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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

<u>Issue</u>	<u>Due Date</u>
January	October 1st
April	January 1st
July	April 1st
October	July 1st

# IEEE Electron Devices Society Newsletter

## 1998 Symposia on VLSI Technology and Circuits



### 1.0 ABOUT THE SYMPOSIA

The VLSI Symposia began in 1981 as the Symposium on VLSI Technology, an international conference on current semiconductor research and developments. Sponsors continue to be the IEEE Electron Devices Society and Solid-State Circuits Council (status changed to a 'Society' 1/1/97) and the Japan Society of Applied Physics in cooperation with the Institute of Electronics, Information and Communication Engineers. The intent is to provide an intense but limited size meeting for US & Japanese engineers to more openly discuss new ideas and directions. The Symposia alternate each year between sites in the U.S. and Japan.

In 1987, the Symposium on VLSI Circuits was added to the Technology Symposium in recognition of the growing interest to provide the same small but intense forum to discuss circuit and system implementations. The meetings are linked to provide opportunities for technology and circuit people to interact via workshops, invited speakers and several evening rump sessions. This year the Symposia will be held 8-13 June 1998 at the Hilton Hawaiian Vil-

(continued on page 3)

### 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.

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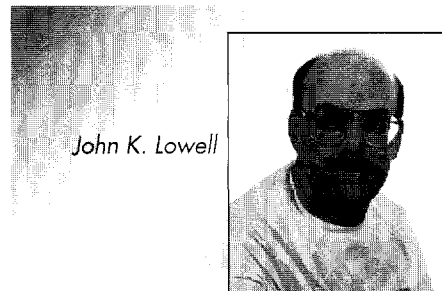
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## December 1997 AdCom Meeting Summary



John K. Lowell

### Continued Globalization, New Technical Committees and Continued Innovation of EDS

The Administrative Committee (AdCom) of the Electron Devices Society met on Sunday, December 7, 1997 at the Washington Hilton and Towers Hotel, preceding the 1997 International Electron Devices Meeting (IEDM).

Lou Parrillo, the outgoing EDS President, opened the meeting, and was recognized for his exceptional efforts while President over the last two years. Lou has made continued worldwide expansion of EDS (particularly in Regions 8 & 10, and most recently in Region 9) a theme of his tenure. Lou praised the contributions of AdCom committee members who had completed their terms in 1997: Jim Clemens, Jim Merz (past EDS Secretary), Sophie Verdonckt-Vandebroek and Richard Temkin. In his review of EDS activity, he mentioned that in addition to many of the tasks before us which are ongoing, there have been many tasks which have been successfully completed. Among these has been the organization of new technical committees. These are: Compound Semiconductor IC (chaired by Herb Bennett), Device Reliability Physics (chaired by Lu Kasprzak), Displays (chair to be named), Electronic Materials (chaired by Jerry Woodall), Microelectromechanical Systems (chaired by Roger Howe), Optoelectronic Devices (chaired by Chennupati Jagadish), Photovoltaic Devices (chaired by John Meakin), Power Devices (chaired by Ayman Shibib), Semiconductor Manufacturing (chaired by Arlene Santos), Vacuum Devices (chaired by James Dayton), and VLSI Technology and Circuits (chaired by Charles Sodini). Also, eight student/young engineer members have been added to four of the EDS standing committees (Education, Meetings, Membership and Publications) to provide a link between our Society's present and future activities.

The EDS Past President, Dexter Johnston, presented a proposal to AdCom to have EDS membership include free on-line access to *Electron Device Letters* (EDL) and *Transactions on Electron Devices* (T-ED) via the World-Wide Web. Dexter advised that due to the Society's attempt to keep its publications prices as low as possible, EDS is actually losing money on every subscription of EDL and T-ED sold to an EDS member. EDS may find it wiser and more economical to provide these publications electronically. However, the printed versions and/or a summarized yearly collection on a CD-ROM of

(continued on page 6)

### EDS ADCOM ELECTED MEMBERS-AT-LARGE

Term Expires:

#### 1998

S. Asai (2)  
A.S. Brown (1)  
T.P. Chow (1)  
M.A. Shibib (1)  
R.D. Sivan (1)  
J.M. Woodall (2)  
C.Y. Yang (2)

#### 1999

R.G. Adde (1)  
J.J. Brown (1)  
B.F. Griffing (2)  
R.P. Jindal (2)  
J.B. Kuo (2)  
J.K. Lowell (2)  
I. Mojzes (2)  
K. Shenai (1)

#### \*2000

I. Adesida (1)  
H. S. Bennett (2)  
H. Iwai (2)  
A. A. Santos (1)  
S. C. Sun (1)  
K. Tada (2)  
P. K. L. Yu (1)

Number in parenthesis represents term.

\* Members elected 12/97

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# Upcoming Technical Meetings

## VLSI (continued from page 1)

lage, a lush 22-acre resort on Waikiki Beach, conveniently located near Iolani Palace, Pearl Harbor, and Bishop Museum. Amenities include restaurants and lounges, plus a business center.

### 2.0 ABOUT THE PROGRAM

#### 2.1 CIRCUITS PROGRAM

The 1998 Symposium on VLSI Circuits encompasses approximately 60 papers emphasizing circuit design relating to all aspects of VLSI circuits, such as: circuits for digital, analog, memory, communications and signal processing applications, including A/D and D/A converters, mixed analog/digital functions and interface circuits systems and architectures related to VLSI circuits fundamentals related to the above subjects, including innovative circuits and device structures. There will be several invited papers on emerging VLSI circuit technologies.

#### 2.2 TECHNOLOGY PROGRAM

The 1998 Symposium on VLSI Technology, with approximately 75 papers describing original work with specific results from experiments or simulations, covers all aspects of VLSI Technology. These include: new concepts and breakthroughs in VLSI devices and processes, new devices including quantum effect devices with possible VLSI implications, new materials, patterning and fabrication technology for VLSI devices simulation, modeling, design, metrology and testing of devices and processes packaging and reliability of VLSI devices monitoring, modeling control and automation of VLSI manufacturing theories and fundamentals related to the above subjects.

The 1998 VLSI Technology Symposium will have a special session on state-of-the-art 0.25 $\mu$ m technologies in manufacturing. The Program Committee has provided special encouragement for authors to submit papers on this subject.

#### 3.0 ABOUT THE RUMPS

In addition to the formal paper presentations during the day, these Symposia also feature informal evening Rump Sessions. Each of these sessions is organized around a controversial topic selected by the Program Committee. The Rump organizers select and recruit experts to pre-

sent divergent views and spirited discussion exploring all aspects of the issue. The Rump organizers also actively encourage audience participation, so come prepared!

#### 3.1 CIRCUITS RUMPS

This year the Rump Session topics for the Circuits Symposium are:

3.1.1 *Future of Scaling: Is Moore's Law all there is?* Points of Controversy: Voltage, Performance, Power, Implementation Methods, Analog Issues, System Partition and Algorithms, Power Delivery and Supply Noise, Leakage, Vt, Boltzmann.

3.1.2 *Has SOI Finally arrived?* Points of Controversy: Performance advantage over bulk, for logic, memory or analog. Fully vs partially depleted. Self heating. Thermal conductivity Simox? Design and Circuit Modeling issues.

3.1.3 *Visions of Computers in the year 2005* Points of Controversy: Can we replace the key board, DSP vs general purposes. What are the applications? How much memory and what form does it take? How is the system partitioned? What is the network interface and infrastructure? What chips will be in this computer? How will these computers be built? What are issues of IP Integration for System-on-Chip?

#### 3.2 TECHNOLOGY RUMPS

This year the Rump Session topics for the Technology Symposium are:

3.2.1 *Lithography Technology beyond ArF (sub 0.1 $\mu$ m)* Four or More Contenders: X-ray; Scapel; Which will win?

3.2.2 *MOSFET Technology beyond 0.1 $\mu$ m*. What are the limits to MOSFET scaling and what will be the most economical implementation?

3.2.3 *Copper Interconnect Technology*. Major announcements of practical copper interconnect implementations have been made. What are the barriers to volume production? Are there any secrets?

#### 3.3 JOINT RUMP

A special feature of these Symposia is the one day overlap in the schedules for the Technology and Circuits meetings. This is an excellent opportunity to meet with members of the opposite discipline to share experiences, frustrations and ideas for future improvements. In addition to these chance meetings, there is also a Joint Rump Session which is organized by mem-

bers from both the Circuits and Technology committees. This year the topic of the Joint Rump is: "High Performance Technology for 1GHz Operation and Beyond: Architecture, Design and Device Solutions"

#### 4.0 ABOUT THE SHORT COURSES AND WORKSHOPS

In addition to the Symposia, several Short Courses and Workshops are held at the same location in the days before the meetings.

#### 4.1 THE WORKSHOPS ARE:

- 7 June 1998 Third International Workshop on Statistical Metrology
- 7-8 June 1998 Silicon Nanoelectronics Workshop
- 8 June 1998 Memory Design and Evolution

#### 4.2 VLSI TECHNOLOGY SHORT COURSE

A one day short course will be held on Sunday, 8 June 1998. The topic of this short course is "Advanced Technology for 0.13 $\mu$  and beyond". A detailed agenda for this short course will be given in the VLSI Technology Symposium Advance Program which will be issued toward the end of March, 1998.

#### 4.3 VLSI CIRCUITS SHORT COURSE

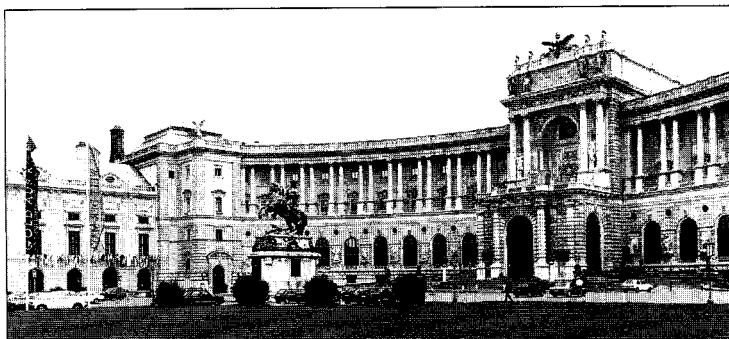
A one day short course will be held on Wednesday, 10 June 1998. The agenda for this short course will be given in the VLSI Technology Symposium Advance Program which will be issued toward the end of March, 1998.

#### 5.0 FURTHER INFORMATION

For registration and other information, visit the VLSI SYMPOSIA home page at: [http://www.ece.neu.edu/eds/vlsi\\_sym/](http://www.ece.neu.edu/eds/vlsi_sym/). Or contact the Conference Managers at: Secretariat (USA), Widerkehr and Associates, 101 Lakeforest Boulevard, Suite 270, Gaithersburg, MD 20877, TEL: +1 301 527 0900; FAX: +1 301 527 0994; E-Mail: [vlsi98@aol.com](mailto:vlsi98@aol.com). Secretariat (Japan), c/o Business Center for Academic Societies Japan, Conference Dept. 5-16-9 Honkomagome, Bunkyo-ku, Tokyo 113, Japan, TEL: +81 3 5814 5800; FAX: +81 3 5814 5823; E-Mail: [vlsisym@bcasj.or.jp](mailto:vlsisym@bcasj.or.jp).

Larry DeVito  
Analog Devices  
Wilmington, MA

## 1998 World Conference and Exhibition on Photovoltaic Solar Energy Conversion (WCPEC)



The second World Conference and Exhibition on Photovoltaic Solar Energy Conversion will take place July 6-10, 1998 at the Hofburg Congress Center in Vienna, Austria. It is supported by the European Commission, the Austrian Federal Chancellery, the Austrian Federal Ministry of Science and Transport, the Austrian Federal Ministry of the Environment, Youth and Family Affairs the City of Vienna, the IEEE Electron Devices Society, and the PVSEC Advisory Committee, Japan. This conference is unique in that it will incorporate the three major world-wide conferences in the photovoltaic community: the 15th European PVSEC, the 27th US IEEE-PVSC, and the 10th Asia-Pacific PVSEC. More than 1100 abstracts were received by the December 1st deadline on 8 topics: Fundamentals, Novel Devices and New Materials, Crystalline Silicon Solar Cells and Technologies, Thin Film Cells and Technologies, PV Modules and Components of PV Systems, Grid-connected Systems with Emphasis on Building Integration and their Applications, Stand-alone Systems and their Applications, Implementation and Financing Schemes, and Space Cells and Systems.

The conference represents true world wide participation from many countries, combining technical reviewers and organizers from each of the three photovoltaic communities and encompassing more than 30 countries. The General Chair from Europe is Jurgen Schmid, the General Vice-Chair from the U.S. is Sheila Bailey, and the General Vice-Chair from Japan is Kosuke Kurokawa. The Technical Chair from Europe is Heinz Ossenbrink, the Technical Vice-Chair from the U.S. is John Benner, and the Technical Vice-Chair from Japan is Masafumi Yamaguchi.

The conference will be organized to permit dialogue between researchers, developers, users and providers, financing

and political institutions. The program will include plenary lectures focusing on the state-of-the-art in PV, oral and poster presentations of specific research, development and demonstration projects, PV applications and market aspects, an exhibition of PV products and services from more than 70 vendors, scientific tours and a social program.

The conference site, the Hofburg Congress Center, has an unusual provenance – it was built as the winter residence for the Habsburgs. Except for state-of-the-art facilities, the grand halls and chambers have remained unchanged – opulent and ornate. The center holds a total of 3500 people with smaller rooms available for groups from 50 to 200. The exhibition will be held on the ground floor of the Congress Center supported by a pavilion.

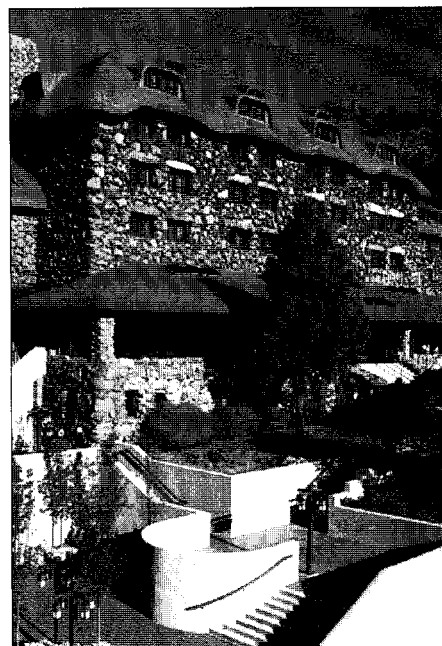
Vienna is one of the world's five most popular cities for international meetings. The large number of hotels, the magnificent boulevards and places, the historic old quarter with tiny cafes and classic pastry shops all contribute to the allure of Vienna. The world capital of music, Vienna is known for its composers and splendid concert halls. Conference attendees may explore the Spanish Riding School's Lipizzaners, the Schonbrunn castle, the Palm House and the Butterfly House and, of course, the marvelous cuisine in an astounding array of excellent restaurants.

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NASA Lewis Research Center  
Cleveland, OH*

*Prof. Kosuke Kurokawa  
Tokyo Univ. of Agriculture & Technology  
Tokyo, Japan*

*Prof. Jurgen Schmid  
ISET  
Kassel, Germany*

## 1998 International Vacuum Microelectronics Conference (IVMC)



The 11th Annual International Vacuum Microelectronics (IVMC) conference will be held near Asheville, North Carolina, at the Grove Park Inn, a four-star, award-winning hotel and resort, located in the Blue Ridge Mountains of western North Carolina July 19-24, 1998. Asheville is easily accessible, approximately two hours from Charlotte and three hours from Atlanta by car. Jet service and commuter flights are available from six major hubs: Atlanta, Charlotte, Cincinnati, Nashville, Raleigh-Durham, and Washington-Dulles. Primary hotel accommodations will be available at the Grove Park Inn. There are also numerous hotels located in downtown Asheville, a 10-minute drive from the conference location, and student accommodations will be available at nearby UNC-Asheville with a regular shuttle service.

IVMC '98 will provide a forum for presentation, discussion and exchange on recent developments in the field of vacuum microelectronics. The program will include both invited and contributed papers, as well as a panel discussion on the status of commercial development. Submissions for contributed papers (including posters) are solicited in all areas including:

- Theory, simulation and modeling of vacuum microelectronic devices, and field emission electron sources.

- Technologies for vacuum microelectronics: including the design, fabrication, performance, and characterization of field emitter arrays.
- New materials, coatings, and surface modifications.
- The design, fabrication, and characterization of field emission flat panel displays.
- Field emission electron sources for microwave amplifiers, plasma devices, analytical instrumentation, and sensors.
- Novel applications of vacuum micro-electronic devices.
- Reliability and lifetime, noise, interactions with residual gasses, ion bombardment, current density limitations, and electron beam optics.
- A panel discussion on recent developments in field emission flat panel displays and the remaining challenges to commercialization.
- An exhibition of products, prototypes, and simulation software.

Extended abstracts will be available at the conference, where full manuscripts can be submitted for review and later collective publication in the March/April 1999 issue of the *Journal of Vacuum Science and Technology B*.

In addition, there will be an international summer school following the IVMC on "Electron Emission from Diamond." It will be held July 23-25, 1998, at the nearby facilities of UNC-Asheville. If there is a special interest in this event, it should be indicated separately, since attendance will be limited. Publication will be limited to notes and handouts for participants.

### Key Dates

Short Abstract Submission: March 3, 1998

Extended Abstract Submission: May 1, 1998

Early Registration Deadline: June 15, 1998

Full Paper Submission: July 19, 1998

If there are any questions regarding the conference venue, accommodations, or travel, or if any other information is needed, contact: Alice S. Warren, Box 7401, McKimmon Center, North Carolina State University, Raleigh NC 27695-7401; TEL: (919) 515-4195; FAX: (919) 515-7614; E-MAIL: [alice\\_warren@ncsu.edu](mailto:alice_warren@ncsu.edu), or contact the web site at: <http://www.mse.ncsu.edu/ivmc>.

John J. Hren  
North Carolina State University  
Raleigh, NC

## 1998 Non-Volatile Semiconductor Memory Workshop (NVSMW)



The 1998 IEEE Non-Volatile Semiconductor Memory Workshop (NVSMW) will be held August 2 - 6, 1998 in Monterey, California. The workshop is sponsored by the IEEE Electron Devices Society. NVSMW is a unique forum for both specialists in all aspects of nonvolatile memory microelectronics and novices wanting to gain a broader understanding of the field. Attendees represent professional and academic researchers involved with semiconductor non-volatile memory development and production along with end users of memory products. Principal topics for discussion at NVSMW are: device physics; silicon processing; product testing; new technologies, including multi-level-cell approaches; programmable logic; memory cell design; integrated circuits; solid state disks and memory cards; memory reliability; and new applications.

An important goal of NVSMW is to provide an informal environment to encourage discussions among participants and lively interactions. There will be morning and afternoon technical sessions, along with a lively evening panel discussion on a hot topic in the nonvolatile memory field. Technical interaction among presenters and attendees is encouraged through question and answer sessions and allotting ample time after the formal paper presentations for further in-

depth discussions. Organized breaks, including snacks and the workshop dinner and lunch are provided as opportunities to meet and exchange ideas with colleagues. Breakfasts are also provided. The morning and afternoon technical sessions are organized in a manner to provide ample time for the informal exchange and to enjoy the beauty of the Monterey peninsula region of California.

This year will be the 16<sup>th</sup> meeting of NVSMW. The workshop is held every 18 months, alternating between February and August. The February meeting is usually held the week after ISSCC and the August meeting in the early weeks of the month. For many years, the attendance for the workshop was around 100. Early workshops alternated between Monterey, California for the February meeting and Vail, Colorado for the August meeting. The Vail venue was dropped a number of years ago, to facilitate attendance and travel from the nearby Silicon Valley. In recent years, the attendance has grown considerably, reflecting the large growth in the memory market, particularly flash memory and embedded memory on logic cores, with the last workshop attendance being in excess of 250. In order to maintain the workshop atmosphere of the forum, the maximum

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## NVSMW

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attendance is limited to 300. Therefore, advance registration is highly recommended. NVSMW is attended by a wide international community from North America, Europe, Japan and other Asian countries.

The past several workshops have had featured sessions to address the growth of segments of the memory market. In 1995, a full day tutorial on flash memories was given. The tutorial covered flash memory background and applications, cell design alternatives and their advantages and disadvantages, testing of flash memories and scaling implications for the future. Speakers in the tutorial included Greg Atwood, Intel Fellow, Dr. Boaz Eitan, Managing Director of Wafer Scale Integration, and well respected industry consultant, Dr. John Caywood. The last workshop, in 1997, featured an invited paper on NAND flash memory, presented by Dr. Koji Sakui of Toshiba Corporation, reviewing the NAND cell operation, reliability, processing and design considerations. The evening panel discussion focused on embedded memory and provided different perspectives from several researchers and was moderated by John Caywood.

For this year's workshop, the deadline for submitting abstracts to the Technical Chairman is April 15, 1998. A proceedings consisting of bound copies of all abstracts will be handed out to attendees at the conference, along with a list of atten-

dees and their phone numbers and e-mail addresses to allow future contact of workshop colleagues. It is anticipated that the format of the 1998 workshop will closely mimic that of this past year's, with an expected 30 technical paper presentations. The last workshop consisted of six technical sessions over a three day period. The workshop opened with a Sunday evening registration reception, consisting of drinks and hors d'oeuvres. The technical sessions consisted of an invited paper, two sessions on memory cell characterization techniques and new cell architectures, a session on silicon processing aspects unique to memory devices, a session on embedded memory and a session focused on the emerging field of multi-level-cell memories. Breakfast opened each day, while a workshop reception dinner and evening panel discussion closed out Tuesday evening. The workshop formally closed on Wednesday afternoon. Breakfast was also provided on Thursday morning, for those remaining in the Monterey area.

The technical sessions are chaired by experts in the field to help facilitate questions and discussions. Last year's session chairmen included: Al Fazio, of Intel; Sameer Haddad, of AMD; Giuseppe Crisenza, of SGS-Thomson; Kuniyoshi Yoshikawa, of Toshiba; Adrei Mihnea, of Catalyst Semiconductor; and George Samachisa of SanDisk. A wide group of technical experts also comprise the technical committee to ensure the originality, quality, technical merit and relevance of

papers presented to the workshop.

The 1998 NVSMW will be held at the Hyatt Regency in Monterey, California. The hotel is conveniently situated in the Monterey peninsula and allows fast access to many sights. Among favorite destinations are: the famous Fisherman's Wharf, Cannery Row, The Monterey Bay Aquarium, 17-Mile Drive, nearby Carmel and the many tranquil sights of natural beauty of the Monterey coastline and the fine dining experiences of the area. The Hyatt Regency is located at: One Old Golf Course Road, Monterey, California. The hotel can be reached by TEL: (408) 372-1234.

For registration information and general inquiries about NVSMW, please contact any of the workshop chairmen. General Chairman: Al Fazio, M/S RN3-01, Intel, 2200 Mission College Blvd., Santa Clara, CA 95054, USA, TEL: (408) 765-9610, FAX: (408) 765-9206, E-MAIL: [al\\_fazio@ccm.sc.intel.com](mailto:al_fazio@ccm.sc.intel.com); Technical Chairman: Mike Fliesler, M/S/ 177, AMD, P.O. Box 3453, Sunnyvale, CA 94088, USA, TEL: (408) 749-5561, FAX: (408) 749-3718, E-MAIL: [michael.fliesler@amd.com](mailto:michael.fliesler@amd.com); Finance Chairman: Arthur Wang, Hyundai Electronics America, 1330 Bordeaux Dr., Sunnyvale, CA 94089, USA, TEL: (408) 232-8801, FAX: (408) 232-8805, E-MAIL: [arthur.wang@hea.com](mailto:arthur.wang@hea.com); You can also visit the NVSMW web site at: <http://www.hea.com/heah2/flash/ailists1.htm>.

Al Fazio  
Intel Corporation  
Santa Clara, CA

## AdCom Meeting

(continued from page 2)

EDL and T-ED will still be available through the Society as optional items and at additional costs. It was decided to provide this option to members starting with the 1999 billing cycle (September 1998). EDS will extend an offer to other societies to reciprocate and provide on-line access to their journals in return for access to those of EDS.

### Treasurer's Report

EDS continues to be financially sound. Lu Kasprzak reported that EDS revenue is doing better than expected. This is due to a surplus from Transactions on Semiconductor Manufacturing (T-SM), modest returns from EDL and T-ED, and higher than expected returns from both our investment portfolio and conferences. EDS can expect a total surplus for 1997 of about \$600.6K. This will put our reserves at

approximately \$4.4M. There will be no increase in membership or journal fees for 1999. Over 1,800 EDS members have taken advantage of the permanent membership option of \$25 which has been offered the past two years.

### Executive Director's Report

EDS Executive Director, Bill Van Der Vort and his staff have made major strides this past year in increasing EDS stature and presence worldwide, particularly in Europe and the Far East. Bill has helped to organize major coordination meetings in these areas focusing on chapter organization, meeting "Best Practices", membership and technical symposiums. This past year his office succeeded in preparing the renewal of memberships and publications for eleven chapters in Eastern Europe and the coordination of the new EDS CD-ROM Package which will include all the 1997 EDL & T-ED issues as well as the 1997 IEDM Digest. In

addition, following the recent agreement between EDS and the Japan Society of Applied Physics, he reports that there is a new initiative for a joint letters journal between EDS and the Electrochemical Society. The first EDS Membership Directory, published last year, is also a major accomplishment. EDS continues to be a sought after affiliation for conferences, as fifteen new requests were received this past year for technical co-sponsorship.

### Membership Chair's Report

Chairman, Paul Chow, reported a 4.4% increase in EDS membership over 1996. As of November 1997, EDS membership stands at 11,331. Subsequent to the meeting, it was learned that the 1997 year-end membership figure for EDS was 11,471 which was a 5% increase over 1996. This percentage increase was the second highest

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## Society News

### 1997 EDS Meetings 'Best Practices' Workshop



Bruce F. Griffing

The year 1997 was very good for the Electron Devices Society. Membership has increased, we established new chapters, our publications flourished and our meetings were well attended. Furthermore, our performance as a professional society was very good. But we can't rest on our laurels – it is a constant struggle to maintain quality, let alone improve. To that end, each year we operate a Best Practices Workshop for people who are learning to run ED sponsored technical meetings. This is necessitated by a

turnover in people who organize ED meetings. We encourage turnover in order to give everyone a chance to be involved. But turnover creates a need for training new people. The other thing we do to maintain high quality is employ an Executive Director and staff. A great deal of the credit for our ongoing success goes to Bill Van Der Vort, our Executive Director, and his staff. Bill provides support for our all our activities, including technical meetings. In the ever changing constellation of people running ED sponsored meetings, Bill is the one constant.

This year, the Best Practices Workshop was held in conjunction with the IEDM in Washington, DC. Twenty-one meetings were represented. Topics included paper

selection processes, hotel selection, meeting logistics, etc. In addition to 8 formal presentations, an open session to discuss best practices was held at the end. Hopefully, all profited from the discussions.

If the idea of organizing a meeting appeals to you, you should contact our new Meetings Chair, Jim Clemens, E-MAIL: [j.clemens@ieee.org](mailto:j.clemens@ieee.org); or you can call Bill Van Der Vort at the IEEE office (see page 2 for contact information) and he can put you in touch with Jim. We are always looking for volunteers. I recommend it highly – it is a great way to meet and get to know your counterparts at other organizations. It also provides an opportunity for professional accomplishment outside your regular job. Please call!

Bruce F. Griffing  
General Electric Company  
Schenectady, NY

### Student/Young Engineer Article



Fanny Dahlquist, a Ph.D. student and a member of the IEEE EDS, Sweden.

I have been a Ph.D. student for almost one year now and my research is on power devices in silicon carbide. When I started my Ph.D., I thought it was natural to become an IEEE EDS member. My expectations from my membership were to receive subscriptions for publications in my field and the updates on news in an easy way. So far I am very satisfied. In Sweden we have no special student branch, but almost 50% of the members in EDS Sweden are students, so you may ask why not? The main reason is that all the student members are Ph.D. students. In Sweden it is not customary for undergraduates to be members of IEEE. Therefore, when it comes to seminars and activities, they are most often in the same sphere of interest for all the members and there is not really any need for special student activities. Of course, it would be nice to have a student branch, but the need for it has simply not become big enough here. Furthermore, since the relation between professors and students is very close and friendly in Swedish universities, there is no need for students to get united in order to maintain their rights.

A sample of an activity in the ED Sweden chapter is monthly seminars in various fields, with speakers both from industry and the academic world. The chapter also celebrated the 50-year anniversary of the transistor in December where both history and future were discussed. In IEEE, I particularly find that efforts made in the STAR program to increase women's interest in technology are valuable. There are similar efforts here in Sweden also, but not in the form of STAR. Activities such as building up female networks and special awards are arranged to attract women both as Ph.D. students, research associates and professors. Another activity that recently began is a mentoring program for Ph.D. students. Each student has regular meetings with a mentor in a head position in industry to discuss and get an industrial perspective on their studies.

I still have not had the opportunity to visit any of the IEEE conferences, which is something I am looking forward to do. I expect the conferences to be very fruitful, both to provide an update on the current research status in the particular fields and to make valuable personal contacts. In the future I also think that the interest in IEEE will grow here in Europe as a result of the increased availability due to on-line services on the Internet.

Fanny Dahlquist  
KTH, Royal Institute of Technology  
Stockholm, Sweden

### 1997 EDS Regions 1-6, 7 & 9 Chapters Meeting



Paul K. L. Yu

The second annual Electron Devices Society Regions 1-6, 7 & 9 Chapters Meeting was held on December 7, 1997 at the Hilton & Towers Hotel in Washington, DC. There were sixteen chapters (including a student branch chapter) represented at the meeting, with a total attendance of around thirty-five. The meeting started at 5 p.m. and was moderated by the EDS Newsletter Editor and San Diego Chapter Partner, Paul Yu.

Cary Yang, Chair of the Regions/Chapters Committee, welcomed everyone and mentioned the newly approved Chapter of the Year Award Program and its award evaluation procedure. This was followed by a brief introduction by Paul Yu. The meeting then proceeded with a concise overview of the various resources and services available to EDS chapters and members: the Chapter Subsidy Program (by Shojiro Asai); the Distinguished Lecturer Program (by Arlene Santos); the Videotape Lending Library (by Ilesanmi Adesida); the STAR Program (by Julia Brown); the EDS Newsletter (by Krishna

(continued on page 8)

## Chapters Meeting

(continued from page 7)

Shenai) and the Chapter Partners Program (by Paul Yu).

The main part of the meeting was devoted to the chapter reports and the open discussion which occurred during the report session and at the end. The chapter representatives found the Distinguished Lecturer and the IEDM Videotape Lending Programs very helpful for enriching their chapter activities and for providing continuing education for some members. Nine of the sixteen chapters present at this meeting had previously sent a representative to the San Francisco meeting, so they reported new activities and developments within the last year. Several chapters held one-day workshops during the year and they shared their experiences with the participants. There were interesting discussions about the various new chapter-related activities introduced within the society. In particular, many chapters were excited about the on-line services for the EDS journals and magazines (including the Newsletter), the availability of the individual EDS chapter website, and the roles of the Chapter Partners (for instance in one case, the chapter partner became the interim chair of the chapter as the elected chair happened to be on leave).

Some chapters became keenly aware of the shift of technical interests among the EDS memberships from the traditional topics on electronic device and material to the more interdisciplinary topics involving circuits, display, sensors, reliability, and communication areas. It was suggested that the technical presentations at chapter meetings and workshops should stress the overall technological trend and relate the principles more closely to applications. Alongside this development there were many joint technical meetings among local chapters affiliated with different IEEE societies.

Another growing trend is the increased level of interaction between the different EDS chapters and their local IEEE section. The chapter can obtain additional financial and publicity supports from the local section. One chapter commented that the chapter should extend its relationship with EDS members beyond the technical arena to also include social functions. Chapter participation in social activities organized by the local section should also be encouraged.

The participants strongly advocated that the chapters become more interconnected through the EDS web-sites, through which the chapter activities could be better coordinated and the information disseminated. The society should also consider ways to help student members financially to attend and to present

papers at EDS sponsored conferences.

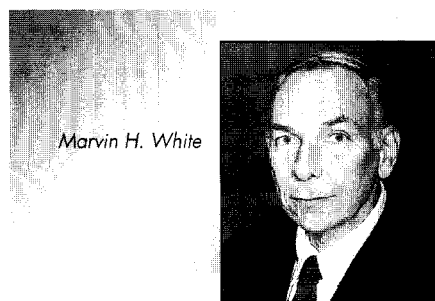
It had been suggested that, in order to allow ample time for open discussion in future chapters meetings, the format should be modified such that the chapter reports are limited to major changes and major issues (concerns); likewise, the discussion on society resources should be further con-

solidated to cover only changes in existing programs and to introduce new programs. The meeting was adjourned around 10 p.m., with many continued informal discussions among the attendees.

Paul K.L. Yu

University of California at San Diego  
La Jolla, CA

## 1997 EDS J. J. Ebers Award



Marvin H. White

The 1997 J. J. Ebers Award was presented to Professor Marvin H. White of Lehigh University at the opening ceremonies of the 1997 IEDM in Washington, D.C. on December 8, 1997. This award is the highest form of recognition by the Electron Devices Society for technical accomplishments and commemorates the life of Jewell James Ebers, distinguished pioneering contributor to transistor modeling who helped shape the understanding and technology development of electron devices. This award was established in 1971 to recognize "outstanding technical contributions to electron devices." Marvin White was presented a certificate and a check for \$2,000.

The citation for the 1997 J. J. Ebers Award reads as, "For pioneering contributions to the development of high sensitivity solid-state cameras and imaging units, widely used in consumer and technical applications, and for his major contributions to progress in semiconductor devices." Marv was born in the Bronx, New York, obtained a BSE degree in Physics and Mathematics from the University of Michigan in 1960 and a MS degree in Physics from the same school in 1961. He then joined the Westinghouse Solid State Laboratory in Baltimore, MD, where he worked on advanced military and NASA imaging systems. He and his colleagues developed integrated CMOS technology for low power memories and self-scanned photodiode imaging arrays. In 1969, he received a Ph.D. in EE from Ohio State University with a dissertation on microwave, s-parameter, bipolar transistor modeling.

When he returned to Westinghouse, Marv and his colleagues developed the concept of correlated double sampling (CDS), to remove the reset noise and filter 1/f noise in CCD and photodiode imaging arrays and analog signal processing circuits. CDS solved the critical problem of the application of low light level imagers to many uses and this technique is widely applied to imaging in the fields of astronomy, medicine (endoscope), satellites, and commercial consumer electronics. It is in this later area that CDS has had a great impact, being used in camcorders, facsimile and video conferencing, where the conversion of photons to bits is the primary function of these products. In the 1970's, Dr. White made contributions to low power CMOS and MNOS memory devices, microwave bipolar transistors and CCDs for imaging and signal processing. During this decade, he also was a visiting Fulbright researcher at Catholique Universite' in Belgium, a lecturer at the Westinghouse School of Applied Science and Engineering and an Adjunct Professor at the University of Maryland.

In 1981, he joined Lehigh University in Bethlehem, PA as the Sherman Fairchild Professor of Solid State Studies in Electrical Engineering. He and his students have made contributions to the understanding of defects in solid state devices, charge transport and storage in SONOS nonvolatile memories, the Si/SiO<sub>2</sub> interface and traps, ISFETs/MEMS, synchronous oscillators, CMOS transistor modeling, and SiC devices. He has taken sabbaticals at the Naval Research Laboratory and the National Science Foundation as Program Director in Solid State & Microstructures. He has graduated 19 Ph.D. students at Lehigh University.

Dr. White was granted 27 patents with Westinghouse, is named on more than 180 journal and conference papers and has contributed chapters to three books. He has been active in IEEE organizations, having served on the IEDM, ISSCC, CICC, DRC,



SISC, INFOS conference program committees. He has been an EDS Newsletter Editor, an EDS Distinguished Lecturer, and Chair of the EDS Membership/Education Committee. He is a member of Sigma Xi and Eta Kappa Nu, a Fellow of IEEE and the Washington Academy of Sciences.

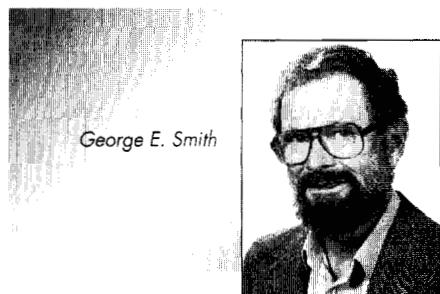
Marv and his wife, Sophia, live in Bethlehem, PA. Their son David and his wife Becky live in Columbus, Ohio. Marv is an

avid runner, an amateur magician and enjoys playing jazz on the piano.

The Electron Devices Society is pleased to be able to recognize and honor Professor Marvin H. White for his outstanding contributions to the field of electron devices.

*Dr. Alfred U. Mac Rae  
Mac Rae Technologies  
Berkeley Heights, NJ*

## 1997 EDS Distinguished Service Award



*George E. Smith*

Dr. George E. Smith was presented the 1997 EDS Distinguished Service Award at the opening ceremony of the 1997 International Electron Devices Meeting (IEDM) on December 8, 1997 in Washington, D.C. The EDS Distinguished Service Award was established in 1993 to recognize and honor outstanding service to the Electron Devices Society and its sponsored activities. Dr. Smith was awarded a certificate and a check for \$1,000.

Since his retirement from Bell Laboratories in 1986, he has been engaged in a leisurely circumnavigation around the world. His 31 foot yacht, 'APOGEE' currently is in the Mediterranean after having sailed fifty thousand miles on a journey around the globe. Prior to retiring, he was Head of the VLSI Device Department. Dr. Smith is well known as the co-inventor of the charge-coupled devices (CCD), which is widely used for solid-state imaging applications with numerous consumer, industrial, and scientific applications. For

this invention, he received numerous awards, including the IEEE Morris N. Liebman Award.

Dr. Smith became involved with EDS activities in 1967 as the Founder and first Chairman of the Semiconductor Laser Conference, and in 1977, as the Chairman of the Device Research Conference. In 1978-1979, he was the Guest Editor for the Transactions on Electron Devices special issue on semiconductor memory. He served as an elected AdCom member from 1978-1983, and served as an associate editor of the Transactions on Electron Devices from 1979-1980. He also served on numerous IEEE award boards including Chairman of the David Sarnoff Committee, Chairman of the Jack A. Morton Award Committee, Chairman of the Field Award Committee, Chairman of the Medal of Honor Committee, and Chairman of the Awards Board.

Dr. Smith made numerous contributions to the activities of the IEEE and the Electron Devices Society. His most significant contribution to the Electron Devices Society was as founder and Editor of the *Electron Devices Letters*. This journal, for recent device results, established a new standard for IEEE publications for manuscript quality with rapid review and publication.

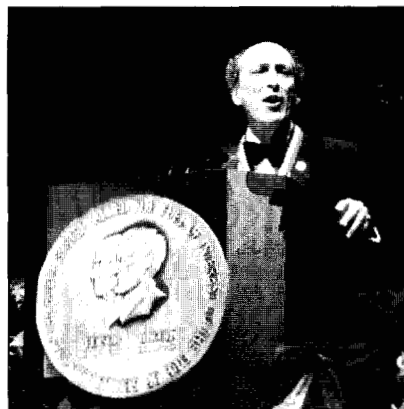
*H. Craig Casey, Jr.  
Duke University  
Durham, NC*

organizations determines the selection of inductees.

The National Inventors Hall of Fame has 134 members including such common names as: Edison, Bell, Steinmetz, Fermi, Pasteur, Tesla, Land, Ford, Marconi and Westinghouse. In the field of semiconductor devices and technology, only 5 inventors have been previously inducted. Bardeen, Brattain & Shockley for the transistor; Kilby and Noyce for the Integrated Circuit.

The year 1997 seemed like the year of the computer. Of the 8 new inductees in 1997, 5 invented the basic elements of the computer age. Seymour Cray was inducted for the invention of the Super Computer, while Mark Dean and Dennis Moeller received their medallion for the invention of PC computer architecture.

Of special interest to the Electron Devices Society are two Fellows of the IEEE and members of EDS, Robert H. Denard and Robert W. Bower who were inducted into the National Inventors Hall of Fame for their inventions of the basic memory element and basic semiconductor device of computer technology. These two inventions represent the two most replicated structures on earth. Tens of millions of these memory cells and semiconductor devices are in every computer and other modern electronic device.



*Robert H. Denard*

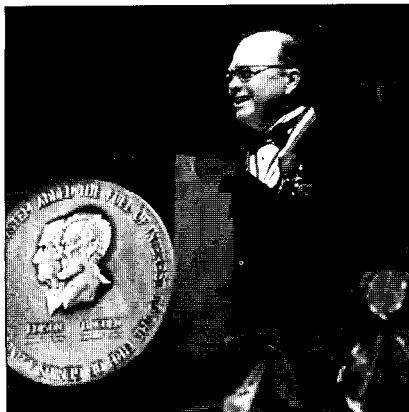
Robert H. Denard was inducted into the Hall of Fame for the invention of the one-transistor DRAM. This invention resulted in patent number 3,387,286 that was issued in 1968. This DRAM cell revolutionized semiconductor random access memory. Prior to Dr. Denard's invention, six transistors were required in each element of semiconductor memory. The one-transistor DRAM dramatically simplified semiconductor memory and paved the way for chip memory to totally overshadow early magnetic RAM technologies.

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## 1997 National Inventors Hall of Fame: The Year of the Computer

The National Inventors Hall of Fame celebrates the creative and entrepreneurial spirit of great inventors. The creative genius of invention is showcased through exhibits and presentations that allow visitors to experience the excitement of discovery, creativity, and imagination at its

home at Inventure Place, 221 S. Broadway Akron, Ohio 44308, USA. By nurturing the inventive spirit, the National Inventors Hall of Fame is addressing the specific problems of declining technological leadership and creativity in America. A panel of 40 scientific and professional



Robert W. Bower

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Robert W. Bower was inducted into the Hall of Fame for the invention of the Self-Aligned Gate MOSFET. This invention resulted in patent number 3,472,712 that was issued in 1969. Early MOSFETs were slow and difficult to use in integrated circuit design because of misalignment of the gate element of the device with respect to the source and drain. Dr. Bower's invention of the Self-Aligned Gate MOSFET provided a simple, elegant solution to this problem. His invention used the gate element itself to align the source and drain. This eliminated the misalignment uncertainties of the device and allowed the gate to be precisely the size theoretically required. The result was a MOSFET that could be easily used in integrated circuits and was very fast and scalable. This basic patent is the foundation for over 100 improvement patents in the past two decades. You can browse the National Inventors Hall of Fame yourself at: <http://www.invent.org/induction.html#97> inductees.

### CD ROM Package Available

Now available to EDS Members is a CD ROM Package that includes: a CD ROM of all 1997 issues of *Electron Device Letters* (EDL) and *Transactions on Electron Devices* (T-ED) and the proceedings of the 1997 International Electron Devices Meeting (IEDM); and on-line access to EDL and T-ED via the Web. If you have not yet paid your IEEE and EDS memberships for 1998, you can add the "EDS CD ROM Package" to your renewal bill. The cost is \$25 (\$19 for students). If you have already renewed for 1998, you can request an order form from the EDS Executive Office (See inside cover for contact information).

## EDS Members Elected to the IEEE Grade of Fellow Effective January 1, 1998

**Allen M. Barnett** — For contributions and technical leadership in the development and commercialization of photovoltaic solar cells.

**Rajaram Bhat** — For contributions to optoelectronic materials and devices through the advancement of organometallic chemical vapor deposition of III-V compound semiconductors.

**April Susan Brown** — For contributions to the development of lattice-matched and pseudomorphic high electron mobility field effect transistors.

**Richard Alexander Chapman** — For the development of HgCdTe imaging devices and contributions to CMOS technology.

**Young-Kai Chen** — For contributions to ultra-short pulse generation using semiconductor lasers, integrated laser-modulators, and high frequency InP HBTs.

**Michael C. Driver** — For contributions to broadband gallium arsenide power circuits.

**Tadayoshi Enomoto** — For contributions to the development of integrated circuits for multimedia.

**Eric R. Fossum** — For contributions to image sensors and image processing.

**Hisakazu Iizuka** — For contributions to the development of the stacked-gate structure for an electrically alterable PROM.

**Khalid Ezz El-Din Ismail** — For development of Si/SiGe materials for high-performance microwave devices.

**Conilee G. Kirkpatrick** — For leadership in the development and manufacturing of III-V electronic materials and devices and their application to military and commercial systems.

**Stefan K. Lai** — For distinguished research on the properties of silicon MOS interfaces and the development of Flash EPROM Memory.

**Mark E. Law** — For contributions to integrated circuit process modeling and simulation.

**Loren Wendell Linholm** — For initiating and guiding the development of innovative microelectronic test-structure based measurement techniques, and associated parametric test-instrumentation procedures, for monitoring advanced semiconductor wafer-fabrication processes and tools.

**Herman Emile Maes** — For contributions in the field on non-volatile silicon memory devices and MOS reliability physics.

**Carlton M. Osburn** — For contributions to silicon technology including self-aligned silicides, dielectric breakdown, and hot electron phenomena.

**Mark Richard Pinto** — For contributions to computer-aided design of electronic devices.

**Hiroyuki Sakaki** — For seminal contributions to quantum effects in semiconductor nanostructures and devices.

**Ayman Shibib** — For contributions to the device physics of heavy doping effects and the development of high voltage integrated circuits for telecommunications switching systems.

**Hideo Sunami** — For contributions to the development of trench-capacitor DRAM cells and ultra-high density DRAMs.

**Kenji Taniguchi** — For contributions to the development of MOS device fabrication processes, particularly dielectric breakdown and oxygen-enhanced diffusion.

**Yuan Taur** — For outstanding contributions to advanced CMOS technology.

**Chung-Yu Wu** — For contributions to the implementation of analog neural network integrated circuits.

**Karl Sigfrid Yngvesson** — For contributions to the development of millimeter wave devices and systems.

## 1998 EDS J. J. Ebers Award - Call for Nominations

The IEEE Electron Devices Society invites the submission of nominations for the 1998 J. J. Ebers Award. This award is presented annually by EDS to honor an individual(s) who has made either a single or a series of contributions of recognized scientific, economic, or social significance to the broad field of electron devices. The recipient(s) is awarded a certificate and a check for

\$5,000, presented at the International Electron Devices Meeting (IEDM).

Nomination forms can be requested from the EDS Executive Office. The deadline for the submission of nominations for the 1998 award is July 10, 1998. Completed nomination forms should be sent to the Executive Office at the address given on page 2.

## In Memory of Ronald R. Troutman



Ronald R. Troutman died on September 24, 1997 after a long illness. He was an active member of the Electron Devices Society and device community, and was a fellow of the IEEE.

Ronald R. Troutman was born in Milton, PA, on October 4, 1940. He received a B.S. degree in electrical engineering from the Massachusetts Institute of Technology, Cambridge, in 1962 and the M.S. and Ph.D. degrees from New York University, New York City, NY, in 1963 and 1966, respectively.

He served as Project Officer in the

Electronics Branch of the Office of Naval Research from 1966 to 1968. In 1969, he joined the IBM Corporation in Essex Junction, VT, where he participated in the development of many semiconductor technologies for memory and logic applications. Much of his early work focused on device design, modeling and characterization of MOSFETs. He made numerous contributions to random-access memory design, to the understanding and modeling of short-channel effects, of subthreshold behavior, and of hot-electron phenomena in FETs. He also pioneered much of the original understanding and modeling of latchup in CMOS technology and is the author of the book *Latchup in CMOS Technology: The Problem and Its*

Cure. From September 1983 to August 1984, he was a fellow at the Center of Advanced Studies at MIT. Upon his return to IBM, he served on the technical staff to the laboratory director. In 1987 he joined the IBM Thomas J. Watson Research Center, Yorktown Heights, NY as manager of the Thin Film Transistor Materials and Devices group. There he managed a variety of research activities on TFT liquid crystal displays, including the development and commercialization of the TFT/LCD array tester.

Dr. Troutman is the author or co-author of over 60 publications, including a book on CMOS latchup, and is the holder or co-holder of 14 patents. While his technical accomplishments were many, his friends and colleagues will remember him by his pleasant and engaging manner, his youthful enthusiasm and his interesting conversations. Ron was someone who is aptly described as a gentleman and a scholar, but one with great warmth and compassion.

He is survived by his wife of 31 years, the former Gail Owen, and his two sons, Kelby and Ramsay.

Lewis M. Terman  
IBM Research Center  
Yorktown Heights, NY

## AdCom Meeting

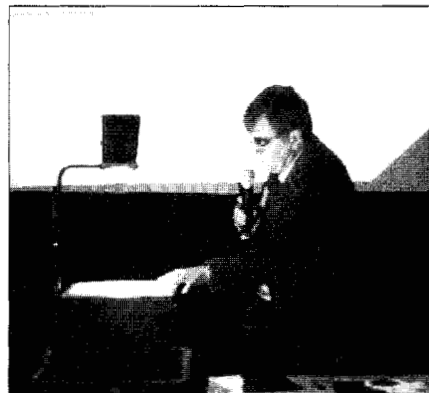
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of all 37 IEEE societies. While membership in Canada is declining slightly, EDS membership internationally is growing and now represents about 37% of the EDS total. He reported that if we are to grow the society at 3.5% per year then we must add about 2,000 new members to be in a steady-state. Paul's plan to achieve this goal is to expand the membership committee to help recruit internationally, continue EDS exposure and presence at technical conferences and aim recruiting toward "practicing engineers". Paul is also in the process of reviewing with his committee the possibility of performing a member based survey to insure that EDS is returning value to our members. Paul has also targeted activities in Region 9 (Latin America) as a rich area for membership expansion in addition to continued student recruiting and rejuvenation of EDS in Regions 1-7 (US & Canada).

### Regions/Chapters Report

Perhaps the healthiest sign of EDS as a society is the continual growth and

improvement of our chapters all over the world. Under the guidance of Cary Yang, and assisted by outstanding efforts by Mike Adler in Region 8 and Jim Clemens, Kunio Tada, Lew Terman, and James Kuo in Region 10, 1997 has been another banner year for chapter establishment. This year the committee was expanded and welcomed its first student/young engineer member. With new chapters in Georgia-Russia, North Jersey, Pullman-Moscow, Seoul Korea, Baltimore, Venezuela, and two university-based chapters, EDS can now count a total of 89 chapters. Additional chapters in Cuba, India, East Europe, the former Soviet Union and South Korea are expected in 1998. Parallel to this effort has been the start-up of the "Chapters Partners" program in which the elected AdCom members and other volunteers affiliate themselves with one or more chapters worldwide for counsel and procurement of speakers. The program was firmly established this past Fall and expects to add to the quality of chapter life in 1998. To recognize chapters, Cary is proposing to implement a "Chapter-of-the-Year" award which has been popular with other Division



Educational Activities Chair, Jerry Woodall, presents his material at the AdCom meeting.

1 societies. This program will begin in 1998 and anyone interested in this recognition should contact the EDS Executive Office.

### Educational Activities

With the efforts of chairman, Jerry Woodall, and his committee, the Educational efforts of EDS continue to thrive. EDS contributions to the Sloan Project for technical education this past year have included input for a video and CD-ROM to be presented to high

(continued on page 16)

## Regional and Chapter News

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

#### ED Lehigh Valley Chapter

The ED Lehigh Valley Chapter held a Course-meeting on "Bipolar Technology for BiCMOS VLSI" on Friday, November 14, 1997. The attendance was recorded at 43 persons, and included student members from nearby universities, and many members from three Lucent Technologies facilities in Pennsylvania, as well as other companies. The site of the meeting was Lucent Technologies in Reading, Pennsylvania.

The meeting relied on the IEDM course, by the same title, modified to emphasize the device physics and technology aspects of bipolar and BiCMOS. It ran from 9:00 a.m. till 3:00 p.m., with a 45-minute lunch break.

Three of the original four videotapes, borrowed from the EDS Lending Library, were covered, at the end of which, a panel of local experts in the bipolar device area was assembled to answer questions about the material presented and to discuss other related issues. The panel consisted of Tom Kruttsik, Shahriar Moinian, Bob Plummer, and Ayman Shibib. After the video presentation part, the panel answered questions about the bipolar and BiCMOS technologies in the next few years.

The meeting format was well received as it presented an open forum to ask questions and participate in a group discussion about technology issues. This format is highly recommended for other chapters that use the EDS video courses.

— M. Ayman Shibib, Editor

— by Michele M. Gates

The NASA/SEMATECH/SRC 1st Symposium on Soft Errors, Radiation Effects, and Reliability in VLSI: Terrestrial Applications was held October 27 and 28, 1997 at NASA Goddard Space Flight Center in Greenbelt, MD. The meeting was extremely successful, drawing approximately 100 attendees from many U.S. and Japanese commercial semiconductor manufacturers, government agencies and laboratories, universities, and a mix of IC users representing the computer, health care device, aeronautics, defense, and space industries. International participation included individuals from Japan, France, Belgium, Uzbek-

istan, Ukraine, Surrey, Sweden, United Kingdom, Russia, and Germany. Soft errors were discussed as a reliability issue for current memory technology, and impacts to logic are an emerging concern.



Y. Tosaka, of Fujitsu Laboratories Limited, speaking at the NASA/SEMATECH/SRC 1st Symposium on Soft Errors, Radiation Effects, and Reliability: Terrestrial Applications

Presentations were grouped into four technical sessions: Embedded Applications, Sub-micron Technology Issues, Soft Errors and Reliability, and Test Facilities. Invited presentations included: "Single Event Effects on the Ground – Neutrons as the Main Cause," by Eugene Normand of Boeing Defense & Space; "Deep Sub-micron Process Architecture Challenges and Their Impact on Soft Errors and Radiation Hardness," by P.K. Vasudev of SEMATECH; "Challenges in Modeling Soft Errors in Complex Sequential Logic," by Lloyd Massengill of Vanderbilt University; "Nuclear Processes Relevant for Single Event Upsets," by Henry Tang of IBM MSR&D Laboratory; and "Solutions for Space: Lessons Learned," by Ken LaBel of NASA Goddard Space Flight Center. The open forum, which included a panel discussion with members from Intel, IBM, AMD, Boeing, and Sandia National Lab, spurred some very interesting technical exchange among the conference attendees. Plans are in progress for a second conference to be held during the same time frame in 1998.

— by Elias D. Towe

The major activity for the South Eastern Region in 1997 was the International

Semiconductor Device Research Symposium (ISDRS '97). ISDRS '97 was held in Charlottesville, VA from December 10 through 13, 1997. The ISDRS is a biannual international research meeting that brings together researchers in semiconductor materials, devices and processes. As in previous years, the ISDRS '97 was organized by EDS members in the South Eastern region of the United States. In 1997, papers from 21 countries were submitted to the meeting. A key feature of this meeting is the presentation of the van der Ziel Award. This Award was instituted in 1993 to honor the late Professor Aldert van der Ziel of the University of Minnesota for his seminal contributions to semiconductor devices, especially to noise theory. The 1997 recipient of this award was Prof. Hebert Kroemer of the University of California at Santa Barbara. Previous winners include Prof. Arthur Milnes of Carnegie Mellon University and Prof. Lester Eastman of Cornell University.

In the summer of 1998, EDS members of the South Eastern region will again host two major conferences. The IEEE Device Research Conference (DRC) and the TMS Electronic Materials Conference (EMC) will be held from June 22 through 26, 1998 in Charlottesville, Virginia. Further information on these conferences can be obtained from Emmanuel Crabbe (DRC), E-MAIL: [crabbe@watson.ibm.com](mailto:crabbe@watson.ibm.com), and from Thomas Kuech (EMC), E-MAIL: [kuech@engr.wisc.edu](mailto:kuech@engr.wisc.edu).

— Elias D. Towe, Editor

### Europe, Middle East & Africa (Region 8)

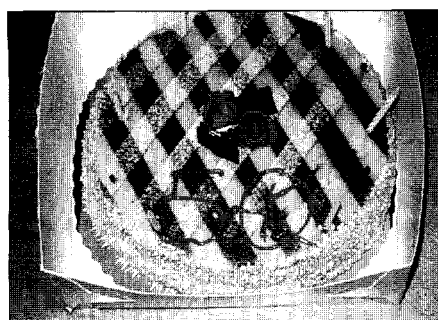
#### ED Sweden Chapter

— by Mikael Östling

The later part of the Fall semester was dedicated to supporting and organizing the symposium GigaHertz 97, October 23-24 in Stockholm. This is a biennial meeting within the high frequency electronics community in Sweden. This year, the symposium attracted about 150 attendees. More than 50 papers were presented. The main attraction was the plenary talk "Implementation of a CMOS radio for 900 MHz" by Prof. Asad Abidi, UCLA, USA. The ED



Professors Torkel Wallmark (Life Fellow IEEE) and Mikael Östling, ED Sweden Chapter Chair.



Close-up of cake for the 50th transistor anniversary.

Sweden Chapter sponsored the best paper awards, which were presented to H. Merkel, "Sub-millimeter wave Low Noise Superconducting Bolometric Mixer Design" for Best Oral Paper and to Marcus Jonsen, "The Principle of Resistive FET/HEMT Frequency Multipliers", both from Chalmers Technical University.

In December, the bipolar transistor 50th anniversary was celebrated with a seminar which also looked at the future of the bipolar transistor. A specially decorated cake, that had individual transistors (TO92 caps) garnishing the rim, was very much appreciated. About 50 persons attended the event, which is a high attendance for this chapter.

IEEE Life Fellow, Prof. Torkel Wallmark, gave his version of how it all started in the US, and what also happened in Sweden following the early transistor years. Following his presentation, Prof. M. Östling (ED Chapter Chair) summarized the technology outlook for transistors in the next millennium.

—Mikael Östling, Editor

## MTT/ED/AP/LEO UKRI Chapter

— by Terry Oxley

1997 Chapter activities held since the last report in the January 1998 EDS Newsletter have included:

- Membership Booth at the Microwaves and RF '97 (M+RF '97) Conference/Exhibition at Wembley Conference Centre London - This generated an encouraging amount of interest, 14 IEEE new member applications were processed, with about a further 30 forms taken for possible applications.
- Half-day Seminar on "Photonics - An Industrial Perspective", at City University London - This was considered to be an excellent meeting with prominent speakers from HP, BT, Nortel and GMMT.
- 5th IEEE International Workshop on "High Performance Devices for Microwave and Optoelectronic Applications" (EDMO '97) at King's College London. This two-day event grows in strength every year and this year it had around 50 delegates per day with representation from 20 countries.

Additional copies of the technical program digest are available by contacting Dr. Ali Rezazadeh at King's College London on E-MAIL: a.rezazadeh@kcl.ac.uk or the Chapter Chairman.

Evening lecture on "Microwave Video Distribution Systems" (MVDS) at King's College London. This meeting followed an afternoon Chapter AdCom Meeting and the lecture attendees enjoyed an excellent presentation by Dave Palmer of Philips Broadband Networks Limited.

The 1998 Chapter Activities program is being finalized. Some key features of the current planning are briefly indicated below:

- April 20 - Lecture at City University London on "Integrated Optics in Planar Circuits" by Professor K. Okamoto.
- April 24 - Lecture at City University London on "Novel Integrable Semiconductor Laser Structures" by Professor J. Coleman.
- May - Lecture at City University London on "Low Dimensional Semiconductor Structures" by Joachim Wolter.
- May - Half-day Symposium in London on "Satellite Communications Antenna Technology"
- May - Lecture at UMIST (Manchester) on "MVDS" by Dave Palmer.
- May - Lecture at City University London on "Advances and Applications in

Ultrafast Technology" by Wayne Knox.

- June 17 - Half-day Symposium at University of Wales on "Wide Band-Gap Semiconductors".
- June - Half-day Symposium at City University London on "Photonics - Developments in UK Academic Research".
- September 2-4 - 6th IEEE International Conference on "Terahertz Electronics" at University of Leeds.
- September - 4th "High Frequency Postgraduate Student Colloquium".
- Sept. 29 - Oct 1 - "Membership Booth" at Microwaves and RF '98 Conference/Exhibition at Wembley Conference Centre London.
- November - 6th IEEE International Workshop EDMO '98 at UMIST (Manchester).

For further information, please contact the Chapter Chair: Neil Williams, ERA Technology Limited, Cleeve Road, Leatherhead, Surrey KT22 7SA, UK. TEL: +44 (0) 1372 367061. FAX: +44 (0) 1372 367099, E-MAIL: neil.williams@era.co.uk.

## ED/MTT Egypt Chapter

— by Ibrahim Salem

The MTT/ED Egypt Chapter held a technical meeting on December 1, 1997 at the National Institute of Standards (Giza). Dr. Abdel Rahman Sallam presented a paper titled "Phase Variation due to Perturbed Earth - Ionosphere Waveguide Walls". After the lecture Prof. Mohamed Elfeky - Chairman of the N.I.S addressed the attendees and acquainted them with the developments in the laboratories of the Institute.

The MTT/ED Egypt Chapter cooperated with the Egyptian URSI committee in the activities of the 15th National Radio Science Conference which was held on February 24-26, 1998 at Helwan University-Faculty of Engineering - Cairo. This NRSC is co-sponsored by the IEEE-EDS, and the Academy of Scientific Research and Technology.

For further information, please contact the Chapter Chair, Professor Ibrahim A. Salem, 17 Elqouba Street/3, Roxy Heliopolis, Cairo - 11341, Egypt. TEL: 202-349-8214; FAX: 202-263-6802; E-MAIL: isalem@brainy1.ie-eg.com.

## ED Israel Chapter

— by Gady Golan

The 1997 Annual Conference of the Israel Vacuum Society (IVS), the Israel Association for Crystal Growth (IACG), joint with the Israel IEEE EDS, was held Thursday, December 4, 1997 at the Tel Aviv University, Wolfson Engineering Building, Tau

Hall. Introductions were given U. Shaked, Dean Engineering Faculty, Tel-Aviv University; Y. Nemirovsky, President IACG, Technion; and N. Croitoru, Chairman IEEE-EDS, Tel-Aviv University. This opening session was followed by four technical sessions. Exhibition/poster sessions were held during the coffee breaks. The day was concluded by closing remarks by A. Peled, Secretary IVS.

The Chapter's next joint meeting with the Israeli Vacuum Society (IVS) is planned for 22<sup>nd</sup> April 1998, at the Center for Technological Education, Holon.

For further information, contact the Chapter Chair, Professor Nathan Croitoru, Tel-Aviv University, Faculty of Engineering, Dept. of Physical Electronics, Tel-Aviv 69978, Israel. TEL: 972-3-640-8138; FAX: 972-3-642-3508; E-MAIL: [croitoru@eng.tau.ac.il](mailto:croitoru@eng.tau.ac.il).

—Terry Oxley, Editor

### ED/MTT France Chapter

—by Henri Baudrand

In 1997, the Chapter was strongly involved in the organization and brought technical sponsorship to a "Meeting on Electromagnetic Sensors", which was held in Toulouse on November 27<sup>th</sup>. The one day meeting included 3 invited papers, 26 oral communications and posters. The themes covered were microwave sensors, magnetic sensors and non-destructive testing. A round-table discussion on the future directions for electromagnetic sensors ended the meeting attended by 85 persons.

In 1998, the Chapter will organize a Workshop in Nantes during the week 13-17th July, which will be held in coordination with the PIERS '98 Symposium. The general theme will be "FDTD in Electromagnetism and Devices". To receive the call for papers, please contact the meeting secretary, TEL: (33)05 61588372; FAX: (33)05 61588377; E-MAIL: [picq@len7.enseeiht.fr](mailto:picq@len7.enseeiht.fr); or the Chapter Chairperson: Henri Baudrand (ENSEEIH), Toulouse, France, TEL: (33)05-6158-82-46; FAX: (33)05-6158-83-77; E-MAIL: [baudranh@len7.enseeiht.fr](mailto:baudranh@len7.enseeiht.fr).

### ED Spain Chapter

—by Ramon Alcubilla

The Chapter will organize in February '99 the second Electron Device Conference held in Spain. In order to receive the call for papers in the summer of '98, please give notice of your interest to the Chapter Chairperson: Ramon Alcubilla, Semiconductor Devices Group-GDS, Departament Electronica Modul C-4 Campus Nord, Barcelona 08034—Spain, TEL: 34-3-

4016757; FAX: 34-3-4016756; E-MAIL: [alcubilla@eel.upc.es](mailto:alcubilla@eel.upc.es).

### ED Germany Chapter

—by Klaus Heime

The ED German Chapter held the following two technical meetings in 1997, both at RWTH Aachen (University of Technology):

1. Prof. William S. Rees, Georgia Institute of Technology, Atlanta, USA, "Metal Amide Compounds as CVD Dopants: Examples from Si:Er, SrS:Ce and ZnSe:N, on Sept. 5, 1997.
2. Dr. Nina Khuchua, Research & Production Complex Electron Technology under Tbilisi State University, Georgia "Integrated Circuits and Semiconductor Devices on III-V Compounds. Design, Technology, Investigation", on October 23, 1997.

Both meetings were well attended by about 30 people each. Prof. Rees' subject dealt with special novel materials which are needed for the growth of II-VI Semiconductors with possible application to blue-green lasers. Dr. Khuchua reported on the work done in the field of microwave devices and circuits in her home institution, formerly working for USSR defense agencies.

For further information on the meeting, please contact the Chapter Chairperson: Dr. Klaus Heime, E-MAIL: [mailbox@iht.rwth-aachen.de](mailto:mailbox@iht.rwth-aachen.de).

—Robert G. Adde, Editor

## Asia & Pacific (Region 10)

### ED/LEO Australia Chapter

—by Chennupati Jagadish

Professor Joachim Wolter, LEOS Distinguished Lecturer, visited the Chapter during November - December, 1997. Professor Wolter gave 6 seminars on "Low Dimensional Semiconductor Structures and their Applications in Electro-Optic Devices and Systems". The Chapter would like to thank Prof. Wolter for his efforts in enhancing the profile of the Chapter. These seminars were organized jointly with the IEEE Victoria Section, IEEE ACT Section, CSIRO Radio Physics Division, Australian National University, University of Melbourne, La Trobe University, Macquarie University, University of Sydney and University of New South Wales. The Chapter would like to gratefully acknowledge the support of Dr. Dalma Novak, Professor Rodney

Tucker, Dr. Brian Usher, Professor Mike Gal, Professor David Cockayne, Dr. Ewa Goldys, Dr. Gideon Yoffe, Dr. Grant Griffiths and Professor Jim Williams.

### COMMAD '98

The Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD '98) will be held during 14-16, December 1998 in Perth, WA. The Abstract Deadline is August 31, 1998. Further information can be obtained from the COMMAD '98 Chair, Prof. Laurie Faraone, TEL: 61-8-9380-3104; FAX: 61-8-9380-1065; E-MAIL: [faraone@ee.uwa.edu.au](mailto:faraone@ee.uwa.edu.au). The COMMAD home page address is: <http://www.ee.uwa.edu.au/~COMMAD98/>.

For further information about chapter activities, please contact Chapter Chair: C. Jagadish, TEL: 61-2-6249-0363; FAX: 61-2-6249-0511; E-MAIL: [c.jagadish@ieee.org](mailto:c.jagadish@ieee.org); Chapter Home Page: <http://www.physics.mq.edu.au/~goldys/home.htm>.

### ED/MTT India Chapter

—by K. S. Chari

The Chapter had a hectic schedule of events during the quarter, October - December, 97. The period saw the visits of two AdCom members from EDS and several DLs. The activities in this period centered on the following:

1. Dr. Renuka Jindal, *Transactions on Electron Devices* (T-ED) Editor-in-Chief and India Chapter Partner and Prof. Cary Yang, EDS Regions/Chapters Chair, visited the Chapter during November 3rd and December 19, 1997 respectively. The EDS AdCom members were given a presentation of the chapter activities and the follow-up discussions brought out several suggestions. The members also visited the DOE Process Characterization/IC Testing Labs and saw the on-going simulation work and test activities.
2. Two EDS DL's, Prof. Mike Myung Lee from Kijst, Korea and Prof. Vijay K. Arora, University of Wilkes, USA, gave two workshops for the chapter during the 17th & 18th November, 22nd & 23rd December, '97 at the Department of Electronics, Delhi. Prof. Mike Lee spoke on "SOI Devices, MOS Reliability and High Speed/Low Power Processing" and Prof. Vijay Arora on "Quantum Engg of Nano-electronic Devices" & "Education, Training & Leadership for Manufacturing Excellence". These workshops were attend-



ed by members from industry, R&D groups and other users were well received by the participants. Prof. Mike Lee also visited the Indian Satellite Research Centre, Bangalore on November 20th, 1997 and gave a talk on "Trends in Semiconductor Devices: Promises of SOI Technology & Products." This talk was attended by Scientists from ISRO, BEL and ITI Bangalore. Prof. Mike Lee also had a glimpse of Indian Satellite activities. In the Delhi and Bangalore presentations, Prof. Mike Lee was assisted by Mr. Kwang-Jin Choi.

3. Three intensive Seminars/Lectures were held. The first seminar entitled, "From Inverter to Micro-processor", was delivered on the 13th & 14th October, 1997 by Dr. Krishna Seshan, MTS Intel Corp., USA at DOE Delhi. The second lecture, "Random Phenomena - A Virtue or a vice for high Tech", was delivered on the 3rd of November, 1997 by Dr. Renuka Jindal, IEEE EDS DL, in the Conference Room, Department of Electronic Science, Delhi University South Campus, Delhi as a joint effort of the Chapter and Delhi University. The third lecture on "Use of CAD Software for Efficient Design of Bipolar Devices", was delivered on the 9th of December, 1997 by Prof. David J. Roulsten, University of Waterloo, Canada/Wolfson College Oxford, UK at DOE Delhi. These events were attended by members from industry and academic and research groups.
4. Three Video Tapes on "New Leadership in Power, Seed to Semiconductor Packaging & Assembling" and a movie on "Goal" were screened to participants attending the DL Workshop delivered by Prof. Vijay K Arora at DOE Delhi on 23rd December, 1997.
5. The Chapter had visited few higher secondary schools in Delhi and gave an exposition on the IEEE STAR Program to the students. The interactions were extremely lively and brought overwhelming response and signing up for the IEEE STAR Program. The Chapter had to narrow down the nominations and is well set to start the EDS STAR activities in India at the beginning of the new year, 1998.
6. The Chapter also had an executive meeting in the quarter and reviewed on-going and future activities. For further information about chapter activities, please contact Chapter Chair: Dr. K. S. Chari, Director, Micro

Electronics & Photonics Dev. Division, Department of Electronics, C.G.O. Complex, New Delhi, TEL: 91-11-4361464; FAX: 91-11-4363082; E-MAIL: [chari@xm.doe.ernet.in](mailto:chari@xm.doe.ernet.in).

— Chennupati Jagadish, Editor

### Report of the 5th International Conference on VLSI and CAD (ICVC '97)

— by Chang-Gyu Hwang



From the left: Dr. Chang-Gyu Hwang, Program Chair, Dr. D. Chin, General Chair, and Dr. Hiroshi Iwai, EDS Elected AdCom member.

The 5th International Conference on VLSI and CAD was held in Seoul, Korea during October 13-15, 1997. There were 387 registrants from 18 countries. There were 96 oral presentations, including 15 invited talks and 93 poster presentations, and two tutorials covering topics of plasma charging in ULSI and low power IC design. In the Penary Session, Professor Robert Dutton of Stanford University, Dr. Koichi Seki of Hitachi, and Professor Keshab Parhi gave invited talks on "Device Modelling and Simulation for ULSI Design", "Novel Design Methodology using Pass-Transistor", and "Low-Power Digital Signal Processing Systems for Multimedia", respectively. The 6th ICVC is scheduled to be held in Korea in 1999. For more information, please contact: ICVC Secretariat: TEL: 82-2-565-2435; FAX: 82-2-565-2434; E-MAIL: [intercom@soback.kornet.nm.kr](mailto:intercom@soback.kornet.nm.kr).

### Report of the 2nd International Conference on Nitride Semiconductors (ICNS '97)

— by Sadafumi Yoshida

The 2nd International Conference on Nitride Semiconductors, ICNS '97, (sponsored by the Japan Society of Applied Physics, and technically cosponsored by IEICE and IEEE-EDS) was held in Tokushima, Japan during October 27 - 31, 1997. The conference is the successor of TWN '95 held in Nagoya in Sept. '95 and ISGN-1 held in Boston in Nov., 1995. Nearly 500 persons participated from 14

countries and areas. There were 232 papers, presented at the conference including 11 late news papers, 11 invited papers and 1 key note paper. The total number of papers submitted was 254. At the plenary session, Dr. H. Yamada, Toshiba Corp. Japan and Prof. B. Monemar, Linköping University, Sweden gave invited talks on "Future Optical Storage in Multi-Media Environment and Role of Blue Lasers" and "Basic III-Nitride Research-Past, Present and Future", respectively. At the rump sessions, three interesting issues related to phase separation and carrier localization in nitride alloys, growth control of cubic nitrides and their properties, and GaN electronic devices were discussed. One of the highlights was the special session, entitled, "What's Next in Nitride lasers?". Crucial issues related to nitride lasers were discussed, following the key note paper by Dr. S. Nakamura, Nichia Chem. Ind., who reported laser life time of more than 10,000 hours. The 3rd ICNS will be held in Montpellier, France during July 5-9, 1999.

For details, please contact to Prof. Dr. Bernard GIL, Directeur de Recherche au CNRS, Centre National de la Recherche Scientifique Université de Montpellier II, Groupe d'Etude des Semiconducteurs Case courrier 074 34095 Montpellier Cedex 5 France, TEL: +33 4 67 14 39 24; FAX: +33 4 67 14 37 60; E-MAIL: [gil@ges.univ-montp2.fr](mailto:gil@ges.univ-montp2.fr).

— Hiroshi Iwai, Editor

### Report from ED Beijing Chapter

— by Fu J. Liao

The ED Beijing Chapter invited Dr. Hanford of Lancaster University, UK to give a lecture on LIGA microstructure fabrication on April 22, 1997. Forty people attended the lecture. EDS distinguished lecturer, Professor E. Herbert Li of Hong Kong University, was invited by the ED Beijing Chapter to deliver a lecture, "Advances in Quantum Well Intermixing Materials and Devices", in the Beijing Semiconductor Research Institute on October 16, 1997. Fifty people attended the lecture. Professor Herbert Li of Hong Kong University, Professor Hartnagel of Institute für Hochfrequenztechnik, Germany, and Professor Bernard L. Weiss of University of Surrey, U.K. were invited by the ED Beijing Chapter to hold a seminar on "Optoelectronics Materials and Devices" in Beijing Vacuum Electronics Research Institute on October 16, 1997. The ED Beijing Chapter co-sponsored with the Chinese Institute of Electronics

(CIE) to organize both the 1997 National Conference on Vacuum Electronics from August 19 to 21, 1997 in QingDao and the 1997 National Conference on Millimeter Wave and Far Infrared Technology on October 15-17, 1997 in Shanghai. About 100 people attended each conference. CIE will organize an international conference on microwave and millimeter wave technology on August 18-20, 1998 in Beijing (ICMMT '98). IEEE EDS and the ED Beijing Chapter will co-sponsor the conference.

For further information, please contact Chapter Co-Chair: Professor Fu J. Liao, P.O. Box 749, Beijing, 100016, P.R. China, TEL: 68-10-64362878; FAX: 68-10-64363521; E-MAIL: [bverizw@public3.bta.net.cn](mailto:bverizw@public3.bta.net.cn).

### Report from ED Hong Kong Chapter

— by Charles Surya

The Hong Kong Electron Devices Meeting '98 will be held on August 29, 1998 at the Hong Kong University of Science and Technology. For further information, please contact Dr. Charles Surya, TEL: 852-2766-6220; FAX: 852-2362-8439; E-MAIL: [ensurya@polyu.edu.hk](mailto:ensurya@polyu.edu.hk).

The ED Hong Kong Chapter will be sponsoring the 15th International Conference in Noise in Physical Systems and 1/f

Fluctuations in 1999. The event is scheduled to be held between 23rd to 26th August, 1999. Dr. Charles Surya can be contacted for further information on the conference. The new executive committee members for 1998 have been elected in a recent Annual General Meeting and are listed below: Chairman: Dr. Peter Lai, University of Hong Kong TEL: 852-2859-2691; FAX: 852-2559-8738; E-MAIL: [laip@hkueee.hku.hk](mailto:laip@hkueee.hku.hk); Vice Chairman: Dr. Hei Wong, City University of Hong Kong TEL: 852-2788-7722; FAX: 852-2788-7791; E-MAIL: [eehwong@cityu.edu.hk](mailto:eehwong@cityu.edu.hk); Secretary: Dr. Philip Mok, Hong Kong University of Science and Technology, TEL: 852-2358-8517; FAX: 852-2358-1485; Treasurer: Dr. Jian Bin Xu, Chinese University of Hong Kong, TEL: 852-2609-8297; FAX: 852-2603-5558; E-MAIL: [jbxu@ee.cuhk.hk](mailto:jbxu@ee.cuhk.hk); Technical Program: Dr. Mansun Chan, Hong Kong University of Science and Technology, TEL: 852-2358-8519; FAX: 852-2358-1485.

### Report from ED Taipei Chapter

— by S.C. Sun

Dr. John Moll visited the ED Taipei Chapter on December 15, 1997 and gave a distinguished lecture on "Future Directions to Overcome the Barriers of Device Scaling in Silicon Technology". Eighty people attended his lecture. Professor Simon Wong of



Dr. John Moll (left) who visited the ED Taipei Chapter and gave a lecture on future directions in silicon processing is pictured with S.C. Sun, the ED Taipei Chapter Chair.



Prof. Simon Wong gave a talk for the ED Taipei Chapter.

Stanford University visited the ED Taipei Chapter on December 23, 1997. He gave a lecture on, "Cu Metallization and Integration Issues with Low-k Dielectrics". Thirty people attended his lecture.

## AdCom Meeting

(continued from page 11)

schools and new college students across the country. The Student-Teacher and Research Engineer/Scientist Program (STAR) for girls/young women interested in technical careers may soon begin work on a video. The worldwide Distinguished Lecturer program continues to be successful and in great demand. In 1997, the program was expanded to include "regional" lecturers to increase the talent pool and decrease travel demands made on individual lecturers. The program has become very popular outside the US as chapters continue to grow and be formed. There was a total of 50 lectures in 1997. Since lecturers are not always available, many chapters have used the IEDM videotape short courses as presentation material and such requests have increased this past year significantly.

### Publications

Publications Chair, Steve Hillenius, indicated academic and journal citations for

EDS publications increased in 1997. The Science Citation Index (SCI) ranking for EDL for 1996 improved from 9th position to 5th, while T-ED has remained at an impressive ranking of 8th. There are 171 journals included in the SCI ranking. EDL reports publishing 186 papers in 1997 and an improvement of turnaround from authors to seven weeks. T-ED went to 100% electronic paper submission for the first time. Both the Newsletter and the T-SM continue to improve the overall quality of their respective publications. The Transactions on Computer-Aided Design (TCAD) journal, the first totally electronic journal, was launched this past year with an excellent reception within the TCAD community. Abstracts for the TCAD journal will also be printed in EDL. 1998 will be the last year for the Division I, Circuits and Devices Magazine. Steve will continue to be very busy as EDS publications move towards being totally "paperless" and plans for possibly consolidating the editorial offices for both EDL and T-ED take shape. EDS is currently negotiating an



Attendees of the December, 1997 AdCom meeting.

agreement with the Electromechanical Society (ECS) concerning the publication and marketing of a new journal, the Electromechanical and Solid-State Letters. It is expected that July 1998 will be the first issue of the Letters Journal. Members should also investigate the EDS Home Page on the web which now includes job listings and chapter web sites.

(continued on page 19)

# EDS Meetings Calendar

(As of March 13, 1998)

## U.S., Canada & Latin America (Regions 1-6, 7 & 9)

April 6 - 8, 1998, ✓ **INTERNATIONAL CONFERENCE ON MODELING AND SIMULATION OF MICROSYSTEMS, SEMICONDUCTORS, SENSORS AND ACTUATORS**, Location: Santa Clara Marriott, Santa Clara, CA, Contact: Andreas Wild, Tel: (602) 952-3108, Fax: (602) 952-3786, E-Mail: tdoc03@email.sps.mot.com, Deadline: Past Due

May 11 - 14, 1998, \* **IEEE CUSTOM INTEGRATED CIRCUITS CONFERENCE**, Location: Westin Hotel/Santa Clara Convention Center, Santa Clara, CA, Contact: Melissa Widerkehr, Tel: (301) 527-0902, Fax: (301) 527-0994, E-Mail: cicc@his.com, Deadline: Past Due

May 26 - 29, 1998, # **INTERNATIONAL CONFERENCE ON ELECTRON, ION AND PHOTON BEAM TECHNOLOGY & NANOFABRICATION**, Location: Westin Hotel, Chicago, IL, Contact: Al Wagner, Tel: (914) 945-1962, Fax: (914) 945-4015, E-Mail: awagner@watson.ibm.com, Deadline: Past Due

June 1 - 3, 1998, \* **IEEE INTERNATIONAL INTERCONNECT TECHNOLOGY CONFERENCE**, Location: Hyatt Regency Hotel, San Francisco Airport, San Francisco, CA, Contact: Wendy Walker, Tel: (301) 527-0900, Fax: (301) 527-0994, E-Mail: iitc@his.com, Deadline: Past Due

June 1 - 5, 1998, @ **IEEE SEMICONDUCTING AND INSULATING MATERIALS CONFERENCE**, Location: Berkeley Marina Marriott Hotel, Berkeley, CA, Contact: Zuzanna Liliental-Weber, Tel: (510) 486-6276, Fax: (510) 486-4995, E-Mail: simc@ux5.lbl.gov, Deadline: Past Due

June 3 - 5, 1998, ✓ **INTERNATIONAL SYMPOSIUM ON PLASMA PROCESS-INDUCED DAMAGE**, Location: Hilton Hawaiian Village Hotel, Honolulu, HI, Contact: Della Miller, Tel: (408) 737-0767, Fax: (408) 737-2403, E-Mail: della@technicalmarketing.com, Deadline: Past Due

June 7, 1998, @ **IEEE INTERNATIONAL WORKSHOP ON STATISTICAL METROLOGY**, Location: Hilton Hawaiian Village Hotel, Honolulu, HI, Contact: Harold Hosack, Tel: (972) 995-4942, Fax: (972) 995-1724, E-Mail: hosack@spdc.ti.com, Deadline: Past Due

June 7 - 8, 1998, @ **IEEE SILICON NANOELECTRONICS WORKSHOP**, Location: Hilton Hawaiian Village Hotel, Honolulu, HI, Contact: Gary H. Bernstein, Tel: (219) 631-6269, Fax: (219) 631-7983, E-Mail: berstein.1@nd.edu, Deadline: Past Due

June 7 - 9, 1998, \* **IEEE RADIO FREQUENCY INTEGRATED CIRCUITS SYMPOSIUM**, Location: Baltimore Convention Center, Baltimore, MD, Contact: Jim Moniz, Tel: (914) 892-8905, Fax:

(914) 892-6300, E-Mail: j.moniz@vnet.ibm.com, Deadline: Past Due

June 9 - 11, 1998, @ **IEEE SYMPOSIUM ON VLSI TECHNOLOGY**, Location: Hilton Hawaiian Village Hotel, Honolulu, HI, Contact: Melissa Widerkehr, Tel: (301) 527-0902, Fax: (301) 527-0994, E-Mail: vlsi@aol.com, Deadline: Past Due

June 11 - 13, 1998 # **IEEE SYMPOSIUM ON VLSI CIRCUITS**, Location: Hilton Hawaiian Village Hotel, Honolulu, HI, Contact: Melissa Widerkehr, Tel: (301) 527-0902, Fax: (301) 527-0994, E-Mail: vlsi@aol.com, Deadline: Past Due

June 14 - 19, 1998, ✓ **INTERNATIONAL HIGH TEMPERATURE ELECTRONICS CONFERENCE**, Location: Albuquerque Marriott Hotel, Albuquerque, NM, Contact: Debbie Marchand, Tel: (505) 266-5678 ext. 308, Fax: (505) 260-1163, E-Mail: marchand@techreps.com, Deadline: Past Due

June 22 - 24, 1998, \* **IEEE DEVICE RESEARCH CONFERENCE**, Location: University of Virginia, Charlottesville, VA, Contact: Emmanuel Crabbe, Tel: (914) 892-2056, Fax: (914) 892-2568, E-Mail: crabbe@watson.ibm.com, Deadline: Past Due

June 22 - 25, 1998, ✓ **INTERNATIONAL POWER MODULATOR SYMPOSIUM**, Location: Westin Mission Hills Resort, Rancho Mirage, CA, Contact: Janice Brooks, Tel: (703) 413-3882, Fax: (703) 413-1315, E-Mail: j.brooks@washington.palisades.org, Deadline: Past Due

July 19 - 24, 1998, @ **IEEE INTERNATIONAL VACUUM MICROELECTRONICS CONFERENCE**, Location: The Grove Park Inn Resort, Asheville, NC, Contact: Rene Gielen, Tel: (919) 515-2378, Fax: (919) 515-7724, E-Mail: rene\_gielen@ncsu.edu, Deadline: 5/98

Aug. 2 - 6, 1998, @ **INTERSOCIETY ENERGY CONVERSION ENGINEERING CONFERENCE**, Location: Sheraton Colorado Springs Hotel, Colorado Springs, CO, Contact: Samim Anghaie, Tel: (352) 392-1427, Fax: (352) 392-8656, E-Mail: anghaie@inspi.ufl.edu, Deadline: Past Due

Aug. 2 - 6, 1998, \* **IEEE NON-VOLATILE SEMICONDUCTOR MEMORY WORKSHOP**, Location: Hyatt Regency Hotel, Monterey, CA, Contact: Arthur Wang, Tel: (408) 232-8811, Fax: (408) 232-8805, E-Mail: awang@hea.com, Deadline: 4/3/98

Aug. 10 - 12, 1998, ✓ **INTERNATIONAL SYMPOSIUM ON LOW POWER ELECTRONICS AND DESIGN**, Location: Monterey Convention Center, Monterey, CA, Contact: Farid N. Najm, Tel: (217) 333-7678, Fax: (217) 244-1946, E-Mail: najm@uiuc.edu, Deadline: Past Due

Sept. 18 - 20, 1998, ✓ **INTERNATIONAL WORKSHOP ON INTEGRATED POWER PACKAGING**, Location: Ramada Congress Hotel, Chicago, IL, Contact: Krishna Shenai, Tel: (312) 996-2633, Fax: (312) 996-0763, E-Mail: k.shenai@ieee.org, Deadline: 5/18/98

Sept. 23 - 25, 1998, \* **IEEE/SEMI ADVANCED SEMICONDUCTOR MANUFACTURING CONFERENCE AND WORKSHOP**, Location: Copley Plaza (Fairmont Hotel), Boston, MA, Contact: Scott McClure, Tel: (802) 769-9380, Fax: (802) 769-8724, E-Mail: scottmc@vnet.ibm.com, Deadline: Past Due

Sept. 27 - 29, 1998, \* **IEEE BIPOLAR/BICMOS CIRCUITS AND TECHNOLOGY MEETING**, Location: Minneapolis Marriott City Center Hotel, Minneapolis, MN, Contact: Janice V. Jopke, Tel: (612) 934-5082, Fax: (612) 934-6741, E-Mail: jjopke@aol.com, Deadline: Past Due

Oct. 5 - 7, 1998, # **IEEE INTERNATIONAL CONFERENCE ON COMPUTER DESIGN: VLSI IN COMPUTERS AND PROCESSORS**, Location: Marriott Hotel at the Capital, Austin, TX, Contact: Mary-Kate Rada, Tel: (202) 371-1013, Fax: (202) 728-0004, E-Mail: m.rada@computer.org, Deadline: Past Due

Oct. 5 - 8, 1998, \* **IEEE INTERNATIONAL SOI CONFERENCE**, Location: Indian River Plantation Marriott Resort, Stuart, FL, Contact: Ted Houston, Tel: (972) 995-9131, Fax: (972) 995-2770, E-Mail: ted-houston@tri.com, Deadline: 5/8/98

Oct. 6 - 8, 1998, ✓ **ELECTRICAL OVERSTRESS/ELECTROSTATIC DISCHARGE SYMPOSIUM**, Location: John Ascuaga's Nugget Hotel, Reno, NV, Contact: ESD Association, Tel: (315) 339-6937, Fax: (315) 339-6793, E-Mail: eosesd@aol.com, Deadline: Past Due

Oct. 12 - 15, 1998, \* **IEEE INTERNATIONAL INTEGRATED RELIABILITY WORKSHOP**, Location: Stanford Sierra Camp, S. Lake Tahoe, CA, Contact: Sally J. Yankee, Tel: (802) 769-3242, Fax: (802) 769-1220, E-Mail: yankees@btvlbum.vnet.ibm.com, Deadline: 7/7/98

Nov. 1 - 4, 1998, \* **IEEE GALLIUM ARSENIDE INTEGRATED CIRCUITS SYMPOSIUM**, Location: Westin Peachtree Plaza, Atlanta, GA, Contact: Bill Stanchina, Tel: (310) 317-5089, Fax: (310) 317-5450, E-Mail: wstanchina@msmail4.hac.com, Deadline: 5/8/98

Nov. 2 - 6, 1998, ✓ **MANUFACTURING SCIENCE AND TECHNOLOGY GROUP PROGRAM**, Location: Baltimore Convention Center, Baltimore, MD, Contact: Frederick Dill, Tel: (914) 945-3332, Fax: (914) 945-4520, E-Mail: dill1@watson.ibm.com, Deadline: 5/1/98

Nov. 4, 1998, ✓ **IEEE ELECTRON DEVICES ACTIVITIES IN WESTERN NEW YORK**, Location: Rochester Institute of Technology, Rochester, NY, Contact: Karl Hirschman, Tel: (716) 475-5130, Fax: (716) 475-5041, E-Mail: kdhemc@rit.edu, Deadline: 10/1/98

Nov. 8 - 12, 1998, # **IEEE INTERNATIONAL CONFERENCE ON COMPUTER-AIDED DESIGN**, Location: DoubleTree Hotel, San Jose,

\* = Sponsorship or Co-Sponsorship Support  
✓ = Technical Co-Sponsorship Support

@ = Alternates support between 'Sponsorship/Co-Sponsorship' and 'Technical Co-Sponsorship'  
# = Cooperation Support

CA, Contact: Darrin Judkins, Tel: (303) 530-4562, Fax: (303) 530-4334, E-Mail: darrin@dac.com, Deadline: 4/9/98

Dec. 3 - 5, 1998, \* **IEEE SEMICONDUCTOR INTERFACE SPECIALISTS CONFERENCE**, Location: Catamaran Resort Hotel, San Diego, CA, Contact: Dan Fleetwood, Tel: (505) 844-1825, Fax: (505) 844-2991, E-Mail: dmfleet@sandia.gov, Deadline: 8/10/98

Dec. 6 - 9, 1998, \* **IEEE INTERNATIONAL ELECTRON DEVICES MEETING**, Location: San Francisco Hilton & Towers Hotel, San Francisco, CA, Contact: Phyllis Mahoney, Tel: (301) 527-0900, Fax: (301) 527-0994, E-Mail: pwma-honey@aol.com, Deadline: 6/29/98

## Europe, Middle East & Africa (Region 8)

May 20 - 22, 1998, ✓ **INTERNATIONAL CONFERENCE ON MICROWAVES AND RADAR**, Location: Japanese Art and Technology Center "Manggha", Krakow, Poland, Contact: Edward Sedek, Tel: 48-22-102-571, Fax: 48-22-102-571, E-Mail: sedek@pol.pl, Deadline: Past Due

June 2 - 5, 1998, ✓ **INTERNATIONAL CONFERENCE ON MATHEMATICAL METHODS IN ELECTROMAGNETIC THEORY**, Location: Kharkov State University, Kharkov, Ukraine, Contact: Alexander I. Nosich, Tel: 380-572-377380, Fax: 380-572-441105, E-Mail: alex@emt.karkov.ua, Deadline: Past Due

June 7 - 12, 1998, ✓ **INTERNATIONAL CONFERENCE ON HIGH-POWER PARTICLE BEAMS**, Location: International Conference Center, Haifa, Israel, Contact: Joseph Shiloh, Tel: 972-4-8795016, Fax: 972-4-8795315, E-Mail: jshiloh@rafael.co.il, Deadline: Past Due

June 14 - 19, 1998, ✓ **INTERNATIONAL CONFERENCE ON HIGH-POWER ELECTROMAGNETICS**, Location: Dan Panorama Hotel, Tel-Aviv, Israel, Contact: Joseph Shiloh, Tel: 972-4-8795016, Fax: 972-4-8795315, E-Mail: jshiloh@rafael.co.il, Deadline: Past Due

June 24 - 26, 1998, ✓ **EUROPEAN WORKSHOP ON LOW TEMPERATURE ELECTRONICS**, Location: Study Center "I Cappuccini" of the Miniato Savings Bank Ltd., San Miniato, Tuscany, Italy, Contact: Daniel V. Camin, Tel: 39-2-2392-303, Fax: 39-2-2392-624, E-Mail: wolte@mi.infn.it, Deadline: Past Due

July 6 - 10, 1998, @ **IEEE WORLD CONFERENCE ON PHOTOVOLTAIC ENERGY CONVERSION**, Location: Hofburg Kongresszentrum, Vienna, Austria, Contact: Sheila G. Bailey, Tel: (216) 433-2228, Fax: (216) 433-6106, E-Mail: sheila.bailey@lerc.nasa.gov, Deadline: Past Due

Aug. 31 - Sept. 4, 1998, ✓ **INTERNATIONAL CONFERENCE ON MOLECULAR BEAM EPI-TAXY**, Location: Palais Des Festivals, Cannes, France, Contact: Frederic Raymond, Tel: 33-04-93-95-78-10, Fax: 33-04-93-95-83-61, E-Mail: raymond@crhea.cnrs.fr, Deadline: Not Available

Sept. 2 - 4, 1998, @ **IEEE INTERNATIONAL CONFERENCE ON SIMULATION OF SEMICONDUCTOR PROCESSES AND DEVICES**, Location:

Auditorium Pieter De Somer, Leuven, Belgium, Contact: Timshel, Tel: 32-16-281322, Fax: 32-16-281214, E-Mail: info@timshel.be, Deadline: Past Due

Sept. 7 - 9, 1998, ✓ **INTERNATIONAL CONFERENCE ON ACTUAL PROBLEMS OF ELECTRON DEVICE ENGINEERING**, Location: Saratov State Technical University, Saratov, Russia, Contact: Irina B. Jakovleva, Tel: 7-845-2-506760, Fax: 7-845-2-507563, E-Mail: apede98@star.sstu.runnet.ru, Deadline: Past Due

Sept. 7 - 11, 1998, ✓ **EUROPEAN SOLID-STATE DEVICE RESEARCH CONFERENCE**, Location: School of Electrical Engineering ENSERB of the University of Bordeaux, Bordeaux, France, Contact: Herbert Gruenbacher, Tel: 43-1-58801-8150, Fax: 43-1-586-9697, E-Mail: hg@vlsivie.tuwien.ac.at, Deadline: 4/10/98

Sept. 14 - 16, 1998, # **INTERNATIONAL CONFERENCE ON MATERIALS FOR MICRO-ELECTRONICS**, Location: Palais des Congres, Bordeaux, France, Contact: Cathy Pearcey, Tel: 44-171-839-4071, Fax: 44-171-839-6591, E-Mail: cathy\_pearcey@materials.org.uk, Deadline: Past Due

Sept. 15 - 17, 1998, ✓ **INTERNATIONAL SYMPOSIUM ON PHYSICS AND ENGINEERING OF MILLIMETER AND SUB-MILLIMETER WAVES**, Location: Kharkov State University, Kharkov, Ukraine, Contact: Alexander Nosich, Tel: 380-572-448595, Fax: 380-572-441105, E-Mail: alex@emt.kharkov.ua, Deadline: 4/15/98

Sept. 20 - 23, 1998, # **INTERNATIONAL SYMPOSIUM ON ULTRA CLEAN PROCESSING OF SILICON SURFACES**, Location: Thermae Palace Hotel, Oostende, Belgium, Contact: Marc Heyns, Tel: 32-16-281348, Fax: 32-16-281315, E-Mail: heyns@imec.be, Deadline: Past Due

Sept. 23 - 26, 1998, ✓ **INTERNATIONAL CONFERENCE ON ACTUAL PROBLEMS OF ELECTRONIC INSTRUMENT ENGINEERING**, Location: Novosibirsk State Technical University, Novosibirsk, Russia, Contact: Liliya I. Lisitsina, Tel: 7-3832-460619, Fax: 7-3832-465061, E-Mail: nrec@redhouse.nstu.nsk.su, Deadline: Past Due

Sept. 29 - Oct. 2, 1998, ✓ **INTERNATIONAL SYMPOSIUM ON SIGNALS, SYSTEMS, AND ELECTRONICS**, Location: Palazzo dei Congressi, Pisa, Italy, Contact: Filippo Giannetti, Tel: 39-50-568548, Fax: 39-50-568522, E-Mail: filippo@iet.unipi.it, Deadline: 4/15/98

Oct. 2 - 9, 1998, ✓ **INTERNATIONAL SCHOOL ON CHAOTIC OSCILLATIONS AND PATTERN FORMATION**, Location: Holiday Hotel, Saratov, Russia, Contact: Dmitry I. Trubetskoy, Tel: 7-8452-514294, Fax: 7-8452-240446, E-Mail: true@cas.ssu.runnet.ru, Deadline: Not Available

Oct. 5 - 7, 1998, ✓ **ADVANCED SEMICONDUCTOR DEVICES AND MICROSYSTEMS**, Location: The Castle of Smolenice, Smolenice, Slovakia, Contact: Juraj Breza, Tel: 4217-60291328, Fax: 4217-65423480, E-Mail: breza@elf.stuba.sk, Deadline: Past Due

Oct. 5 - 9, 1998, ✓ **EUROPEAN SYMPOSIUM ON RELIABILITY OF ELECTRON DEVICES, FAILURE PHYSICS AND ANALYSIS**, Location:

Scandic Hotel Copenhagen, Copenhagen, Denmark, Contact: Claus Kjaergaard, Tel: 45-4525-5266, Fax: 45-4588-0286, E-Mail: ck@iae.dtu.dk, Deadline: Past Due

Oct. 6 - 10, 1998, \* **INTERNATIONAL SEMICONDUCTOR CONFERENCE**, Location: Sinaia Hotel, Sinaia, Romania, Contact: Doina Vancu, Tel: 401-2301448, Fax: 401-2307519, E-Mail: cas@imt.ro, Deadline: 4/15/98

Oct. 21 - 23, 1998, ✓ **INTERNATIONAL CONFERENCE ON INTEGRATED CIRCUIT YIELD**, Location: University of Nis, Nis, Yugoslavia, Contact: Gary Cheek, Tel: (617) 937-2556, Fax: (617) 937-2008, E-Mail: gary.cheek@analog.com, Deadline: 5/6/98

Nov. 2 - 5, 1998, ✓ **INTERNATIONAL SEMINAR/WORKSHOP ON DIRECT AND INVERSE PROBLEMS OF ELECTROMAGNETIC AND ACOUSTIC WAVE THEORY**, Location: Tbilisi State University, Tbilisi, Georgia, Contact: Mykhailo I. Andriychuk, Tel: 38-0322-651944, Fax: 38-0322-637088, E-Mail: voi@ippmm.lviv.ua, Deadline: 6/1/98

Nov. 23 - 24, 1998, ✓ **WORKSHOP ON HIGH PERFORMANCE ELECTRON DEVICES FOR MICROWAVE AND OPTOELECTRONIC APPLICATIONS**, Location: UMIST Conference Centre, Manchester, United Kingdom, Contact: Mohamed Missous, Tel: 44-161-200-4797, Fax: 44-161-200-4770, E-Mail: missous@umist.ac.uk, Deadline: 9/10/98

## Asia & Pacific (Region 10)

May 11 - 15, 1998, @ **IEEE INTERNATIONAL CONFERENCE ON INDIUM PHOSPHIDE AND RELATED MATERIALS**, Location: University of Tsukuba, University Hall, Tsukuba, Japan, Contact: Melissa Estrin, Tel: (732) 562-3896, Fax: (732) 562-8434, E-Mail: m.estrin@ieee.org, Deadline: Past Due

June 3 - 6, 1998, @ **IEEE INTERNATIONAL SYMPOSIUM ON POWER SEMICONDUCTOR DEVICES & INTEGRATED CIRCUITS**, Location: Rihga Royal Hotel, Kyoto, Japan, Contact: Yoshitaka Sugawara, Tel: 81-6-494-9736, Fax: 81-6-494-9728, E-Mail: None, Deadline: Past Due

June 16 - 17, 1998, ✓ **SEMICONDUCTOR MANUFACTURING TECHNOLOGY WORKSHOP**, Location: China Trust Hotel, Hsinchu, Taiwan, Contact: Rachel Huang, Tel: 886-3-5917232, Fax: 886-3-582-0056, E-Mail: rachel@erso.itri.org.tw, Deadline: Not Available

June 22 - 26, 1998, ✓ **INTERNATIONAL CONFERENCE ON ION IMPLANTATION TECHNOLOGY**, Location: Miyako Hotel, Kyoto, Japan, Contact: Isao Yamada, Tel: 81-75-753-5951, Fax: 81-75-751-6774, E-Mail: i-yamada@kuee.kyoto-u.ac.jp, Deadline: Past Due

July 7 - 10, 1998, @ **INTERNATIONAL VACUUM ELECTRON SOURCES CONFERENCE**, Location: AIST - Tsukuba Research Center, Tsukuba, Japan, Contact: Masahito Yoshikawa, Tel: 81-298-58-1111, Fax: 81-298-52-0844, E-Mail: ivesc@itlab.co.jp, Deadline: Past Due

July 13 - 16, 1998, ✓ **INTERNATIONAL MICROPROCESS AND NANOTECHNOLOGY CON-**

**ERENCE**, Location: Hotel Hyundai, Kyoungju, Korea, Contact: Hiroaki Masuko, Tel: 03-5814-5800, Fax: 03-5814-5823, E-Mail: confg@bcasj.or.jp, Deadline: Past Due

Aug. 18 - 20, 1998, ✓ **INTERNATIONAL CONFERENCE ON MICROWAVE AND MILLIMETER WAVE TECHNOLOGY**, Location: Beijing, China, Contact: Mengqui Zhou, Tel: 86-10-68283463, Fax: 86-10-68283458, E-Mail: mqzhou@public.bta.net.cn, Deadline: Past Due

Aug. 29, 1998, ✓ **HONG KONG ELECTRON DEVICES MEETING**, Location: Hong Kong Univer-

sity of Science & Technology, Hong Kong Contact: Charles Surya, Tel: 852-2766-6220, Fax: 852-2362-8439, E-Mail: ensurya@polyu.edu.hk, Deadline: Not Available

Aug. 30 - Sept. 2, 1998, ✓ **TOPICAL WORKSHOP ON HETEROSTRUCTURE MICROELECTRONICS FOR INFORMATION SYSTEM APPLICATIONS**, Location: Shonan Village Center, Hayama-Machi, Kanagawa, Japan, Contact: Dimitris Pavlidis, Tel: (313) 647-1778, Fax: (313) 763-9324, E-Mail: pavlidis@umich.edu, Deadline: 4/3/98

Sept. 7 - 10, 1998, ✓ **INTERNATIONAL CONFERENCE ON SOLID-STATE DEVICES AND MATERIALS**, Location: International Conference Center Hiroshima, Hiroshima, Japan, Contact: Shoso Shingubara, Tel: 81-824-24-7645, Fax: 81-824-22-7195, E-Mail: shingu@ipc.hiroshima-u.ac.jp, Deadline: 5/22/98

Oct. 7 - 9, 1998, @ **INTERNATIONAL SYMPOSIUM ON SEMICONDUCTOR MANUFACTURING**, Location: Hotel East 21 Tokyo, Tokyo, Japan, Contact: Sumitomo Hirota, Tel: 81-3-3815-8775, Fax: 81-3-3815-8529, E-Mail: rlz@ppp.bekkoame.or.jp, Deadline: 4/17/98

## AdCom Meeting

(continued from page 16)

### Meetings

Jim Clemens has taken over as chairmanship of the Meetings Committee from Rick Sivan, and will expand its membership appropriately. Jim reports that in 1997 EDS had 31 sponsor or co-sponsored meetings, 35 as a technical co-sponsor, and 10 cooperative conferences. The difference between these grades reflects the amount of financial and/or administrative interest EDS has in a particular meeting. The Meetings Committee is discussing the establishment of databases on quality control, publicity, financial reporting, and location that would be available to chairs of conferences on request. The repeat meetings list for the first half of 1999 was approved. The International Vacuum Electron Sources Conference to be held in the year 2000 was approved for 100% financial sponsorship support, with the AVS being a technical co-sponsor. EDS will no longer be a 25% co-sponsor of the Multi-Chip Module Conference. The focus and name of the conference have changed and the Solid State Circuits Society will now take over EDS' sponsorship percentage. Most conferences reporting their status at AdCom reported increased attendance and a small to modest surplus. Jim has stated that his major goals are to: establish comprehensive databases on all the meetings and conferences that EDS is involved with, to continue the Best Practices Workshop and generate guidance materials to supplement the general IEEE guidelines, to provide assistance to start-up conferences and existing conferences, where needed, and to help improve the overall quality of conferences, including their organization, administration and technical content.

### Division I Director's Report

1997 ends Mike Adler's two-year term as Division I Director. The IEEE Board of Directors is adapting new initiatives and procedures, regarding a stronger policy in the financial closeout of conferences, continua-

tion of the East European library project, changes in selected policies and procedures, and reduction of IEEE student membership from \$25 to \$19 for US students and \$14 for students residing elsewhere. More importantly, he outlined the Board's 5-year plan which is directed to broaden membership (increase member retention, increase paying members, and expand into new technological areas), strengthen culture and image (provide identity and value to members, implement full globalization within 5 years), enhance value (promote more peer review), provide products and technology (such as reduction of paper by electronic publication), and improve public imperatives (provide visibility to public of awards and recognition, improve public image of IEEE). Mike also reviewed the results of the very successful Division I & IV initiative to grow Chapters in Regions 8 - 10. Specifically, chapters in Region 8 grew by 24, with EDS going from 8 to 32 in the last 3 years. In Region 9, 2 new chapters have been formed with 8 more are underway, while in Region 10, 1 new chapter has been established and 8 are in progress. It is also interesting to note that in Region 8 where there has been the greatest number of new chapters, EDS has its fastest membership growth, growing by 35% in the last 3 years.

### Other News

Dr. George Smith, formerly of Bell Labs, is the 1997 winner of the EDS Distinguished Service Award. Dr. Smith was the founding editor of EDL and has been a leader in many EDS endeavors over many years. The 1997 J.J. Ebers Award was given to Prof. Marvin White for his pioneering work in CCD/imaging device technology. In 1997, 20 members evaluated by EDS were awarded the grade of Fellow out of 55 nominees. There were 4 other EDS members elected to Fellow who were evaluated by other societies. Members are encouraged to nominate worthy members for consideration in both 1998 and 1999. EDS has also approved increases in the cash

awards for the Ebers Award (to \$5K), Distinguished Service Award (to \$2.5K) and Rappaport Award (also to \$2.5K) starting in 1998. The IEEE Jack A. Morton Award, formerly administered and supported by Lucent Technologies will become fully sponsored by EDS after 1998. Specific details on this will be reported at future AdCom meetings.

EDS will study what role is appropriate for its participation in the 100th anniversary of NIST in the year 2001. Presentations dealing with the historical development of electron devices will play a major role and are scheduled to appear in various commemorative forums, journals, exhibits, and articles.

EDS will investigate what role is appropriate for us to play in participating in new emergent technologies. A case was cited during the meeting of the development of sensor technology towards developing an "Electronic Nose". This work has been ongoing in the sensor community for some time but has not been embraced by EDS formally in meetings or publications. An appropriate EDS representative will be sought to be a member of this (i.e. "Electronic Nose") committee to help define our participation.

The IEEE TAB Transportation Systems Committee received EDS approval to become a council. Likewise, the IEEE TAB Applied Superconductivity Committee also received council consent by EDS.

EDS Professional Activities efforts are already embraced by existent efforts within the Education, Chapters, and Membership groups and will cease to continue as a separate task.

The IEEE Women in Engineering Committee will henceforth administer the STAR program.

The next meeting of AdCom will be on Sunday, June 7 in Honolulu at the Hilton Hawaiian Village preceding the Symposium on VLSI Technology.

John K. Lowell  
Applied Materials  
Austin, TX



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