IEEE Electron Devices Society Newsletter

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Editor-in-Chief: Ninoslav D. Stojadinovic

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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

EDS' 50th Anniversary Dinner/Talk Celebration

From left to right: Karl Spear, the Electrochemical Society President, and Steven Hillenius, the Electron Devices Society President, exchange award plaques to celebrate the 100th Anniversary of ECS and the 50th Anniversary of EDS

The Electron Devices Society kicked off its 50th Anniversary with a celebration dinner on Sunday evening, December 8, 2002 in San Francisco. One hundred twenty EDS AdCom members, past EDS award winners, and long-standing volunteers attended the event. A 50th Anniversary commemorative lapel pin was given to the guests as a memento of the evening.

Renuka P. Jindal presents the pre-Rappaport Best Paper Award to David B. Tuckerman and R. Fabian W. Pease.

The evening began with an exchange of gifts between EDS President Steve Hillenius and Electrochemical Society President, Karl Spear. EDS presented ECS with a plaque in congratulations for its 100th Anniversary. ECS reciprocated with a similar recognition. Cary Yang followed with the announcement of the election results for EDS officers and elected AdCom members.

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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.

IEEE

Electr on Devices Society

EDS ADCOM ELECTED MEMBERS-AT-LARGE

Term Expires:

2003	*2004*	**2005*
I. Adesida (2)	M. Estrada del Cueto (1)	C.L. Claeys (2)
T. Hiramoto (1)	K. F. Galloway (2)	J.A. Dayton, Jr. (2)
L. Lunardi (1)	S. J. Hillenius (2)	M. Fukuma (2)
A. A. Santos (2)	C. Jagadish (2)	F.J. Garcia-Sanchez (1)
S. C. Sun (2)	J. K. O. Sin (1)	K. Lee (2)
H. S. P. Wong (1)	R. Singh (2)	J.J. Liou (1)
P. K. L. Yu (2)	N.D. Stojadinovic (1)	M. Ostling (2)
		D.L. Pulfrey (2)

Number in parenthesis represents term.
* Members elected 12/02

50th Anniversary

(continued from page 1)

Guest speakers at the EDS 50TH Anniversary Dinner/Talk Celebration from left to right: Arlene Santos, Steven Hillenius, Craig Casey, Michael Adler, James Early, Lew Terman, Jerry Woodall and Richard True.

After dinner, master of ceremonies, IEEE President Michael Adler, introduced Arlene Santos and Craig Casey who were recognized for both the 50th Anniversary Celebration Committee and the 50th Anniversary History Booklet Committee, respectively. Publications Committee Chair, Renuka Jindal, presented the pre-Rappaport Best Paper Award to David B. Tuckerman and R. Fabian W. Pease for "High Performance Heat Sinking for VLSI". This recognition was 22 years overdue.

The evening centered on the keynote talk "50 Years in 50 Minutes" by four distinguished speakers who chronicled the technological innovation that occurred in Electron Devices during EDS's first 50 years: In the Beginning: Electron Tubes" by Richard True, "Bipolar Transistors Arrive" by James Early, "MOS Leads IC's" by Lew Terman, and "Heterostructures Give New Structure" by Jerry Woodall.

In addition, the EDS history exhibit was on display at the IEDM from December 8-11.

Future preparations for regional anniversary celebrations are in the planning process and will occur in conjunction with regional chapter meetings. Some of the activities will include: portable version of the EDS History Exhibit, video of the "50 Years in 50 Minutes" talk, mini-colloquia, and commemorative lapel pins.

Arlene A. Santos
National Semiconductor Corp.
Annapolis, MD, USA

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Upcoming Technical Meetings

2003 IEEE International Interconnect Technology Conference (IITC)

The sixth annual IITC (International Interconnect Technology Conference), the premier conference dedicated to advanced interconnect technology, will be held June 2-4, 2003 at the San Francisco Airport Hyatt Regency Hotel, conveniently located 20 minutes from Silicon Valley or downtown San Francisco.

The IITC was established with the support of the IEEE Electron Devices Society to provide an international forum to address interconnect issues from a system level viewpoint. The ever-increasing demand for higher integrated circuit density and performance has led to a crisis in connectivity, and has shifted the design, cost, performance and reliability focus to interconnects. New materials, architectures, communication mechanisms and process technologies have arisen to meet this challenge, and no other semiconductor technology sector has been growing and changing more rapidly. The IITC provides a unique forum for professionals in the semiconductor industry and academia to present and discuss interconnect-related issues and new technology for the fabrication of advanced interconnects in monolithic ICs, multi-chip modules (MCMs) and state-of-the-art packages.

The conference provides several venues for learning and professional interaction. The ever-popular short course addressing advanced interconnect process, design and reliability issues will once again be offered on the day preceding the conference (June 1), and participation is strongly encouraged by those wishing to keep abreast of the latest interconnect technology. Without doubt, the cost and performance of ULSI circuits strongly depend on the capability and productivity of interconnect materials and processing equipment. In recognition of this critical role, supplier exhibits and seminars are included as an integral part of the IITC technical program and will be held on the first and second days of the conference. The exhibits and seminars offer additional learning and networking opportunities, and provide alternative forums to address specific technological challenges.

Oral presentations and poster papers offered during the conference span a broad range of interconnect technology topics which include:

1. Metallization: Metal deposition processes/equipment (PVD, CVD, ALD, electroplating) and materials characterization with particular emphasis on advanced aluminum and copper metallization.

2. Dielectrics: Dielectric materials (low k, high k, ARCs, etc.) and deposition processes (vapor deposition, CVD, spin-on, etc.) for interconnect applications

3. Silicide and Salicide: Silicide materials, silicide deposition and formation processes, novel gate and source/drain structures, contact silicidation issues, etc.

4. CMP/Planarization: Dielectric/Metal CMP processes, equipment and metrology issues. Alternate planarization techniques.

5. Dry Processing: Dry etching of vias, trenches and damascene structures, dry etching of metal, dry cleaning processes, plasma induced damage, etc.

6. Process Integration: Multilevel interconnect processes, clustered processes, novel interconnect structures, contact/via integration, metal barrier and materials interface issues, etc.

7. Interconnect Systems: Interconnect performance modeling and high frequency characterization, interconnect system integration and advanced packaging concepts (flip-chip, chip-on-chip, MCM, etc.), novel architectures and advanced interconnect concepts (optical, superconductors, etc.).

8. Process Control/Modeling: CMP, metal/dielectric deposition and etching processes, PVD, CVD, electroplating, etc.

9. Reliability: Metal electromigration and stress voiding, dielectric integrity and mechanical stability, thermal effects, passivation issues, interconnect reliability prediction/modeling.

10. System-on-a-Chip: Interconnect, design and processing of SOC, embedded memory processing, materials and integration, RF and high frequency passive components, noise and cross-talk issues.

Given the rapid acceleration of integrated circuit technology, the last topic provides an important forum for discussion of the interconnect crisis and potential paradigm shifts to novel interconnect schemes.

Professionals involved in interconnect-related activities are strongly encouraged to participate in this exciting new conference. Detailed information can be obtained from the IITC website: http://www.ieee.org/conference/iitc. For additional information or inquiries regarding supplier exhibits and seminars, please contact Wendy Walker, IITC Administrator, Phone: 301-527-0900 Ext. 104, FAX: 301-527-0994, email: iitc@his.com.

Krishna Saraswat,
General Co-Chair of the IITC
Stanford University
Stanford, CA, USA

Nobuo Hayasaka
General Co-Chair of the IITC
Toshiba Corporation
Yokohama, Japan

Johan Bartha
General Co-Chair of the IITC
Technical University of Dresden
Dresden, Germany

Transducers '03: The 12th IEEE International Conference on Solid-State Sensors, Actuators and Microsystems

Transducers '03: The 12th IEEE International Conference on Solid-State Sensors, Actuators and Microsystems will be held in Boston, Massachusetts, USA, from June 8 to 12, 2003, under the sponsorship of the IEEE Electron Devices Society. Transducers '03 continues a series of biennial conferences that have been the premier forum for reporting research results in microsensors, microactuators, microelectromechanical systems (MEMS), and microsystems. The Transducers conference series alternates between North America, Europe and Asia, and was most recently held in Munich, Germany, in June 2001.

Transducers '03 will include four days of presentations covering: Advances in materials and technologies for microfabrication; physical, chemical and biological sensors; micro-analysis systems; microactuators; microfluidic devices and systems; optical MEMS; RF MEMS; nanotechnology for sensors, actuators and microsystems; micropackaging; interface electronics; microdevice modeling and CAD; and wireless sensor networks. Research in solid-state sensors, actuators and microsystems is highly multi-disciplinary, with participants from universities, industry, and government laboratories, and from many diverse fields including electrical engineering, mechanical engineering, chemistry, biology and biomedical engineering, optics, and microelectronics.

The Technical Program for Transducers '03 will begin on Monday morning, June 9, with a plenary session featuring four world leaders in the field. Speakers and tentative titles are: Donald Eigler (IBM Almaden Research Center, San Jose, CA, USA) - "Molecule Cascades: Nanometer-Scale Molecular Architectures that Compute"; Bruno Murari (STMicroelectronics, Milan, Italy) - "Lateral Thinking: The Challenge of Microsystems"; Toshio Yanagida (Osaka University, Osaka, Japan) - "Single Molecule Nano-Bioscience"; and Stephen D. Senturia (Massachusetts Institute of Technology, Cambridge, MA, USA) - "Perspective on MEMS Past and Future" The following 3-1/2 days of the conference will consist of four parallel oral sessions of contributed papers describing the latest scientific and technical results, supplemented by invited presentations by world experts in the field, plus two extensive sessions of poster presentations. It is expected that over 400 papers will be presented.

An extensive set of short courses will be offered to conference participants. These courses will be held on Sunday, June 8, prior to the start of the technical program. Eight individual courses are planned, covering topics which include: An Introduction to MEMS and Micromachining; Packaging of Microelectromechanical Systems; RF MEMS; Optical MEMS in Communication and Sensing; Simulation of Microsystems; Analog Circuit Design for Sensor Interfaces; Bio/Chemical Microfluidics; and Nanomaterials and Nanotechnology.

With a mix of colonial charm and urban sophistication, Boston is a dynamic city. Boston's role in shaping American history is unique among all other cities. It contains many of the places where the American Revolution was conceived and began. From Paul Revere's House to the Boston Tea Party Ship to the Old North church, history is on every corner. Boston's many museums, concert halls, theaters and nightclubs are always abuzz with activity and excitement. With a wide array of diverse and interesting attractions, visitors to Boston are never at a loss for something to do. The site of Transducers '03 will be the Boston Marriott Copley Place, which will also provide accommodations for attendees. In the heart of Boston's historic Back Bay, The Boston Marriott Copley Place is an anchor hotel in Boston's posh 9 1/2 acre Copley Place development. The hotel has easy access to over 200 upscale shops and restaurants, and an 11-screen cinema. Excellent public transportation connects to downtown and to locations throughout Boston.

An exciting program of social events for attendees and guests is planned, taking advantage of the culture and history that Boston has to offer. On Sunday, June 8, an evening welcome reception at the Marriott conference headquarters hotel will provide attendees an opportunity to gather informally to renew old acquaintances and make new ones. Continuing a Transducers tradition of social gatherings in outstanding venues, Transducers '03 will hold its Monday evening gathering at the beautiful Boston Museum of Fine Arts, located a short distance from the Marriott. Tuesday evening is set aside for optional events – in this case a Boston Pops concert in spectacular Symphony Hall, a short walk from the Marriott. The conference banquet on Wednesday evening brings attendees back to the Marriott for an evening of conversation and entertainment.

A rich program of optional activities for the spouses and guests of participants is also planned. This will include several tours of Boston and of surrounding historic sites such as Lexington, Concord; a half-day trip to Newport, Rhode Island; trips to the JFK library and the Isabella Stewart Gardner Museum; and a whale watching expedition.

For up-to-date conference information, visit the Transducers '03 website at: www.transducers03.org Additional questions or requests should be directed to the conference management firm, PMMI, by e-mail: info@transducers03.org, by fax: 1-619-232-0799, or by phone: 1-619-232-9499.

G. Benjamin Hocker
Honeywell Technology Center
Plymouth, MN, USA

2003 IEEE University/Government/Industry Microelectronics Symposium (UGIM)

The 15th Biennial IEEE University/Government/Industry Microelectronics Symposium (UGIM'03) will be held in Boise, Idaho June 30-July 2, 2003 on the campus of Boise State University. For the past 30 years, this symposium has had a unique mission to bring together micro/nanofabrication researchers and educators from these three sectors, not only to present new technical results, but also the programs, collaborations, and laboratories that make them possible. Representatives of University micro/nanofabrication labs traditionally attend UGIM to exchange information. Government agencies such as NSF, Sematech, SRC, DARPA, AFRL and ONR regularly participate with updates on funding opportunities. Industry interactions with universities (often with government support) that open up new opportunities for both education and research are frequently presented here. The UGIM symposia are sponsored by the Electron Devices Society of the IEEE.

This year's host for the symposium is Boise State University. Boise State University's College of Engineering came into being in 1997 as a result of the school's steady growth and diversification and the region's booming semiconductor industry. The College has quickly risen to be listed among US News & World Report's top undergraduate engineering programs in the U.S.A and rapidly growing graduate program began in Fall 2000.

The UGIM'03 technical session will begin on Monday June 30 at 8:30 am in the Special Events Center on Boise State's campus and end at noon on Wednesday July 2. On Sunday afternoon June 29 at 2:00 pm, BSU's Idaho Microfabrication Laboratory (http://coen.boisestate.edu/imfl) will host an open house. The open house will consist of an informal discussion session for managers and researchers from various microelectronics laboratory facilities, followed by tours of BSU's facilities. The discussion will focus on issues common to such facilities such as funding, equipment acquisition, maintenance, staff, operational expenses, processing issues, industry interaction, collaborations with other universities, intellectual property and compatibility problems.

Papers will cover the following technical areas:

- New Initiatives in University microelectronics programs, courses, laboratories, technology transfer, industry interaction
- Government-University microelectronics research programs
- Microelectronic research projects in the areas of materials, simulation, design, processes, testing, and reliability
- Process equipment development, manufacturing, statistical process control and design of experiments
- MEMS programs, courses, applications, processing, interactions, and research
- Electronic packaging technologies, processes and materials
- Standard silicon and compound semiconductors
- Bioengineering and Biotechnology
- Nanotechnology and nanofabrication
- Metrology and sensors
- University microelectronics research facilities

Three distinguished speakers will give invited talks at the conference:

- Prof. Tsu-Jae King (EE Dept., U.C. Berkeley) on Nanometer Scale CMOS Technology
- Steve Appleton (CEO, Micron Technology) on Cooperation Between Industry and University on Research and Education
- Larry Craig (US Senator) on Government-Funded Nanometer Technology.

Boise is the capital and largest city in the State of Idaho, and is the hub of commerce, banking and government for the state. Located along the Boise River and nestled against foothills of the Rocky Mountains, our city offers many outdoor activities to local residents, from skiing at Bogus Basin Ski Resort to biking on the Boise River Greenbelt to boating at nearby reservoirs. The Boise area has it all – desert, rivers, mountains and lakes for hiking, camping, kayaking, river rafting, hunting and fishing.

Many Large regional, national and international companies are headquartered here, including Simplot Corporation, Boise Cascade, Albertsons, Washington Group, and Micron Technology. Other high-tech companies in the Boise area include Hewlett-Packard, Zilog, Jabil and SCP. Micron Technology, Inc., the number two DRRAM manufacture in the world, is proud to the co-sponsor of this symposium.

UGIM'03 immediately follows the annual Boise River Festival (June 27-29) which is a three-day citywide celebration that reflects the joy, beauty and character of its people and environment. You can start your day off early with kaleidoscope of colors and shapes in the hot air balloon rally. Plan out the rest of your day to enjoy music of all genres on seven different stages throughout the festival, sample traditional and new cuisine from the food courts, attend a day time parade featuring award-winning show floats and helium balloon characters, and the sparkling night time parade where lights, sirens and glitter run ram pant. The weekend wraps itself up with Boise's largest fireworks display as it showers a host of color, light and music over Ann Morrison Park.

A block of rooms has been reserved at a reduced rate at the grand Grove Hotel and University Inn in downtown Boise, within easy walking distance of the University and Boise's historic district and Basque Block. This Grand Entertainment Hotel offers a one-of-a-kind experience. All rooms include turn down service, valet, mini bars and terrycloth robes.

On Tuesday evening, July 1st, the symposium participants and their guests will be treated to a Basque cultural program and banquet in the heart of Boise Basque district. A catered dinner with authentic Basque cuisine as well as a grand performance of the Basque Oinkari dancers will be enjoyed by all.

For more information on the symposium, please visit the symposium website at http://coen.boisestate.edu/ugim03, or contact IEEE 2003 UGIM Symposium, 1910 University Drive MS2075, Boise, ID 83725-2075 (E-mail: tjang@micron.com or SPARKE@boisestate.edu).

Stephen A. Parke
Boise State University
Boise, ID, USA

2003 IEEE WORKSHOP ON CCDs AND ADVANCED IMAGE SENSORS

The 2003 IEEE Workshop on Charge-Coupled Devices and Advanced Image Sensors, sponsored by the IEEE Electron Devices Society, is taking place at Schloss Elmau, 82493 Elmau, Germany. The workshop will be held 15 –17 May 2003.

The Technical Program will consist of invited and contributed papers, poster sessions, and a discussion session. As in the previous workshops, emphasis will be on high quality technical content. Ample time will be left for paper discussion. Key dates are January 6, 2003 when the registration opens, and February 21, 2003 when the abstracts are due.

The purpose of this very focused workshop is to bring together researchers in the image sensor community to have in-depth discussions on technical issues, to present recent research results, and to stimulate thinking on new research directions and activities. The program consists of regular oral presentations, and an extended poster session. Attendance is typically limited to approximately 120 persons on a first-come basis to preserve the workshop atmosphere, although priority is given to paper authors. The workshop has become the premiere venue for very high quality state-of-the-art presentations and for the discussion of image-sensor-technology future directions. The proceedings are not published to encourage more open and up-to-date discussion.

Image sensors have suddenly become a very hot topic and may become a major category of high volume semiconductor production. This is due to the imminent introduction of imaging devices in high volume (> 150 million aggregate units/year) consumer applications such as cell phones, PDAs, automobiles, PC-based video applications, smart toys and of course digital still cameras. CMOS based active-pixel sensors are challenging charge-coupled devices in most low cost applications. A few years ago, many small new start-ups in the CMOS field were announced as well as the movement of electronics giants into this CMOS sensor arena could be seen. During the last two years, several acquisitions happened in the imaging world. However, CCDs are still preferred for digital photography, camcorders, and many professional applications due to their very high quality and maturity, and today still dominate the world marketplace. Driven by the arguments valid for CMOS image sensors, new developments were announced in CCD image sensors as well to make them suitable for lost-cost applications too. Imaging remains a challenging R&D topic.

The workshop is also the venue for the presentation of the 2003 Walter Kosonocky Award for the best paper on solid-state image sensors over the previous two years. The award will be presented at the workshop banquet.

The workshop is organized by an Executive Committee consisting of Prof. Dr. Albert Theuwissen of DALSA in Eindhoven, The Netherlands, Dr. Nobukazu Teranishi of Matsushita, Kyoto, Japan and Dr. Eric Fossum of Micron Technology Inc., Pasadena (CA), USA. This year the General Workshop Chair is Albert Theuwissen.

Papers on the following topics are solicited Pixel device physics (New devices and structures, Advanced materials, Improved models and scaling, Small-pixel arrays, Advanced pixel circuits, Performance enhancement for QE, dark current, noise,...), Image sensor design and performance (New architectures, Large format arrays, High dynamic range, Low voltage, low power, High frame rate readout, Scientific-grade), Image-sensor-specific peripheral circuits (ADCs and readout electronics, Color and image processing, Smart sensors and computational sensors, System-on-a-chip), Non-visible "image" sensors (Enhanced spectral response in UV, NIR, ..., High energy photon and partical detectors, Hybrid detectors), Fabrication, packaging and manufacturing, Image sensor systems, Miscellaneous topics related to image sensor technology. High quality papers, addressing work in progress, are welcome!

The abstracts should be sent to the Technical Program Chairman: Dr. Edwin Roks, Philips Semiconductors, Prof. Holstlaan, 4, Bldg. WL, 5656AA Eindhoven, The Netherlands. (Edwin.roks@philips.com)

All information regarding this workshop can be found at: www.dalsa.com/ieee-workshop.

Albert Theuwissen
DALSA
Eindhoven, The Netherlands

YOUR HELP IS NEEDED – Request for your assistance in obtaining past issues of *Transactions on Electron Devices*

Attention All EDS Members:

As you may already be aware EDS is currently working on a project to scan and digitize all the past issues of *Electron Device Letters* and *Transactions on Electron Devices* that are not currently accessible via IEEE Xplore (pre 1988) issues. In order for this project to be completed, all these issues must be located and scanned. Currently, all the past issues of EDL have been found and scanned. Many issues of T-ED have been located and the scanning process has begun; however some issues are still missing.

We would like to ask for your help in locating the following missing issues of *Transactions on Electron Devices*:

1956 (Volume 3) Issues 1,2,3
1970 (Volume 17) Issue 1
1958 (Volume 5) Issue 2
1972 (Volume 19) Issue 5
1961 (Volume 8) Issues 1,2,3,4
1977 (Volume 24) Issue 10
1965 (Volume 12) Issue 9
1978 (Volume 25) Issue 4
1967 (Volume 14) Issue 8

If you have any of these missing issues and would like to donate them for scanning it would be greatly appreciated. The issues will have to be cut to be able to scan them properly but if you would like they can be bound back together and returned to you when the job is completed. If you have any of these past issue(s) and are willing to lend them to the Society, please notify Stacey Waters at the EDS Executive Office at your earliest convenience and she will make the arrangements to obtain the issue(s). Stacey can be reached via e-mail at s.waters@ieee.org or via telephone at +1 732 981 3448.

Society News

December 2002 AdCom Meeting Summary

The 2002 December meeting of the IEEE Electron Devices Society was called to order by President Steve Hillenius on Sunday, December 8 at the San Francisco Hilton preceding the 2002 IEDM Conference.

Task	'03 Price	'04 Price	'05 Price	Incremental Cost	Rev Increase
Increase Dues	$6	$10	$14	$18	$35K
Increase EDL subscription fees	$15	$18	$20	$20	$13.6K-2004 $9K-2005
Increase T-ED subscription fees	$25	$28	$30	$38	$12.4K-2004 $8.4K-2005

Projected prices of EDS membership and Subscriptions fees from 2003-2005 (in $US)

Executive Reports

Recognized outgoing members of AdCom included Krishna Shenai (Elected AdCom Member), Lou Parrillo (Fellows Chair), and Hiroshi Iwai (Regions/Chapters Chair). Steve's opening address concerned the ongoing issue of IEEE finances, and resulting society issues. This year $21.5M was collected by all IEEE Societies and Councils to support IEEE's budget with another $18.7M in allocations projected for 2003. Each society's contribution was based on its individual package revenue sharing (from programs such as Book Broker, and the All-Societies Periodicals Package), and reserves. In fact this put nine societies including EDS into deficit spending and onto a watchlist. A plan to recoup $267K in revenue for EDS was presented to TAB FinCom, and accepted (see Chair report later in this article). In addition to financial issues, EDS has instituted a strategic plan to broaden the base of interest and to be sure that EDS reflects global activity and trends. Highlights of this plan include the restructuring, and empowerment of the EDS Technical Committees, and the possibility of adding new areas such as organic electronics. IEEE finances continue to be an issue at higher levels as reported by Division I Director, Cary Yang. All the council and society presidents have expressed concern over the equity and fairness of the assessments made to their respective groups, and the reduction in reserves. EDS reserves, for example, have been reduced by half from a level of $7M just a few years ago. A consulting firm, retained by the societies to look at all operations and finances, indicate in its preliminary report that IEEE investment policies, staff hierarchy, governance, and image need to be reexamined and restructured. But even so, there is no clear road to solving IEEE's fiscal problems at this time.

Reporting for the EDS Executive Office, Bill Van Der Vort, presented a lengthy list of Adhoc projects completed since the Spring AdCom meeting. A few of the items included; working with the EDS History Booklet Committee and IEEE History Center to coordinate the development of a portable display of the Society's history, and technologies in honor of EDS' 50th birthday anniversary; making arrangements for the 50th Anniversary Dinner/Talk Celebration; providing recommendations in collaboration with the EDS Treasurer for changes in the EDS budget, to reach a break-even status in 2005 and beyond; researching to develop a list of EDS members who have been elected to the NAE; performing an overall update on data contained on the EDS website and developing a procedure to keep all data current; continuing the digitization of pre-1988 issues of EDL, T-ED, and the IEDM proceedings; working with the EDL, T-ED, & T-DMR EICs to put in place a new procedure whereby editors name reviewers worthy of recognition by listing their names & affiliations in the respective journals. In 2003, some of the upcoming Adhoc tasks for the Executive Office include: determining and coordinating any regional 50th anniversary celebrations; working on the EDS budget in the light of anticipated society assessments; obtaining TAB approval for both the new Technical Committees Chair position, & revisions to the EDS Field of Interest Statement; arranging for the biennial Region 10 Chapters Meeting; directing the ongoing digitization of pre-1988 EDL, IEDM & T-ED papers; preparing for the five-year review of EDS publications by the TAB Periodicals Committee, and a five-year review of the Society by the TAB Society Review Committee.

Chair Reports

Over the last two years, the assessments made by the IEEE on EDS have had a major impact on society finances. Treasurer, Paul Yu, reported that the budgeted cost of $200.4K for Society expenses ballooned to $1384.9K with the additional allocation made by IEEE. This action also reduced EDS' net income for 2002 from +$569.1K to -$770.5K. Meetings revenue following 9/11 fell by almost $400K. While conference income is expected to rise in 2003, Paul predicts a deficit of $286K, which initially put EDS on a TAB watchlist. To address this problem, Paul, Steve, and the Executive Office put together a plan to get back to a break-even level in 2005 and beyond. By delaying some chapters and education programs, $23.4K should be saved. However, the Society plans to recoup the majority of the shortfall in funds by graded increases in membership and journal subscription fees. The box above summarizes these projected costs over the next three years with the expected savings. The incremental cost of each was predetermined independently by

IEEE Region	Count	% of Total
1-6 (United States)	7,748	57.9
7 (Canada)	242	1.8
8 (Europe, Middle East, & Africa)	2,492	18.6
9 (Latin America)	185	1.6
10 (Asia Pacific)	2,697	20.1
Total	13,364	100

EDS Membership Demographics for 2002 (as of 10/31/02)

TAB Finance.

In other financial business, rates for 2004 publication subscriptions, page counts, and membership fees were approved. On the membership side, EDS had 13,364 members in 2002 slightly down from 13,489 in 2001 (-0.14%). Of these, 7,722 are regular members, 4,272 are permanent members, 1,355 are students, and 15 remain affiliate members. The demographics can be seen in the above graphic.

Membership chair, James Kuo, reports that the option of permanent membership will be phased out in the 2004 billing cycle, but all present PMs will be grandfathered through the end of 2003. This year also saw an increase in the number of Senior Members to1389, and Fellows to 646. The rapid rise in the number of Senior Members and Fellows from Region 10 (i.e. 272 of 1389 for SM's, & 272 of 646 for Fellows) has been noteworthy. On the other side, the loss of members this year, particularly in the US, due to the economic recession was disappointing. James also listed the eighteen memberships subsidized by EDS in 2002 and praised the ongoing efforts at recruitment such as conference onsite credit vouchers, TIP mailings, promotional material for EDS sponsored meetings, and DL promotions. In line with EDS globalization, Hiroshi Iwai, Regions Chapters Chair, announced that the total number of chapters has reached 106 in 2002, with new ones being added in Brazil, Turkey, and Bulgaria. While Regions 8 and 10 remain the fastest growing, Hiroshi cautioned that as activity worldwide especially in the Western US, and Latin America remains good, some (in the Eastern US) have been relatively inactive. Active dialogue is underway with the Peoples Republic of China, particularly in Beijing and Shanghai where commercial investment in semiconductor electronics has blossomed increasing interest and potential members. Iwai-san also introduced the Taipei Chapter Chair, Steve Chung, as his chapter was named the winner of the 2002 EDS "Chapter of the Year" Award.

The Distinguished Lecturer (DL) Program continues to expand worldwide. Both the number of lecturers (up to 140 in 2002) and the number of lectures given (102) has risen from their respective 2001 levels according to Ilesanmi Adesida, Education Chair. Also in 2002, the EDS Videotape Lending Library was active with 14 tapes borrowed by 12 chapters, while the EDS Graduate Student Fellowship Program had a very successful second year. With an expanded pool of applicants and universities participating from around the world, the Graduate Student Fellowship Program is establishing itself as a major student competition. The address by Renuka Jindal, Publications Chair, discussed his group's efforts in establishing policies, procedures, & guidelines, performance metrics, publication costs, digitization, author recognition, IEEE Press relations, and all-electronic processing standards. With organics becoming pervasive, EDS has made revisions to its Field of Interest statement to reflect its interest and position in this area. The Publications Committee proposed a revision to adapt new organics initiatives, while not conflicting with the objectives of related societies and councils. Although the current statement, which has been in place for over fifty years, accurately represents the interests of the Society, it is not explicit in some respects. This generates room for confusion, hence this revision. Specifically, the addition of the word "engineering", and the phrase "organic and other emerging materials based devices" will correct this situation. The new statement proposal was approved and is included in another article in this issue of the Newsletter.

With the onset on electronic publishing, hardcopy circulation of both EDL & T-ED is decreasing. With an understanding of the long-term impact of electronic access on EDS paper circulation, setting goals and objectives in this area will become clearer. In addition to the standard "impact factor" used to evaluate major publications, Renuka's group continues to examine additional metrics, or quality factors, based on editorial quality ratings, author surveys, and number of hits on IEEE *Xplore*® to better rate publications. Since both flagship journals annually are a major portion of the budget, it is important to comprehend how speed (time-to-publication), quality (appropriately defined), and electronic publishing impacts total circulation. Both EDL & T-ED were profitable in 2002 with T-ED bringing in $300K, and EDL about $183K. As budget issues proliferate, EDS is also looking at the cost of accessing on-line IEEE publications. Currently EDS members can look at 11 publications on the web at a cost of $122K to EDS. By reducing this number by three, it is estimated that $33K could be saved. It was discussed that this action might be unwise in the light of encouraging electronic access and membership worldwide, but the pressure of fiscal responsibility is presently a higher priority.

On the digitization front, all EDL issues from 1980-1987 have been scanned. T-ED has located almost all its issues from 1954-1987 and has started to have them scanned. Some issues remain unfound, and a search for them is in progress. See a separate article in this issue of the Newsletter for a list of the missing issues. The digitization of the IEDM proceedings from 1955-1987 has not yet begun. With IEEE Press, Renuka, and Joe Brewer, EDS IEEE Press Coordinator, report that the collaboration between IEEE Press and Wiley has transformed it (IEEE Press) into a major publisher with plenty of marketing and production muscle. Under the agreement, Wiley handles production, distribution, marketing, sales, royalties, and property rights while IEEE Press covers author recruitment, contracts, reviews, and some marketing. Joe revealed that a survey of EDS authors showed that while IEEE

Press was viewed as weak and unattractive in the past as a publisher, they are willing and interested in using IEEE Press both now and in the future. In closing, Renuka discussed a survey done by Arokia Nathan of some web-based publishing software, and proposed that Manuscript Central (recommended by IEEE) become the choice of EDL & T-ED in the future. Founded in 1999, Manuscript Central is presently used by 33 IEEE journals. Meetings Chair, Ken Galloway got approval for all EDS repeat meetings in 2004, and gave statistics on those for 2002. This past year EDS was involved with 24 financially sponsored meetings, 70 that were technically co-sponsored, and 7 for which we provided cooperation support. A request for the society to become sole sponsor of the P2ID (Plasma Processing Induced Damage) Conference received approval with the proviso that this meeting might become a workshop or specialists conference in the future. Also approved was a request for technical co-sponsorship for the independent 2003 NanoTech Conference and Trade Show after discussion on whether or not participation might negatively impact IEEE's own nanotechnology conference (Nano 2003). In related meeting news, IEDM Chair, Shuji Ikeda, expected 1600-1700 attendees at IEDM 2002. Bouncing back from low attendance in 2001, 552 signed up for the short courses, and it appears that the meeting will return to profitability.

Award's Chair, Al Mac Rae presented a comprehensive list of EDS members recognized with major national, IEEE, and EDS awards in 2002, as summarized in the chart to the right.

Award	Recipient / Affiliation
National Medal of Technology	Jerry Woodall (Yale)
E Medal of Honor	Nick Holonyak, Jr. (Illinois)
IEEE Robert N. Noyce Award	Donald Scifres (JDS Uniphase)
IEEE Andrew S. Grove Award	Mark Bohr (Intel)
IEEE Leon Kirchmayer Award	Robert Meyer (UC-Berkeley)
IEEE David Sarnoff Award	Peter Asbeck (UC-San Diego)
IEEE Cleo Brunetti Award	Andrew Neureuther (UC-Berkeley)
EDS J.J. Ebers	Lester Eastman (Cornell)
EDS Distinguished Service Award	Lucian Kasprzak

EDS Recipients of National, IEEE, and EDS Awards for 2002

Al exhorted the assembled AdCom to be pro-active in nominating members for IEEE Awards in 2003. On the Fellows side, outgoing chair, Lou Parrillo stated that from 47 nominations received 21 were elected to Fellow grade, and an additional 10 were elected by other societies. Jerry Woodall has agreed to form a committee of EDS National Academy of Engineering (NAE) members to nominate Fellows for the NAE. Cary Yang, who heads the Nominations and Elections Committee, discussed his initiative to change the positions of EDS Treasurer and Secretary to be appointed without full voting rights, and to change the position of Vice President to President-elect. The latter move aligns EDS with many other societies who have done the same. While the current VP position is a defacto President-elect it would solidify the position in terms of TAB representation. This caused a great deal of discussion on two points. First, AdCom members felt that the Secretary and Treasurer should retain full voting privileges and, secondly, whether or not following TAB recommendations (to change the VP title) was really going to benefit EDS. Neither initiative was approved. The continuing work to bring AdCom member voting to the full EDS membership still is being discussed and more action is required. Rajendra Singh agreed to take on this assignment and report back in December. AdCom also supported a bylaw change to add the new position of Technical Committees Chair (Arlene Santos) to be both an AdCom and ExCom position, thus broadening the influence of technical committees in EDS decisions and policy.

Technical Committee (TC) Reports

Narain Arora's Compact Modeling TC's directive is to objectively identify and evaluate existing compact models for circuit simulation especially to promote interaction between developers and circuit designers. This year the group has put up a web-based Journal of Compact Modeling for Circuit Simulation with papers on device models, and interconnect. Slanted towards industry, the new publication will appear four times a year with reviews performed by TC members. Two workshops were held this year in March (MOS Models) and one for the FSA in September on interconnects. Lu Kasprzak reporting for the Device Reliability TC listed the continuing progress of *Transactions on Device and Materials Reliability* (T-DMR) that is seeking papers on high-K dielectrics, Cu technology, and magnetic, ferroelectric, and optical devices as a priority. Optoelectronics continues to thrive under Chennupati Jagadish's TC efforts. A Special Issue of JLT on 40 Gbs/s systems and optical interconnect was a major contribution in 2002. In 2003, they plan to collaborate on topics of mutual interest with other groups and TC's especially in the areas of organic LED's, active & passive photonic bandgap devices, long wavelength VCSEL's, and wide bandgap (ZnO, GaN) optoelectronics. Chennupati's group also plans to propose a TC on "Organics" as well.

Rajendra Singh, leader of the Semiconductor Manufacturing TC, praised the work of the *Transactions on Semiconductor Manufacturing (T-SM)* in becoming a leading publication in this area as evidenced with their issues on "Sub-70 nm Manufacturing" and "Single Wafer Manufacturing". According to IEEE (The Institute, Jan 2002, 2000 ISI Journal Citation Report), IEEE T-SM is the number one cited journal in engineering and manufacturing. This committee postponed their effort to form a Semiconductor Manufacturing Council. It will support a new T-SM issue on "New Materials in Semiconductor Manufacturing in 2003, and looks to maintain the quality of T-SM and semiconductor manufacturing conferences. On the vacuum scene, Jim Dayton's TC published a survey article in the EDS Newsletter, and is looking hard at the issue of training & education for future generations of vacuum technologists. Creating opportunities for graduate education, recruitment, and undergraduate outreach programs are high priorities for this group. Jim Hutchby, VLSI Technology Chair, discussed his group's planning for the "Emerging

Technology" evening session at IEDM 2002. They have teamed up with the Compact Modeling TC for the "MOS Models" workshop, and with the SRC at the Mixed Signal Workshop. Among their goals are T-ED issues on "Non-Classical CMOS Devices", "Advanced NV Memory Technology", and a nanotechnology-focused one on "Heterogeneous Integration of Dissimilar Devices".

"Time-to-publication for Electron Device Letters has now been reduced to an average of 4.0 months. "

-Yuan Taur, EDL Editor-in-Chief

Publication Reports

EDL Editor-in-Chief, Yuan Taur, listed a new milestone for the publication. The time-to-publication has now been reduced to an average of 4.0 months, achieving his intended target as EIC. Accepted papers should appear on the web about 2.5 months after submission. The 205 papers published this year are significantly higher than last year's number of 181. EDS Newsletter Editor-in-Chief, Ninoslav Stojadinovic, reported that the submission system using the IEEE Executive Office to centralize newsletter operations similar to that of T-ED & EDL is working well. He also praised editors for increasing the amount of regional & chapter news in 2002. Reporting on T-ED, Editor-in-Chief, Doug Verret, reported improvement with the electronic submission system cutting papers to 132 days in review and 85 days in publication, about 7 months turnaround. About two-thirds of submissions are coming from Europe, and the Asia-Pacific region. The system has actually reduced the page budget this year, and web posting is now six months sooner than it was in 2000. Speaking for T-DMR, Editor-in-Chief, Tony Oates, saw 38 papers submitted accepting only 14 in 2002. Solicitation of web advertising for T-DMR continues. Duane Boning, Editor of T-SM, published 480 pages in 2002 up from 425 in 2002. Duane plans to publish future special issues in areas such as EHS, sub-70nm fabrication, advanced APC/equipment control, and compound semiconductor manufacturing. He also plans to work with his associate editors on assessing strong/weak areas, readership & relevance issues, reviewing historical statistics and trends, and improve existing editorial areas. It is too his credit that T-SM enjoys a 10% subscription rate from EDS members. J-MEMS edited by Richard Muller grew to 630 pages in 2002 and plans to grow to 700 next year.

For 2003, EDS officers are President, Steve Hillenius, Vice President, Hiroshi Iwai, Treasurer, Paul Yu, and Secretary, John Lowell. First time elected AdCom members were Francisco J. Garcia-Sanchez (University Simon Bolivar, Caracas, Venezuela), and Juin J. Liou (University of Central Florida).

The next meeting of the EDS AdCom will be on Sunday June 1, 2003 at the Hotel Lottee in Seoul, Korea in conjunction with the IEEE International Vacuum Electronics Conference.

John Lowell
Consultant
Dallas, TX, USA

Message From the Editor-in-Chief

Dr. Hei Wong

After three years of distinguished service on the Editorial Staff, Dr. Tahui Wang has decided to step down because of other commitments. I would like to take this opportunity to thank Tahui for his dedicated service to the Newsletter as a Region 10 Editor. Replacing Dr. Wang is Dr. Hei Wong from the City University of Hong Kong whose biography follows. Hei has a lot of experience in EDS related activities, and it is my pleasure to welcome him as the new Region 10 Newsletter Editor for East Asia.

Hei WONG received the B.Sc. degree in electronics from the Chinese University of Hong Kong and Ph.D. degree in electrical and electronic engineering from the University of Hong Kong. He joined the faculty of the Department of Electronic Engineering at the City University of Hong Kong (formerly known as City Polytechnic of Hong Kong) in 1989.

Dr. Wong is currently the chair of the IEEE ED/SSC Hong Kong Chapter. His recent major activities include: the General Chair of the IEEE Conference on Electron Devices and Solid-State Circuits (Hong Kong, 2003), the Technical Program Chair of the 2002 IEEE International Caracas Conference on Devices, Circuits, and Systems (Aruba, 2002), and the Steering Committee member of 23rd IEEE International Conference in Microelectronics (Yugoslavia, 2002). Dr. Wong has been serving as a member of the Editorial Board of the Microelectronics Reliability journal since 1996 and a Regional Editor of the same journal since 1999.

Dr. Wong has worked in the areas of MOS device modeling and characterization, hot-electron effects, thin dielectric film characterization, IC process modeling and characterization, MOS integrated circuit design, and solid-state sensors. He is author or co-author of over 80 papers (including four review papers) in international journals and 80 papers (including six invited papers) in conference proceedings. He received the MRS Young Researcher Award at the 4th IUMRS International Conference (Japan) and the Best Paper Award at the 21st International Conference on Microelectronics (Yugoslavia) in 1997. Dr Wong received the 25th Anniversary Award from the IEEE ED/SSC Yugoslavia Chapter in recognition of his outstanding contributions to the development of the MIEL Conference in 2000.

Ninoslav D. Stojadinovic
University of Nis
Nis, Yugoslavia

2002 EDS J.J. Ebers Award

Lester F. Eastman

The 2002 J.J. Ebers Award, the prestigious Electron Devices Society award for outstanding technical contributions to electron devices, was presented to Lester F. Eastman of Cornell University was unable to attend the award ceremony at the International Electron Devices Meeting in San Francisco, CA on 9 December 2002, Lester Eastman asked his colleague at Cornell, Sandip Tiwari, to accept it on his behalf. This award recognizes Professor Eastman "For sustained technical contributions and leadership in the development of high frequency heterostructure transistors."

Les Eastman was born in Utica, NY in 1928, and was raised in Waterville, NY. He majored in Electrical Engineering at Cornell University, obtaining his B.S., M.S., and PhD. in 1953, 1955, and 1957, respectively. At Cornell he was an Assistant Professor of Electrical and Engineering in 1957, Associate Professor in 1960, full Professor in 1966, and the John L. Given Foundation Chair of Engineering in 1985. He had numerous visiting and exchange positions, including Chalmers Technical University in Sweden, David Sarnoff Laboratory, MIT Lincoln Laboratory, IBM Research Center, and Northeast Semiconductor in Ithaca, NY. He was a member of the Kuratorium (the senior advisory committee) for the Fraunhofer Applied Physics Institute in Freiburg, Germany from 1987-1993. He co-founded Nova Crystals in San Jose, CA and R.F. Nitro in Charlotte, NC. He was the 1987 IEEE Electron Devices Society National Lecturer, a member of the U.S. Government DOD Advisory Group on Electron Devices 1978-88, and directed Cornell's Joint Services Electronic Program 1977 - 1987.

Prof. Eastman has been at the forefront of high speed compound semiconductor device research for decades, and has dramatically impacted the development of this field. His contributions cover the entire range of technology - materials, processing, design, simulation, modeling and applications. His research on GaAs microwave devices reached record pulsed powers of 6 KW in L band and 1 KW in X band. He and his group co-developed the fabrication of mushroom-shaped cross section gates for millimeter wave MODFETs, a technique now widely used to achieve state of the art results. His group established records for strained-layer quantum well MODFETs on GaAs substrates, achieving 150 GHz ft and 250 GHz fmax in 1988 using such gates.

Recognizing the potential advantage of InP over GaAs, he and his group were instrumental in developing MODFETs using InP substrates, and led in understanding and demonstrating its high speed characteristics. He and his group also were leaders in developing and applying concepts of near ballistic electron transport in compound semiconductors to achieve high ft. He demonstrated a variety of novel structures for higher performance, including planar-doped barriers, HBTs with near ballistic base transport, and VFETs. He and his group have also been at the forefront in developing GaN-based HFETs, making important advances in device design, polarization doping, surface passivation, and materials. He also made valuable contributions to optoelectronic devices, particularly high speed photo detectors and lasers

Prof. Eastman has authored or co-authored over 700 journal articles and conference presentations. During his academic career, Prof. Eastman had supervised 111 PhD theses, 41 M.S. theses, and 81 post-doctoral studies.

Prof. Eastman has received numerous awards. He is a Fellow of IEEE and APS, and an Alexander von Humbolt Senior Fellow. He is a member of the Electromagnetics Academy and National Academy of Engineering. He received the IEEE 1999 Graduate Teaching Award and its Third Millennium Medal, the Aldert van der Ziel Award, Heinrich Welker Gold Medal, and the International Symposium on GaAs and Related Compounds Award. The Biennial IEEE Cornell Conference on Advanced Electron Devices, founded by him 1967, was renamed the IEEE Lester Eastman Conference in 2002.

In 1948, after serving two years in the U.S. Navy, Prof. Eastman married Anne Marie Gardner, a Licensed Practical Nurse. They have three children: the oldest, David, is practicing architecture in New York City; the next oldest, Daniel, is a Senior Vice President at a bank in Boston; and the youngest, Laurie, is an Assistant Research Project Manager at MIT. They have four grandchildren: Jason, Elizabeth, Evan, and Jonathan. Prof. Eastman's hobbies for the past forty years have included sailing and traveling.

Louis C. Parrillo
Motorola
Austin, TX, USA

2003 EDS J.J. EBERS AWARD CALL FOR NOMINATIONS

The IEEE Electron Devices Society invites the submission of nominations for the 2003 J.J. Ebers Award. This award is presented annually for outstanding technical contributions to electron devices. The recipient(s) is awarded a certificate and a check for $5,000, presented at the International Electron Devices Meeting (IEDM).

The nomination form can be requested from the EDS Executive Office (see contact information on page 2) or is available on the web at www.ieee.org/organizations/society/eds/ebers.html. The deadline for submission of nominations for the 2003 award is 1 July 2003.

2002 EDS Distinguished Service Award

Lucian A. Kasprzak

The IEEE Electron Devices Society is extremely proud of the services that it provides to its members. Its members generate the premier new developments in the field of electron devices and share these results with their peers and the world at large by publishing their papers in EDS journals and presenting results in its meetings. This is a global activity that is effective because of the efforts of numerous volunteers. Many of these volunteers labor in relative obscurity, with their only reward being the satisfaction that they receive in being an important part of a successful organization, namely of the Electron Devices Society. They should be thanked.

Lucian A. Kasprzak was born in Scranton, Pennsylvania in 1943. He received a BS in physics in 1965 from Stevens Institute of Technology; and in that same year, joined International Business Machines (IBM) in upstate New York at the East Fishkill Facility. As Failure Analysis Engineer, he developed electrical and physical failure analysis techniques for new products. Ultimately, he developed a course on failure analysis for engineers and technicians and prepared a 500 page Failure Analysis Manual for use within IBM. While at IBM, he pursued an MS in physics at Syracuse University, graduating in 1970. At that time, he was awarded an IBM Resident Fellowship to pursue a Doctorate. He received his Ph.D. in materials science from Stevens Institute of Technology in 1972. His Doctoral Thesis Advisory Committee was multi-disciplined (materials science, physics and electrical engineering) solid state technology. His Doctoral Thesis was "Charge Storage on Small Metal Particles in an MAOS Structure".

He returned to the East Fishkill Facility and worked on reliability of CMOS technology. In 1973, during stress test of CMOS inverter circuits, he discovered the hot electron effect, with Anthony Honung, on 1.25 micron n-channel devices. The work was classified "confidential" and could not be published for 10 years. He spent the next year as chair of a multi-divisional task force, set up to deal with this new phenomena. Others on the task force, notably Ron Troutman and Tak Ning, picked up the challenge to deal with hot electrons. His early solutions, such as extended and graded junctions, were pursued to reduce the electric field and thereby the threshold voltage shift. He received an award from IBM in 1974 for discovery of the Hot Electron Effect. Others, for example Abbas and Dockerty, using this work as a compass, duplicated the effect in much longer channel devices. He next went on to develop a reliable low barrier Schottky diode, for which he received an IBM Outstanding Innovation Award in 1980.

He held positions as Senior Engineer, Memory Reliability Engineering Manager, Functional Manager of Assurance for Large Memory Systems, Manager of Memory Technology, Program Manager of System Technology Support, and Program Manager for Technical Professional Relations. During the early 80s, he studied the Management of Technology via an IBM in-house course with MIT professors. In 1988, he became an IEEE Fellow "For contributions to very-large-scale-integrated devices through the integration of reliability physics with process development." From 1992 to 1996, he was Associate Professor of Physics and Engineering Science, at Franciscan University, on leave of absence from IBM Corporation. In 1995, he retired from IBM.

In 1996, he joined Sterling Diagnostic Imaging as Reliability Manager for the Direct Radiography Program, a digital x-ray detector using Selenium and TFTs to replace x-ray film. He became Director of Reliability at Direct Radiography Corp. in 1997. Early in 2001, he became an independent Reliability Consultant.

Dr. Kasprzak has 3 patents and some 40 publications.

He has received the Benefactors Award from Franciscan University and is listed in American Men and Women of Science, Who's Who in America, and Who's Who in Science and Engineering. He is also a member of the American Physical Society.

Over the years, Dr. Kasprzak has participated in civic activities; among them, he was: a member of the Environmental Board of Wappingers Falls, New York; a soccer coach for twelve years in the East Fishkill Youth Soccer league; and a parish council member and treasurer for Saint Columbia Parish in Hopewell Junction, New York.

He lives in Pennsylvania with his wife Carole. They have two children, Brian and Dawn Marie. They enjoy vacations at the shore, Broadway shows, museums and the Symphony.

W. Dexter Johnston, Jr.
Multiplex, Inc.
South Plainfield, NJ, USA

2002 EDS Chapter of the Year Award

On December 9, 2002, at the IEDM held in San Francisco, CA, the ED Taipei Chapter received the EDS Chapter of the Year Award which included a certificate and check for $1,000.

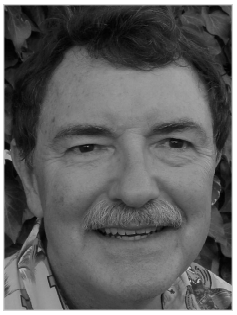
The IEEE ED Taipei Chapter was founded in 1993 and has grown rapidly in accordance with the rapid growth of the microelectronics industry in Taiwan during the period. The number of the Taipei Chapter members is now more than 300. The chair of the chapter is Prof. Steve Chung of National Chiao Tung University.

The major events during this period are categorized into 3 major items and are focused on technical/educational activities. The first one is to promote the participation of medium sized meetings of the Chapter members. The second one is to have a series of Educational Lectures. Eight meetings and lectures were held during the period and 1,550 people in total attended the events. These events are advertised through a new web-site (http://www.edsTaipei.edu.tw) developed one-year ago and have attracted more than 15,000 visitors since its set-up. And, finally, the web site has been re-modeled by including a master list of the chapter members that the ED Taipei members can access. The web-site has been very useful and offered a great benefit to its members.

Hiroshi Iwai
Tokyo Institute of Technology
Yokohama, Japan

EDS Members Named Winners of the 2003 IEEE Technical Field Awards

Five EDS Members were among the winners of the 2003 IEEE Technical Field Awards. They are:



Andrew R. Neureuther of University of California, Berkeley, won the 2003 IEEE Cledo Brunetti Award. His citation states, "For pioneering contributions to modeling and simulation of the lithographic materials, processes, and tools used in microelectronics manufacturing".

A world leader in the development of the technology computer aided design (TCAD) for lithography and pattern transfer, Andrew R. Neureuther has played a crucial role in enabling the fabrication of microminiaturized devices.

By repeatedly focusing on critical problem areas before they become obvious industry-wide, Dr. Neureuther has helped manufacturing keep pace with the demands of Moore's law, by developing tools to simplify the complex lithography processes of microminiaturized devices. His work has fueled the growth of the CAD industry, and by extension, enabled the miniaturization of transistors for the semiconductor industry.

While a visiting scholar at IBM in the 1970's, Dr. Neureuther collaborated with the group of F.H. Dill on modeling optical projection printing. In 1979, Dr. Neureuther developed the pioneering user-oriented computer programs for simulation and modeling of profiles in lithography and etching (SAMPLE), along with Professor W.G. Oldham. Since then, he has consistently advanced the state of the art with models for chemically amplified imaging materials (STORM), assessment of residual effects of defects and lens aberrations (SPLAT), electromagnetic scattering (TEMPEST), time-evolution of topography (SAMPLE3D), environments for integrating simulators with process flow (SIMPL) and remote web-based simulation (LAVA). The tools he has championed have become industry standards, and have influenced Technology Computer-Aided-Design (TCAD) products like PROLITH and DEPICT.

His publications continually push the limits of simulation, taking alternative approaches to new technologies like new lithographic materials, mask geometries, defect inspection and shot noise limits to lithography into consideration. He has written or co-written 250 papers, including the classic series, "Modeling Projection Printing of Positive Photoresist," published in the IEEE Transactions on Electron Devices in 1975.

Dr. Neureuther joined the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley in 1966, where he is currently Conexant Systems Distinguished Professor and the chair of the Interdisciplinary Graduate Group for Applied Science and Technology.

Andrew R. Neureuther was born on 30 July 1941, in Decatur Ill. He received his bachelor's, master's and doctoral degrees in electrical engineering from the University of Illinois, Urbana, in 1963, 1964 and 1966 respectively.

A Fellow of the IEEE, Dr. Neureuther is a member of the National Academy of Engineering and is a distinguished alumnus of the Electrical and Computer Engineering Department at the University of Illinois. He has advised 35 masters and 30 doctorate students.

Mark Bohr of Intel Corporation won the 2003 IEEE Andrew S. Grove Award. His citation states, "For leadership in scaling of advanced CMOS technology for microprocessors".

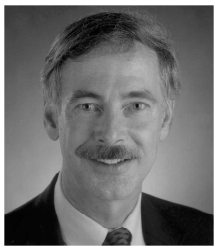
Close to a billion microprocessors have been manufactured employing Mark T. Bohr's work. As an architect and innovator for Intel's CMOS technology, Mr. Bohr's leadership has been a vital element of virtually every CMOS or BiCMOS technology at Intel since the 1980s.

Since joining Intel's Portland Technology Development group in 1978, Mr. Bohr has led the development of simple yet elegant processes that facilitate large volume production of top microprocessors. His work helped to usher in the CMOS DRAM era, and his work on BiCMOS logic technology paved the way for Intel's successful Pentium microprocessors. He has helped develop many groundbreaking technologies including: modern CMOS technology in 1981; CMOS DRAM technology in 1983; BiCMOS logic technology in 1992; logic technologies ranging from 0.8mm to 0.13mm and beyond; and the recent 90 nm process technology employed by microprocessor and communication products. The features and techniques defined by Mr. Bohr have helped give Intel industry-leading process and product capabilities.

Mark T. Bohr was born in Westchester, Ill., on 31 October 1953. He received a bachelor's degree in industrial engineering in 1976, and a master's degree in electrical engineering in 1978, both from the University of Illinois, Champaign-Urbana. Currently, he directs process architecture and integration with a special focus on development activities for Intel's 65 nm process technology.

Mr. Bohr has always been generous in sharing his expertise with the technology community. He has taught courses inside Intel and at conferences, given presentations and published work that has provided the benchmarks against which high performance CMOS technologies are measured.

A Senior Member of the IEEE, Mr. Bohr has served on paper selection committees for the IEEE International Electron Devices Meeting and the Symposium on VLSI Technology. He holds 19 patents for his work on integrated circuit processing, and has been awarded Intel's highest technical honor—designation as an Intel Fellow. In 1998, he received the Distinguished Alumnus Award from the University of Illinois Department of Electrical and Computer Engineering.



Peter M. Asbeck of University of California San Diego won the 2003 IEEE David Sarnoff Award. His citation states, "For development and applications of GaAs-based heterojunction bipolar transistors".

A pioneer in development of GaAs microwave heterojunction bipolar transistors (HBTs), Peter M. Asbeck has greatly advanced HBT physics, fabrication and applications. Professor Herbert Kroemer, the 2002 IEEE Medal of Honor recipient

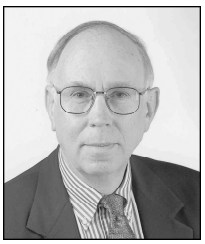
and 2000 Nobel Laureate in Physics, calls Dr. Asbeck "the leader of the field of heterostructure bipolar transistors in the U.S.A., and one of the top two or at most three individuals in this field worldwide."

Dr. Asbeck's work has included the design and physics of devices, new fabrication processes, simulation techniques and design and testing of benchmark circuits that highlighted the advantages of HBTs. He led the development and demonstration of groundbreaking ECL/CML HBT circuits fabricated in GaAs. As a result of Dr. Asbeck's focused efforts on microwave and mm-wave power HBTs and power amplifiers, GaAs HBT technology has evolved into a mainstream microwave device technology that is now widely used in cellular phones and high-speed optical fiber links for driving lasers and modulators.

Dr. Asbeck launched his career as an intern at the Sarnoff Research Center, Princeton, N.J., in 1965. After receiving his doctorate, he worked on GaAlAs/GaAs laser physics and applications Philips Laboratory, Briarcliff Manor, N.Y. He joined Rockwell International Science Center in 1978, where he was involved in the development of high-speed devices and circuits based on III-V compounds and heterojunctions. In 1991, Dr. Asbeck joined the University of California at San Diego, where he is currently a professor in the department of electrical and computer engineering. There, he has developed a leading HBT program.

Peter Asbeck was born in Cleveland, Ohio, in 1947. He attended the Massachusetts Institute of Technology, where he received both his bachelor's and master's degrees in 1969 and his doctoral degree in 1975, all from the electrical engineering department.

A Fellow of the IEEE, Dr. Asbeck is also a distinguished lecturer for the IEEE Electron Devices Society and for the Microwave Theory and Techniques Society. He holds 11 patents and has contributed to more than 200 research publications. His honors include being named Engineer of the Year from Rockwell International Science Center.



Daniel Dobberpuhl of Broadcom Corporation won the 2003 Solid-State Circuits Award. His citation states, "For pioneering design of high-speed and low-power microprocessors".

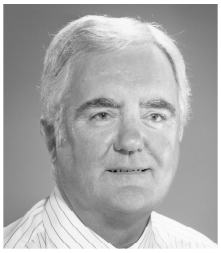
Dan Dobberpuhl's microprocessor work has consistently advanced the state of the art. At Digital Equipment Corporation, he led the development of a number of microprocessors that have had lasting impact on the industry. His work on the T11 processor cut the number of transistors on a chip from 68K to 13K compared to other implementations of similar architectural complexity. His pioneering micro-VAX design fit a VAX instruction on a single chip, and employed new clock designs that improved booted clock circuits far beyond what had been previously demonstrated.

Mr. Dobberpuhl's leadership on the celebrated ALPHA processor resulted in the fastest processor of its day and established much-emulated performance trends. His team subsequently broke records for performance per watt with the StrongARM™ processor, a high performing, low power chip that utilized techniques of threshold engineering, aggressive clock gating and power modes that have since become commonplace.

Born in Streator, Illinois, on 25 March 1945, Dan Dobberpuhl earned his bachelor's degree in electrical engineering from the University of Illinois in 1967. He then went to work at the Department of Defense until 1973, when he joined General Electric as an engineer in the integrated circuits center. In 1977, he joined Digital Equipment, where he worked until 1998, except for a two-year period beginning in 1979, when he worked at the chip design company, Integrated Circuit Systems.

In 1998, Mr. Dobberpuhl co-founded SiByte, Inc., where he served as president and chief executive officer until its acquisition by Broadcom Corporation in 2000. He is now is vice-president and general manager of the Broadband Processor Business Unit at Broadcom.

A member of the IEEE, Mr. Dobberpuhl has published many papers on circuits and microprocessors, and has participated in ISSCC, IEDM, DAC and ISLPED conference panels, and presented invited papers at ESSCIRC and ISLPED. He has 15 patents issued or pending and is co-author of The Design and Analysis of VLSI Circuits, a leading text in the field. Forbes Magazine named him among the 100 most influential people in high-tech, and EE Times called him one of the 40 forces shaping the semiconductor industry.



Robert G. Meyer of University of California, Berkeley won the 2003 IEEE Leon K. Kirchmayer Graduate Teaching Award. His citation states, "For inspirational classroom teaching, outstanding mentoring and developing excellent teaching materials in microelectronic circuit design"

For more than 30 years, Robert G. Meyer has made the complicated aspects of electrical engineering interesting to students. Colleagues have referred to his lectures as "polished gems," and he has supervised more than 20 doctoral students and more than 60 masters students that form a notable group of today's leading radio frequency integrated circuit designers. Many of the top analog bipolar IC designers have also studied with Professor Meyer.

A member of the faculty of the University of California at Berkeley's department of electrical engineering and computer sciences since 1968, Professor Meyer is known worldwide for the distinction of his graduate students and for his text co-written with Paul R. Gray, Analysis and Design of Analog Integrated Circuits, in its fourth edition. Today, he is the UC Berkeley's National Semiconductor Distinguished Professor.

Professor Meyer's classes are in high demand; Advanced Integrated Circuits for Communications, a graduate class that he developed, regularly attracts about twice the average enrollment for advanced graduate classes. He created an original reader for the class, which includes topics like cross-modulation and intermodulation in high frequency integrated circuits.

Robert G. Meyer was born on July 21, 1942, in Melbourne, Australia. He received his bachelor's degree in electrical engineering with first class honors in 1963, his master's degree in engineering science with honors in 1965, and his doctoral degree in 1968, all from the University of Melbourne, Australia.

A Fellow of the IEEE, Professor Meyer has served the Institute in a number of ways, including as president of the Solid-State Circuits Council of the IEEE and a member of the Editorial Board of the IEEE Press. He has earned many awards and honors, including the J.J. Thomson Premium from the Institution of Electrical Engineers for research on noise in transistor mixers. In 1975, he was a visiting professor in the electrical engineering department of the Catholic University of Leuven, Belgium, and in 1996, he was a visiting professor in the electrical engineering department of Columbia University, New York.

25 EDS Members Elected to the IEEE Grade of Fellow Effective 1 January 2003

Heinrich P. Baltes, ETH Zurich, Zurich, Switzerland
for contributions to the development and commercialization of CMOS based MEMS

Bernhard E. Boser, University of California, Berkeley, CA, USA
for contributions to integrated MEMS and learning algorithm.

Zoltan J. Cendes, Ansoft Corporation, Pittsburgh, PA, USA
for contributions to the application of finite element modeling to microwave guides, structures and circuits

Bruce G. Danly, US Naval Research Laboratory, Washington, DC, USA
for contributions to the development of high-power millimeter-wave sources for fusion, accelerator, and defense applications

Gracie E. Davis, La Qunita, CA, USA
for contributions to the development of radiation-hard electronic components for military and space applications

Mohamed J. Deen, Dundas, ON, Canada
for contributions to modeling, noise, and parameter extraction in silicon transistors and high speed photodetectors

Georges J. Faillon, Velizy, France
for contributions to applications of high efficiency-high power klystrons and gyrotrons

David J. Frank, Yorktown Heights, NY, USA
for contributions to solid-state devices and ultra-small CMOS devices

William D. Greason, Ontario, Canada
for contributions to the fundamental principles of electrostatic discharge and its effect on electronic devices and systems

Dong-Seok Hyun, Seoul, Korea
for contributions to the design, analysis, and implementation of high performance power conversion systems and for leadership in power electronics education

Thomas N. Jackson, University Park, PA, USA
for contributions to GaAs MESFETS and thin-film transistors

Kristina M. Johnson, Durham, NC, USA
for contributions to optoelectronic processing systems and liquid crystal devices

Nan M. Jokerst, Atlanta, GA, USA
for contributions to the integration and packaging of optoelectronic devices for the realization of optical interconnections and interfaces

Kinam Kim, Yong-in City, Korea
for contributions the development of high-density dynamic random access memory

Hoi-Sing Kwok, Hong Kong, China
for pioneering research in liquid crystal display technology

Hiroyuki Matsunami, Kyoto, Japan
for contributions to Silicon Carbide epitaxial growth technology and transistors

Tadashi Nishimura, Hyogo, Japan
for leadership in the development of advanced CMOS devices and process technologies

Tadahiro Ohmi, Sendai, Japan
for contributions and leadership in semiconductor engineering

Umberto Ravaioli, Urbana, IL, USA
for contributions to Monte Carlo simulation of electron devices

Bruno Ricco, Bologna, Italy
for contributions to thin oxide MOS devices and non volatile memories

Mark J. Rodwell, Santa Barbara, CA, USA
for contributions to high speed electron devices and integrated circuits

Dierk Schroeder, Munich, Germany
for contributions to modeling of power semiconductors for circuit design

Alan C. Seabaugh, Notre Dame, IN, USA
for contributions to high speed and nano-electronic device and circuit technology

Elias D. Towe, Pittsburgh, PA, USA
for contributions to nanostructure optoelectronic technology

Steven H. Voldman, Essex Junction, VT, USA
for contributions to electrostatic discharge protection in CMOS, silicon on insulator, and RF silicon germanium technology

The Nominations of the Following IEEE Members W er e Evaluated by EDS But the individuals are Not Current Members of EDS

Teruaki Aoki, Tokyo, Japan
for leadership in consumer electronics and contributions to semiconductor technology

David L. Cave, Tempe, AZ, USA
for contributions to analog product development and smart power devices

Shang-Yi Chiang, Hsin-Chu, Taiwan
for technical leadership in developing and elevating silicon foundry technologies

William J. Gallagher, Yorktown Heights, NY, USA
for contributions to the development of oxide-barrier tunnel junctions for superconducting and magnetic device applications

David L. Harame, Essex Junction, VT, USA
for contributions to the development of SiGe Heterojunction Bipolar Transistor and BiCMOS technologies

Burn Jeng Lin, Hsin Chu, Taiwan
for contributions to lithography theory, tooling, masks, and fabrication technology

Report of the EDS Regions 4-6 Chapters Meeting

On Dec. 8, 2002, the EDS Regions 4-6 Chapters Meeting (Central, Southwestern & Western USA) was held at the Hilton & Towers Hotel, in San Francisco, CA in conjunction with IEDM'02. The meeting was attended by representatives from 10 chapters of the North America West (NAW) Region, several chapter partners, SRC Chairs and Vice-Chairs, James Kuo, Chair of the Membership Committee and Ilesanmi Adesida, Chair of the Educational Activities Committee.

The meeting was started by Paul Yu, Chair of the SRC-NAW, who introduced Hiroshi Iwai, who is stepping down as Chair of EDS Regions/Chapters Committee and Cor Claeys, the incoming Chair of the committee. The SRC Vice-Chairs and chapter partners were also recognized.

The meeting aimed at bringing together the chapter leaders within the SRC-NAW to discuss the various issues confronting the chapter and their members. In this meeting, seven chapters (Boise, Chicago, Dallas, Denver, Oregon, Pikes Peak, University of Illinois) reported their recent activities as well as their future plans, and two chapter partners (Albert Wang and Yuhua Cheng) reported the highlights of their recent visits to the chapters.

In addition to the annual chapter subsidy that the chapters receive, the discussion centered on how they can apply for additional support for sponsoring the travel of Distinguished Lecturers (DLs) from the EDS DL Program, and how to obtain a partial matching of funds from the SRC-NAW fund.

Due to the vast area of the NAW Region, there are now 4 Vice-Chairs assisting the Chair in coordinating the DL and chapter partner visits to the chapters. Some chapters, like the Pikes Peak and Denver chapters, have very few EDS members in their chapters and are geographically isolated. Some use a university campus for the meeting site to encourage participation from both academia and industry. Chapters with a strong presence of the electronic industry, like the Boise, Idaho and the Chicago chapters, were able to hold many technical meetings each year with good attendance. The student chapters, like the University of Illinois Student Branch, were able to use the regular seminars to attract DL visits.

The web based announcement and bulletin mailing by the local IEEE Section was used by many chapters to reach the local chapter members. The chapters commented that the EDS Chapter Subsidy Program was very helpful in facilitating the chapter meetings and for obtaining additional resources from the local IEEE Section. In 2002, there were two new technical workshops organized by chapters (Boise and Phoenix) with the NAW, and both were well attended.

During the meeting, Paul Yu discussed the SRC-NAW goals for the coming year, i.e.: continue to assist some chapters in NAW to become active chapters via the various programs within the society; promote the well organized chapters to further their activities through workshops and the planning of the Chapter of the Year nominations; and identify and promote the formation of new student chapters in strategic areas within Regions 4-6.

Paul Yu, SRC-NAW Chair
University of California at San Diego
La Jolla, CA USA

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

Armin G. Aberle
Bruno Allard
Hugh J. Barnaby
Duane Boning*
Thomas Brazil
Osvaldo F. Buccafusca
Eng Fong Chor
Kukjin Chun
Stephen Clements
William D. Cowan
Kobchai Dejhan
Steven Durbin
Taylor Efland*
Robert H. Eklund*
Denis Flandre
Gregory Freeman
George E. Georgiou*
Robert I. Gresham
Fernando J. Guarin*
Mark D. Hall
Hideki Hayashi
Pavel Hazdra
Werner Hoelzl*
Atsushi Hori
Sandra L. Hyland
Tadao Ishibasi
Hiroshi Ito
Alvin J. Joseph*
Michael J. Kelly
Steven J. Koester
Subramanian Krishnan
Ellen Y. Lan
Michael S. Liu*
Rajeev Malik
Philip J. Marshall
Dain C. Miller
Byoung Woon Min
Lawrence Nagel
Victor I. Naidenko*
Andrew Oliver
Piotr Pawlowski*
Unil Perera
Fred R. Phelleps
Paul A. Potyraj
A.B.M. Harunur Rashid*
Mark Rodder*
David B. Scott
Pankaj Shah
Vashisht Sharma*
Shye Shapria
Ali Sheikholeslami
Joseph S. Shor
Danny Shum
Malcolm H. Smith
Roger W. Sudbury
Richard M. Swanson
Richard R.A. Syms
Hark Hoe Tan
Hidehiko Tanaka
Anatoly S. Tischenko
Hironori Tsukamoto
Kuei-Ann Wen
Scott F. Wetenkamp
Hei Wong*
J.P. Xanthakis
Chenggang Xie
Ilgu Yun
Carina I. Zaring
Yong-gang Zhang

* = 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.

FINAL CALL FOR NOMINATIONS
2003 IEEE Electron Devices Society Graduate Student Fellowship

Description: One year fellowships awarded to promote, recognize, and support graduate level study and research within the Electron Devices Society's field of interest: Compact Modeling, Compound Semiconductor Devices and Circuits, Device Reliability Physics, Displays, Electronic Materials, Microelectromechanical Systems, Nanotechnology, Optoelectronic Devices, Photovoltaic Devices, Power Devices and ICs, Semiconductor Manufacturing, Technology Computer Aided Design, Vacuum Devices, VLSI Technology and Circuits

At least one fellowship will be awarded to students in each of the following geographical regions every year: Americas, Europe/Mid-East/Africa, Asia-Pacific.

Prize: US$5,000 to the student, US$1,000 grant to the student's department, US$1,000 grant to the student's faculty advisor in support of the student's project, travel subsidy of up to US$3,000 to each recipient to attend the IEDM for presentation of award plaque. The EDS Newsletter will feature articles about the EDS Graduate Fellows and their work over the course of the next year.

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

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

Nomination Package:
- Nominating letter by an EDS member
- Two-page (maximum) statement by the student describing his or her education and research interests and accomplishments
- One-page biographical sketch of the student
- One copy of the student's under-graduate and graduate transcripts/grades. Please provide an explanation of the grading system if different from the A-F format
- Two letters of recommendation from individuals familiar with the student's research and educational credentials

Timetable:
- Nomination packages will be due at the EDS Executive Office no later than May 15, 2003
- Recipients will be notified by July 15, 2003
- Monetary awards will be given by August 15, 2003
- Formal presentation of the awards will take place at the IEDM Awards Ceremony in December 2003.
- Nominations packages can be submitted by mail, fax or e-mail, but a hard copy must be received at the EDS Office.

Send completed package to:
IEEE Operations Center
EDS Executive Office
EDS Graduate Student Fellowship Program
445 Hoes Lane
Piscataway, NJ 08854 USA
http://www.ieee.org/eds/fellowship

For more information contact: edsfellowship@ieee.org

EDS Distinguished Lecturers/Chapter Partner Visits China Report on WIMNACT 2002 in China

The 1st Workshop and IEEE EDS Mini-colloquia on NAnometer CMOS Technology (WIMNACT 2002) was held Nov. 18-26, 2002 in four cities (Beijing, Shanghai, Nanjing, Xi'an) in China. The speakers are composed of four partners and DL's sent from EDS and additional local people. The titles of the four talks were as follows; "Advanced CMOS Technology for sub-70nm and Further Below", by Hiroshi Iwai; "Impact of nm CMOS Technology on RF Circuit and System"; by Kwyro Lee; "Ultra Shallow Junction for Sub-100nm Silicon Technology", by Bunzi Mizuno; "Advanced STI and Silicide Process Integration beyond 90nm Node", by Kevin Liang-Kai Han.

WIMNACT-Shanghai was held on Nov. 19, 2002, and was organized by Prof. B. -Z. Li of Fudan Univ. In addition to the four DL talks, there was a lecture given by Simon Yang from SMIC entitled, "Beginning of Sub-100nm Era of China's Semiconductor Industry". There were more than 170 attendees.WIMNACT-Nanjing was held on Nov. 21, 2002, and was organized by Prof. Q. -A. Huang of Southeastern Univ. In addition to the four DL talks, there was a lecture given by Z. Wang from Southeast Univ entitled, "Fabless Design of RF-and OE-IC's". There were more than 100 attendees. In the afternoon, we had a discussion and meeting with the EDS members in the Nanjing area. It currently has 24 members (7 senior members), and expects more in 2003. People in Naning want more EDS coverage on display technology. We also discussed the possible formation of a new chapter in this area.WIMNACT-Xi'an was held on Nov. 25, 2002, which was organized by Prof. Y. -M. Zhang of Xidian Univ. In addition to the three DL talks, there was a lecture given by Y. Hao from Xidian Univ entitled, "The Microelectronics Industry in Xi'an". There were more than 170 attendees. The Xi'an area currently has 30 EDS members (7 senior members). We discussed the possible formation of a new chapter in this area and took a tour of the Xi'an new science park.

WIMNACT-Beijing was held on Nov. 27, 2002, and was organized by Prof. F. -J. Liao of Beijing Univ. After three DL talks, there was a lecture given by Z. Y. Wang from Beijing Univ entitled, "Reliability of nm MOS Devices". There were more than 70 attendees. In the EDS member meeting, Prof. Liao presented the Beijing Chapter activity report. It currently has 274 members, which is a significant increase from 12 in 1998. Some people asked for more EDS coverage on vacuum electronics technology.In summary, China's interest in semiconductor technology in conjunction with the rapid growth in her semiconductor industry has been growing extremely fast recently and the students in universities, especially, are very eager for knowledge in recent advances in semiconductor technology. We feel that WIMNACT-China was very timely and our mission is successfully accomplished.

Hiroshi Iwai
Tokyo Institute of Technology
Yokohama, Japan

Kwyro Lee
KAIST
Taejon, Korea

BeijimgChapter Meeting on November 27, 2002

EDS Meeting in Xi'an, Xidian Univ. on November 25, 2002

Summary Of Changes To The EDS Constitution & Bylaws

At its 8 December 2002 Meeting, the EDS AdCom approved changes to the EDS Constitution & Bylaws. The IEEE Technical Activities Board has also approved these changes at its 14 February 2003 meeting. A summary of these changes is indicated below. The complete Constitution and Bylaws may be obtained from the EDS Executive Office or on the web at www.ieee.org/eds/ (click on Administrative Committee).

Constitution

Section 10.13: (ED-15) Field of Interest Statement

Although the current statement, which has been in place for over fifty years, accurately represents the interests of the Society, it is not explicit in some respects. This generates room for confusion, hence this revision. Specifically, the addition of the word "engineering" and the phrase "organic and other emerging materials based devices" will correct this situation.

The field of interest for EDS is all aspects of the physics, engineering, theory, and phenomena of electron and ion devices such as elemental and compound semiconductor devices, organic and other emerging materials based devices, quantum effect devices, optical devices, displays and imaging devices, photovoltaics, solid-state sensors and actuators, solid-state power devices, high frequency devices, micromechanics, tubes and other vacuum devices.

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

Bylaws

Section 10/Society Funds

Change the title of Executive Officer to Executive Director as implemented by IEEE in February, 1994.

Section 12.1/Technical Committees

Create a new AdCom position, EDS Technical Committees Chair as approved by AdCom in December, 2002. This new position will help implement a recently developed Society strategic plan position, "To broaden the base of technical areas of interest".

Steven J. Hillenius
Agere Systems
Allentown, PA

IEEE Transactions on Device and Materials Reliability Call for Papers

In an era of rapidly increasing density and integration of devices, IEEE Transactions on Device and Materials Reliability (T-DMR) is dedicated to providing leading information that is critically relevant to the creation of reliable products. This fully peer-reviewed archival publication is available online and via quarterly library subscription. The broad scope of T-DMR includes, but is not limited to:

- The reliability of electronic, optical & magnetic devices, MEMs devices Microsystems & packages
- The reliability of the materials used in these devices, micro-systems and packages
- Properties of the interfaces, surfaces, and microstructure that impact the reliability of materials
- Fabrication processes that modulate materials and device reliability

Original work is solicited on the measurement, physical analysis, and fundamental understanding of the reliability of electronic devices and materials from the concept stage through research and development, and during manufacture. Papers to be published in the IEEE Transactions on Device and Materials Reliability are sought in the following areas:

- Mechanisms of failure of electronic devices and materials
- Influence of fabrication processes on failure mechanisms
- Theoretical modeling and simulation of failure mechanisms
- Reliability testing and screening methodologies for materials and devices
- Reliability impact of device and circuit design, material, and process selection

The intent of the T-DMR is to facilitate rapid dissemination of new research findings. The Editorial Board strives to expedite publication to ensure rapid dissemination of new results. Manuscripts will appear online shortly after acceptance for publication. Current publication statistics for T-DMR indicate that first reviews are complete in less than 2 months while accepted manuscripts are published on-line on average in less than 4 months.

Manuscript submission details and instructions for authors can be obtained at www.ieee.org/tdmr/emanuscript.

Regional and Chapter News

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

ED Washington/Northern Virginia

- by Murty Polavarapu

On November 12, the Washington /Northern Virginia EDS Chapter met at Micron Technology, Manassas, Va to hear a lively presentation entitled "DRAM Technology Evolution - Past Trends and Future Projections" by Dr. Scott Meikle of Micron Technology.

Success in Dynamic Random Access Memory (DRAM) manufacturing requires leading edge technology for small chip sizes and innovative cell designs and process flows to achieve high yield and lowest possible cost per chip. Dr. Meikle highlighted how over the last decade shrinking geometries led to two diverging paths in DRAM process technology with trench or stack capacitors.

He also discussed potential solutions for challenges such as capacitor dielectrics in the coming years. Larger wafer size (300mm) will also provide an economy of scale in the coming years. The talk was followed by a window tour of the Micron Technology, Virginia facility.

The 26th Annual EDS/CAS Activities in Western New York Conference

- by Karl D. Hirschman, Ph.D.

The EDS/CAS Activities in Western New York Conference is a relatively small conference held at the Rochester Institute of Technology in Rochester NY, which is in between Buffalo and Syracuse, south of Lake Ontario. The focus of the conference is to bring engineers and researchers together to share information on a wide variety of topics related to microelectronic devices and systems, allowing one to become acquainted with others of similar interest in nearby locations. The conference was held this past year on November 6, 2002, marking the 26th annual event. The conference was coordinated by the ED Rochester chapter, and chaired by Dr. Karl D. Hirschman, ED Rochester co-chair and associate professor of microelectronic engineering at RIT.

The full-day event started with a workshop led by Dr. E. Levine of the University of Albany, School of NanoSciences and Engineering, on "Integrated Circuit Fabrication Technology and Yield Control". The afternoon sessions consisted of two invited talks and six contributed talks. A. Kuliev of the Department of Electrical and Electronic Engineering, University of Illinois at Urbana-Champaign, delivered the first invited paper (co-authored by Dr. I. Adesida) on "GaN HEMTs (High Electron Mobility Transistors)". The second invited talk was on "Mobility Enhancement in Strained Silicon" by Dr. D.K. Sadana of IBM, Hopewell Junction, NY. The contributed talks spanned a wide array of topics including CMOS devices, opto-electronic devices and resonant tunnel diodes. The conference ended with a poster session and reception.

The attendees numbered over 100, including over 50 IEEE members and many students (mostly from RIT and the University of Rochester). Please visit http://www.microe.rit.edu/eds.html for additional information, and to download the conference proceedings.

– Murty S. Polavarapu, Editor

IEEE Integrated Reliability Workshop: IRW 2002 Review

- by William R. Tonti

The IEEE Integrated Reliability Workshop was held in South Lake Tahoe on Fallen Leaf lake at the Stanford Sierra Campus October 21-24, 2002. Linda Head of Rowan University served as the General Chair, and Gennadi Bersuker of Sematech served as the Technical Program Chair. The conference attendees numbered ~85 this year, up considerably from the 2001 attendance.

During our first evening together, Dr. Harry Schafft of NIST, gave a 21year historical perspective of IRW. As it turns out, Harry has attended IRW for its entire 21year history and shared quite a bit of technical triumphs and humor emanating from his IRW tenure. Harry reminded the audience that IRW is technically and financially sponsored by both the IEEE Reliability and Electron Devices societies, which over the years has provided the prestige and recognition that has kept the workshop a technical melting pot.

The technical program was very strong this year. It began with two tutorials,

"Molecular Electronics: What will be the Reliability Issues", was authored by Dr. John Suehle of NIST. John's talk centered about the use of organic molecules as switching devices. Given the present 120nm MOS node of present state of the art technology MOS systems, a molecular device would be ~60,000 times smaller, indicating a P4 processor designed as a molecular device would occupy only a 100_m2 area!

The second tutorial, "New Age Elecrtromigration Testing", was authored by Dr. Jim Lloyd of IBM Research. Jim contrasts the differences between Al/Cu alloys and CU BEOL systems and the reliability challenges one face in the newer advanced Cu system. For example, in an Al system Al2O3 forms as a barrier that inhibits diffusion through SiO2. Noble metals (Cu, Ag, Au) diffuse readily through dielectrics, especially SiO2. Adhesion of Cu to most materials is poor. If Cu interface is well passivity, the EM behavior is excellent, if not then the natural barrier (taken for granted) in the Al

System becomes one of the reliability challenges of a Cu based system.

Following the tutorials, Dr. William Tonti of IBM Microelectronics presented an invited lecture entitled "Technology on the Edge". Bill's talk focused on: Describing the semiconductor industry entering an era where extraordinary opportunities for new applications in pervasive markets will drive the push for higher circuit density, greater speeds, and better power dissipation. This push is at the heart of some of the latest advances that have occurred, including the integration of low-resistance conductors, insulated substrates, and band-gap engineered devices.

IRW had an excellent keynote speaker, John Bridwell of Motorola, whose talk was entitled: "Embedded Non-Volatile Memory Qualification Methodology for Automotive Applications" John contrasted the reliability requirements for Motorola to insure NVM reliability, given the automobile industries new drive to embed electronics in the actual system unit, implying harsh environmental operating conditions.

As typical with the IRW workshop, attendees ask questions and exchange ideas with an author during his presentation. Authors then return to their respective home base and consider the attendees questions and formalize their responses in concert with the theme of their paper. This becomes the published IRW final report, and is released in the December 2002 - January 2003 time frame. One may order this IEEE final report by navigating to www.irps.org/irw. In effect, it contains more material than presented at the conference, and serves as the IRW legacy, as well as a cited reference. Due to its unique style of having the attendee feedback intertwined with the report, one may consider this as a virtual IRW. I encourage you to order a final report and see for yourself!

All in all the conference was a great success, with ample time allotted for one on one discussions as well as the late evening SIGs (special interest group meetings). IRW is looking forward to 2003 and another exciting year in the world of microelectronic reliability. (http://www.irps.org/irw)

– Sunit Tyagi, Editor

Europe, Middle East & Africa (Region 8)

MTT/ED/AP/CPMT/SSC West Ukraine
- by Mykhailo I. Andriychuk

The VIIth International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED-2002) was organized and successfully held by the IEEE MTT/ED/AP/CPMT/SSC West Ukraine Chapter together with the IEEE MTT/ED Republic of Georgia Chapter October 10-13, 2002, at Tbilisi State University, Tbilisi, Georgia under the technical co-sponsorship of EDS as well as the MTT, AP, CPMT, and SSC societies and the Ukraine Section. The volume of Seminar Proceedings is included into the IEEE Book Broker Program.

The DIPED-2002 young speaker award recipients (from left to right: Oleg Kusyi, Giorgi Ghvedashvili and David Kakulia)

The 33 papers from Georgia, Germany, Poland, Russia, Taiwan, USA, and Ukraine were presented at the Seminar in 5 sessions:

- Propagation and Scattering in Non-homogeneous Media
- Electrodynamics of Crystals and Waveguide Structures
- Antennas and Scattering
- Waveguides and Transmitting Lines
- Synthesis Theory and Acoustics

The most interesting presentations were as follows:

'The asymmetry of the near field of non-superdirected small antenna' B. Z. Katsenelenbaum, Moscow, Russia 'On the theory of symmetric short vibrator' G. Sh. Kevanishvili, Tbilisi, Georgia; and 'Electromagnetic imaging for a conducting cylinder buried in the three layers structure' Chien-Ching Chiu, Tamsiu, Taiwan.

Young scientists, students, and Ph.D. students participated in the DIPED-2002 as well. The Best Paper Awards have been traditionally established by the Organizing Committee for young speakers. This year three young speakers were recognized for their presentations. They were: Giorgi Ghvedashvili (Tbilisi State University, Tbilisi, Georgia), David Kakulia (Tbilisi State University, Tbilisi, Georgia), Oleg Kusyi, (Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, NASU, Lviv, Ukraine)

The next annual Seminar/Workshop DIPED will be held September 23-25, 2003, at Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, NASU, Lviv, Ukraine. For more information, please contact Dr. Mykhaylo I. Andriychuk via e-mail andr@iapmm.lviv.ua, and Dr. David D. Karkashadze via e-mail iae@access.sanet.ge, or visit the West Ukraine Chapter Web Site at http://www.ewh.ieee.org/soc/cpmt/ukraine.

ED/MTT/AP St. Petersburg
- by Margarita F. Sitnikova

On behalf of the staff of the IEEE ED/MTT/AP Joint St. Petersburg Chapter, I would like to to inform you with a great sorrow that the IEEE ED/MTT/AP Joint St. Petersburg Chapter Chair, Dr. Sc., Professor Sergey V. Zagriadski, died in June, 2002.

Dr. Sc., Professor Sergey V. Zagriadski

Sergey V. Zagriadski was born in St. Petersburg, Russia in 1954. He received the degrees of Research Engineer in 1977, Candidate of Sciences (Ph.D.) in 1987 and Doctor of Sciences (Dr.Sc.) in 1997, all in Radiophysics, from St. Petersburg State Technical University (formerly Leningrad Polytechnic Institute). In 1977 he joined the Department of Radiophysics of this Institute and served this Department until last year. He was engaged in the filters and power terminators, ferromagnetic tunable oscillators, magnetostatic wave devices.

He served as Professor and Director of Microwave Ferrite Devices Laboratory of St. Petersburg State Technical University. His research interests were connected with electromagnetic theory of microwave ferrite, simulation of multi-layer microwave integrated circuit and radiating structures on the base of thin ferrite films, investigation of magnetostatic spin-wave passive and active devices (including filters, delay lines, power terminators, signal-to-noise enhancers, oscillators, active filters, etc.) and complex composites containing the ferrite. He has published over 60 scientific papers in this field and has received 8 national Patemts on magnetic tunable microwave oscillators. He was an IEEE member and an active member of New York Academy of Sciences. In 1995, he was an invited lecturer at Beijing Institute of Radio Measurement (China). Until last years he served as chair of the IEEE ED/MTT/AP Joint St. Petersburg Chapter.

Margarita F. Sitnikova has been appointed to serve as the new chair of the ED/MTT/AP St.Petersburg Chapter.

Margarita F. Sitnikova received her diploma of Electronics Engineer (MS degree in Electronics Engineering) and the Ph.D. degree from St. Petersburg State

Dr., Assoc. professor Margarita F. Sitnikova, Chair of IEEE ED/MTT/AP Joint St. Petersburg Chapter

Electrotechnical University 'LETI' (formerly Leningrad Institute of Electrical Engineering) in 1967 and 1974, respectively. Currently she is an Associated Professor for Department of Microelectronics and Radio Engineering of St. Petersburg State Electrotechnical University. Her general research interests are connected with solid-state physics and microwave electronics including microwave applications of high temperature superconductivity. Since 1998, she is an active IEEE member.

– Alexander V. Gridchin, Editor

ED Poland

- by Andrzej Napieralski

On 17 December 2002, the Department of Microelectronics and Computer Science of Technical University of Lodz organized an IEEE meeting entitled "Analysis And Synthesis of the AD CMOS Circuits with Special Consideration of SC Filters". During the meeting the problems of design-flow optimisations and improvements of switched-current filters were discussed.

From June 26 to 28, the 2003 10th anniversary of the MIXDES Conference "Mixed Design of Integrated Circuits and Systems" co-sponsored by IEEE will be held in Grand Hotel, Lodz, Poland. The areas of interest are as follows:

1. Design of Integrated Circuits and Microsystems
2. Thermal Issues in Microelectronics
3. Analysis and Modelling of IC and Microsystems
4. Microelectronics Technology and Packaging
5. Testing and Reliability
6. Power Electronics
7. Signal Processing
8. Embedded Systems
9. Medical Applications
10. Education

During the conference, the meeting of the IEEE ED Poland Chapter will be organized. All people interested in this meeting, in particular all the members of the Poland Section of IEEE, are invited to take part in the event. For more information please refer to http://www.mixdes.org.

Starting from this year, the IEEE ED Poland Chapter is technically co-sponsoring the symposium "Diagnostic and Yield - Advanced Silicon Devices and Technologies for ULSI Era". The 6th edition of the symposium will be held from June 22nd to 25th, 2003, in Warsaw, Poland (for more information, please contact Mrs. Lidia Lukasiak: lukasiak@imio.pw.edu.pl). The chapter has also started to provide technical co-sponsorship of the Polish bulletin "Elektronizacja" (eng. "Electronisation") edited by the Association of Polish Electrical Engineers devoted to development in Polish electronics.

ED Sweden

- by Mikael Östling

During April and June the Sweden ED Chapter arranged two technical seminars with many participants. Professor Herman Schumacher, University of Ulm, Germany, visited the chapter and presented a talk on Silicon-based front-end ICs for the 24 GHz ISM band. In the talk, Prof Schumacher discussed the present status of commercially available SiGe HBTs and their utilization in building blocks or fully integrated 24 GHz receivers on silicon.

In June, we had a visit by Dr Dietrich Stephani, president of SiCED (a Siemens company), who presented a talk on Prospects of SiC Power Devices. Dr Stephani gave a very vivid lecture on the current technological challenges in a start-up company in SiC Power Devices.

During July, the chapter was visited by two IEEE Fellows and distinguished lecturers. Dr Ted Kamins, HP Labs, Palo Alto, CA, presented a lecture "Advanced Device Concepts and Research Self-Assembled Nanostructures"

Prof C. Jagadish, Australian National University, visited a week later presenting his lecture on "Quantum Well Intermixing for Optoelectronic Device Integration".

During the Fall we had two more technical seminars by Dr Robert Romanofsky, NASA Glenn Research Center, Cleveland, OH, USA presented a lecture on "Microwave Applications of Ferroelectric Films" and the last ED 2002 seminar was presented in December by Waguih S. Ishak, Director, Communications & Optics Research Laboratory, Agilent Laboratories, Palo Alto, CA. His presentation was entitled "Photonics in the Information Age: Applications to Communications, Measurements and Solid-State Lighting"

– Andrzej Napieralski, Editor

ED Israel

- by Prof. Nathan Croitoru

On Monday, December 23, 2002, at the Holon Inst. of Technology (HAIT) – Holon a talk entitled, "Do we teach them how to think?" was given by Prof. Daniel Raviv, Ph.D., of Florida Atlantic University, USA.

Abstract:

In today's global marketplace, the pace of competition, the increasing demands of customers, and the explosion of knowledge, there is a need for innovative out-of-the-box thinkers. Students are not being encouraged to think and are losing basic skills for defining, understanding and solving problems. In this presentation, we'll discuss the problem and suggest some solutions.

Biography of Dr. Daniel Raviv:

Dr. Daniel Raviv is a professor and inventor in the College of Engineering at Florida Atlantic University (FAU). His main research is in the areas of active-vision systems, autonomous robotic vehicles (driverless cars), and inventive/innovative thinking. He received the B.Sc. and M.Sc. degrees in Electrical Engineering from the Technion in Haifa, Israel, in 1980 and 1982, respectively, and the Ph.D. degree in Electrical Engineering and Applied Physics from Case Western Reserve University, Cleveland, Ohio in 1987. Dr. Raviv is also a graduate of the Institute of Inventive Thinking (IIT), national inventors hall of fame recently he was awarded a Guinness world record.

Chairmen of the meeting: Prof. Nathan Croitoru and Dr. Gady Golan - 60 people, students and academic staff, attended the meeting in Holon.

– Gady Golan, Editor

Asia & Pacific Region 10

ED/LEO Australia

- by C. Jagadish

The Conference on Optoelectronic and Microelectronic Materials and Devices was held at the University of New South Wales, Sydney during 11-13 December, 2002 and was chaired by Professor Michael Gal. The Conference was a grand success with 2 plenary talks, 14 invited talks, 50 oral contributed papers and 100 poster contributed papers. The proceedings of the Conference will be published by IEEE publishing Co.

Prof. Nitish Thakor with faculty member and students at IIT Bombay

Prof. Gottfried Dohler from the University of Erlangen, Germany visited the Chapter and gave a seminar at the Australian National University on December 9, 2002 on " Electroabsorption studies of InAs Quantum Dots in vertical and in-plane electric fields".

Professor David Pulfrey, from the University of British Columbia, an IEEE Distinguished Lecturer and elected member of EDS AdCom, visited the Chapter and gave a seminar on "Carbon nanotube field-effect transistors" on December 17, 2002 at the Australian National University.

For more information, please contact Prof. Chennupati Jagadish, Department of Electronic Materials Engineering, Research School of Physical Sciences and Engineering, Australian National University, Canberra, ACT 0200, AUSTRALIA, Ph: 61-2-6125-0363, FAX: 61-2-6125-0511, Email: c.jagadish@ieee.org.

AP/ED Bombay

- by Prof. M.B. Tatil

During October–December 2002, the Chapter organized the following events:

On October 10, 2002, Dr. J.N.Roy, Semiconductor Complex Ltd., Chandigarh, gave a talk on "CCD Imagers." He described physical principles, output stages, design issues, and noise characteristics of CCD imagers. Dr. Rajendra Patrikar, Institute of High-performance Computing, Singapore, presented a seminar on "Design of embedded system on chip for reliability" on October 21, 2002. Dr. Patrikar discussed the impact of failures such as single event upset on embedded systems and ways to deal with this problem at the design stage.

On November 28, 2002, Prof. Nitish Thakor, from the John Hopkins University School of Medicine gave a talk on "Micro/Nanotechnology in Biomedicine." Prof. Thakor described several excellent research devices such as advanced probes, sensors and MEMS devices developed for neuroscience research. The talk attracted an audience from a variety of disciplines including EE, Biomedical Engineering and Mechanical Engineering.

On December 5, 2002, Dr. Ajit Shenware, Texas Instruments, USA, gave a talk on "Electrical and reliability characteristics of HfSiON gate dielectric." He presented I-V and C-V characteristics, stability, and reliability results for amorphous HfSiON dielectric films. He commented on the suitability of this material as a replacement for silicon dioxide in low-power CMOS applications.

For more information, please contact Prof. MB Patil, Electrical Engineering Department, IIT Bombay, Powai, Mumbai 400076, India, Email: mbpatil@ee.iitb.ac.in.

A section of audience at ENCOMIUM student festive held at Jamia Milia Delhi.

ED/MTT India

- by Dr. K.S. Chari

The Chapter, in association with the IEEE Student Branch at Jamia Milia, Delhi and IEEE Delhi Section organized a major student festive "Encomium 2002 An intellectual odyssey" on the 30th of October. The event featured 3 sectional contests - Rationale (paper presentation) , Eniac (software design), and Enigma (quiz). Five Hundred participants from colleges all over India came to this festival. Rationale witnessed 70 entries covering presentations on different aspects of electronics, molecular devices, bio-medics, etc. The best papers from these presentations were selected for awards by the Chapter and the following 7 teams have won prizes. Prof Mini Thomas, IEEE Jamia Student Branch Counselor coordinated the event.

The Chapter organized a lecture, "Speeding RTL to Silicon," by Mr. Suresh Naik from Digpro Design Automation Ltd., Bangalore. The event was attended by over 80 participants from academia, R&D labs and industry.

The Chapter has co-sponsored the International Symposium " Recent advances in Inorganic Materials", organized by the IIT Mumbai and Materials Research Society of India during 11-13 December. The conference covered areas in magnetic and electronic materials, electro-optical materials, bio-materials and nano materials. A total of 300 participants attended the conference.

The Chapter has organized jointly with IIT (Delhi) and MSoft Corporation (Singapore) a short course entitled "Microwave Component Design using Software Tools" during 17-19 December, 2002. The event was intended to educate engineers/teachers/students about microwave component design using software tools for solving complex Electro Magnetic problems. The faculties of the course were drawn from IIT and M/s Vision Technologies, Bangalore. A total of 31 participants from academia, the space application centre, defense research and industry attended the intensive sessions. The event was coordinated by Prof. S K Koul, IIT, Delhi.

ED Malaysia

- by Burhanuddin Yeop Majlis

The Chapter has successfully organized the 2002 IEEE International Conference on

Semiconductor Electronics (ICSE2002) at the Gurney Resort Hotel and Residences in Penang from 19 to 21 December 2002. This is the fifth ICSE organized by the Chapter, technically co-sponsored by the Electron Devices Society, in co-operation with the Universiti Kebangsaan Malaysia(UKM) and the Unversiti Sains Malaysia(USM). The conference was sponsored by Mems Technology Sdn, Bhd. and Kriptic Devices Sdn Bhd.

The conference covers all aspects of the semiconductor technology, from materials issues and device fabrication, MEMS and microsensors, photonics technology, IC design and testing, manufacturing, and system applications. The proceedings consisted of 3 invited and 130 contributed papers from all over the world. The participants of the ICSE came from Singapore, China, Japan, Korea, Thailand, UK., USA, Iran, Indonesia and Malaysia. We were delighted to have three prominent speakers in microelectronics during the conference: Prof. Vijay K. Arora, IEEE Distinguished Lecturer, presented a talk on The electron temperature in nanostructures subjected to a high electric field; Mr. Sooriakumar, from Mems Technology Sdn. Bhd lectured on the Use of micro-machined accelerometer in today's world; and Prof. Arokia Nathan from the University of Waterloo, gave a talk on a-Si:H back-plane electronics for medical imaging and OLED displays.

For more information, please contact Prof. Majlis, Department of Electrical, Electronics and System Engineering, Universiti Kebangsaan Malaysia. Tel: 603-89265861, FAX: 603-89259080, Email: burhan@eng.ukm.my.

– Wee Kiong Choi, Editor

ED Kansai

- by Hiroshi Nozawa

This is a report of the technical activities of the Kansai Chapter for the fourth quarter of 2002. A University Distinguished Lecture with Dr. Daisuke Ueda, Director of Semiconductor Devices Research Center, Matsushita Electric Industrial Co. Ltd, Osaka, Japan, was held on 15 October 2002, at Kyoto Univ. in Kyoto, Japan. He is one of the leaders in the semiconductor devices field. He also was appointed to Chair the ED Kansai Chapter and his qualifications include being a distinguished lecturer of EDS. The host was Hiroshi Nozawa, Past Chair of ED Kansai Chapter and professor of Kyoto Univ. The title of the lecture was "Review of Compound Semiconductor Devices for RF Power Applications". In his talk, the progress of RF power devices based on compound semiconductor materials were reviewed. Two major application of those devices are the handy terminals and base stations. The highest power-added-efficiency is the major concern for the mobile terminals, while the latter one requires the high power transmitting capability with sufficient linearity. Compound semiconductor devices are suited for those applications. The official language was English. The number of participants was 20 including foreign students in the doctoral course. We deeply appreciate his devoted voluntary effort.

– Hisayo S. Momose, Editor

ED Taipei

- by Steve Chung

The ED Taipei Chapter held a series of Educational Lectures and sponsored two major conferences/workshops in the 4th quarter of 2002.

Prof. Sheng Li from the University of Florida held the first of the Education Lectures. His talk, entitled "Multi-Color and Broadband Quantum Well Infrared Photodetectors for the Mid-, Long-, and Very Long-Wavelength Infrared Applications, " was held on November 4 at the National Chiao Tung University, Hsinchu, Taiwan. This talk was attended by 150 participants. Another seminar was given at the National Taiwan University, Taipei entitled, "Novel Devices and Materials for Soc," by Lalita Manchanda, a DL and Program Director of SRC.

The two technical meetings/conferences held were the 2002 Semiconductor Manufacturing Technology Workshop (SMTW) and the 2002 IEDMS (International Electron Devices and Materials Symposium), respectively. The former is mainly sponsored by the TSIA (Taiwan Semiconductor Industrial Association), ED Taipei Chapter, and IEEE Taipei Section. The latter was sponsored by the ED Taipei Chapter as well as EDMA (Electron Devices and Materials Association).

The SMTW was held in Hsinchu as follows: December 10-11, with more than 200 attendees and 28 papers selected for oral presentation and 36 for poster presentation. Three plenary talks were given as follows: Dr. Jyuo-Min Shyu, ERSO/ITRI, entitled "The Impact of Nano-Technology on Taiwan Semiconductor Industry"; "The SEMI International Standards and the Semiconductor Fab of the Future," by Bruce L. Gehman, CTO of SEMI; and Jason

Dr. Daisuke Ueda giving a Distinguished Lecture on 15 October 2002 in Kyoto Univ., Kyoto, Japan

Wang, TSMC, with focus on the "TSIA 300 mm Automation Standard Task Force" and the involvement of Taiwan industries to the 300 mm Automation Standard. The topics for this year are focused on the manufacturing, control, logistics, and process of advanced CMOS technologies.

The 2002 IEDMS was held at the National Taiwan University in Taipei, Taiwan, 20-21December. More than 300 experts and authors from 9 countries participated in this symposium. This year marks the 30th anniversary of the symposium, which was initiated in 1972 as a domestic conference for presentation of the latest advances in research and technologies of electronic materials and devices. This symposium has been enlarged to an international biennial conference since its start in 1984. There was one plenary session, 24 oral sessions, and 2 poster sessions with 3 plenary speeches, 8 invited papers, and 208 regular papers presented. The plenary session featured three speeches given by three distinguished scholars: "Nano CMOS Technology" by Prof. C. Hu of the University of California at Berkeley; "Quantum Dots for Lasers" by Nobel Laureate, Prof. N. N. Ledentsov of the Loffe Institute, Russia; and "Photonic Crystals" by Dr. S. Y. Lin of Sandia National Lab. In the 26 technical sessions, a perceivable trend is the increasing number of papers in the fields of nanostructures and devices, novel and ultra thin dielectrics, nitride-based compound semiconductors and devices, RF devices and circuits, organic and thin-film devices for displays etc., consistent with rapid advances in these areas all over the world in recent years. For more information, please check the web site http://www.edsTaipei.edu.tw.

– Hei Wong, Editor

EDS Meetings Calendar

(As of 20 February 2003)

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

April 14 - 17, 2003, @ **IEEE International Symposium on Power Semiconductor Devices & Integrated Circuits** Location: Cambridge University, Cambridge, United Kingdom Contact: Gehan Amaratunga, Cambridge University, Trumpington Street, Cambridge CB2 1PZ, United Kingdom Tel: +44 1223 332638 Fax: +44 1223 332616 E-Mail: ga@eng.cam.ac.uk Deadline: 1/31/02 www: http:www.ISPSD.org

April 18 - 30, 2003, T **Symposium on ULSI Process Integration** Location: Salon des Exposition, Paris, France Contact: Cor Claeys, IMEC, Kapeldreef 75, Leuven, Belgium B-3001 Tel: +32 16 28 1328 Fax: +32 16 28 1510 E-Mail: c.claeys@ieee.org Deadline: 10/1/02 www: Not Available

April 23 - 25, 2003, * **IEEE International Symposium on Plasma- & Process-Induced Damage** Location: Altis Semiconductor, Paris, France Contact: (Charles) Kin Cheung, Rutgers University, 94 Brett Road, Piscataway, NJ, USA 08854 Tel: +1 732 445 0680 Fax: +1 732 445 2820 E-Mail: kpckpc@ece.rutgers.edu Deadline: 2/3/03 www: http://www.p2id.org

April 23 - 25, 2003, T **International Symposium on VLSI Technology, Systems and Applications** Location: Ambassador Hotel, Hsinchu, Taiwan Contact: Rachel Huang, ITRI, 195-4, Sec 4, Chung Hsing Road, Chutung, Hsinchu, Taiwan R.O.C. Tel: +886 3 591 3478 Fax: +886 3 582 0221 E-Mail: vlsitsa@itri.org.tw Deadline: 11/8/02 www: http://vlsitsa.itri.org.tw

May 11 - 18, 2003, @ **World Conference on Photovoltaic Energy Conversion** Location: Osaka International Convention Center, Osaka, Japan Contact: Americo Forestieri, 74 Barberry Drive, Berea, OH, USA 44017 Tel: +1 440 234 1574 Fax: +1 440 234 1574 E-Mail: moeforestieri@att.net Deadline: 10/31/02 www: http://www.wcpec3.org

May 12 - 16, 2003, @ **IEEE International Conference on Indium Phosphide and Related Materials** Location: Fess Parker's Doubletree Resort, Santa Barbara, CA, USA Contact: Conf Mgt Group LEOS, IEEE, 445 Hoes Lane, Piscataway, NJ, USA 08854 Tel: +1 732 562 3899 Fax: +1 732 562 8434 E-Mail: leosconferences @ieee.org Deadline: 12/3/02 www: http://www.ece.ucsb.edu/IPRM03/

May 15 - 17, 2003, * **IEEE Workshop on Charge-Coupled Devices & Advanced Image Sensors** Location: Schloss Elmau, Elmau, Germany Contact: Albert Theuwissen, Kleine Schoolstraat, 9, B-3960 BREE, Elmau, Belgium Tel: +32 89 472 672 Fax: Not Available E-Mail: a.theuwissen@pi.be Deadline: 2/21/03 www: http://www.dalsa.com/ieee-workshop

May 27 - 30, 2003, # **International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication** Location: Tampa Marriott Waterside Hotel & Marina, Tampa, FL, USA Contact: Timothy Groves, Goschwitzer Strasse 25, 07745 Jena, Germany Tel: +49 3641 651900 Fax: +49 3641 651922 E-Mail: Timothy.Groves@Leica-Microsystems.com Deadline: 1/7/03 www: http://www.eipbn.org

May 28 - 30, 2003, @ **IEEE International Vacuum Electronics Conference** Location: Hotel Lotte, Seoul, Korea Contact: Gun Sik Park, Seoul National University, Shinlim-dong, Kwana-ku, Seoul, Korea 151-742 Tel: +82 2 880 7749 Fax: +82 2 882 9374 E-Mail: gunsik@plaza.snu.ac.kr Deadline: 2/8/03 www: http://ivec2003.snu.ac.kr

June 2 - 4, 2003, * **IEEE International Interconnect Technology Conference** Location: Hyatt Regency at the San Francisco Airport, Burlingame, CA, USA Contact: Wendy Walker, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 104 Fax: +1 301 527 0994 E-Mail: wendyw@widerkehr.com Deadline: 1/17/03 www: http://www.ieee.org/conference/iitc

June 8 - 12, 2003, @ **IEEE TRANSDUCERS - International Conference on Solid-State Sensors, Actuators and Microsystems** Location: Marriott Copley Place, Boston, MA, USA Contact: G. Benjamin Hocker, Honeywell Technology Center, 12001 State Highway 55, Plymouth, MN, USA 55441-4799 Tel: +1 763 954 2745 Fax: +1 763 954 2504 E-Mail: benjamin.hocker@honeywell.com Deadline: 2/28/03 www: http:www.transducers03.org

June 8 - 10, 2003, T **IEEE Radio Frequency Integrated Circuits Symposium** Location: Philadelphia Convention Center, Philadelphia, PA, USA Contact: Natalino Camilleri, RF & Wireless Design Services Inc., 10812 Wilkinson Ave, Cupertino, CA, USA 95014 Tel: +1 408 252 615 Fax: +1 408 252 6590 E-Mail: natalinoc@yahoo.com Deadline: 12/9/02 www: http://www.rfic2003.org/index.html

June 10 - 12, 2003, @ **Symposium on VLSI Technology** Location: Rihga Royal Hotel, Kyoto, Japan Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 1/7/03 www: http://www.vlsisymposium.org

June 12 - 15, 2003, # **Symposium on VLSI Circuits** Location: Rihga Royal Hotel, Kyoto, Japan Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 1/7/03 www: http://www.vlsisymposium.org

June 23 - 25, 2003, T **Device Research Conference** Location: University of Utah, Salt Lake City, Utah, USA Contact: Michael Packard, TMS Meeting Services, 184 Thorn Hill Road, Warrendale, PA, USA 15086 Tel: +1 724 776 9000 x225 Fax: +1 724 776 3770 E-Mail: packard@tms.org Deadline: 2/21/03 www: www.tms.org/Meetings/Specialty/DRC/2003/DRC-2003-Home.html

June 26 - 28, 2003, T **International Conference on Mixed Design of Integrated Circuits and Systems** Location: Hotel Grand, Lodz, Poland Contact: Andrzej Szajfler, Technical University of Lodz, Al Politechniki 11 93-590, Lodz, Poland Tel: +48 (42) 631 26 55 Fax: +48 (42)

* = Sponsorship or Co-Sponsorship Support
T = Technical Co-Sponsorship Support
@ = Alternates support between 'Sponsorship/Co-Sponsorship' and 'Technical Co-Sponsorship'
# = Cooperation Support

636 0327 E-Mail: jzajfler@dmcs.p.lodz.pl Deadline: Not Available www: http://www.mixdes.org

June 29 - July 2, 2003, * **IEEE University/Government/Industry Microelectronics Symposium** Location: Boise State University, Boise, ID, USA Contact: Stephen Parke, Boise State University, 1910 University Drive, Boise, ID, USA 83725 Tel: +1 208 426 3842 Fax: +1 208 426 4800 E-Mail: sparke@boisestate.edu Deadline: 2/21/03 www: http://coen.boisestate.edu/ugim03

July 1 - 4, 2003, T **Siberian Russian Workshop and Tutorial on Electron Devices and Materials** Location: NSB Convention Center, Novosibirsk, Russia Contact: Vladimir Kolchuzhin, Karl Marx prospect 20, Novosibirsk, Russia 630092 Tel: +7 3832 460877 Fax: +7 3832 460209 E-Mail: kolchuzhin@ref.nstu.ru Deadline: 3/15/03 www: http://ieee.nsk.su/edm

July 3 - 5, 2003, T **IEEE Conference on Electron Devices and Solid State Circuits** Location: New World Renaissance Hotel, Hong Kong, China Contact: Hei Wong, City University, 83 Tat Chee Avenue, Kowloon, Hong Kong Tel: +852 2788 7722 Fax: +852 2788 7791 E-Mail: eehwong@cityu.edu.hk Deadline: 2/28/03 www: http://www.ee.ust.hk/ieee_eds/edssc.htm

July 7 - 11, 2003, @ **International Vacuum Microelectronics Conference** Location: Senri Life Science Center, Toyonaka, Osaka, Japan Contact: Mikio Takai, Osaka University, Machikaneyama 1-3, Toyonaka, Osaka, Japan 506-8531 Tel: +81 6 6850 6693 Fax: +81 6 6850 6662 E-Mail: takai@rcem.osaka-u.ac.jp Deadline: 3/15/03 www: http://ivmc2003.rcem.osaka-u.ac.jp

July 7 - 11, 2003, T **IEEE International Symposium on the Physical and Failure Analysis of Integrated Circuits** Location: Shangri-la Hotel, Singapore, Singapore Contact: Jasmine Leong, Kent Ridge Post Office, PO Box 1129,Singapore 911105 Tel: +65 743 2523 Fax: +65 746 1095 E-Mail: ipfa@pacific.net.sg Deadline: 1/15/03 www: http://www.ieee.org/ipfa

July 16 - 18, 2003, T **IEEE International Meeting for Future of Electron Devices, Kansai** Location: Convention Center, Osaka University, Suita Campus, Osaka, Japan Contact: Hiroshi Nozawa, Kyoto University, Graduate School of Energy Science, 208, # 2 Building, Kyoto, Japan 606-8501 Tel: +81 75 753 4725 Fax: +81 75 753 4725 E-Mail: nozawa@vega.energy.kyoto-u.ac.jp Deadline: Not Available www: Not Available

August 12 - 14, 2003, T **IEEE Conference on Nanotechnology** Location: Moscone Convention Center, San Francisco, CA, USA Contact: Chennupati Jagadish, Australian National University, Department of Electronic Materials Engineering, Canberra, ACT 0200, Australia Tel: +61 2 6125 0363 Fax: +61 2 6125 0511 E-Mail: c.jagadish@ieee.org Deadline: 3/28/03 www: http://ieeenano2003.arc.nasa.gov

August 18 - 22, 2003, T **International Conference on Noise in Physical Systems and 1/F Fluctuations** Location: Czech Noise Research Laboratory, Prague, Czech Republic Contact: Josef Sikula, Czech Noise Research Lab, Brno University of Technology, Technicka 8, Czech Republic 616 00 BRNO Tel: +420 5 4114 3328 Fax: +420 5 4114 3398 E-Mail: sikula@feec.vutbr.cz Deadline: Not Available www: http://www.cnrl.cz/ICNF

August 25 - 27, 2003, * **IEEE International Symposium on Compound Semiconductors** Location: University of California San Diego, La Jolla, CA, USA Contact: Conf Mgt Group LEOS, IEEE, 445 Hoes Lane, Piscataway, NJ, USA 08854 Tel: +1 732 562 3899 Fax: +1 732 562 8434 E-Mail: leosconferences@ieee.org Deadline: Not Available www: http://www.i-leos.org

August 25 - 27, 2003, T **International Symposium on Low-Power Electronics and Design** Location: JW Marriott Hotel, Soeul, Korea Contact: Rajiv Joshi, IBM Research Division, Yorktown Heights,, NY, USA 10598 Tel: Not Available Fax: Not Available E-Mail: rvjoshi@us.ibm.com Deadline: 2/2/03 www: http://poppy.snu.ac.kr/~islped/

September 3 - 5, 2003, @ **IEEE International Conference on Simulation of Semiconductor Processes and Devices** Location: Boston Marriott Cambridge, Cambridge, MA, USA Contact: Fely Barrera, Stanford University, CISX 332, Stanford, CA, USA 94305-4075 Tel: +1 650 723 1349 Fax: +1 650 725 7731 E-Mail: sispad03@gloworm.stanford.edu Deadline: 2/28/03 www: http://www-tcad.stanford.edu/sispad03/cfp.html

September 6 - 7, 2003, T **European Gallium Arsenide and Other Semiconductor Applications Symposium** Location: ICM Convention Centre, Munich, Germany Contact: Ing. Schiechtweg, Fraunhofer-Institute IAF, Tullaster 72 79108, Freiburg, Germany Tel: +49 761 5159 534 Fax: +49 761 5759 565 E-Mail: michael.schiechtweg@iaf.fraunhofer.de Deadline: 7/12/03 www: http://www.eumw2003.com

September 8 - 13, 2003, T **Symposium on Microelectronics Technology & Devices** Location: TBD, Sao Paulo City, Brazil Contact: Jacobus Swart, State University of Campinas, PO Box 6061, R.Pandia Calogeras, 90 13 083-970 Campinas-SP, Brazil Tel: +55 19 3788 7282 Fax: +55 19 3788 4873 E-Mail: jacobus@led.unicamp.br Deadline: Not Available www: Not Available

September 8 - 12, 2003, T **International Crimean Microwave Conference "Microwave & Telecommunication Technology"** Location: Sevastopol State Technical University, Sevastopol, Ukraine Contact: Pavel Yermolov, P.O. Box 240, Sevastopol, Crimea, Ukraine 99057 Tel: +380 692 424 287 Fax: +38 0692 555768 E-Mail: weber@execs.com Deadline: 5/11/03 www: http://ieee.orbita.ru/aps/crim03e.htm

September 14 - 16, 2003, @ **Bipolar/BiCMOS Circuits and Technology Meeting** Location: Centre De Congres Pierre Baudis, Toulouse, France Contact: Janice Jopke, CCS Associates, 6611 Countryside Drive, Eden Prairie, MN, USA 55346 Tel: +1 952 934 5082 Fax: +1 952 934 6741 E-Mail: ccs@mn.rr.com Deadline: 3/7/03 www: http://www.ieee-bctm.org

September 16 - 19, 2003, T **International Conference on Solid-State Devices and Materials** Location: The Keio Plaza Inter-Continental-Keio Plaza Hotel, Tokyo, Japan Contact: Noriko Sugimoto, Japan Tel: Not Available Fax: Not Available E-Mail: ssdm@intergroup.co.jp Deadline: 5/8/03 www: http://www.intergroup.co.jp/ssdm/

September 16 - 18, 2003, T **European Solid-State Device Research Conference** Location: Estoril Congress Centre, Estoril, Portugal Contact: Ana Marcelino, Chipidea Microelectronics, Taguspark, Edificio Inovacao IV, sala 733, Porto Salvo, Portugal 2780-920 Tel: +351 21 033 63 00 Fax: +351 21 033 63 96 E-Mail: ana.marcelino@chipidea.com Deadline: 4/5/03 www: http://www.chipidea.com/essderc2003

September 21 - 25, 2003, T **Electrical Overstress/Electrostatic Discharge Symposium** Location: The Riviera Hotel, Las Vegas, NV, USA Contact: Lisa Pimpinella, ESD Association, 7900 Turin Road Building 3, Suite 2, Rome, NY, USA 03440-2069 Tel: +1 315 339 6937 Fax: +1 315 339 6793 E-Mail: eosesd@aol.com Deadline: 1/13/03 www: http://www.esda.org

September 21 - 24, 2003, T **IEEE Custom Integrated Circuits Conference** Location: Double-

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tree Hotel, San Jose, CA, USA Contact: Melissa Widerkehr, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 101 Fax: +1 301 527 0994 E-Mail: melissaw@widerkehr.com Deadline: 4/2/03 www: http://www.his.com/~cicc

September 23 - 25, 2003, T **International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory** Location: Institute of Applied Problems of Mechanics & Math, Lviv, Ukraine Contact: Nikolai Voitovich, Institute of Applied Problems of Mech & Math of NASU, Naukova St. 3"B", Lviv, Ukraine 79601 Tel: +380 322 651944 Fax: +380 322 637088 E-Mail: voi@aipmm.lviv.ua Deadline: 7/1/03 www:

September 24 - 26, 2003, T **International Conference on Advanced Thermal Processing of Semiconductors** Location: The Westin Francis Marion Hotel, Charleston, NC, USA Contact: Conference RTP, 4830 Langdale Way, Colorado Springs, CO, USA 80906 Tel: +1 719 579 8050 Fax: +1 719 579 8082 E-Mail: silicon@webrooter.net Deadline: 5/31/03 www: http://www.rtp-conference.org

September 28 - October 2, 2003, * **International Semiconductor Conference** Location: Sinaia Hotel, Sinaia, Prahova, Romania Contact: Dan Dascalu, IMT-Bucharest, PO Box 38-160, Bucharest, Romania 72225 Tel: +40 1 490 85 83 Fax: +40 1 490 82 38 E-Mail: dascalu@imt.ro Deadline: 4/16/03 www: http://www.imt.ro/CAS/

September 29 - October 2, 2003, * **IEEE International SOI Conference** Location: Newport Beach Marriott Hotel & Tennis Club, Newport Beach, CA, 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@attbi.com Deadline: 5/2/03 www: http://www.soiconference.org

October 1, 2003, T **Workshop on Compact Modeling for RF/Microwave Applications** Location: Centre de Congres Pierre Baudis, Toulouse, France Contact: Slobodan Mijalkovic, Delft University of Technology, DIMES, Delft, The Netherlands Tel: Not Available Fax: Not Available E-Mail: s.mijalkovic@its.tudelft.nl Deadline: Not Available www: http://ectm.et.tudelft.nl/cmrf03

October 6 - 10, 2003, T **European Symposium on Reliability of Electron Devices, Failure Physics and Analysis** Location: Palatium-Arcachon, Arcachon, France Contact: Nathalie Labat, Universite Bordeaux 1 - Laboratoire IXL, 351, cours de la Liberation, Talence, France 33405 Tel: +33 556 84 6551 Fax: +33 556 37 1545 E-Mail: labat@ixl.u-bordeaux.fr Deadline: 3/31/03 www: http://www.esref.org

October 12 - 15, 2003, T **IEEE Conference on Intelligent Transportation Systems** Location: Regal International East Asia Hotel, Shanghai, China Contact: Fei Wang, University of Arizona, PO Box 210020, Tucson, AZ, USA 85721 Tel: +1 520 621 6558 Fax: +1 520 621 6555 E-Mail: feiyue@sie.arizona.edu Deadline: 3/1/03 www: http://www.ewh.ieee.org/tc/its/conf.html

October 2003, @ **International Symposium on Semiconductor Manufacturing** Location: USA Contact: Audrey Osborn, Martiz, 1777 Botelho Drive, Walnut Creek, CA, USA 94596 Tel: +1 925 2875388 Fax: +1 925 287 5398 E-Mail: audrey.osborn@maritz.com Deadline: Not Available www: Not Available

October 20 - 23, 2003, * **IEEE International Integrated Reliability Workshop** Location: Stanford Sierra Camp, Lake Tahoe, CA, USA Contact: Mike Dion, Tel: Not Available Fax: Not Available E-Mail: mdion@intersil.com Deadline: Not Available www: Not Available

October 21 - 24, 2003, T **IEEE International Conference on Sensors** Location: Canada Sheraton Centre Hotel, Toronto, Canada Contact: Mark Goldfarb, Palisades CMS, 411 Lafayette Street, Suite 201, New York, NY, USA 10003 Tel: +1 212 460 8090 Fax: +1 212 460 5460 E-Mail: mgoldfarb@pcm411.com Deadline: 4/14/03 www: http://www.ewh.ieee.org/tc/sensors

November 9 - 12, 2003, * **IEEE Gallium Arsenide Integrated Circuits Symposium** Location: U.S. Grant Hotel, San Diego, CA, USA Contact: William Peatman, 141 Mt. Bethel Road, Warren, NJ, USA 07059 Tel: +1 908 668 5842 Fax: +1 908 412 5989 E-Mail: wpeatman@anadigics.com Deadline: 5/5/03 www: http://www.gaasic.org

November 9 - 13, 2003, # **IEEE International Conference on Computer Aided Design** Location: San Jose 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 5304-4334 E-Mail: kathy@mpassociates.com Deadline: 4/16/03 www: http://www.iccad.com

November 9, 2003, T **Gallium Arsenide Reliability Workshop** Location: US Grant Hotel, San Diego, CA, USA Contact: Anthony Immorlica, BAE Systems, 65 Spit Brook Road, Nashua, NH, USA 03061-0868 Tel: +1 603 885 1100 Fax: +1 603 885 6061 E-Mail: anthony.a.immorlica@baesystems.com Deadline: Not Available www: Not Available

November 17 - 18, 2003, T **International Symposium on Electron Devices for Microwave and Optoelectronic Applications** Location: University of Central Florida, Orlando, FL, USA Contact: Juin Liou, ECE Department, University of Central Florida, Orlando, Florida, USA 32816-2450 Tel: +1 407 823 5339 Fax: +1 407 407 823 5835 E-Mail: liou@pegasus.cc.ucf.edu Deadline: 9/8/03 www: http://www.edmo-symposium.org

December 3 - 6, 2003, * **IEEE Semiconductor Interface Specialists Conference** Location: Marriott Key Bridge, Arlington, VA, USA Contact: Bob Wallace, University of North Texas, Materials Science Department, P.O. Box 305310, Denton, TX, USA 76203-5310 Tel: +1 940 369 7834 Fax: +1 940 565 4824 E-Mail: rwallace@unt.edu Deadline: Not Available www: Not Available

December 7 - 10, 2003, * **IEEE International Electron Devices Meeting** Location: Washington Hilton & Towers Hotel, Washington, DC, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: Not Available www: http://www.ieee.org/conference/iedm

December 15 - 20, 2003, **T International Workshop on the Physics of Semiconductor Devices** Location: Indian Institute of Technology Madras, Chennai, India Contact: S. Agarwai, IWPSD Secretary, Dept of Electrical Engineering, IIT Madras, Chennai, India 600 036 Tel: +91 44 2578383/2578362 Fax: +91 44 2570545/2578383 E-Mail: iwpsd@ee.iitm.ernet.in Deadline: Not Available www: http://www.iwpsd.net

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NEWSLETTER EDITORIAL STAFF

EDITOR-IN-CHIEF

Ninoslav D. Stojadinovic
Faculty of Electronic Engineering
University of Nis
Beogradska 14, 18000 Nis
Yugoslavia
Tel: +381 18 529 326
Fax: +381 18 46 180
E-Mail: nstojadinovic@elfak.ni.ac.yu

EDITORS

REGIONS 1-6, 7 & 9
Eastern, Northeastern & Southeastern USA (Regions 1, 2 & 3)
Murty S. Polavarapu
Micron Technology
Mail Stop 314
9600 Godwin Drive
Manassas, VA 20110, USA
Tel: +1 703 396 2046
Fax: +1 703 396 1700
E-Mail: murtyp@ieee.org

Central USA & Canada (Regions 4 & 7)
Arokia Nathan
DALSA/NSERC Industrial Research Chair
Electrical & Computer Engineering
University of Waterloo
Waterloo, Ontario N2L 3GI
Canada
Tel: +1 519 888 4803
Fax: +1 519 746 6321
E-Mail: a.nathan@ieee.org

Southwestern & Western USA (Regions 5 & 6)
Sunit Tyagi
Intel
M/S RA1 - 204
5200 NE Elam Young Parkway
Hillsboro, OR 97124-6497, USA
Tel: +1 503 613 6052
Fax: +1 503 613 6052
E-Mail: sunit.tyagi@intel.com

Latin America (Region 9)
Adelmo Ortiz-Conde
Universidad Simon Bolivar
Apdo. 89000
Caracas 1080-A
Venezuela
Tel: +58 212 906 4025
Fax: +58 212 906 4010
E-Mail: ortizc@ieee.org

REGION 8
Eastern Europe & The Former Soviet Union
Alexander V. Gridchin
Novosibirsk State Technical University
20 Karl Marx Prospect
Novosibirsk, 6300092
Russia
Tel: +7 383 246 0877
Fax: +7 383 246 0209
E-mail: ieee@ref.nstu.ru

Scandinavia & Central Europe
Andrzej Napieralski
Dept. of Microelectronics & Computer Science
Technical University of Lodz
Al. Politechniki 11, 93-590 Lodz
Poland
Tel: +48 (42) 631 26 45
Fax: +48 (42) 636 03 27
E-Mail: napier@dmcs.p.lodz.pl

UK, Middle East & Africa
Gady Golan
Center for Technical Education and
The Open University
PO Box 39328
16 Klauzner St.
Aviv 61392, Israel
Tel: +972 54 526 122
Fax: +972 3 646 5465
E-Mail: gady@atct.co.il

Western Europe
Christian Zardini
Laboratoire IXL
Universite Bordeaux I
351 Cours de la Liberation
33405 Talence
France
Tel: +33 5 56 84 65 46
Fax: +33 5 56 37 15 45
E-Mail: zardini@ixl.u-bordeaux.fr

REGION 10
Australia, New Zealand & South Asia
Wee Kiong Choi
Dept. of Electrical Engineering
National University of Singapore
10 Kent Ridge Crescent
Singapore 119260
Tel: +65 874 6473
Fax: +65 779 1103
E-Mail: elechoi@nus.edu.sg

Northeast Asia
Hisayo Sasaki Momose
Microelectronics Engineering Laboratory
Toshiba Corporation
8, Shin-Sugita-cho, Isogo-ku
Yokohama, 235-8522 Japan
Tel: +81 45 770 3628
Fax: +81 45 770 3575
E-Mail: hisayo.momose@toshiba.co.jp

East Asia
Hei Wong
City University of Hong Kong
Dept. of Electronic Engineering
83 Tat Chee Avenue
Kowloon, Hong Kong
Tel: +852 2788 7722
Fax: +852 2788 7791
E-Mail: eehwong@cityu.edu.hk