been initiated and were described by Cary. For example, this year's nominations for EDS Vice-President were opened to EDS ExCom members for the first time. As a result, Ilesanmi Adesida and Hiroshi Iwai will stand for election in December. This paves the way for the following proposals: (1) The elected Vice-President will become the President-elect following a two-year term, and a new V-P will be chosen eliminating a formal election for EDS President, (2) Both the EDS Secretary and Treasurer will be appointed, not elected, and (3) AdCom elections will be opened to the general membership with a slate of candidates screened by committee. These reforms will be discussed further in December. Finally, Cary discussed establishing an Adhoc Industrial Relations Committee for EDS following a suggestion by former EDS President and current Awards Chair, Al Mac Rae. The purpose of this group is to acquire more input on "practicing engineer" professional needs reacting to overall IEEE membership trends & statistics. The committee will be announced this Fall.

Graduate Fellowship and 50th Anniversary Programs

Arlene Santos, Chair of the Graduate Fellow Subcommittee, reviewed the results of the initial EDS Graduate Student Fellowship program. This year's winners are, from the Americas, Yee-Chia Yeo (University of California, Berkeley), from the Asia-Pacific, Sergei Kucheyev (The Australian National University, Australia), and, from Europe, Middle East and Africa, Tusharkanti Ghosh (Lancaster University, UK). These individuals will each receive $5K, with their department and professor receiving $1K each to support the work of the awardees. Each recipient will also receive a plaque in a formal presentation at the IEDM. Overall, 11 nominations were received: five from the Americas, three from the Europe/Africa/ Middle East, and three from the Asia/ Pacific areas. EDS salutes these individuals, all the nominees, and everyone involved for a successful initial year of this program. Arlene also reported that the 2002 EDS 50th Anniversary Celebration will be held at the December IEDM in San Francisco. A celebration dinner will to be added to the IEDM activities, possibly to include those individuals participating in the oral histories program. A special EDS historical exhibit will also be on display. The AdCom also received an update on the IEEE Nanotechnology Conference for 2001 of which EDS is one of four sponsoring societies. The IEEE TAB Nanotechnology Council may be formed in 2002 pending approval this November. IEEE's *Transactions on Nanotechnology* Editor-in-Chief, Prof. S. Tiwari of Cornell, will initiate publication in early 2002. A motion to provide up to $3K for support of the IEEE TAB Nanotechnology Committee for 2002 was approved and passed. In conclusion, reports from the ED/SSC Yugoslavia Chapter, 2001 IEDM, and 2000 Int. Conf. on Microelectronics were heard.

The next meeting of the EDS ExCom/AdCom will be in Washington, D.C., on December 1 and 2, 2001, in conjunction with IEDM.

John K. Lowell
PDF Solutions
Richardson, TX

EDS Region 10 Chapters Meeting Summary

The Electron Devices Society held its 3rd Biennial Region 10 (Asia-Pacific) Chapters Meeting on 8 July 2001, in conjunction with the International Symposium on Physics and Failure Analysis of Integrated Circuits (IPFA) at the Westin Stamford Hotel in Singapore. The meeting provided a forum for the Chapter Chairs to meet one another as well as the IEEE staff and EDS AdCom members. It is an opportunity for the chapters to share their experiences and practices, as well as express their needs and concerns to the AdCom members.

This year's meeting was co-hosted by Hiroshi Iwai, EDS Regions/Chapters Committee Chair, and Kwyro Lee, SRC-AP (Asia-Pacific) Chair. Representatives of 13 chapters out of 15 in Region 10 attended the meeting. They were Australia, Beijing, Bombay (India), Hong Kong, India, Japan, Kansai (Japan), Korea, Malaysia, Seoul, Singapore, Taipei, and Thailand. In addition, Professor Bing-Zong Lee of the newly formed Shanghai Chapter (EDS' 16th Region 10 Chapter) attended. Hiroshi Iwai initiated the meeting with an explanation of the Subcommittee for Regions and Chapters and its role in the rejuvenation of the SRC/Chapter Partners Program. The re-introduction of the Chapter Partners Program has occurred with the reassignments/reconfirmations of partners by the SRC Committee.

Arlene Santos, Vice-Chair of SRC-NAE (North America East), Nino Sto-

jadinovic, Vice-Chair of SRC-EAM (Europe, Africa and Middle East), and Juzer Vasi, Vice Chair of SRC-AP (Asia Pacific) presented reports concerning their Regions' recent activities and future plans on how to utilize the SRC Committee and Partners Program.

All 13 representatives of the chapters gave their plans and expectations on the newly started Chapter Partners Program as well as yearly reports of their activities. Finally, Kwyro Lee, SRC AP Chair, moderated an open discussion among the participants. There were several comments, questions and requests regarding the SRC/Partner activities, Distinguished Lecturer (DL) Program, STAR Program, and Membership Fee Subsidy Program and many suggestions for improvements were given. The chapter representatives were strongly encouraged to contact their partners or SRC Chair/Vice-Chairs regarding any individual questions/problems or suggestions.

Attendees of the EDS Region 10 Chapters Meeting in Singapore (left to right): Renuka P. Jindal, Yean C. Ng, M.K. Radhakrishan, Bing-Zong Li, Fu-Jiang Liao.

Under the new SRC/Chapter Partners Program all chapters have been assigned a minimum of one partner, with the Asia-Pacific chapters having two partners. Every partner for Region 10 has been asked to meet with their chapters at least once every two years and to assist in setting up Distinguished Lecturer talks. Furthermore, the SRC Chair and Vice-Chair will arrange tours of a group of distinguished lecturers for a mini-colloquia around neighboring chapters. Thus, there will be a significant increase of DLs as well as meetings and exchanges between chapters and partners.

Hiroshi Iwai,
Tokyo Institute of Technology
Yokohama, Japan

Kwyro Lee,
KAIST University
Taejon, Korea

Juzer Vasi
Indian Institute of Technology
Mumbai, India

Independent Short Course on High-K Dielectrics a Hit

With April venues on both sides of the Pacific, University of Texas Prof. Jack C. Lee delivered a popular six-hour short course on gate dielectrics in Santa Clara, CA, and Hsinchu, Taiwan. Part of the Vanguard Series of independent short courses, the April short course is the fourth in the series begun in 2000.

Steve Chung (left) and Prof. Jack C. Lee

The course provided a good review of the literature with a special emphasis on Lee's high-k gate dielectric research, which focuses on ZrO2 and Hf02, as well as the research of others. The questions and answers during both sessions indicated an informed interest in the latest research.

Industry participants in Santa Clara and Taiwan came from companies like Philips Semiconductor, SSTI, TSMC, and UMC. University participants came from Santa Clara Univ., UC Berkeley, Stanford, and National Chiao Tung Univ., as well as most of Taiwan's technology-oriented universities.

In building the series of short courses held at venues with heavy concentrations of semiconductor industry activity, EDS Taipei Chapter Chair, Steve Chung, was instrumental in defining the new role of Local Champion for the series. As a result, attendance was the best of the series.

The Short Course subcommittee approved the release of the videotapes for the 2000 short courses for distribution and sale at IEEE's online store (shop.ieee.org/store). The titles, which are Circuit Designs and Technology for RF-CMOS, Overview of Fiber Optic Communications, and Using Modeling to Resolve Design and Reliability Issues, are available in either NTSC or PAL format. They are also available from IEEE's Professional Development Institute.

For further information about these short courses, see http://www.ieee.org/eds/shortcourses.

Ilesanmi Adesida
University of Illinois
Urbana, IL

Emily Sopensky
The Iris Company
Austin, TX

IEEE Election! Did You Vote Yet?

This is a reminder for EDS members to vote in the 2001 IEEE Election for IEEE President (Michael S. Adler, Paul J. Kostek, or Arthur W. Winston) and Division I Director (Gordon W. Day or Cary Y. Yang), as well as your respective Region Directors. Election ballots with biographies of the candidates were mailed out September 1 and the deadline for the submission of your ballot is November 1, 2001.

2000 EDS Paul Rappaport Award

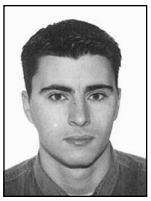
Each year, the IEEE Electron Devices Society confers the Paul Rappaport Award to the best paper published in an EDS publication. The recipient(s) is awarded a certificate and a check for $2,500, presented at the International Electron Devices Meeting (IEDM).

The winner of the 2000 award is a paper entitled, "Silicon-on-Nothing (SON)—An Innovative Process for Advanced CMOS," which appeared in the November 2000 issue of *Transactions on Electron Devices*, and was authored by Didier Dutartre, Malgorzata Jurczak, Damien Lenoble, Jose Martins, Stephane Monfray, Roland Pantel, M. Paoli, Jorge Luis Regolini, Pascal Ribot, Thomas Skotnicki, and Beatrice Tormen, and has been selected as the best paper in an EDS publication during 2000. The 2000 award will be presented at the IEDM on 3 December 2001 in Washington, D.C. The following are brief biographies of the eleven winners.

Didier Dutartre, born in 1956, received the engineering degree in Material Physics from the Institut des Sciences Appliquées de Lyon, France, in 1979, and the Ph.D. degree in 1983. His doctoral research dealt with thermodynamics and liquid phase epitaxy of III-V compounds. He then joined the Centre National d'Etudes des Télécommunications (CNET) as researcher in Material Science. From 1983 to 1989, he developed the lamp zone melting recrystallization technique for the fabrication of thin silicon-on-insulator films. Between 1989 and 1994, he worked in reduced pressure rapid thermal CVD and started the CNET research activities on SiGe epitaxy. In 1994, he joined the Centre Commun Crolles, a consortium between CNET and STMicroelectronics, where he developed high temperature Si epitaxy, in situ doped Si poly processes, and low temperature Si/SiGe epitaxy. In 1999, he joined STMicrolectronics where he is presently leading R&D activities in epitaxy and poly. He holds more than 20 patents and has about 100 publications in these fields. He is married and has two children.

Malgorzata Jurczak received M.Sc. and Ph.D. degrees in electrical engineering from the Warsaw University of Technology (WUT), Poland, in 1991 and 1997. In 1991, she joined WUT where she worked on modeling of MOS SOI devices. In 1994, she was with NMRC, Cork, Ireland, and in 1997 with Kyung Hee University, Seoul, Korea. In 1998, she joined CNET Grenoble, France, Telecom. She was involved in development of 0.18 and 0.12-µm CMOS process and alternative approaches for sub-0.1 µm CMOS. In 2000, she joined IMEC, Leuven, Belgium, where she is in charge of 100-nm CMOS technologies development. She holds 15 patents and authored 40 papers. She received the Best Paper Award at ESSDERC 2000.

Damien Lenoble received the Engineer Diploma, the M.Sc. Degree in electrical engineering (1996) and the Ph.D. in Semiconductor Physics and Technology (2000) from the National Institute of Applied Science of Toulouse. His Ph.D. work was performed in the France Telecom R&D Center of Grenoble. His studies were focused on the investigation of ultra-shallow p+/n junctions and their impact in deep sub-micron CMOS technologies. He particularly worked on alternative doping technique such as plasma doping. Since 2000, Damien Lenoble has joined ST Microelectronics (Crolles-France) where he is leading the ion implantation R&D with a particular involvement in the development of advanced technologies. (No photo was available.)



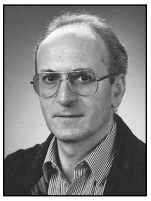
Jose Martins was born in Saint-Jean de Maurienne, France, in 1971.He received the B.Tech. Degree in industrial computing science in 1991 from Cluses university. In 1993, he joined STMicroelectronics, Crolles, where he worked in metallic deposition (PVD). In 1996, he joined the Centre Commun Crolles, a consortium between CNET and STMicroelectronics, where he developed the new architectures for advanced MOS devices (SON, notched gate). His work was dedicated to developing an isotropic plasma process in order to etch selectively the tunnel in SiGe. He is currently working in thermal treatment for 300-mm equipment valuation.

Stephane Monfray was born in Lyon, France, in 1975. He received the Engineer degree in physics and the postgraduate Diploma in microelectronics in 1999 from the Institut National des Sciences Appliquées (INSA), Lyon, France. In 1998, he was with the Laboratoire d'Electronique, de technologie et d'instrumentation (LETI) where he was involved in electron beam lithography, and in 1999, he was working with the LETI and INSA on silicon nanostructures. He is currently pursuing the Ph.D. degree with France Telecom R&D, Meylan, France, and STMicroelectronics, Crolles, France. His work is dedicated to the development and characterization of new architectures for advanced MOS devices, and particularly the silicon-on-nothing (SON) project.

Roland Pantel was born in Pont de Montvert, France in 1949. He graduated as a Physics Engineer from INSA Lyon in 1974 and received his Ph.D. on plasma surface interaction from University of Orleans in 1977. From 1977 to 1980, he worked as a research assistant at the Plasma Laboratory of the Physics Department of University of Montreal, Quebec, Canada. From1980 to 1999, he has been at CNET France Telecom, Meylan, France, as a Research Engineer where he developed physical and chemical characterization techniques using Auger electron spectroscopy, focused ion beam, energy filtered transmission electron microscopy, and electron energy loss spectroscopy. In January 2000, he joined STMicroelectronics Crolles were he is now in charge of transmission

electron microscopy and spectroscopy analysis research and development.

M. Paoli, photo and bio not available.



Jorge Luis Regolini received his M.Sc. from Centro Atomico Bariloche (Argentina) and graduated from Strasbourg University (France) with a thesis in Solid State Physics. He was then with the Atomic Energy Commission in Argentina as a researcher on Semiconductor Physics and Technology. At the EE Dept. (Stanford University, USA) he worked as a post-doctoral fellow in laser processing for silicon recrystallization and silicide formation. Since 1986, he is with France Telecom CNET-CNS involved on RT/RPCVD for the selective deposition of epitaxial Si/SiGe and silicides. He has presented several invited papers in that field, concerning mainly material fabrication and characterization, kinetics, and kinematics aspects of reduced pressure single wafer reactors. He is also working in silicide deposition by CVD for contacts and interconnects. Since 1999, he is with STMicroelectronics (Crolles-France) as Technical Staff Engineer on Advanced Dielectrics for new generations of DRAMs and gate stacks. He holds several patents and more than 100 publications in these fields.

Pascal Ribot was born in Ales, France, in 1970. He received the Diplôme d'Etudes Approfondies de Microélectronique in 1996 at the Université de Grenoble. He

joined first the Centre National d'Etudes des Télécommunications-Grenoble in 1998, and then ST Microelectronics Central R&D, Crolles, France in 1999, where he obtained the Ph.D. degree. His research interests included non-selective and selective epitaxy by RTCVD of silicon and SiGe layers for bipolar and advanced CMOS applications. He is presently working in the CVD Process Engineering group at Crolles.

Thomas Skotnicki received the Engineer and the M.Sc. degrees in Electronics from the Warsaw University of Technology, Warsaw, Poland, in 1979, and the Ph.D. degree (with honors) also in Electronics from the ITE CEMI, Warsaw, in 1985. In 1986, he joined the France Telecom R&D (CNET), Grenoble, where he first worked on CMOS modeling and next managed test and development of MOS devices. In 1992, he received from the INPG the French Diploma Habilité à Diriger des Recherches. In 1999, he joined STMicroelectronics Crolles, France, where he manages the Advanced Devices Program running projects on 0.07–0.05-mm FE device and memory modules. He has responsibilities in numerous European projects. He holds 30 patents, has authored several invited papers, over 100 specific papers, a few book-chapters, and has served in Program Committees for IEDM and ESSDERC. From 1993 to 1996, he lectured as a Professeur Vacataire at the INPG, Grenoble. He is a co-recipient of the ESSDERC 2000 Best Paper Award. He is a member of IEEE. In 1998, he was elected a Senior Member of the SEE (French) for outstanding achievements in the field of electricity and electronics.

Béatrice Tormen was born in Grenoble, France, in 1961. From 1979 to 1996, she worked in different sites of STMicroelectronics in Grenoble as Operator and Trainer both in photo and etching areas. In 1996, she was in Centre National d'Etudes des Telecommunications (CNET Meylan) where she joined the consortium established between CNET and STMicroelectronics as technician in Central R&D. She was in charge of etching processes developments for 0.15-µm then 0.12-µm CMOS (vertical transistor, dielectric pockets, poly SiGe gates, notched gates) and particularly for SON project. She also has been extensively involved in several European projects such as NOVA, ACE, and MEDEA. Now she is involved in evaluation of 300-mm equipment for 0.12- and 0.1-µm technologies.

Renuka P. Jindal
EDS Publications Chair
Agere Systems
Murray Hill, NJ

Annual CD-ROM Packages Available to EDS Members

The EDS CD ROM Package includes all issues for a given year of Electron Device Letters (EDL) and Transactions on Electron Devices (T-ED), as well as the proceedings of the given year of the International Electron Devices Meeting (IEDM). The CDs have an easy to use interface and are searchable by author, title and key word. All materials were published using Adobe Acrobat Technology. Included on the CD-ROM are versions of Acrobat Reader for Microsoft Windows, Apple Macintosh, and UNIX.

Currently, EDS has four CD ROM Packages available to its members, i.e. 1997, 1998, 1999, and 2000. Each is available for US $25.00 (US $19.00 for students). If you would like to receive an order form for any of these products, please contact the EDS Executive Office (contact information provided on page 2).

For the 2001 CD ROM Package, you can request it in advance as a subscription via your 2002 IEEE Membership Renewal Bill when you receive it this Fall. The 2001 EDS CD-ROM Package will be available in June 2002. Once you sign-up to receive the 2001 package via your Member Renewal Bill, you will automatically be billed each year for subsequent versions of the package.

EDS Permanent Membership Option

EDS members are currently being offered the option of making a one-time payment of $30 to become a "permanent" member of EDS. The only requirement to become a permanent EDS member (besides the $30 fee) is to maintain your IEEE membership.

Current IEEE and EDS members are able to request this option via their 2002 IEEE membership renewal bill. IEEE members who are not members of EDS can also use their 2002 renewal bill to obtain permanent EDS membership. In addition, non-members of the IEEE are also able to request this option by completing the 2002 IEEE/EDS membership application form. We encourage you to take advantage of this EDS offering and benefit. This option is not available to students or EDS affiliate members.

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

Richard Ash*
Goncal Badenes*
Shubneesh Batra*
Robert Baumann
Bharat Bhuva
Min Cao*
Richard G. Carter*
Parthasarathi Chakrabarti*
Zhi Chen*
David Cheskis*
Won-Jae Choi*
Chorng-Ping Chang
Sang-Koo Chung*
Maria Sanchez Colina*
Danilo Crippa*
Denice D. Denton
Charvaka Duvvury*
Kenneth M. Grohman*
Jozsef F. Gyulai
Sung-Ho Hahm
Karsten Hansen*
Katsuhiko Hieda
Gerhard Hobler*
Gary Hong*
Yin Hu
Shuji Ikeda*
Agisilaos A. Illiadis*
Mohamed A. Imam
Muhammad Zafar Iqbal*
Herve Jaouen*
Rick Jerome*
Shiro Kamohara*
Takamaro Kikkawa*
Tsu-Jae King
Sakurai Koichi*
Masaaki Kuzuhara
Richard Lai
Roger K. Lake*
Chun-Lim Lau*
Jong Ho Lee*
Jong-Wook Lee
Jung-Hee Lee*
Mankoo Lee
Seonghearn Lee*
Yong-Hyun Lee*
Luke F. Lester
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Choh-Fei Yeap*
Ho-Kwang Yow*
Tiemin Zhao*
Yuan Fu Zhao*

* = Individual designated EDS as nominating entity

If you have been in professional practice for 10 years, you may be eligible for Senior Membership, the highest grade of membership for which an individual can apply. New senior members receive a wood and bronze plaque and a credit certificate for up to US $25 for a new IEEE society membership. In addition, a letter will be sent to employers, recognizing this new status.

For more information on senior member status, visit http://www.ieee.org/membership/grades_cats.html#SENIORMEM To apply for senior member status, fill out an application at http://www.ieee.org/organizations/rab/md/smelev.htm.

President's Message

(continued from page 2)

The June 2001 AdCom Meeting was held in Singapore, in conjunction with the 8th International Symposium on the Physical & Failure Analysis of Integrated Circuits. The success of this meeting series was due largely to the spectacular hospitality and organization of the Singapore ED Chapter, to which my volunteer and staff colleagues are deeply indebted. The Region 10 Chapters Meeting, hosted by our Regions/Chapters Chair, Hiroshi Iwai, was held as part of this series and attended by representatives from every ED chapter of the Region, except for one student chapter.

In addition to the newly formed Nanotechnology Technical Committee, chaired by Alan Seabaugh, a committee on compact modeling was initiated and its first meeting was held in Singapore as part of the AdCom meeting series. The latter is chaired by Narain Arora. Both topics are highly interdisciplinary, and we expect to see substantive interactions with other IEEE Societies result from activities led by these two groups. In fact, EDS is a major participant in the drive within the IEEE Technical Activities Board to form a new Nanotechnology Council.

To commemorate the first fifty years of the Electron Devices Society, a booklet of oral history is being prepared and is expected to be distributed with the April 2002 issue of this Newsletter. We are grateful to Craig Casey for championing this undertaking. During the AdCom Meeting in Singapore, it was decided to hold an event in conjunction with the December 2002 AdCom Meeting to celebrate this milestone for the Society. Arlene Santos has volunteered to plan and organize this event and she is seeking additional members to work with her on this project.

It has been indeed a wonderful experience for me to serve as your president for the past two years. I look forward to continuing to work with many of you as junior and senior past president in the next four years, and, if elected to be Division I Director this year, as your representative on the IEEE Board of Directors for the next two years. I thank you for all your support, and once again, I urge all of you, as EDS members, to be involved in your Society.

Cary Y. Yang
Santa Clara University
Santa Clara, CA

EDS DISTINGUISHED LECTURER PROGRAM - LECTURERS RESIDING IN CENTRAL, WESTERN & SOUTH WESTERN USA AND LATIN AMERICA (Regions 4-6 & 9)

The EDS Distinguished Lecturer Program exists for the purpose of providing EDS Chapters with a list of quality lecturers who can potentially give talks at local chapter meetings. To arrange for a lecture, the EDS chapters should contact the Distinguished Lecturer directly. A general guideline for the visit, but not the absolute rule, is that the lecturer should be able to include the meeting site with an already planned travel schedule at a small incremental cost to the travel plan. Alternatively, a prior coincident travel plan would not be required if the lecturer is already located within an approximate fifty mile radius of a meeting site. Although the concept of the program is to have the lecturers minimize travel costs by combining their visits with planned business trips, EDS will help subsidize lecturer travel in cases where few/no lecturers will be visiting an area and/or a chapter cannot pay for all the expenses for a lecturer trip. For a full listing of EDS Distinguished Lecturers and travel plans please contact Laura Riello of the EDS Executive Office (Tel: 1-732-562-3927, Fax: 1-732-235-1626, E-Mail: l.riello@ieee.org).

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-Microwave Integrated Circuits Using CMOS on Sapphire

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-Ultra-Shallow Junctions Using Very Low Energy Ion Implantation
-Mos Device Modeling

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-Health Effects of Radio and Microwaves

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-Sensors on Flexible Substrates: Artificial Skin

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-Electrical Characterization of Semiconductors
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-Mixed Device and Circuit Simulation
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EDS Membership Fee Subsidy Program (MFSP)

IEEE policy currently allows a 50% discount on IEEE dues and one society membership for any individual whose annual salary is less than US $10,100. This offering is referred to as the Minimum Income Special Considerations Option. The Electron Devices Society now has a new program for its chapters called the Membership Fee Subsidy Program (MFSP), which will both complement the IEEE Minimum Income offering and provide a significant additional benefit for qualified individuals.

With the EDS Membership Fee Subsidy Program, EDS will pay the other 50% of the IEEE and EDS dues that are not covered by IEEE for individuals qualifying for the Minimum Income option for 10 individuals per chapter. These individuals can be either prospective new members or existing members. The program also will cover student members that reside in countries that would qualify as Minimum Income. Although the IEEE Minimum Income option allows individuals to purchase publication subscriptions for one society at a 50% reduced rate, the EDS MFSP does not cover the payment of publication subscriptions.

If a chapter has individuals who qualify for the reduced IEEE Minimum Income offering and the EDS MFSP, all the Chapter Chair needs to do is coordinate the obtaining and submission of the IEEE/EDS membership application forms (for prospective new members) and/or IEEE membership renewal bills (for existing members) for the individuals he/she is proposing to be covered by EDS. The Chapter Chair should also contact the EDS Executive Office to advise of their participation in the program. All application forms and renewal bills should be mailed to the EDS Executive Office. Once received, the application forms and bills will be coded by the Executive Office with a special account number and submitted to the pertinent IEEE department for processing.

In subsequent years of participation in the EDS MFSP, the chapter must replace a minimum of six of the ten members who were paid for by EDS in the previous years. Also, a given member will only be allowed to have his/her memberships paid for by EDS a maximum of two times. These two policies will avoid having the same members receive the benefit each year and encourage new membership. Those EDS members receiving the MFSP benefits should fulfill the obligation assigned by the local chapter chairs to promote the EDS activities.

Aside from being a program for existing EDS chapters, the EDS Membership Fee Subsidy Program is also an extremely good means to help facilitate the launching of new chapters in low income geographical areas. For any questions concerning the program, please contact the EDS Executive Office.

James B. Kuo
University of Waterloo
Waterloo, Canada

On-Line Access to IEEE Journals Available to EDS Members

The Electron Devices Society is committed to providing on-line access to its periodicals. The on-line delivery system, IEEE Xplore, provides IEEE members with the following benefits/capabilities:

- Online access to their IEEE personal subscriptions
- Full-text PDF image files for content, including all original charts, graphics, diagrams, photographs and illustrative material starting from 1988
- Online available prior to the print equivalent
- Free and unlimited access to abstract/citation records
- Unlimited printing of bibliographic records and full-text documents

As an IEEE and EDS member, you have FREE on-line access to the full articles of the following publications:

EDS Newsletter
Electron Device Letters
Transactions on Electron Devices
Transactions on Device and Materials Reliability
Electrochemical and Solid State Letters
Transactions on Information Theory
Journal of Lightwave Technology
Transactions on Microwave Theory and Techniques
Microwave Magazine
Microwave and Wireless Components Letters
Journal of Technology Computer Aided Design
Transactions on Ultrasonics, Ferroelectrics and Frequency Control

Free on-line access was a new benefit given to EDS members on 1 September 1998 (start of the 1999 IEEE membership cycle).

In addition to the on-line access to periodicals included with EDS membership, *Transactions on Semiconductor Manufacturing* and the *Journal of Microelectromechanical Systems* are available on-line to their respective member subscribers of the print version.

To use the Xplore system, you must establish an IEEE Web Account. This account is also used for renewing your IEEE membership online. If you need to establish an IEEE Web Account, please visit http://www.ieee.org/web/accounts.

IEEE members can go to the Xplore site through the URL http://www.ieee.org/ieeexplore. We encourage all members of the Society to use this dynamic system.

Renuka P. Jindal
Agere Systems
Murray Hill, NJ

Regional and Chapter News

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

AP/CAS/ED/MTT Kitchener-Waterloo Chapter

by Arokia Nathan

Over the first quarter of 2001, the Chapter has hosted several very interesting lectures at the University of Waterloo, which were well attended by IEEE members.

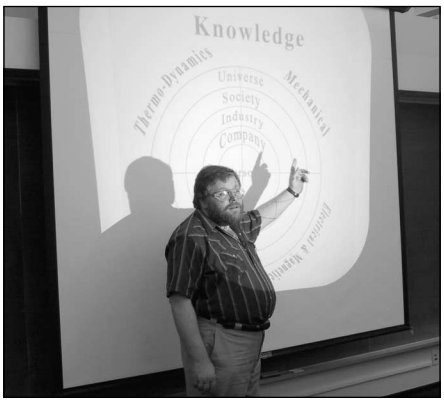
Jan Lienemann from IMTEK-Institute of Microsystem Technology, University of Freiburg, Germany, gave a presentation on Optimization of Integrated Magnetic Field Sensors.

Frauke Greve from the Physical Electronics Laboratory, ETH Zürich, Switzerland, gave a presentation on Electrochemical Etch-Stop Techniques for MEMS Fabrication.

Prof. Niall Shanks from the Departments of Philosophy and Physics and Astronomy, East Tennessee State University, gave a very interesting lecture on Engineering and the Rise of Science.

Everyone knows that today science and engineering go hand in hand. But what role did engineers play in the rise of modern science during the 16th and 17th centuries? Today we know that biomedical research is heavily dependent on the fruits of the engineer's labors. Shanks argued that engineers played a crucial role in the rise of modern medicine, and thus in the rise of modern science itself.

Shanks observed that sophisticated machine technologies pre-date the rise of modern science, and western medieval culture was a mechanically sophisticated culture — though possessing little that we would recognize as science. Shanks argued that modern science arose against this mechanically sophisticated cultural background. One of the central locations in the story of science was the medical school at the University of Padua in what is now Italy. Many key figures in the rise of modern science, such as Vesalius, Copernicus, Fracastorius, Harvey and Galileo, studied there. As renaissance medical researchers entered the unfamiliar terrain of anatomy and physiology, they found it very useful to think about what they saw in the light of familiar mechanical systems and processes. These mechanical analogies and metaphors constitute



Prof. Niall Shanks giving his lecture on Engineering and the Rise of Science at the University of Waterloo. The event was jointly sponsored by the IEEE Kitchener-Waterloo Section and the Department of History, University of Waterloo.

an important ingredient in what Shanks referred to as "machine thinking". The other ingredient to machine thinking was a method borrowed from medicine: the method of analysis and synthesis. According to this method, to understand a complex system you analyse the system into its parts, study the properties of the parts, as well as their structural and dynamical relationships, and then synthesize this knowledge into an integrated understanding of the entire complex system.

Machine thinking revolutionized medicine. And, thanks to figures such as Galileo, it revolutionized physics. By the end of the 17th century, thanks to Newton, a worldview had crystallized according to which the universe itself was a giant machine that not only obeyed mechanical principles but could be understood with the aid of other machines of our own design. The result was very much an engineer's view of nature.

The event was well celebrated in terms of a technical get-together of IEEE members from the Kitchener-Waterloo Section and members of the Department of History.

—Arokia Nathan, Editor

2002 International Caracas Conference on Devices, Circuits and Systems (ICCDCS)

by Adelmo Ortiz-Conde

The Fourth IEEE International Caracas Conference on Devices, Circuits and Systems (ICCDCS) will be held April 17–19, 2002, in Aruba's Seaport Conference Center. Aruba is a tourist island within the Kingdom of the Netherlands, situated in the southern Caribbean, 15 miles north of Venezuela's coast, and about two-and-a-half hours by air from Miami. This conference is organized by Universidad Simon Bolivar (Venezuela) and University of Central Florida (USA). ICCDCS receives technical co-sponsorship from IEEE's Electron Devices Society and Circuits and Systems Society, Venezuelan EDS/CAS/PEL Joint Chapter, and the support of Motorola. Prospective authors are invited to submit contributions in the form of original full manuscripts for oral presentation and publication in the conference proceedings, dealing with new results, relevant ideas, or innovations that advance the state-of-the-art in the areas of: Solid State Devices, Solid State Circuits, Power Electronics, Instrumentation & Measurements, Digital Signal Processing, and Telecommunications. For additional information, please visit the conference web site at pancho.labc.usb.ve/ICCDCS2002. Or send E-Mail to iccdcs@usb.ve. TEL: +58-212-9064010, FAX: +58-212-9064025. Other E-Mail contacts: General Chair, Juin J. Liou at liou@pegasus.cc.ucf.edu; Tech. Program Chair, Adelmo Ortiz_Conde at ortizc@ieee.org; Local Arrangements Chair, Francisco J. Garcia Sanchez at fgarcia@ieee.org; Finances: Giovanni De Mercato at gmercato@usb.ve.

—Adelmo Ortiz Conde, Editor

Europe, Middle East & Africa (Region 8)

ED/MTT/AP St. Petersburg Chapter

by Sergei Zagriadski

The Chapter activities during the Spring and Summer of 2001 were as stated below:

An international seminar "Day on Diffraction in New Millennium" (May 29–31, 2001) was organized by the faculty of Physics of the St. Petersburg State University, St. Petersburg Branch of Steklov Mathematical Institute and Euler International Mathematical Institute. It is an annual seminar on mathematical meth-

ods in diffraction theory, traditionally held since the late 1960s. This year the seminar was co-sponsored by the Russian Foundation for Basic Researches, City Government of St. Petersburg, and the St. Petersburg ED/MTT/AP Chapter. The main topics of the seminar were the following: Mathematical Aspects of Wave Propagation; Elastic Waves; Plates and Shells; Diffraction by a Cone; Waveguides and Mode's Diffraction; Nonlinear Wave Equations and Problems; Non-Stationary Phenomena; Scattering and Diffraction; Complex Rays; Quantum Scattering; Waves in Random Media; Trapped Modes; Antennas and Radiation; Non-Adiabatic Transitions; High-Frequency and Semi-Classical Asymptotics; and Numerical Approaches. The Seminar brought together over 90 scientists working in the area of mathematical theory of diffraction and propagation and researchers interested in applications of wave phenomena of various natures. Over 70 oral reports were presented by participants from Russia, Belarus, U.K., USA, Israel, Japan, France, Iran, Canada, Czech Republic, and Italy.

The 8th International Student Seminar on High Temperature Superconductors (HTS) and Ferroelectrics at Microwaves was held June 4–8, 2001, in St. Petersburg. It was organized by the St. Petersburg State Electrotechnical University and co-sponsored by the St. Petersburg ED/MTT/AP Chapter. There were 6 invited lectures presented by distinguished lecturers from 4 universities of Russia, Switzerland, Sweden, and USA and 14 oral reports by students from 3 universities of Russia, Finland, and Germany, which were devoted to theory and microwave applications of HTS. The total number of participants was over 30.

Invited lectures by IEEE Fellow, Prof. Magdy Iskander (University of Utah), in the framework of the Distinguished Lecturer Program were held June 25–26, 2001, at the Radio-Physical Faculty of the St. Petersburg State Technical University and at the St. Petersburg State Electrotechnical University. The topics of the lectures were the following: "The problems of computer based engineering education," "The low cost phased antenna array design for mobile and satellite applications," and "Propagation models for wireless communications."

Student competition in problem solving for junior students studying radioengineering at regional universities (April 29, 2001) was organized by the St. Petersburg State Technical University and the St. Petersburg State Electrotechnical University. Over 50 students from 5 universities took part in the competition.

For further information about conferences and seminars organized in St. Petersburg and its region by the Chapter, please contact Prof. Sergei Zagriadski; E-Mail: zagriadski@ieee.org.

MTT/ED/AP/CPMT/SSC West Ukraine Chapter

by Mykhaylo Andriychuk

Currently there are 33 IEEE Members in our Chapter. Two new IEEE Members were recruited in 2001. The membership of 5 IEEE Members formerly subsidized by the MTT-S, ED-S, and AP-S is supported partly from the Chapter budget now. A group of 15 IEEE Student Members is also supported financially from the Chapter's budget.

Our Chapter has organized a series of successful events in the previous period. They include the 6th International Conference on the Experience of Designing and Application of CAD Systems in Microelectronics (CADSM 2001). As were the five successful previous meetings, this conference was held 12–17 February 2001, in Slavsko (Lviv Region) situated in the Carpathian Mountains and an approximately 130-km drive south of Lviv. The particular focus of this conference was paid to the questions of development and application of simulation tools and methodologies for analysis of device performance, heat distribution, and process fabrication in microelectronics. The conference was organized by Lviv Polytechnic National University. The IEEE ED-Society provided the technical co-sponsorship. Conference participants represented 7 European countries (Austria, Poland, Russia, France, Germany, Belgium, and Ukraine). Three best reports made by Young Scientists were awarded thanks to the financial support of the Chapter. Awarded were Marcin Piasecki (Warsaw University of Technology, Poland) for "Improved model of smart antenna controlled by genetic algorithm," Pavel Ivanov (Kharkiv State University of Radioelectronics, Ukraine) for "Laser CAD III software package for quantum well laser simulation," and Irena Kazymyra (Lviv Polytechnic National University, Lviv) for "The use of ICs simplified models in solving multiple-criterion parametric optimization problems."

The technical and financial support of the West Ukraine Chapter was provided for the 59th Student Scientific Conference of Radioengineering Faculty, National University "Lvivska Politechnika." The Conference was held at the Faculty of Radioengineering on April 5, 2001, thanks to the efforts of Telecommunication Department Chair, Dr. Mykhaylo Klymash, and West Ukraine Chapter Vice-Chair, Dr. Bogdan Koval. A total of 23 reports were presented in the following scientific areas: mobile communications and networks design, signal processing and medical applications, and electromagnetic wave propagation in electronic devices.

The next activity was the 16th Regional Scientific and Technical Conference of Young Scientists and Specialists (YSC-2001), held at Karpenko Physiko-Mechanical Institute (PMI), National Academy of Sciences of Ukraine, Lviv, May 16–18, 2001. The Young Scientist Council of PMI organized it. The IEEE MTT/ED/AP/CPMT/SSC West Ukraine Chapter was the sponsor of the conference, and it also provided technical co-sponsorship. The 75 papers by 106 authors from Ukraine and Poland were included in the Conference Program. The short abstracts of papers were published before the event. Two speakers were nominated by the chapter as Best Young Speakers, namely A. I. Koval for "About estimation of the rate distortion function for generalized Gaussian distribution under mean square error criteria," and V. P. Tsisar for "Peculiarities of oxide phase formation on the chromic steel surface contacting with oxygen content lead" (both from PMI). The best papers were published in the post-conference special issue.

During the reporting period, the chapter organized 9 technical meetings.

IEEE MTT/ED/AP/CPMT Saratov-Penza Chapter

by Michael Davidovich

The first half of 2001 in Saratov has been marked by two conferences on electron devices and microwave topics. The International Inter-University Conference on Contemporary Problems of Microwave Electronics and Radiophysics was held in March 2001, in the sanatorium Salute. More than 120 participants of this meeting got the opportunity to present and discuss their new researches on contemporary problems of microwave electronics and radiophysics in the picturesque Saratov suburb from March 20 to 24. The conference organizers were the Ministry of Common and Professional Education of Russian Federation, Russian

Foundation for Basic Research, Saratov N. G.Chernyshevskiy State University, State Educational-Scientific Center "College," and IEEE MTT/ED/AP CPMT Saratov-Penza Chapter. The scope of the conference is to present and discuss modern experimental and theoretical results on the following topics and related areas:

- Physics of free charges - electromagnetic field interaction,
- Vacuum microwave electronics,
- Vacuum microelectronics,
- Solid-state microwave electronics,
- Chaos and structures formation in electronics and radiophysics, and
- Applications of ultra-high frequencies.

The conference program included review lectures (45 min), topical lectures (30 min), oral presentation of contributed papers (20 min), and a poster session. The Chairman was Prof. Dmitry I. Trubetskov, President of Saratov State University. Scientists from Russia, Ukraine, and Korea were included in the Program Committee.

The second conference held recently (June 25–29, 2001) at the same location was the 8th International Workshop on Beam Dynamics & Optimization. This workshop was organized by Saratov State University, St. Petersburg State University, Joint Institute of Nuclear Research (Dubna), Institute of High Energy Physics (Protvino), People's Friendship University of Russia (Moscow), and D. V. Efremov Institute of Electrophysical Apparatus (St. Petersburg). The Organization Committee and Program Committee contained scientists from Russia, Ukraine, Germany, Japan, France, and USA. The Local Organizing Committee was chaired by Prof. V. P. Stepanchuk.

During the last half-year period four regular seminars have been organized by the Saratov-Penza Chapter on microwave and antennas and propagation topics.

For more detailed information, see http://www.cas.ssu.runnet.ru/uhf01/uhf01.html or contact Prof. Michael V. Davidovich (E-Mail: DavidovichMV@info.sgu.ru).

—Ninoslav Stojadinovic, Editor

ED Sweden Chapter

by Mikael Östling

During March 5-7, 2001, the Sweden ED Chapter together with KTH arranged the 5th European Workshop on Materials for Advanced Metallization, MAM 2001. The venue was Sigtuna, a scenic old town some 40 km north of the city of Stockholm. Altogether, 65 participants came to this year's MAM, and presented 45 papers. A special volume of Microelectronic Engineering will be published that contains 32 of them as full-length manuscripts. Professor Hiroshi Iwai gave an invited talk as an EDS DL on "NiSi Salicide technology for scaled CMOS."

In June, Dr. Allen Hefner Jr., National Institute of Standards and Technology (NIST), USA, gave a chapter presentation entitled "Compact Modeling of IGBT and SiC devices."

Later the same month, Dr. Christian Brylinski, Thales, France, gave a technical presentation on silicon carbide microwave power devices where the current status of SiC process and device technology was reviewed and which commercial implications we may expect in the near future.

The upcoming ED Sweden chapter program will host a PhD student symposium on semiconductor process, devices, and circuit modeling.

—Mikael Östling, Editor

Asia & Pacific (Region 10)

AP/ED Bombay Chapter

by Juzer Vasi

During April–June, 2001, the AP/ED Bombay Chapter organized two events, listed below.

On June 12, 2001, Dr. Dipak K. Basa, Utkal University, Bhubhaneshwar, India, gave a talk on "Composition and electrical properties of SiN films." Dr. Basa also interacted with faculty members and PhD students at IIT Bombay, and discussed possible research collaboration.

On June 29, 2001, Dr. Prasad Raje, CEO and Founder, Instantis, talked on "A Silicon Valley Startup Story—An ongoing perspective," which was enthusiastically received, especially by the student community. Dr. Raje covered various aspects of start-up companies, both technical and financial.

ED/MTT India Chapter

by K. S. Chari

The Chapter, in association with the IEEE Delhi section and the Delhi College of Engineering (DCE), arranged an interaction with graduate students of Electrical and Electronics Engineering of DCE on 12 May 2001. During the occasion, the Chapter Chair addressed the participants on issues in microelectronics, and participated in the evaluation of studies done in their industrial training placements. In response to the suggestion by students and faculty of DCE to foster innovation in product application, the Chapter Chair has proposed up to 2 awards in the areas of electronics and communication under the India EDS Chapter. These awards could be distributed annually at the graduation function. This is currently being pursued with the DCE management.

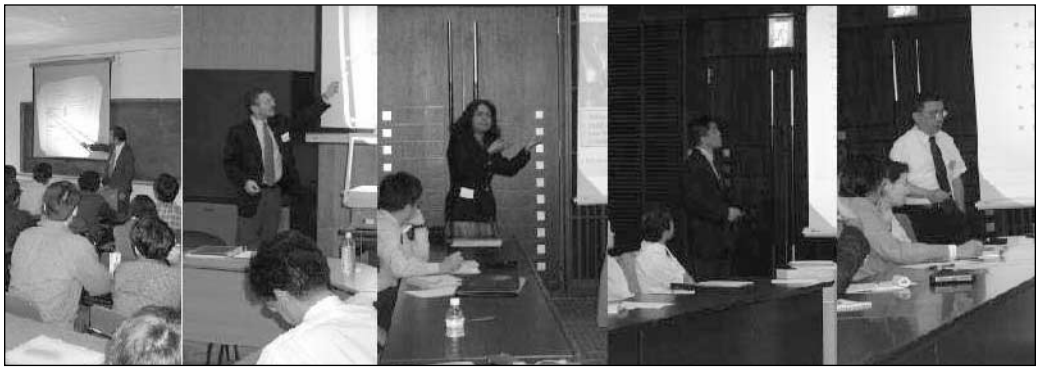
The Chapter Chair has visited the Harita Ecological Institute (HEI) and the Harita Junior College at Paloncha of Andhra Pradesh during 8–9 June 2001 to initiate new STAR activity. This is to enhance STAR penetration as a result of the extra funding provided by the past IEEE President, Prof. Bruce Eisenstein. The Chapter Chair addressed a gathering of the pre-college students of HEI. Both the students and faculty greatly appreciated the effort of bringing in the STAR program to the remote

Dr. Prasad Raje (third from left) and Mrs. Raje with faculty members at IIT Bombay.

A section of EDS STAR students and teachers from Haritha Ecological Institute, Haritha and Chaitnya Haritha Junior Colleges at Paloncha, Andhra Pradesh.

corner of the country, especially the rural agrarian belt that is far away from the industrial centers. Dr. P. Sudhakar and Mrs. Usha Rani hosted the visit. A variety of events to be held under the STAR program were planned.

Two other STAR programs had also been organized. The first one is the Science Forum. The STAR students from Maharana Pratap School, DAV School, and Aggrasain School participated in the model exhibition, poster, and quiz competitions. The event was held at the Maharana Pratap School on 5 December 2000. A panel consisting of the Chapter Chair, Dr. Anil Vohra, and Ms. Anurekha Sharma (Kurukshetra University) assessed the performance of students. A total of 7 prizes from the EDS chapter were given to the winners of events. The second event was an on-site visit to the industrial unit of United Rice Land at Kruk-shetra on 4 January 2001. Mr. Rajesh Nagru explained to students the modern electronic methods of paddy storage, conversion to rice, and the qualification procedures in the laboratory. Ms. Monika Gupta of Aggrasain School organized this event together with the STAR coordinator.



From left to right: Prof. H. Ishiwara, Dr. M. A. Shibib, Dr. L. Manchanda, Prof. J. C. Lee, and Dr. Y. Taur.

Dr. Govind, the Chapter Secretary, attended the MTT Chapter Chairs meeting held in Phoenix, AZ, on 22 May 2001. The Chapter Secretary discussed with members of the India sub-continent and MTT fellows on ways of strengthening the chapter activities. The Chairman of MTTS Chapter activities, Jerry Fiedziuszko, presented at the meeting the certificate of appreciation to the Chapter Chair and it was received by Dr. Govind on behalf of the Chapter Chair.

—W. K. Choi, Editor

ED Kansai Chapter
by Hiroshi Nozawa

We organized five technical sessions by invited DLs (distinguished lecturers) in Kansai Chapter for the second quarter. Professor Ishiwara of Tokyo Institute of Technology, IEEE Fellow, was invited and lectured at Kyoto University in Kyoto, Japan, 24 April 2001. His host was Dr. Nozawa, Professor of Kyoto University and the Chair of ED Kansai Chapter. He talked about technical trends of ferroelectric memory to 45 people (mostly graduate students). Others lectured at Campus plaza Kyoto in Kyoto, Japan, June 2001. Dr. Shibib, IEEE Fellow, lectured about dielectric isolation and silicon-on-insulator for analog and high voltage ICs, 8 June 2001. Twenty people attended the meeting. Dr. Shibib is a Consulting Member of Technical Staff, Agere Systems, Reading, PA, USA, a spin-off company of Lucent Technologies. Dr. Takasu of Rohm chaired the lecture and Q & A. Three lecturers, Dr. Manchanda, Prof. Jack C. Lee, and Dr. Taur were invited and gave talks successively, 15 June 2001, following the Symposium on VLSI Technology. There were 73 attendees for the talks. Dr. Niwa of Matsushita served as a session chair for lectures by Dr. Manchanda and Prof. Jack C. Lee. Dr. Lalita Manchanda is a Distinguished Member of Technical Staff with Electronics Device Research of Agere Systems at Murray Hill, NJ. She presented a talk about novel devices and materials for system on a chip, focused on logic, ASIC, and SOC. Prof. Jack C. Lee presented high-K gate dielectrics: ZrO2, HfO2, and their silicates. Jack C. Lee is a Professor of the Electrical and Computer Engineering at the University of Texas at Austin. At the final session that Dr. Nishimura of Mitsubishi served as a chair, Dr. Yuan Taur, Fellow of the IEEE, lectured. He has been with the Silicon Technology Department of IBM Thomas J. Watson Research Center, Yorktown Heights, NY. His presentation was entitled, "The Limit of CMOS Scaling: How Far Can We Extend It." Every lecture overran the allowed time due to extended discussions. Since these successful DL meetings were absolutely attributed to the DLs' voluntary efforts, the Kansai Chapter deeply appreciates their activities devoted to all of the participants.

ED Korea Council Chapter
by Se-Geun Park

The 2001 Asia-Pacific Workshop on Fundamental and Application of Advanced Semiconductor Devices (AWADS) was held at the KAL Hotel, Seogwipo-shi, Cheju-do, Korea for 4 days beginning July 4, 2001. It was jointly organized by the Institute of Electronics Engineers of Korea (IEEK), the Institute of Electronics, Information and Communication Engineers (IEICE) of Japan, IEEE EDS–Tokyo Chapter, and IEEE EDS–Korea Chapter. More than 45 papers were presented in oral or poster format, and there was a tutorial on the subject of nanotechnology before the 3-day presentation session. The ED Korea Chapter has actively taken part in the "Video Lending Library" program of EDS, and this June video tapes of the 2000 IEDM short course were rented and circulated among local members. The title was "Technology for the Internet Era," and the chapter meeting was held at Inha University after watching the short courses.

Report on the 2001 International Symposium on Power Semiconductor Devices & ICs (ISPSD 2001)
by Toshiaki Yachi

The 13th International Symposium on Power Semiconductor Devices & ICs (ISPSD 2001) was held at Osaka International Convention Center, Osaka, Japan, June 4–7, 2001. The conference was sponsored by the Institute of Electrical Engineering of Japan and co-sponsored by the IEEE Electron Devices Society. ISPSD is the most important international conference in the field of power semiconductor devices & ICs. It is held annually with the site rotating between Japan, North America, and Europe. ISPSD 2001 was the first of the 21st century. In commemoration of this, ISPSD Contributory Awards were awarded to the six ISPSD members who had made outstanding contributions to launching and organizing ISPSD from the very beginning. A total of 426 people from 18 countries attended the conference, which was composed of 2 plenary sessions and 13 regular sessions. The plenary sessions featured invit-

ISPSD 2001 administration committee meeting members.

ed talks on 6 topics by leaders in the power electronics field. These were Transmission and Distribution by Dr. Rahul Chokhawala, Pulsed Power by Prof. Shozo Ishii, Car Electronics by Prof. John G. Kassakian, EMI/EMC by Prof. Tamotsu Ninomiya, Transportation by Dr. Ingo Herbst, and Home Appliances by Dr. Teruya Tanaka. Ninety-five regular papers were presented as oral and poster presentations in the sessions on SiC devices, IGBTs, MOSFETs, LDMOSFETs, RF devices, high-voltage devices, packaging and reliability, and super junction. The workshop also provided an opportunity to discuss road maps of power semiconductor development in the early 21st century. This resulted in valuable road maps for high power devices, discrete power devices, integrated power devices, and RF power devices. The next conference, ISPSD 2002, will be held in Santa Fe, NM, USA, June 3–7, 2002. For details, please contact Mr. Taylor R. Efland, General Chairman for ISPSD 2002, E-Mail: t-efland@ti.com and look at the ISPSD'02 Conference Web Site: http://www.ti.com/ispsd02.

Conference Report on IPRM'01
by Yuichi Matsushima

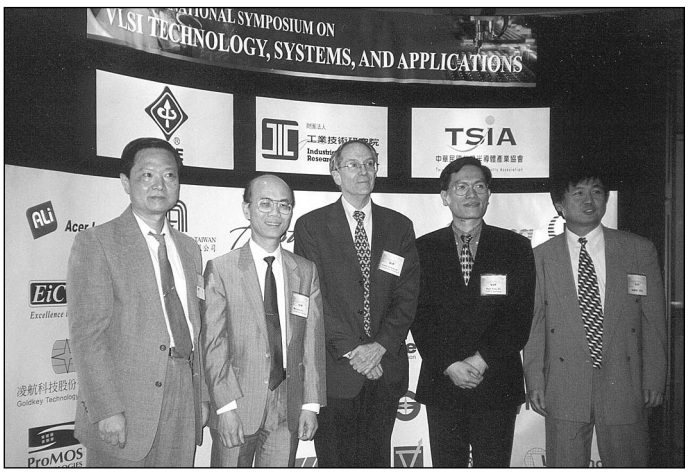
The Thirteenth International Conference on Indium Phosphide and Related Materials (IPRM'01) was held 14–18 May 2001, at Nara, Japan. The total number of participants was over 470 from 19 countries, which was a record for this conference. Prof. H. Asahi (Osaka University) and Dr. Y. Matsushima (KDDI R&D Labs) were the Conference Chair and Program Chair, respectively. The total number of presented papers was 176, in which there were 3 plenary talks, 19 invited talks, 142 regular papers, and 12 post deadline papers. As for each technical area, there were 42 optoelectronics, 43 electron device, 17 processing, 25 epitaxy, 20 bulk & characterization, and 29 new materials & nanostructures. Based on recent business activities in the Internet world, people concerned with optical and mobile communications began to pay more attention to the key devices made by InP-related materials. According to this background, a short course (regarding OEICs/PICs, photonic crystals, VCSELs) and a technical exhibition were successfully carried out with many attendees. The conference began with three outstanding plenary talks: Dr. M. Fukuta (Fujitsu Quantum Device) reviewed the "Business Impact of Optical Devices on Internet." Prof. N. Ledentsov (Ioffe Institute) presented recent results on "Self-Organized InGaAs Quantum Dots for Advanced Applications in Optoelectronics." Finally, Dr. P. Smith (BAY Systems) described the "Advances in InP HEMT Technology for High Frequency Applications." Technical topics of this conference seemed to move from bulk/epitaxy to optical/electron device fields. In the optoelectronics field, rapid developments of vertical cavity surface emitting lasers (VCSEL) for commercial use were intensively presented and new structures of semiconductor such as photonic crystals and quantum dots were also widely discussed in terms of optical device applications. In electron devices made by InP-related materials, 400-GHz cut-off frequency operation was reported in HEMT with 25-nm gate-length for the first time. It was common understanding that the studies for large-diameter InP-substrates such as 4–6 inch scale was very important for future cost reduction of devices. The next conference (IPRM'02) will be held at Stockholm, Sweden, during 12–16 May 2002. Refer to http://www.congrex.com/iprm2002.
—Hisayo S. Momose, Editor

ED Taipei Chapter: Report of the 2001 VLSI-TSA
by Tahui Wang

The 2001 International Symposium on VLSI Technology, Systems and Applications (VLSI-TSA) was held in Hsinchu, Tai-

continued on page 23

IPRM 2001.



From left: Steve Chung (ED Taipei Chair), Tak Ning (Symp. Chair), Lewis Terman (Symp. Co-chair), Ran Yan (Tech. Chair), J.-M. Shyu (Tech. Co-Chair).

EDS Meetings Calendar

(As of 24 August 2001)

The complete EDS Calendar can be found at our web site: http://www.ieee.org/organizations/society/eds/EDSCal.html. Please visit!

October 1 - 5, 2001, T **European Symposium on Reliability of Electron Devices, Failure Physics and Analysis** Location: Palatium of Arcachon, Arcachon, France Contact: Nathalie Labat, Universite Bordeaux 1 - Laboratoire IXL, 351, cours de la Liberation, TALENCE Cedex, France 33405 Tel: +33 05 56 84 65 51 Fax: +33 05 56 84 28 07 E-Mail: esref@ixl.u-bordeaux.fr Deadline: 3/14/01 www: http://www.ixl.u-bordeaux.fr

October 1 - 4, 2001, * **IEEE International SOI Conference** Location: Sheraton Tamarron Resort, Durango, CO, USA Contact: Bobbi Armbruster, BACM, 520 Washington Blvd. Suite 350, Marina Del Rey, CA, USA 90292 Tel: +1 310 305 7885 Fax: +1 310 305 1038 E-Mail: bacm@mediaone.net Deadline: 5/10/01 www: http://www.soiconference.org

October 1 - 4, 2001, T **International Symposium on Compound Semiconductors** Location: Komaba Campus, University of Tokyo, Tokyo, Japan Contact: Kazuhiko Hirakawa, Institute of Industrial Science, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan Tel: +81 3 5452 6260 Fax: +81 3 5452 6262 E-Mail: hirakawa@nano.iis-u-tokyo.ac.jp Deadline: 6/15/01 www: http://www.iscs.iis.u-tokyo.ac.jp

October 2 - 7, 2001, T **International School on Chaotic Oscillations and Pattern Formation** Location: Holiday Hotel "Volzhskie Dali", Saratov, Russia Contact: Dmitry Trubestskov, Saratov State University - State Ed. & Scientific Centre "College", 83 Astrakhanskaya, Saratov, Russia 410026 Tel: +7 8452 241696 Fax: +78452 523864 E-Mail: true@cas.ssu.runnet.ru Deadline: Not Available www: http://cas.ssu.runnet.ru/chaos01/chaos01.html

October 8 - 10, 2001, @ **IEEE International Symposium on Semiconductor Manufacturing** Location: Fairmont Hotel, San Jose, CA, USA Contact: Suzanne Harkless, McGettigan Meetings Plus, 1777 Botelho Drive, Walnut Creek, CA, USA 94596 Tel: +1 925 287 5237 Fax: +1 925 287 5300 E-Mail: suzanne@meetingsplus.com Deadline: 4/20/01 www: http://www.issm.com

October 9 - 13, 2001, * **International Semiconductor Conference** Location: Sinaia Hotel, Sinaia, Romania Contact: Doina Vancu, IMT-Bucharest, CAS Office, PO Box 38-160, Bucharest, Romania 72225 Tel: +40 1 490 82 36 Fax: +40 1 490 82 38 E-Mail: CAS@imt.ro Deadline: 4/15/01 www: http://www.imt.ro/CAS

October 15 - 18, 2001, T **International Workshop on Computational Electronics** Location: University of Illinois, Urbana, IL, USA Contact: Umberto Ravaioli, University of Illinois at Urbana-Champaign, 3255 Beckman Institute 405 N. Mathews Avenue, Urbana, IL, USA 61801 Tel: +1 217 244 5765 Fax: +1 217 244 4333 E-Mail: ravaioli@uiuc.edu Deadline: 6/15/01 www: http://www.ceg.uiuc.edu/iwce8

October 15 - 18, 2001, * **IEEE International Integrated Reliability Workshop** Location: Stanford Sierra Camp, Lake Tahoe, CA, USA Contact: Linda Head, Rowan University, 201 Mullica Rd., Glassboro, NJ, USA 08028 Tel: +1 856 256 5335 Fax: +1 856 256 5241 E-Mail: head@rowan.edu Deadline: 7/6/01 www: http://www.irps.org/irw/index.html

October 21, 2001, T **Gallium Arsenide Reliability Workshop** Location: Renaissance Harborplace Hotel, Baltimore, MD, USA Contact: Anthony Immorlica, Sanders, A Lockheed Martin Company, 65 Spit Brook Road, Nashua, NH, USA 03060 Tel: +1 603 885 1100 Fax: +1 603 885 6061 E-Mail: anthony.a.immorlica@lmco.com Deadline: 8/6/01 www: http://www.jedec.org/gaas

October 21 - 24, 2001, * **IEEE Gallium Arsenide Integrated Circuits Symposium** Location: Renaissance Harborplace Hotel, Baltimore, MD, USA Contact: Mary Clemente, IEEE, 445 Hoes Lane, Piscataway, NJ, USA 08855 Tel: +1 732 562 5350 Fax: +1 732 981 1203 E-Mail: m.e.clemente@ieee.org Deadline: 4/18/01 www: http://www.gaasic.org

October 22 - 25, 2001, T **International Conference on Solid-State & Integrated Circuits Technology** Location: Hotel Equatorial, Shanghai, China Contact: Mengqi Zhou, Chinese Institute of Electronics, PO Box 165, Beijing, China 100036 Tel: +86 10 6816 0825 Fax: +86 10 6816 0825 E-Mail: mqzhou@public.bta.net.cn Deadline: 4/1/01 www: http://www.cie-china.org

October 22 - 26, 2001, T **European Photovoltaic Solar Energy Conference and Exhibition** Location: International Congress Centre, Munich, Germany Contact: Bettina Kaisa, WIP, Sylvensteinstr. 2, Muenchen, Germany HD-81369 Tel: Not Available Fax: Not Available E-Mail: bettina.kaisa@wip-munich.de Deadline: Not Available www: http://www-munich.de

October 22 - 25, 2001, T **International Conference on Noise in Physical Systems and 1/F Fluctuations** Location: University of Florida Hotel and Conf. Center, Gainesville, FL, USA Contact: Gijs Bosman, University of Florida, College of Engrg, 565 Engrg. Bldg. #33, Gainesville, FL, USA 32608 Tel: +1 352 392 0910 Fax: +1 352 392 8381 E-Mail: gbosm@ece.ufl.edu Deadline: 2/1/01 www: http://www.doce-conferences.ufl.edu/ICNF/

October 28 - 30, 2001, * **IEEE Conference on Nanotechnology** Location: Outrigger Wailea Resort, Maui, HI, USA Contact: Toshio Fukuda, Nagoya University, Center for Cooperative Research in Advanced Science and Tech., 1, Furo-cho, Chikusa-ku, Nagoya, Japan 464-8603 Tel: +81 52 789 4478 Fax: +81 52 789 3115 E-Mail: fukuda@main.nagoya-u.ac.jp Deadline: 5/31/01 www: http://www.mein.nagoya-u.ac.jp/IEEE-NANO

October 28 - November 2, 2001, # **International Conference on Silicon Carbide and Related Materials** Location: Tsukuba Congress Center, Tsukuba, Japan Contact: Hajime Okumura, Electrotechnical Laboratory, 1-1-4 Umezono, Tsukuba, Ibaraki, Japan 305-8565 Tel: +81 298 61 5431 Fax: +81 298 61 5434 E-Mail: okumura@etl.go.jp Deadline: 6/1/01 www: http://www.icscrm2001.gr.jp

October 29 - 31, 2001, T **International Conference on Microelectronics** Location: Ecole

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Mohammadia d'Ingenieurs, Rabat, Morocco Contact: Mohamed Elmasry, University of Waterloo, VLSI Research Group, ECE Department, Waterloo, Ontario, Canada N2L 3G1 Tel: +1 519 888 4567 ext. 3753 Fax: +1 519 746 5195 E-Mail: elmasry@vlsi.waterloo.ca Deadline: 4/1/01 www: Not Available

October 31 - November 2, 2001, T **International Microprocesses and Nanotechnology Conference** Location: Kunibiki Messe, Masue, Shimane, Japan Contact: Hiroaki Masuko, Business Center for Academic Societies Japan, 5-16-9 Honkomagome, Bunkyo-ku, Tokyo, Japan 113-8622 Tel: +81 3 5814 5800 Fax: +81 3 5814 5823 E-Mail: hmasuko@bcasj.or.jp Deadline: 7/1/01 www: http://www.nano.ee.es.osaka-u.ac.jp/mnc

November 1 - 2, 2001, T **International Workshop on Gate Insulators** Location: Shufu-Kaikan, Tokyo, Japan Contact: Hiroshi Iwai, Interdisciplinary Graduate School of Science & Engineering, Tokyo Institute of Technology, 4259 Nagatsuta, Midori-ku, Yokohama, Japan 226-8502 Tel: +81 45 924 5471 Fax: +81 45 924 5487 E-Mail: iwai@ae.titech.ac.jp Deadline: 8/10/01 www: http://www.iwai.ae.titech.ac.jp/english/iwgi/index.html

November 4 - 8, 2001, # **IEEE International Conference on Computer Aided Design** Location: DoubleTree Hotel, San Jose, CA, USA Contact: Kathy MacLennan, MP Associates, Inc., 5305 Spine Road, Suite A, Boulder, CO, USA 80301 Tel: +1 303 530 4562 Fax: +1 303 530 4334 E-Mail: kathy@dac.com Deadline: 4/9/01 www: http://www.iccad.com

November 7, 2001, T **IEEE Electron Devices Activities in Western New York Conference** Location: Rochester Institute of Technology, Rochester, NY, USA Contact: Karl Hirschman, RIT Microelectronic Engineering, 82 Lomb Memorial Drive, Rochester, NY, USA 14623-5604 Tel: +1 716 475 5130 Fax: +1 716 475 5041 E-Mail: kdhemc@rit.edu Deadline: Not Available www: http://www.microe.rit.edu/eds2k

November 13, 2001, @ **Workshop on Photonics & Its Applications** Location: Nat'l Inst.of Laser Enhanced Sciences at Cairo Uni, Cairo, Egypt Contact: Ibrahim Salem, Academy of Scientific Res & Tech, Dept. of Scientific Societies & Int'l Unions, 101 Kasr EL-Eini St, Cairo, Egypt Tel: +20 2 258 0256 Fax: +20 2 792 1270 E-Mail: ia.salem@ieee.org Deadline: Not Available www: Not Available

November 15 - 16, 2001, T **International Symposium on High Performance Electron Devices for Microwave and Optoelelectronic Applications** Location: Technical University of Vienna, Vienna, Austria Contact: Horst Zimmermann, Technical University of Austria, Gusshausstrasse 25/354 Inst. for Elec. Meas. & Circuit Design, Vienna, Austria A-1040 Tel: +43 1 58801 354 30 Fax: +43 1 58801 354 99 E-Mail: hzimmermann@emst.tuwien.ac.at Deadline: 9/10/01 www: http://www.edmo-symposium.org

November 28 - December 1, 2001, * **IEEE Semiconductor Interface Specialists Conference** Location: The Westin Grand Hotel, Washington, DC, USA Contact: Lori Lipkin, 4600 Silicon Drive, Durham, NC, USA 27703 Tel: +1 919 313 5525 Fax: +1 919 313 5696 E-Mail: lori_lipkin@cree.com Deadline: 8/6/01 www: http//www.ieeesisc.com

December 2 - 5, 2001, * **IEEE International Electron Devices Meeting** Location: Washington Hilton & Towers, Washington, D.C., USA Contact: Phyllis Mahoney, Widerkehr & Associates, 101 Lakeforest Blvd., Suite 400 B, Gaithersburg, MD, USA 20877 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 6/25/01 www: http://www.ieee.org/conference/iedm

December 5 - 7, 2001, T **International Semiconductor Device Research Symposium** Location: Holiday Inn Georgetown, Washington, DC, USA Contact: Agis Iliadis, Electrical & Computer Engineering Department, University of Maryland, College Park, MD, USA 20742 Tel: +1 301 405 3651 Fax: +1 301 314 9281 E-Mail: agis@eng.umd.edu Deadline: 7/27/01 www: http://www.ece.umd.edu/ISDRS_2001

December 11 - 15, 2001, T **International Workshop on the Physics of Semiconductor Devices** Location: Solid State Physics Laboratory, Delhi, India Contact: P.K. Basu, Solid State Physics Laboratory, Luchnow Road, Timarpur, Delhi, India 110 054 Tel: +91 11 3960773/3953198 Fax: +91 11 3913609/3984285 E-Mail: p_k_basu/sspl@ssplnet.org, iwpsd@ndf.vsnl.net.in Deadline: 5/15/01 www: http://www.iwpsd.com

January 6 - 11, 2002, T **Advanced Workshop on 'Frontiers in Electronics'** Location: Colony Cove, St. Croix, US Virgin Islands Contact: Serge Luryi, State University of New York at Stony Brook, NY State Center for Advanced Tech. In Sensor Systems, Stony Brook, NY, USA 11794-2350 Tel: +1 631 632 8420 Fax: +1 632 632 8494 E-Mail: serge@ece.sunysb.edu Deadline: 10/31/01 www: http://nina.ecse.rpi.edu/shur/wofe2002/index.htm

February 2002, T **Conference on High-Temperature Electronic Materials, Devices and Sensors** Location: Contact: Barbara Hickernell, United Engineering Foundation, Three Park Ave., 27th Floor, New York, NY, USA 10016-5902 Tel: +1 212 591 7836 Fax: +1 212 591 7441 E-Mail: engfnd@aol.com Deadline: Not Available www: Not Available

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Regional & Chapter News

(continued from page 21)

wan, April 18–20. This year the conference attracted more than 110 excellent contributed papers from all over the world, representing original works on the latest advances in the area of VLSI technology, circuits, and applications. Sixty-six papers were accepted to form 12 sessions. Fifteen world experts were invited to present reviews on the state of the art of their corresponding area of expertise. More than 600 participants coming from 16 countries attended the symposium. There were three keynote speeches by distinguished speakers from the US, Europe, and Japan. Gene Frantz, Senior Fellow of TI, gave the opening speech entitled "Systems on a Chip from a System's Perspective." He was followed by H. Huomo, V.P. of Nokia, talking about "Future is in Wireless," and T. Takemoto, V.P. of STARC program, Japan, on "Joint Activity for Semiconductor R&D and Role of Semiconductor Technology Academic Research Center (STARC)." The conference is sponsored by the Industrial Technology Research Institute of Taiwan. Technical sponsors include Chinese Institute of Engineers, Taiwan Semiconductor Industry Association, IEEE Electron Devices Society, IEEE Solid-State Circuits Society, IEEE Circuits and Systems Society, IEEE Taipei Section, and IEEE Electron Devices Society Taipei Chapter. For more details, please visit http://www.edsTaipei.edu.tw.

—Tahui Wang, Editor

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