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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 or appropriate Associate Editor. All contact information is listed on page 2. Whenever possible, e-mail is the preferred form of submittal.

### 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

## 1995 Custom Integrated Circuits Conference (CICC)



The 1995 CICC will be held May 1-5, 1995 in Santa Clara, CA. It is sponsored by the EDS and is the leading technical conference supporting the design, fabrication and integration of application specific integrated circuit (ASIC) technology. Through technical and educational sessions, panel discussions, vendor exhibits and sessions, CICC provides a unique opportunity for circuit designers, CAD developers, device manufacturers and ASIC users to present, review and discuss new developments and industry trends. This diverse attendance makes CICC a unique forum, and insures interesting discussion from a broad spectrum of viewpoints.

The new Santa Clara venue of CICC is in close proximity to the many related businesses in the Silicon Valley, allowing combination of business and conference attendance, minimizing travel. The Santa Clara Convention Center provides the site for the conference activities, with the adjacent Westin Hotel providing comfortable accommodations for the conference attendees, exhibitors and press.

Setting the tone for the conference, a keynote address, "The Convergence of Computing, Communications and Consumer Electronics," will be given by

*(continued on page 3)*

## Your Comments Solicited

Your comments and suggestions are most welcome. Please write directly to the Editor of the Newsletter at the address given on page 2.

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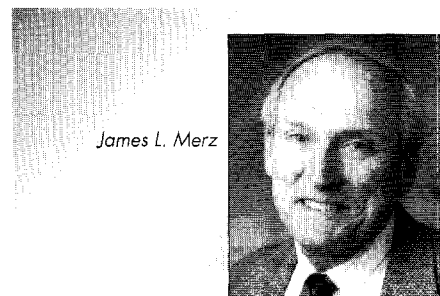
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## December 1994 AdCom Meeting Report



James L. Merz

### Theme: On Globalization, "Unbundling," and Young Women in Science — AdCom Considers the Spectrum!

Globalization, "Unbundling", and the loss of young women from careers in science were just a few of the problems and actions considered by the members of the EDS Administrative Committee (AdCom) when it met all day Sunday, December 11, 1994 at the San Francisco Hilton. Approximately 65 members of EDS now meet semi-annually to review progress and problems faced by our 11,000-member society of the IEEE, with elected members that span the geographic regions of the Institute and representatives of each of the standing committees. These meetings typically precede major technical meetings, IEDM in December, and one of the spring meetings of the society, usually the Device Research Conference. As a change of pace, however, this year the 1995 spring AdCom meeting will precede the Custom Integrated Circuits Conference (CICC) on Sunday, April 30.

### Globalization:

Globalization of EDS has been one of its major initiatives in recent years, and is considered by this observer to be a timely and important activity. Beginning with a relatively small pilot effort, headed up by Jim Clemens, Mike Adler, Lew Terman, Cary Yang and Dexter Johnston, EDS is making an increasingly more determined effort to internationalize its outlook and its membership. Initially this outreach activity caused some serious debate, perhaps even concern, lest the ambassadorial activities of the EDS leadership appear ineffective, costly, and perhaps even a bit paternalistic. The reality is quite the opposite, however; for a relatively small investment of funds, tremendous interest and enthusiasm has been

(continued on page 16)

### EDS ADCOM MEMBERS-AT-LARGE

Term Expires:

1995	1996	*1997
S. Asai	B.F. Griffing	H.S. Bennett
P.E. Cottrell	T. Ikoma	J.T. Clemens
W.D. Johnston, Jr.	R.P. Jindal	H. Iwai
L.C. Parrillo	J.B. Kuo	J.L. Merz
J.M. Woodall	J.K. Lowell	K. Tada
C.Y. Yang	I. Mojzes	R.J. Temkin
	T.H. Ning	S. Verdonckt-Vandebroek
	R.J. Van Overstraeten	

\* Members elected 12/94

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## 1995 CICC

(continued from page 1)

Dr. James E. Carnes of the David Sarnoff Research Center. Fading distinctions between computers, telecommunications and consumer electronics are driving new technologies in digital video, HDTV, DBS, video-on-demand, and displays. Dr. Carnes will comment on the applications, the characteristics of the solutions, and the technology barriers to be overcome, as well as who may be the winners and losers in this exciting new field.

The core of CICC is the approximately 140 technical papers presented during the three days of technical sessions. Topics in digital signal processing and communications will be covered, as will analog and mixed-signal circuits and systems. Both full custom and semi-custom approaches, using programmable elements and gate arrays, will be addressed. Important issues in

design automation and design methodology will be covered, as well as advances in circuit simulation and modeling. Device fabrication, reliability and testing improvements are also presented, making CICC the single best conference to attend to gain a broad understanding of all the facets in the dynamic area of ASICs.

This year's conference luncheon provides an intriguing supplement to the technical sessions. Frank Cepollina from the Goddard Space Flight Center will describe the Hubble Space Telescope repair, and then review the most interesting of the recent discoveries. The presentation, which also includes video, promises to be spectacular.

The scheduled evening panel sessions provide a more interactive format for considering key issues and trends in the industry. Participants and attendees at these lively discussions will gain a deeper understanding of the topics of low voltage design

limitations, MOS modeling issues and requirements for mixed signal design tools.

Preceding the conference, a full day of educational sessions presented by respected lecturers provide extended tutorials on key areas allowing practicing professionals to gain familiarity with areas outside their specialties. Advanced design techniques to be covered include micropower CMOS analog design, ultralow-power digital circuits, low-power data converters and clock generation and distribution. Issues in communications circuits will be addressed through talks on LAN technology fundamentals, SONET/ATM, RF design basics, and implementation of TDMA cellular and cordless units. Tutorials on advanced processing, bipolar for CMOS designers, image and video compression, and interactive set-tops round out the list of topics to be reviewed.

Conference attendees have the opportunity to efficiently contact multiple vendors in related product areas in the extensive exhibits area central to the conference facilities. Supplementary marketing sessions held in concert with the technical sessions provide technical presentations of key new products and capabilities of interest to the CICC audience.

Santa Clara, easily accessible from the San Jose airport, is convenient to a wide array of activities. The amusement park Great America, near the conference hotel, offers rides, dining, and various shows and entertainment. The adjacent San Jose area is known for its table wines and boasts more than 50 wineries ranging from family run establishments to large corporations. Museums in the area include the Children's Discovery Museum of San Jose, the Rosicrucian Egyptian Museum and Planetarium, and San Jose Museum of Art, and the De Saisset Museum. Tours of the nearby USC Lick Observatory are available for those interested. The area also boasts an array of parks, public gardens and shopping areas, as well as serving as a gateway to all the attractions of San Francisco.

For registration information and general inquiries about CICC, please contact the Conference Manager, Melissa Widerkehr, CICC, 1545 18th Street NW, Suite 610, Washington, D.C. 20036, TEL: (202) 986-2166, FAX: (202) 986-1139.

—Jenny Ford,  
Advanced Custom Technologies,  
Advanced RF Device Development,  
Motorola Semiconductor Products Sector,  
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2200 West Broadway Road,  
Mesa, AZ 85202

## 1995 Device Research Conference (DRC)



This year, the DRC will be held June 19-21 at the University of Virginia, Charlottesville, VA. For over 50 years, the DRC has been a forum for the most advanced and revolutionary work in a wide variety of semiconductor electronic and optoelectronic device fields. Past breakthroughs announced at the DRC include the first silicon MOS transistor, the Gunn effect, CW operation of the semiconductor laser, and the first II-VI blue-green laser diode, among others. This year, the focus will continue to be on advanced transistors and photonic devices in Si, III-V semiconductors and other materials, as well as

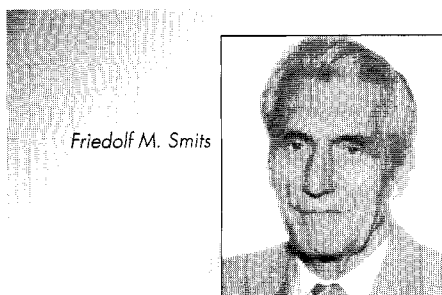
on emerging technologies including sensors and micromachined devices, vacuum microelectronics, superconducting devices and novel displays. Recently, heterostructure devices using SiGe or based on wide bandgap semiconductors have figured prominently in the program. Scaled Si MOSFETs, thin-film transistors, and power device innovations have been discussed, along with a wide range of novel III-V structures including vertical cavity surface emitting lasers, resonant photodetectors, quantum effect devices, and others.

(continued on page 6)

## EDS-Sponsored Awards

### SMITS First Recipient of EDS Distinguished Service Award

Friedolf M. Smits was the first recipient of the EDS Distinguished Service Award. This new award was established in 1993 and is intended to recognize and honor outstanding service to the Electron Devices Society and its sponsored activities. The recipient is awarded a certificate and a check for \$1,000 at the International Electron Devices Meeting (IEDM). Dr. Smits received his award at the 1994 IEDM on December 12th in San Francisco, CA.



Friedolf M. Smits

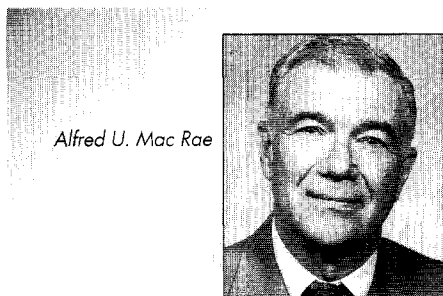
Friedolf Smits received his Ph.D. degree in Physics in 1950 from the University of Freiburg, Germany. He joined W. Shockley's group at Bell Laboratories in 1954 where he worked on solid-state diffusion in semiconductors, on exploratory device development, and on radiation effects on Telstar satellite components. In 1968, he became Director, Semiconductor Device Laboratory at Murray Hill, NJ, and in 1971 he moved to the Allentown, PA location of Bell Laboratories, where he held various responsibilities relating to solid-state devices.

Dr. Smits has contributed many years of devoted and distinguished service to IEEE and EDS. From 1980 to 1987, he was a member of AdCom and Treasurer of EDS. He was instrumental in putting EDS on a financially sound foundation. In 1988, Dr. Smits was responsible for coordinating both the start of the *IEEE Transactions on Semiconductor Manufacturing* and the EDS co-sponsorship of the *Journal of Electronic Materials* with the Minerals, Metals and Materials Society. Since his retirement in 1986, he devotes much of his time to IEEE activities. In 1988 and 1989, he was the Division 1 Director; and since then, has served in many different capacities within the Technical Activities Board and Publications Board of the IEEE.

—Tak H. Ning,  
IBM Research Center,  
Yorktown Heights, NY

### Mac Rae Winner of 1994 Ebers Award

The J.J. Ebers Award was established in 1971 by the Electron Devices Society with the intent to encourage progress in electron devices and to commemorate the life activities of Jewell James Ebers, distinguished contributor to transistor modeling who helped shape the understanding and technology development of electron devices. The award is intended to recognize and honor accomplishment of unusual merit in the electron device field "for outstanding technical contributions to electron devices." The recipient is awarded a certificate and a check for \$2,000, presented at the International Electron Devices Meeting (IEDM). Dr. Mac Rae received his award at the 1994 IEDM on December 12th in San Francisco, CA.



Alfred U. Mac Rae

The 1994 J.J. Ebers Award Recipient was Alfred U. Mac Rae with a citation that reads: "For technical contributions and leadership in ion implantation and VLSI CMOS." Dr. Mac Rae was born in Brooklyn, NY and graduated with a Ph.D. degree in Physics from Syracuse University. He has spent his entire career at the AT&T Bell Laboratories in Murray Hill, NJ where he has contributed extensively to the development of integrated circuit devices and technology. Dr. Mac Rae has published over 40 technical papers and is holder of 18 patents. His systems experience at AT&T includes: high-voltage (600V) dielectric isolated ICs for switches, satellite development activities and microprocessor technology development.

EDS is pleased to honor Dr. Mac Rae for his outstanding technical contributions to the electron devices field for more than three decades and also for his leadership to EDS as its past President (1986-87). Dr. Mac Rae is a Fellow of both the IEEE and the American Physical Society.

—Robert W. Dutton,  
Stanford University,  
Stanford, CA 94305

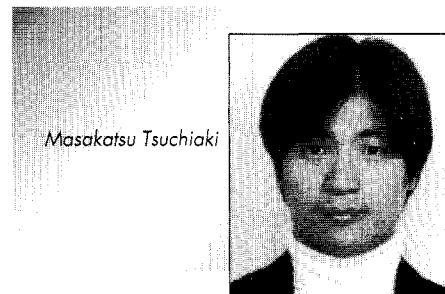
### 1993 Paul Rappaport Award Winners

The Paul Rappaport Award is given each year to honor the author(s) of the best paper that has appeared in an EDS publication in the preceding calendar year. The recipient(s) is awarded a certificate and a check for \$1,000, presented at the International Electron Devices Meeting (IEDM).

The paper entitled, "A New Charge Pumping Method for Determining the Spatial Distribution of Hot-Carrier-Induced Fixed Charge in p-MOSFETs" by Masakatsu Tsuchiaki, Hisashi Hara, Toyota Morimoto and Hiroshi Iwai was recognized as the best paper appearing in an EDS publication in 1993. The paper was published in the October, 1993 issue of *IEEE Transactions on Electron Devices*. The 1993 award was presented at the IEDM on December 12, 1994 in San Francisco, CA.

The following are brief biographies of the four winners who are all employees of the Toshiba Corporation.

**Masakatsu Tsuchiaki** is a member of the "TRIAD" project from Research and Development of Toshiba America Electronic Components Inc., c/o IBM East Fishkill facility, NY. He received the B.S. and M.S. degrees in physics from the University of Tokyo, Japan, in 1987 and 1989, respectively. He joined ULSI Research Laborato-



Masakatsu Tsuchiaki

ries, Research and Development Center of Toshiba Corporation, Kawasaki, Japan, 1990. He moved to the IBM/Siemens/Toshiba joint project for 256Mb DRAM development at IBM Semiconductor Research and Development Center in 1993. His work at Toshiba Japan includes the basic study of hot carrier degradation mechanism and high speed MOS devices. Currently, he is working on the process development for 256Mb DRAM fabrication.

**Hisashi Hara** is the general manager of ULSI Research Laboratories, Research and Development Center, Toshi-

Hisashi Hara



ba Corporation, Kawasaki, Japan. He received the B.S. degree in electrical engineering from Yokohama University, Japan in 1962, and M.S. and Ph.D. degrees in electrical engineering from the University of Tokyo, Japan, in 1964 and 1978, respectively. He received the National Invention Award from Japan Institute of Invention and Innovation in 1982. He joined Toshiba Corporation in 1964. His work in Toshiba includes the development of MOS ULSIs, such as 8-, 12-, 16-bit microprocessors and memories (DRAM, SRAM and EPROM), and study of MOSFET physics, such as mobility and breakdown phenomena, which lead to avalanche injection MOS devices. Recently his main research interest is focused on short-channel MOS device physics and new memories.

**Toyota Morimoto** is a research scientist of ULSI Research Laboratories in the Research and Development Center, Toshi-

Toyota Morimoto



ba Corporation, Kawasaki, Japan. He received the B.S. and M.S. degrees in electrical engineering from Science University of Tokyo, Japan, in 1984 and 1986, respectively. He joined Research and Development Center of Toshiba Corporation in 1986. He has been engaged in the research and development of advanced logic devices. His current interests include oxynitride and salicide technology. Mr. Morimoto is a member of the Japan Society of Applied Physics.

**Hiroshi Iwai** is a Senior Research Scientist of ULSI Research Laboratories, Research and Development Center, Toshiba Corporation, Kawasaki, Japan. He received the B.S. and Ph.D. degrees in electrical engineering from the University of

Tokyo, Japan in 1972 and 1992, respectively. He joined Research and Development Center of Toshiba Corporation in 1973. His awards include: Local Commendation for Invention from Japan Institute of Invention and Innovation (1990), Grand Prize of Nikkei BP Technology Awards

Hiroshi Iwai



(1994). He has developed several generations of high-density memory and logic LSIs including CMOS, bipolar, and Bi-CMOS devices. He has also contributed to research on device physics related to small-geometry MOS and bipolar transistors, as well as research on T-CAD. Currently he supervises high-speed and high-frequency silicon device technologies.

—Steven Hillenius,  
AT&T Bell Laboratories,  
Murray Hill, N.J.

### 1993 IEEE Transactions on Semiconductor Manufacturing Best Paper Award

This award is presented to the authors of the paper considered by the Editorial Staff and reviewers of the *IEEE Transactions on Semiconductor Manufacturing* (T-SM) to be the most outstanding paper published during the year. The T-SM Best Paper Award is based on the accuracy, originality, and importance of the technical concept, as well as the quality and readability of the manuscript.

The paper entitled, "Model Identification in Rapid Thermal Processing Systems" by Y.M. Cho and T. Kailath was recognized as the best paper published in the Transactions in 1993. This paper, that appeared in the August issue, was chosen because it represented one of the first successful attempts to mate formal control theory with an important, practical problem in semiconductor processing. It is anticipated that this work will open the way to solving many more real-time control problems in future IC production.

The 1993 Award was presented at the Advanced Semiconductor Manufacturing Conference and Workshop (ASMC) in Cambridge, MA this past November.

**Young Man Cho** was born on September 27, 1966 in Seoul, Korea. He received the B.S. degree in control and instrumentation engineering from Seoul National University, Seoul, Korea, in 1989 and the M.S. and Ph.D. in electrical engineering from Stanford University, Stanford, CA in 1991 and 1993, respectively. During 1993-1994, he worked as a postdoctoral research fellow in electrical engineering at Stanford University, in the area of system identification and its application to semiconductor manufacturing. He

Young Man Cho



is currently working at United Technology Research Center, E. Hartford, CT. He has worked in several areas including system identification, numerical linear algebra and signal processing, temperature control and measurement in rapid thermal processing. His current research interests are in system/source identification, channel identification, estimation theory, active noise control.

**Thomas Kailath** studied in India, and at the Massachusetts Institute of Technology before joining Stanford University, where he holds the Hitachi America Professorship of Engineering. His research has spanned a large number of disciplines, emphasizing information theory and com-

Thomas Kailath



munications in the sixties; linear systems, estimation and control in the seventies; and VLSI design and sensor array signal processing in the eighties. Alongside these have been activities in several fields of applied mathematics. His current interests emphasize applications of signal processing, computation and control to problems in manufacturing and telecommunications. Dr. Kailath is a co-founder of Integrated

Systems, Inc., Palo Alto, CA, a publicly held company specializing in the development and licensing of real-time embedded software and hardware products for communications and control applications in various fields.

He has received awards, from, among others, the IEEE Information Theory Society, which he served as President in 1975, the IEEE Signal Processing Society, the American Control Council. He is Fellow of the IEEE, and a member of the National Academy of Engineering and the American Academy of Arts and Sciences. He has just been awarded the Education Medal of the IEEE, "for leadership in graduate engineering education through a classic textbook in linear systems and creative interdisciplinary research." Apropos of the citation, he is the principal investigator on a large recent Multidisciplinary University Research Initiative grant from ARPA in the area of microlithography.

—Costas J. Spanos,  
EECS Department,  
University of California,  
Berkeley, CA

## Announcement of the EDS/JSAP Agreement Subscriptions to the Japanese Journal of Applied Physics

Effective January 1, 1995, the Electron Devices Society (EDS) and the Japan Society of Applied Physics (JSAP) signed an agreement that allows EDS Members to subscribe to the *Japanese Journal of Applied Physics* (JJAP) and JSAP members to subscribe to *Electron Device Letters* (EDL) and *Transactions on Electron Devices* (T-ED) at low "sister society" rates.

JJAP consists of two bound editions, Parts 1 and 2. Part 1 is divided into Part 1A and Part 1B and is published monthly. Part 1A is for the regular papers, short notes and review papers. Part 1B is for special issues which contain review and regular papers presented at international conferences, symposia, etc., sponsored by JSAP and accepted according to the standard review process of JJAP. Part 2 is for letters, and is published semimonthly.

The fields of the contributed papers are as follows: superconductors, metals and conductors, semiconductors, magnetic materials, dielectrics, crystals, glasses and

amorphous materials, polymers, liquid crystals and biological materials, thin films, surfaces and interfaces, liquids and solutions, and plasmas and gases, including their physics, characterization, preparation, production and application to instrumentation and devices; electric, magnetic and optical properties, mechanical and acoustic properties, thermal properties, including their application to devices and instrumentation; optics and optoelectronics, X-rays and electron, neutron and ion beam including their optics, application and instrumentation; nuclear science, information science, low temperature physics, metrology and quantum phenomena including analysis and application to devices and instrumentation.

If you would like to obtain an order form for JJAP, please contact the EDS Executive Office listed on page 2. An order form will also be included in upcoming issues of EDL and several other EDS sponsored publications.

## 1995 DRC (continued from page 3)

Researchers from industry, academia and government will meet for three intensive days as part of the DRC. The morning and afternoon sessions (which typically include 4 plenary invited presentations and 75 contributed papers) are complemented with a reception, a picnic, and rump sessions during the evenings. The DRC features an atmosphere of intense, yet informal, technical interchange among attendees.

The emphasis of the DRC is on frontier research — not on incremental advances in a mature field. The conference is the right place to present, and become

informed about, key ideas for future device directions. To facilitate discussion of the latest results, a significant number of late papers are accepted (for which submission of abstracts can be as late as the day before the conference!).

The site for the 1995 DRC is the University of Virginia, Charlottesville. This uniquely beautiful campus combines a forested country setting with a background of historical significance. The University was founded by Thomas Jefferson, and includes many buildings designed by him. The campus is situated near the Blue Ridge Mountains, within miles of Monticello, a short two hours drive from Washington, D.C. Vacation opportunities abound in the vicinity of

Charlottesville, including the Shenandoah Valley, Skyline Drive, civil war battlefields, and homes of Presidents George Washington, James Madison, James Monroe, Woodrow Wilson and Thomas Jefferson.

The conference takes place in a university setting, and most attendees stay in the university dormitories (which are air-conditioned at UVA!). The result is an informal atmosphere that promotes interactions among participants that is a unique feature of the DRC. The DRC will be held, in customary fashion, together with the Electronic Materials Conference (EMC), which is scheduled for June 23 - 25. One day of overlap (Wednesday) promotes interactions between the device research community and the closely allied advanced materials community.

For information concerning registration and accommodations, please contact Prof. Elias Towe, University of Virginia, Charlottesville, TEL: (804) 924-6078, FAX: (804) 924-8818, E-MAIL: towe@virginia.edu. For inquiries regarding paper submission and the technical program, please contact Prof. Peter Asbeck, University of California, San Diego, TEL: (619) 534-6713, FAX: (619) 534-2486, E-MAIL: asbeck@ece.ucsd.edu.

—Peter Asbeck

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La Jolla, CA 92093-0407

## CALL FOR NOMINATIONS 1995 EDS J.J. Ebers Award

The IEEE Electron Devices Society invites the submission of nominations for the 1995 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 \$2,000, 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 1995 award is July 14, 1995. Completed nomination forms should be sent to the Executive Office at the address given on page 2.



## Chapter Reports

### Regions 1-6, 7 & 9

#### Joint Columbus ED/LEO Chapter

— by Steve Ringel

The Columbus EDS chapter has actively co-sponsored the "Nanostructure Materials and Devices Seminar" jointly with The Ohio State University for the past two and a half years. This seminar series is held during the academic year at Ohio State. The weekly presentations, alternate between talks given by local speakers and presentations by noted external speakers. The reason for this format is to allow local talks with strong pedagogical content to be included for the benefit of the student attendants. Topics discussed in past seminars have ranged from fundamental electronic materials issues to epitaxial discussions on the growth of diverse materials such as III-V nitrides, type II superlattices, and discussions on novel quantum electronic devices.

— Elias D. Towe, Associate Editor

#### San Diego AP/ED/MTT Chapter

— by Ralph Levy

The end of 1994 also marked an end of an era for the San Diego Chapter, since our regular meeting location, the Cafe Del Rey Moro in Balboa Park, closed down. The final talk at the old location was by Dick Synder of RS Microwave, Inc., Butler, NJ, who gave a review of modern filter technology. Local filter companies turned up in force, and we had a good attendance of 43. The speaker concentrated on topics which will have an impact on future trends, including efficient network design, surface mount, dielectric resonators, high speed digital filters, and high temperature superconductivity.

At the time of writing, we enter the new year with good expectations that our new location will be equally successful under the direction of newly elected Chairman Paul Yu, Vice Chairman Steve Hart, and Secretary/Treasurer John Roussos, with assistance from past Chairmen Ralph Levy and Al Clavin. Our first meeting on January 17 features a talk on Wireless Communications Trends by Richard Dean of Qualcomm Inc. The second meeting is scheduled on February 22 and Jim Zeidler from NOSC at San Diego will present a talk on "Diamond Electronics and Heat Sink Spreaders."

#### Phoenix AP/ED/MTT/UFC/EMC/LEO Joint Chapter

— by Jim Aberle

The Waves and Devices Chapter of the

Phoenix Section comprises six IEEE Technical Societies. In addition to EDS, we also represent Antenna and Propagation, Electromagnetic Compatibility, Lasers and Electro-Optics, Microwave Theory and Techniques and Ultrasonics, Ferroelectrics and Frequency Control societies.

In November of 1994, our chapter hosted a one-day workshop at Arizona State University entitled "Enabling Technologies for Portable Communications and Computing." The workshop was a great success with over 90 persons in attendance. In addition, to the workshop, we held three other technical talks in the fall.

Craig Gaw of Motorola Phoenix Corporate Research Laboratories will be Chair of our chapter in 1995.

#### Central Texas ED Chapter

— by Josef Mitros and Charles Yarling

With the continuing growth of the microelectronics manufacturing industry in central Texas area and especially in the Austin city proper, a group of volunteers formed the Central Texas Chapter of Electron Devices Society in the spring of 1994. The meeting place, the Microelectronics and Engineering Research Building, J. J. Pickle Research Campus at the University of Texas at Austin, was graciously provided by Professor Al Tasch.

As the chapters first year (1994) comes to a close this spring, we find that the attendance at the meetings has been above average.

The first meeting of 1995 will be held on January 17, with the speaker Dr. Louis

C. Parrillo, Corporate V.P. and Director of the Advanced Products Research and Development Lab, Motorola. Dr. Parrillo is also an EDS Distinguished Lecturer and his talk will be on "Technology Development in Support of the ULSI Roadmap." The second meeting will be held on February 21, with the speaker Dr. P.K. Vasudev, Manager of SEMATECH's SOI Program. He will discuss the SEMATECH SOI Program for Low Power CMOS. On April 12, a joint meeting with the Lasers and Electro-Optics Society (LEOS) will be held. Dr. Emi Ishida will present a topic "Gas Immersion Laser Doping (GILD) for Shallow Junction Formation." Please also see the place and time of meeting in the LEOS announcement.

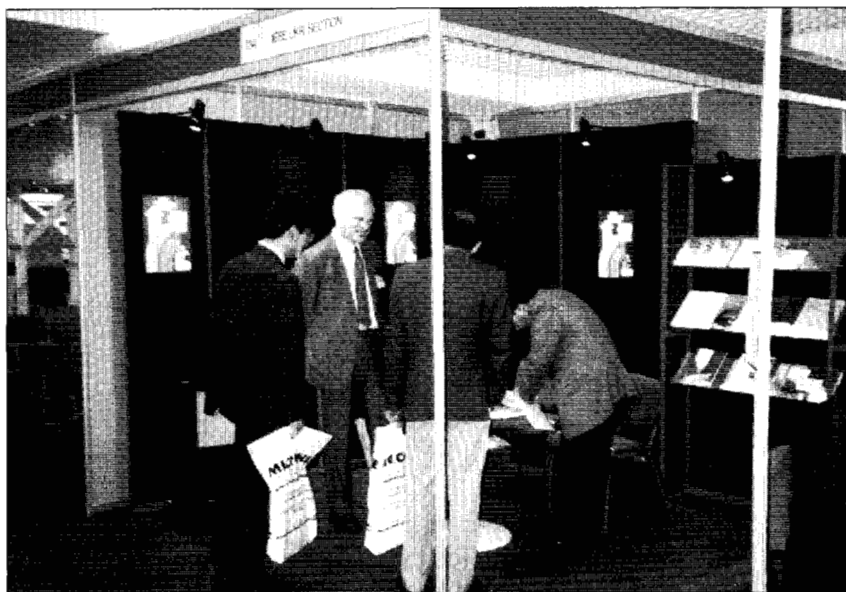
— Paul K. L. Yu, Associate Editor

### Region 8

#### United Kingdom and Republic of Ireland MTT/ED/AP/LEO Joint Chapter:

The following officers have recently been (re-) elected for the term of office ending December 1995. Chairman: Terry Oxley - Private Consultant, Chairman-Elect: Neil William - ERA Technology Ltd., Treasurer: Roger D. Pollard - The University of Leeds, Secretary: J.A.C. Stewart - Queen's University of Belfast, and Publicity: Steve Nightingale - Thorn EMI Electronics Ltd.

Six events held from October to December 1994 completed the Chapter activity schedule of fourteen events for the 1994 calendar year. The three evening lectures included: "Development of the



Chapter Booth — Photo shows Dr. R.J. Collier (Chapter AdCom) attending booth.

Microwave Mixer" by Terry Oxley, in Belfast; "Whatever Happened to SDI" by Peter Varnish - UK MOD, in London; and, "Intelligent Driver Support" by Raglan Tribe - Lucas, in London

Conference events included: Workshop on "CAE, Modeling and Measurement Verification" at the Wembley Conference Center, London on 24th October. This was held in conjunction with Microwaves 94 and in cooperation with the MTT-Society and the national IEE. It combined an excellent technical program with good organization and was felt to be highly successful. The one-day program opened with a Keynote Address by Linda Katehi - University of Michigan, Ann Arbor, MI followed with a coffee break Poster Session, and then moved to parallel sessions incorporating some twenty-four papers; a second Keynote Address by Steve Tucker - Hewlett Packard, introduced the afternoon presentations. The fifty-five delegates enjoyed a well balanced and interactive discussion forum.

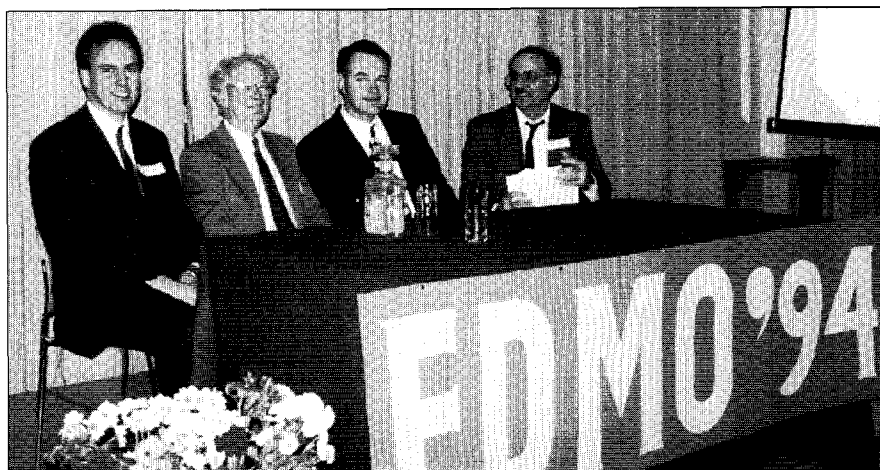
The Chapter Booth at Microwaves'94 Exhibition, Wembley Conference Center London 25-27 October'94 was organized at no cost to the Chapter by courtesy of Nexus Business Ltd., ERA Technology Ltd. and Thorn EMI Electronics Ltd. The Members of the Chapter AdCom attended the Booth. The event clearly promoted the IEEE and approximately sixty new IEEE membership application inquiries resulted.

The EDMO'94 Workshop on "High Performance Electron Devices for Microwave and Optoelectronic Applications" at King's College London was organized jointly with King's College in cooperation with ED-Society, the MTT-Society and the national IEE. The one-day program comprised of four technical sessions and presented eighteen papers with broad European flavor. The event was considered by the delegates to have provided an excellent technical program and a balanced interactive discussion forum.

The 1995 activities program is almost finalized. Currently eleven events are planned comprising seven lectures and four conference type events. The conference type events are outlined below:

1) 8th March at King's College London. Lecture on "Frequency Selective Surfaces" by Jannis Vardaxoglou of Loughborough University.

2) 3rd-5th April at the University of Leeds. "A Modular Microwave and Millimeter Wave Short Course," organized by Leeds University, in cooperation with the Chapter.



EDMO'94 — Organizing members (left to right): Steve Bland (session chairman), Terry Oxley (chapter chairman), Joe Barnard (session chairman), Ali Rezazadeh (workshop chairman).

3) 7th March at University College Dublin. Lecture on "Physical Modeling of Microwave Devices" by Chris Snowden - University of Leeds.

4) 7th June at University College London. Lecture on "Optical Microwave Interactions" - Speaker to be announced.

5) 20th September at King's College London. Lecture on "Personal Communications" by Hamid Agahamvi - King's College.

6) October (TBA) at University Manchester (UMIST). Lecture on "Microwave Superconducting Circuits" - Speaker to be announced.

7) October (TBA) at Queen's University Belfast. Symposium on presentation of "Research Student Papers."

8) 27th November at King's College London. EDMO'95 Workshop on "High Performance Electron Devices for Microwave and Optoelectronic Applications," jointly organized with King's College London, with the MTT-Society and the national IEE.

9) 28th November at King's College London. EDMO'95 Workshop on "High Performance Electron Devices for Microwave and Optoelectronic Applications," jointly organized with King's College London, with technical co-sponsorship from the ED Society and in cooperation with the MTT-Society and the national IEE.

10) 29/30th November at King's College London. "Tutorial meeting on MMIC's," organized by the IEE in cooperation with the Chapter.

11) 6th December at King's College London. Lecture on "Transportation - An Electronics Future" by Paul Kimber - GEC-Marconi Research Center.

Upcoming events include:

(1) "A Modular Microwave and Millimeter Wave Short Course," organized by

the University of Leeds in cooperation with the Chapter is planned for 2-5th April'95. For further detail please contact Dr. J.R. Richardson, Dept. Electronic & Electrical Engineering, The University of Leeds, Leeds LS2 9JT, TEL: + 44 113-233-2010, FAX: + 44-113-233-2032, E-MAIL: jrr@elec-eng.leeds.ac.uk.

(2) The EDMO'95 Workshop on "High Performance Electron Devices for Microwave and Optoelectronic Applications," jointly organized with King's College London, with technical co-sponsorship from the ED-Society and in cooperation with the national IEE, is planned for 27th November'95 at King's College. For further detail, please contact Dr. A.A. Rezazadeh, Dept. Electronic & Electrical Engineering, King's College, Strand, London WC2R 2LS, TEL: + 44 171-873-2879, FAX: + 44 171-836-4781, E-MAIL: a.rezazadeh@uk.ac.klc.cc.bay(janetnetwork).

(3) A Symposium on "Microwave & Millimeter Wave Communications," jointly organized with the communication Chapter, is planned for 29/30th November'95 at King's College London. For further detail please contact: Dr. S.J. Nightingale, Thorn EMI Electronics Ltd., Sensors Division, Manor Royal, Crawley, W Sussex RH10 2PZ, TEL: + 44 1293-644575, FAX: + 44 1293-542812.

(4) A Symposium to present research student papers, is being planned for the Autumn of 1995 at the Queen's University Belfast. For further details please contact Professor J.A.C. Stewart, Dept. of Electronic & Electrical Engineering, The Queen's University of Belfast, Ashby Building, Stranmillis Road, Belfast BT9 5AH, TEL: + 44 1232-335440, FAX: + 44 1232-662135.

For further information, please contact Mr. Terry H. Oxley, Chapter Chairman, "Tremont," Back Lane, Halam, Newark,



Notts NG22 8AG, UK, TEL: + 44 1636-815510, FAX: + 44 1636-815865.

### Switzerland CAS/ED Chapter:

— by Jacques Kowalczyk

Some of the conferences which presented the highest interests from the participants point of view will be re-conducted this year. The invited lectures from industry R&D centers and the academic community, came from international horizons. Around 300 people were able to take advantage of our advanced courses, conferences and seminars. The following list of universities and companies who provided their specialists, for our conferences, shows clearly how our chapter tries to encourage exchange in the scientific community: University of Washington (USA), Philips Research Labs (Netherlands), British Telecom (UK), INPG (France), EPFL (Switzerland), CNET (France), FhG (Germany), Anacad (France), University College (Ireland), University of Mining (Poland), McGill University (Canada), AT&T Bell Laboratories (USA), and University of Adelaide (Australia).

An interesting event called "CHAOS: From Basic Concept to Engineering Application" brought together sixty-five participants into a forum providing valuable information on this emerging field. Professor Kennedy (University College, Dublin, Ireland) described the basic concepts of non-linear dynamics and chaos followed by Professor Martin Hasler (Swiss Federal Institute of Technology, Lausanne, Switzerland) who put more emphasis on synchronization concepts and applications. Professor Maciej Ogorzalek (University of Mining and Metallurgy, Krakow, Poland) completed the same topic and finally Mr. Emmanuel Reusens (Swiss Federal Institute of Technology, Lausanne, Switzerland) showed how fractal concepts can be used in signal processing applications.

The success of this conference encourages us to propose this same topic for the annual conference planned on September 22, 1995.

Future activities include:

(1) VHDL for Modeling and Synthesis: Practice oriented, using the Quick VHDL and Synopsis tools to explain the VHDL language and its implication in the design process, March 13-17, 1995.

(2) Mixed-mode Modeling and Simulation: Modeling and simulation of Mixed-signal systems. Based on high description language and the Eldo simulator, July 3-5, 1995.

(3) Advanced Technologies'95: Sub-

jects like Chaos application in electronic engineering, signal processing, mixed-signal testing and some other fields, September 22, 1995.

(4) How to Use Multi-Project Wafer Service: The first day is more dedicated to the technical approach of MPW Meeting between managers and some technology representatives for the second day, November 6-7, 1995.

Professor Daniel Mlynek continues to chair the activities of the CAS/ED Chapter and he is assisted by Dr. Jacques Kowalczyk as secretary. It has been decided to enlarge the spectrum of involved people by associating other Swiss engineering associations to the IEEE CAS/ED activities. The result has been an increase in attendance at the conferences. It is too early to say whether an increase of IEEE members can be expected.

In order to promote the activities of the CAS/ED Chapter, some have suggested to design a video presentation. First we would like to show the benefit of being a member of the IEEE and second, the activities which are performed among the IEEE community in Switzerland. For this purpose, a first prototype presentation will be shown at the EPFL Student Forum next November. Further plans are to enhance this presentation and make it available as it is or modify it for other chapters.

To get more information on one of the mentioned topics do not hesitate to contact the chapter chairman Professor D. Mlynek or his secretary Dr. J. Kowalczyk at the Swiss Federal Institute of Technology, DELEG/C3i, 1015 Lausanne, Switzerland or by E-MAIL: daniel.mlynek@leg.de.epfl.ch or jacques.kowalczyk@leg.de.epfl.ch.

### Romania EDS Chapter:

The main activity of the Romania EDS Chapter in the past months was supporting the 17th edition of the International Semiconductors Conference (CAS'94) which was held in Sinaia, Romania between 11-16 October 1994. The conference was organized by the Research Institute for Electronic Components under the auspices of the Romanian Academy, Ministry of Research and Technology, IEEE — Romanian Section and the Electron Devices Chapter. The conference is devoted to the physics, design, technology and applications of semiconductor devices and materials. The meeting comprised of two plenary sessions of four invited papers each, eight oral sessions and eight poster sessions with a total number of 147 contributed papers. Sixty-eight papers were presented by

important scientists from beyond Romania's border, namely from USA, Canada, Japan, England, France, Germany, Italy, Spain, Netherlands, Switzerland, Austria, Ukraine, Russia, Hungary, Poland, Yugoslavia and India.

For the first time this conference contained a student research section promoted by our Chapter, based on the financial support of the ED Society in the form of a Chapter subsidy offered in 1994. Six student papers were selected from twenty proposed papers. Our Chapter covered the conference fees and the accommodation expenses for the authors of the accepted papers. The same authors will become EDS student members in 1995 and their membership fees will be paid from the above mentioned subsidy. Also the best student paper was awarded at the conference banquet. The student reaction to this type of action was very positive and we consider that this new addition should be maintained in the future conferences.

As a recognition of the growing role of CAS as a representative meeting in the field of semiconductor devices in Central and Eastern Europe, the EDS Administrative Committee recently approved to provide twenty percent financial co-sponsorship support for the 1995 edition of the International Semiconductor Conference.

Chapter Chairman: Prof. Gheorghe I. Brezeanu, Dept. of Electronics & Telecom., "Politehnica" University Bucharest Str. Armata Poporului 1, Bucharest, Romania, TEL: + 401-631-7800 ext. 152, FAX: +401-631-3044.

— Adrian Veron, Associate Editor

— Terry H. Oxley, Associate Editor

## Region 10

### Tokyo, Japan ED Chapter:

— by Jun Ueda

We will hold our meeting to review 1994 IEDM on Jan. 12, 1995 in Tokyo for all members of our chapter. Dr. T.Tsuchiya, Prof. T.Hiramoto, Dr. A.Toriumi and Dr. H.Suehiro are invited to talk. From now on, our meetings to review IEDM will be held in cooperation with IEICE of Japan to expand our activity efficiently. In 1994, we also had twelve joint meetings with the two research groups of both Silicon Devices & Materials and Integrated Circuit Devices in IEICE. This year, the rebate received from Tokyo Section has been substantially decreased. We are thankful for the subsidy from EDS to hold our meeting of IEDM review.

— Hiroshi Iwai, Associate Editor

**ANNOUNCEMENT AND CALL FOR PAPERS FOR THE**

**Fifteenth Biennial IEEE/Cornell University Conference on**

**Advanced Concepts in High Speed Semiconductor Devices and Circuits**

**Sponsored by: The Electron Device Society of IEEE**

**In Cooperation With: The Microwave Theory and Techniques Society of IEEE**

**August 7, 8 and 9, 1995 (Mon., Tues., Wed.)**

Papers are solicited covering the physics and performance of high speed microwave, millimeter wave, optoelectronic, and digital devices and circuits. Papers which emphasize innovative device concepts and physical phenomena leading to new devices are particularly encouraged. There will be invited papers in key areas. The proceedings of the conference will be published.

Papers are solicited in three major areas.

- Microwave and mm-wave devices and circuits
- Opto-electronic devices and circuits
- speculative materials, devices and circuit concepts

Topics of interest within these areas include but are not restricted to:

Novel materials technologies for devices  
Measurement techniques for high speed devices  
Optoelectronic Integrated Circuits  
Ballistic and hot electron transistors  
Quantum devices and circuits  
Speculative transistor concepts  
Vacuum Microelectronics  
Wide bandgap materials  
Low dimensional structures & devices  
Manufacturability

Nanometer fabrication techniques  
High speed optoelectronic devices  
Self-assembled structures  
Si-based heterostructures  
Device physics  
Superconducting devices  
Microcavity devices  
Si/Ge devices  
Integrated antennas  
Efficient RF circuits

The fourteenth conference will be held August 7, 8, 9, 1995 on the Cornell campus in Ithaca, New York. Both individual and family accommodations will be available in area motels. Dormitory rooms are also available. Write to Ms. Elma Weaver, 424 Phillips Hall, Cornell University, Ithaca, New York 14853, (607) 255-3409

In order to encourage student presentation of papers, limited financial assistance for travel is available to student first-named authors who are presenting papers. This assistance should be requested when the abstract is submitted.

Prospective authors are invited to submit a 300-word abstract, by April 8, 1995 to the program chairman:

Umesh Mishra  
1995 IEEE/Cornell Conference  
Department of Electrical Engineering  
University of California  
Santa Barbara, CA 93106  
FAX: (805)893-8714

Please note that all necessary government approvals must be obtained before submission of an abstract reporting work that has any government sponsorship.

**PROCEEDINGS WILL BE PUBLISHED**



## 1995 BIPOLAR/BI-CMOS CIRCUITS AND TECHNOLOGY MEETING

MARRIOTT CITY CENTER HOTEL - MINNEAPOLIS, MN  
Short Course: October 1, 1995 Conference: October 2-3, 1995

The Bipolar/BiCMOS Circuits and Technology Meeting (BCTM) provides a forum for technical communication focused on the needs and interests of bipolar and BiCMOS engineers. Papers covering the design, performance, fabrication, testing and application of **bipolar, BiCMOS and BiFET** integrated circuits, bipolar phenomena and discrete devices are solicited. All papers should be suitable for a 20-minute presentation. Text and figures must not have been presented at other conferences, or published in any scientific or technical publication prior to BCTM.

General Chairman: Robert Pease - National Semiconductor Corporation  
Technical Program Chairman: Krishna Shenai - University of Wisconsin - Madison

- **DESIGN:** - Analog ICs - Digital ICs - Mixed analog/digital ICs - Novel design concepts and methods - DACs and ADCs - Amplifiers - Integrated Filters - Communications chips - Sensors - Gate arrays - Cell libraries - Analog master chips - Analog ICs describing novel subsystems within a VLSI chip.
- **INNOVATIVE PACKAGING:** New concepts and methods for packaging dense high-speed, high-power analog or digital chips that substantially improve the state of the art.
- **DEVICE PHYSICS, MODELING AND SIMULATION:** - Improved BJT models - Bipolar scaling and limits - Reliability - Electrostatic discharge phenomena - Hot-electron phenomena - Measurement techniques - Process monitoring and control - Process manufacturability.
- **STRUCTURES AND PROCESSES:** Novel processes and device structures having outstanding speed, high current, high voltage, packing density, post-fabrication, trim, etc. - BiCMOS processes - Advanced process techniques - Si and III-V heterojunction devices.
- **POWER DEVICES & ICs:** Discrete and integrable bipolar/BiCMOS power devices and high-voltage ICs (HVICs) - Automotive electronics, disc drives, display drives, power supplies, electric utility, medical electronics, motor controls, regulators, amplifiers, converters, and aerospace electronic applications - BiCMOS circuits for controlling power devices, intelligent power and DSP - CAD and modeling of power devices - Design concerns.
- **CAD TOOLS:** Software tools for placement, routing, cell generation, etc. - Device, process and circuit simulation software - Behavioral modeling technique and tools.

### BEST STUDENT PAPER AWARD

Papers presented by students and based on their own work will be considered for the Best Student Paper Award if **the abstract is identified as a student paper at the time of submission**. The presentation will be made at the 1996 BCTM.

**INFORMATION FOR AUTHORS:** Authors must submit **55 copies each** of a 35 word factual **abstract** and a **summary** (described below) which will be used in paper selection. The summary should clearly state: a) The purpose of the work. b) The manner and degree to which it advances the art. c) Specific results which have been obtained and their significance. The summary will consist of up to **three pages of text** on normal letter-size paper, with at least 2 cm margins on all sides and, at least, 10 point type, and a **fourth page of figures, drawings, and photos**.

**DEADLINES:**

Monday, April 3, 1995	-	Receipt of Abstract and Summary
Friday, May 19, 1995	-	Notification of Acceptance
Monday, July 24, 1995	-	Receipt of Proceedings Manuscript

**FOR FURTHER INFORMATION:** All questions or inquiries for further information regarding this meeting should be directed to the Conference Manager, Janice Jopke (CCS Associates, 6611 Countryside Drive, Eden Prairie, MN 55346 - TEL (612) 934-5082 - FAX (612) 934-6741 - email: jjopke@aol.com).



# 1995 IEEE INTERNATIONAL SOI CONFERENCE

## CALL FOR PAPERS

WESTWARD LOOK RESORT - TUCSON, ARIZONA  
OCTOBER 3-5, 1995

### Executive Committee

#### GENERAL CHAIR

Jay Schrankler  
Honeywell, Inc.  
ph. (612)954-2662  
fax (612)954-2051

#### TECHNICAL PROGRAM CHAIR

Donald C. Mayer  
The Aerospace Corp.  
ph. (310)336-1349  
fax (310)336-1636

#### LOCAL ARRANGEMENTS CHAIR

Jerry G. Fossum  
University of Florida  
ph. (904)392-4921  
fax (904)392-8381

#### TREASURER & REGISTRATION CHAIR

Bor-Yuan Hwang  
Motorola, Inc.  
ph. (602)655-3677  
fax (602)655-2285

#### RUMP & POSTER CHAIR

Ted Houston  
Texas Instruments  
ph. (214)995-0623  
fax (214)995-6194

#### VENDOR EXHIBITS

Witek Maszara  
Allied-Signal Aerospace Co.  
ph. (410)964-4051  
fax (410)992-5813

#### CONFERENCE COORDINATOR

Sandra Grawet  
All About Meetings, Inc.  
ph. (310)371-3438  
fax (310)371-5268

The IEEE Electron Devices Society will sponsor the 21st IEEE International SOI Conference October 3-5, 1995 in Tucson, Arizona. The Conference will be preceded by a one-day Tutorial Short Course on October 2. The purpose of this conference is to provide a forum for open discussion in all areas of silicon-on-insulator technologies and their applications. This conference has become the primary meeting for SOI technologists to present and discuss their work. Rump sessions on Wednesday evening will encourage attendees to share their opinions and technical expertise in the chosen topics. A Best Paper Award will be presented at the conclusion of the Conference. Papers are encouraged in the following areas:

- **SOI material formation, modification, and characterization**
- **physics and modeling of SOI devices**
- **SOI circuit applications (low power, high voltage, high temperature, microwave, etc.)**
- **new SOI device structures and applications (displays, microactuators, microsensors, etc.)**
- **SOI reliability issues (hot-carrier injection, radiation effects, high-temperature operation, etc.)**
- **manufacturability of SOI devices and structures**

Prospective authors should prepare a 2-page summary of their work, including illustrations, that is suitable for reproduction in the Conference Proceedings (see instructions on back of this page). If desired, indicate a preference for oral or poster presentation. Please submit 20 copies of your paper for review to:

### 1995 IEEE INTERNATIONAL SOI CONFERENCE

C/O ALL ABOUT MEETINGS, INC.

2301 Artesia Blvd., Suite 12-101

Redondo Beach, CA 90278

(310) 371-3438 - Telephone

(310) 371-5268 - Fax

**DEADLINE:** Papers should be postmarked no later than **May 12, 1995**. Notice of acceptance will be forwarded by July 14, 1995. **Late News** papers with exceptional merit will be considered for the Late News Session. There will be a materials and equipment exhibition relating to SOI technology held concurrently with the Conference. For further information, please contact Witek Maszara, (410) 964-4051.



# 1995 IEEE GaAs IC Symposium



INTEGRATED CIRCUITS IN GaAs, InP, and OTHER COMPOUND  
SEMICONDUCTORS

October 29-November 1, 1995

Sheraton Harbor Island Hotel, San Diego, CA



Co-Sponsored by the IEEE Electron Devices and Microwave Theory & Techniques Societies



## **CALL FOR PAPERS, ABSTRACT DEADLINE: May 5, 1995**

Over the last 17 years, the IEEE GaAs IC Symposium has become the preeminent international forum on the most recent developments in integrated circuits using GaAs, InP, and other compound semiconductor devices. Coverage embraces all aspects of the technology including materials issues, device fabrication, IC design and testing, volume manufacturing, and systems implementation. High-quality, first-time submissions are sought in the fields of high-speed digital, analog, microwave/millimeter wave, mixed mode, and optoelectronic integrated circuits. Areas of interest include:

Circuit Fabrication

Reliability

Advanced Device Applications

Wireless Applications

Circuit Design

Device/Circuit Modeling

IC Testing

High Speed Digital IC's

Manufacturing

Packaging Technology

OEIC's

Micro/mm Wave IC's

## **SYMPOSIUM HIGHLIGHTS**

Based on past history, it is anticipated that over 70 technical papers will be selected representing countries around the world. In addition to oral presentation, these papers will be published in the Symposium Digest. In addition, there will be several invited papers and panel sessions on topics of current importance to the GaAs IC technical community including both suppliers and customers. For further information on the symposium content please contact Ellisa Sobolewski, Advanced Research Projects Agency, Phone (703) 696-2254, FAX (703) 696-2203.

## **GUIDELINES FOR ABSTRACT SUBMISSION**

**DEADLINE: RECEIPT BY CLOSE OF BUSINESS May 5, 1995**

**Authors must submit one-page abstracts of results not previously published or not already accepted by another conference.** Additional supporting material (2-page maximum) may also be submitted at the discretion of the authors. Papers will be selected on the basis of the abstract which should concisely and clearly state (a) The purpose of the work, (b) What specific new results have been obtained, and (c) How much it advances the state of the art. The abstract and supporting material should be typewritten on one side of the paper only, and must include: title, name(s) of the author(s), organization(s) represented, and mailing address and telephone and FAX numbers of the first author.

**Mail forty (40) copies of a one-page abstract and any supporting material to:**

Ms. Gina Sacchi  
1995 GaAs IC Symposium  
IEEE  
445 Hoes Lane  
Piscataway, NJ 08855



# IEEE Electron Devices Society Meetings Calendar

(As of February 9, 1995)

<b>DATE</b>	<b>NAME/LOCATION</b>	<b>CONTACT/ABSTRACT DEADLINE</b>
<b>1995</b>		
April 3-6	<b>1995 IEEE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM</b> /Riviera Hotel, Las Vegas, NV	Joseph W. McPherson - Deadline: Past Due Tel: (214) 995-2183 Fax: (214) 995-2932
Apr. 20-22	<b>1995 IEEE INTERNATIONAL WORKSHOP ON CHARGE-COUPLED-DEVICES AND ADVANCED IMAGE SENSORS</b> /Dana Point Resort, Dana Point, CA	Eric R. Fossum - Deadline: Past Due Tel: (818) 354-3128 Fax: (818) 393-0045
May 1-4	<b>1995 IEEE CUSTOM INTEGRATED CIRCUITS CONFERENCE</b> /Santa Clara Convention Center & Westin Hotel, Santa Clara, CA	Melissa Widerkehr - Deadline: Past Due Tel: (202) 986-2166 Fax: (202) 986-1139
May 9-13	<b>1995 IEEE INTERNATIONAL CONFERENCE ON INDIUM PHOSPHIDE AND RELATED MATERIALS</b> /Hokkaido University Conference Hall, Sapporo, Hokkaido, Japan	Melissa Estrin - Deadline: Past Due Tel: (908) 562-3896 Fax: (908) 562-8434
May 14-17	<b>1995 IEEE MICROWAVE AND MILLIMETER-WAVE MONOLITHIC CIRCUITS SYMPOSIUM</b> /Orange County Convention Civic Center, Orlando, FL	Val Peterson - Deadline: Past Due Tel: (707) 577-2304 Fax: (707) 577-4090
May 16-18	<b>1995 UNIVERSITY/GOVERNMENT/INDUSTRY MICROELECTRONICS SYMPOSIUM</b> /J.J. Pickle Research Center, University of Texas, Austin, TX	Mahboob Khan - Deadline: Past Due Tel: (408) 749-4213 Fax: (408) 749-5585
May 23-25	<b>1995 IEEE INTERNATIONAL SYMPOSIUM ON POWER SEMICONDUCTOR DEVICES AND INTEGRATED CIRCUITS</b> /Yokohama Convention Center, Yokohama, Japan	Toshiaki Yachi - Deadline: Past Due Tel: 81-422-59-3129 Fax: 81-422-59-2172
May 30 - June 2	<b>1995 INTERNATIONAL SYMPOSIUM ON ELECTRON, ION AND PHOTON BEAMS SYMPOSIUM</b> /Scottsdale Conference Resort, Scottsdale, AZ	John N. Randall - Deadline: Past Due Tel: (214) 995-2723 Fax: (214) 995-2836
May 31 - June 2	<b>1995 INTERNATIONAL SYMPOSIUM ON VLSI TECHNOLOGY, SYSTEMS AND APPLICATIONS</b> /Hyatt Hotel, Taipei, Taiwan	Genda J. Hu - Deadline: Past Due Tel: (408) 943-4861 Fax: (408) 943-2118
June 6-8	<b>1995 IEEE SYMPOSIUM ON VLSI TECHNOLOGY</b> /Kyoto Grand Hotel, Kyoto, Japan	Hiro Yoshi Komiya - Deadline: Past Due Tel: 81-727-82-5131 Fax: 81-727-80-2685
June 7-10	<b>1995 CONFERENCE ON INSULATING FILMS ON SEMICONDUCTORS</b> /Grand Hotel de Paris, Villard-de-Lans, Grenoble, France	Sorin Cristoloveanu - Deadline: Past Due Tel: 33-76-85-60-40 Fax: 33-76-85-60-70
June 19-21	<b>1995 IEEE DEVICE RESEARCH CONFERENCE</b> /University of Virginia, Charlottesville, VA	Umesh K. Mishra - Deadline: Past Due Tel: (805) 893-3586 Fax: (805) 893-2149
June 25-29	<b>1995 IEEE TRANSDUCERS - INTERNATIONAL SOLID-STATE SENSORS AND ACTUATORS CONFERENCE</b> /City Conference Center, Stockholm, Sweden	Beril Hok - Deadline: Past Due Tel: 46-21-80-00-99 Fax: 46-21-80-10-09
July 1	<b>1995 HONG KONG ELECTRON DEVICES MEETING</b> /University of Hong Kong, Hong Kong	Peter P.T. Lai - Deadline: 4/15/95 Tel: 852-2859-2691 Fax: 852-2559-8738
July 30 - Aug. 4	<b>1995 IEEE INTERNATIONAL VACUUM MICROELECTRONICS CONFERENCE</b> /Portland Marriott Hotel, Portland, OR	Judith A. Sjoberg - Deadline: 4/30/95 Tel: (505) 989-4735 Fax: (505) 989-1073
July 31 - Aug. 4	<b>1995 INTERSOCIETY ENERGY CONVERSION ENGINEERING CONFERENCE</b> /Buena Vista Palace Hotel, Orlando, FL	D. Yogi Goswami - Deadline: Past Due Tel: (904) 392-0812 Fax: (904) 392-1071
Aug. 6-9	<b>1995 IEEE CORNELL CONFERENCE ON ADVANCED CONCEPTS IN HIGH SPEED SEMICONDUCTOR DEVICES AND CIRCUITS</b> /Cornell University, Ithaca, NY	George N. Maracas - Deadline: 4/8/95 Tel: (602) 965-2562 Fax: (602) 965-0775
Aug. 13-16	<b>1995 IEEE NON-VOLATILE SEMICONDUCTOR MEMORY WORKSHOP</b> /Hyatt Monterey Hotel, Monterey, CA	Rustom Irani - Deadline: 5/5/95 Tel: (510) 498-1729 Fax: (510) 657-8495
Aug. 21-24	<b>1995 INTERNATIONAL CONFERENCE ON APPLICATIONS OF DIAMOND FILMS AND RELATED MATERIALS</b> /NIST, Gaithersburg, MD	Albert Feldman - Deadline: Past Due Tel: (301) 975-5740 Fax: (301) 990-8729
Aug. 21-24	<b>1995 INTERNATIONAL CONFERENCE ON SOLID-STATE DEVICES AND MATERIALS</b> /International House, Osaka, Japan	Bus. Ctr. Academic Soc. - Deadline: 4/15/95 Tel: 81-3-5814-5800 Fax: 81-3-5814-5823
Aug. 29 - Sept. 2	<b>1995 IEEE INTERNATIONAL SYMPOSIUM ON COMPOUND SEMICONDUCTORS</b> /Shilla Hotel, Cheju Island, Korea	Yoon Soo Park - Deadline: 4/30/95 Tel: (703) 696-5755 Fax: (703) 696-2611
Sept. 6-8	<b>1995 IEEE INTERNATIONAL CONFERENCE ON SIMULATION OF SEMICONDUCTOR DEVICES AND PROCESSES</b> /Universitat Erlangen-Nurnberg, Erlangen, Germany	Heiner Rysse - Deadline: Past Due Tel: 49-9131-85-8633 Fax: 49-9131-85-8698

<b>DATE</b>	<b>NAME/LOCATION</b>	<b>CONTACT - ABSTRACT DEADLINE</b>
Sept. 14-15	<b>1995 ACTIVE MATRIX LIQUID CRYSTAL DISPLAYS SYMPOSIUM/</b> Lehigh University, Bethlehem, PA	Miltiadis K. Hatalis - Deadline: Not Available Tel: (610) 758-3944 Fax: (610) 758-4561
Sept. 18-19	<b>1995 IEEE INTERNATIONAL SYMPOSIUM ON SEMICONDUCTOR MANUFACTURING/</b> Hyatt Regency Hotel, Austin, TX	Robert Strain - Deadline: 3/24/95 Tel: (408) 721-7386 Fax: (408) 736-8503
Sept. 18-21	<b>1995 INTERNATIONAL CONFERENCE ON SILICON CARBIDE AND RELATED MATERIALS/</b> Kyoto Research Park, Kyoto, Japan	Hiroyuki Matsunami - Deadline: 4/14/95 Tel: 81-75-753-5340 Fax: 81-75-751-1576
Sept. 22-23	<b>1995 TOPICAL WORKSHOP ON III-V NITRIDES/</b> Nagoya International Conference Hall, Nagoya, Japan	Hadis Morkoc - Deadline: 5/31/95 Tel: (217) 333-0722 Fax: (217) 244-2278
Sept. 25-27	<b>1995 EUROPEAN SOLID-STATE DEVICE RESEARCH CONFERENCE/</b> Netherlands Congress Centre, The Hague, The Netherlands	Antonius J.G. Spiekerman - Deadline: 3/24/95 Tel: 31-15-782431 Fax: 31-15-785691
Oct. 1-3	<b>1995 IEEE BIPOLAR/BICMOS CIRCUITS AND TECHNOLOGY MEETING/</b> Marriott City Center Hotel, Minneapolis, MN	Janice V. Jopke - Deadline: 4/3/95 Tel: (612) 934-5082 Fax: (612) 934-6741
Oct. 2-4	<b>1995 IEEE INTERNATIONAL CONFERENCE ON COMPUTER DESIGN: VLSI IN COMPUTERS AND PROCESSORS/</b> Four Seasons Hotel, Austin, TX	Wayne Wolf - Deadline: Past Due Tel: (609) 258-1424 Fax: (609) 258-3745
Oct. 2-5	<b>1995 IEEE INTERNATIONAL SOI CONFERENCE/</b> Westward Look Resort, Tucson, AZ	Sandra Grawet - Deadline: 5/26/95 Tel: (310) 371-3438 Fax: (310) 371-5268
Oct. 5-6	<b>1995 IEEE INTERNATIONAL CONFERENCE ON ADVANCED TECHNOLOGIES/</b> Switzerland	Jacques Kowalczyk - Deadline: Not Available Tel: 41-21-693-69-81 Fax: 41-21-693-4663
Oct. 11-15	<b>1995 INTERNATIONAL SEMICONDUCTOR CONFERENCE/</b> Hotel Sinaia, Sinaia, Romania	Doina Vancu - Deadline: 4/30/95 Tel: 401-6333040 Fax: 401-3127519
Oct. 15-18	<b>1995 INTERNATIONAL CONFERENCE ON VLSI AND CAD/</b> The Swiss Grand Hotel, Seoul, Korea	Deog Kyoong Jeon - Deadline: 8/17/95 Tel: 82-02-880-7437 Fax: 82-02-887-6575
Oct. 19-21	<b>1995 SEMICONDUCTOR MANUFACTURING TECHNOLOGY WORKSHOP/</b> Vanguard International Semiconductor Corporation, Hsinchu, Taiwan, R.O.C.	Chi-Ming Chang - Deadline: 4/1/95 Tel: 886-35-770355 Fax: 886-35-787952
Oct. 22-25	<b>1995 IEEE INTERNATIONAL INTEGRATED RELIABILITY WORKSHOP/</b> Stanford Sierra Camp, South Lake Tahoe, CA	David L. Erhart - Deadline: 7/14/95 Tel: (602) 814-4256 Fax: (602) 814-4167
Oct. 23-27	<b>1995 EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE AND EXHIBITION/</b> Acropolis Convention Center, Nice, France	Heinz Ehmann - Deadline: 3/20/95 Tel: 49-89-7201235 Fax: 49-89-7201291
Oct. 24-28	<b>1995 INTERNATIONAL CONFERENCE ON SOLID-STATE AND INTEGRATED- CIRCUITS TECHNOLOGY/</b> Beijing International Convention Centre, Beijing, China	Mengqi Zhou - Deadline: Past Due Tel: 861-8263459 Fax: 861-8263458
Oct. 25-27	<b>1995 INTERNATIONAL SYMPOSIUM ON SIGNALS, SYSTEMS AND ELECTRONICS/</b> Parc 55 Hotel, San Francisco, CA	Tatsuo Itoh - Deadline: 3/15/95 Tel: (310) 206-4820 Fax: (310) 206-4819
Oct. 29	<b>1995 GALLIUM ARSENIDE RELIABILITY WORKSHOP/</b> Sheraton Harbor Island Resort, San Diego, CA	Anthony A. Immorlica - Deadline: 8/7/95 Tel: (315) 456-3514 Fax: (315) 456-0695
Oct. 29 - Nov. 1	<b>1995 IEEE GALLIUM ARSENIDE INTEGRATED CIRCUITS SYMPOSIUM/</b> Sheraton Harbor Island Resort, San Diego, CA	George Bechtel - Deadline: 5/1/95 Tel: (415) 941-3438 Fax: (415) 941-5120
Nov. 1	<b>1995 IEEE ELECTRON DEVICES ACTIVITIES IN WESTERN NEW YORK/</b> Rochester Institute of Technology, Rochester, NY	Eby Friedman - Deadline: 10/15/95 Tel: (716) 275-1022 Fax: (716) 275-2073
Nov. 5-9	<b>1995 IEEE INTERNATIONAL CONFERENCE ON COMPUTER-AIDED DESIGN/</b> San Jose Red Lion Hotel, San Jose, CA	Kevin Lepine - Deadline: 4/10/95 Tel: (303) 530-4562 Fax: (303) 530-4334
Nov. 7-10	<b>1995 IEEE REGION 10 CONFERENCE (TENCON '95) ON MICROELECTRONICS AND VLSI/</b> Hong Kong Convention and Exhibition Centre, Wanchai, Hong Kong	Nelson Yung - Deadline: 3/17/95 Tel: 852-859-2685 Fax: 852-559-8738
Nov. 13-15	<b>1995 IEEE/SEMI ADVANCED SEMICONDUCTOR MANUFACTURING CONFERENCE AND WORKSHOP/</b> Hyatt Regency Hotel, Cambridge, MA	Margaret M. Kindling - Deadline: Past Due Tel: (202) 457-9584 Fax: (202) 659-8534
Nov. 27	<b>1995 WORKSHOP ON HIGH PERFORMANCE ELECTRON DEVICES FOR MICROWAVE AND OPTOELECTRONIC APPLICATIONS/</b> King's College, Strand, London, UK	Ali A. Rezazadeh - Deadline: 9/1/95 Tel: 44-171-873-2879 Fax: 44-171-836-4781
Nov. 27 - Dec. 1	<b>1995 IEEE INTERNATIONAL SYMPOSIUM ON PHYSICAL AND FAILURE ANALYSIS OF INTEGRATED CIRCUITS/</b> Shangri-la Hotel, Singapore	Jonnovan Hong - Deadline: 4/15/95 Tel: 65-773-1141 Fax: 65-773-1142

## AdCom Meeting Report

(continued from page 2)

generated in the Asian and Pacific countries (Region 10 of the IEEE) and Europe, the Middle East and Africa (Region 8). Some of the accomplishments reported by Jim Clemens that resulted from trips made in 1993 and 1994 to Region 10 were as follows.

(1) Rapid growth in membership and communication with IEEE-USA. Current EDS membership in Region 10 is approximately 1,800, about 17% of the total membership, and growing faster than any other region. About 1,000 of these members are from Japan, but the fastest growth percentage wise is occurring in China, Hong Kong, Korea, Singapore, and Taiwan. New chapters have recently been formed in Hong Kong and Singapore.

(2) A joint sister-society agreement has been made between EDS and the Japanese Society of Applied Physics (JSAP). The EDS/JSAP Agreement was effective as of 1/1/95. See page 6 for details.

Similar enthusiasm and results were reported by Mike Adler and Dexter Johnston in Region 8. A meeting was held in Edinburgh, Scotland, with 16 attendees, from Finland to South Africa, representing 8 of the then 11 existing chapters in this region. Two of these chapters were formed as a direct consequence of recent visits by EDS representatives. This past January, the EDS Region 8 Chapter count increased to 13 with the formation of chapters in Poland and The Ukraine. There are 13 more chapters currently in various stages of formation. Dexter Johnston made the point that one of the positive benefits of these meetings to the European participants is the increased contact and communication that results among themselves. Comments heard from almost all of the representatives of countries from both Region 8 and 10 had to do with the need for increased technical information and interaction, more distinguished lecturers, and a desire to increase the rather low percentage of IEEE Fellows elected from these regions.

The result of these presentations and consequent discussion was a unanimous vote of the AdCom to continue this outreach, and to provide funds to do so. The appropriateness of this decision was underscored during Lu Kasprzak's Treasurer's Report, in which he showed data tracking the slow decrease in EDS membership since its peak of more than 11,000 members in 1991. We were fortunate to have Troy Nagle present, the 1994 President of the IEEE. He told us that IEEE membership has been relatively flat over the last five years. Most of the societies have seen decreases in membership over this period. The ratio of non-U.S. to U.S. members has been gradually increasing at a rate of about 10%. The need for globalization of our activities and outlook seems clear at this time.

### "Unbundling":

Membership "bundling" in an organization typically means that the membership fee includes automatic receipt of some benefit that might otherwise be billed separately. In the case of EDS, membership has included a subscription to *Electron Device Letters* (EDL), and the annual membership rate of \$12, has been adjusted to cover that cost. In recent years, however, many members have commented that they have no need for EDL, and would appreciate it if membership fees were unbundled from that journal. There are a number of pros and cons to this change. Principal among the negative aspects is the realization that the number of subscriptions to EDL would decline, but the positive side of that issue is that the journal would go only to interested readers, and the total membership of EDS might increase because of the consequent decrease of annual dues. Studies were made to determine the anticipated impact on EDS membership, EDL subscriptions, and subscriptions to the *Transactions on Electron Devices* (T-ED). Treasurer, Lu Kasprzak, reported the results of these studies: it is anticipated that EDS membership would be unchanged the first year, possibly increase by 10% the second and

third years; EDL might have a circulation reduction of 33%; and, T-ED might have a slight increase in circulation. After considerable discussion the AdCom voted for 1996 to unbundle, and to set the annual membership dues at \$5.

### Career Program for Young Women:

April Brown, a new AdCom member, made a convincing argument that EDS should engage in a program to encourage girls and young women to pursue careers in engineering, science and math. She proposed patterning the program after one being initiated by the Microwave Theory and Techniques Society (MTTS), and she further proposed coupling the EDS and MTTS efforts to obtain maximum leverage from both. The program she outlined would work through the chapters of the two societies. AdCom unanimously approved to support the program which will be described in the next issue of the Newsletter (July).

### Other Business:

George Foyt, Court Skinner. Charlie Sodini and Richard True are leaving the AdCom after six years of service, and each was presented a certificate of appreciation.

It was sadly announced that Bob Gregory, an active member of the IEEE for many years, passed away the preceding week. Friedolf Smits delivered a brief eulogy.

It was also announced, this time with pleasure, that Laura Riello has been promoted to Administrator in recognition of her outstanding work for the EDS Office. The quality of the work carried out in that office by Laura and by Bill Van Der Vort, the EDS Executive Director, was felt by all to be excellent, and helps immensely in the ability of the EDS officers to carry out their tasks.

Over four hours was devoted to a review of EDS publications and meetings. As always, a detailed copy of the full meeting minutes is available from your chapter chair, or on request from the EDS Executive Office.

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