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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 International Semiconductor Conference (CAS'95)



The 1995 International Semiconductor Conference (CAS'95) will be held October 11-14, 1995, at the "Sinaia" Hotel, Sinaia, Romania. The conference is organized by the Research Institute for Electronic Components (ICCE)-Romania, and is co-sponsored by the IEEE Electron Devices Society, IEEE-Romania Section, Romanian Ministry of Research and Technology, and the SOROS Foundation.

The International Semiconductor Conference (CAS) began in Romania in 1978 as the Annual Semiconductor Conference (former title), and became an annual national scientific event. The first twelve editions were held with exclusive Romanian participation, due to political circumstances. Political changes in Eastern and Central Europe in 1989 led to the opening of the conference to the free world of science and technology. Every year since 1991, CAS has been bringing together about 200 participants from Europe, USA and Japan, who together present 100-130 papers annually, published (in English) in the CAS Proceedings.

The past three international CAS editions have contributed to the growth of the West-East scientific information flow and, at the same time, recognize the

(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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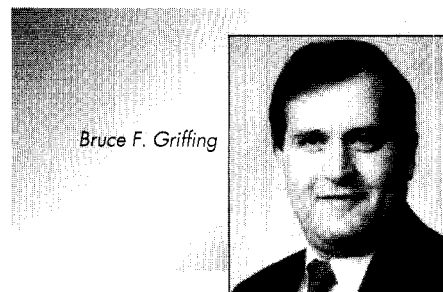
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EDS Meetings "Best Practices" Workshop



Bruce F. Griffing

Most EDS members do not realize the number of technical meetings that our society sponsors or co-sponsors with other societies. These are meetings for which the society takes responsibility for the meeting technical content, format, location and financials. During 1994, 26 such meetings were held and another 40 are scheduled for 1995. In total, EDS has 54 active meetings for which it provides sponsorship, co-sponsorship, or technical co-sponsorship support. EDS also provides non-financial 'cooperation' support for another 38 meetings. A calendar of all 92 meetings for which EDS provides some type of support is included in the EDS Newsletter as well as *Electron Device Letters*.

The EDS wants broad member participation in the organization of these meetings to keep the vitality of the meetings high and to give EDS members equal opportunity to participate. To accomplish this, the EDS encourages turnover in meeting organizing committees. The constant evolution of the meeting organizing committees creates a training problem. Most meetings attack this problem by planning for succession with rotating assignments that culminate at the position of meeting General Chair. This works fairly well for ongoing meetings, but does not address the creation of new meetings. In the last five years, the EDS has financially sponsored or co-sponsored 16 new meetings. Over this period, it became clear that a workshop on organizing meetings would be helpful.

It was also apparent that a meeting of all EDS conference organizers would serve another purpose. We presently have significant diversity in our meeting formats, paper review processes, publication practices, etc. By bringing our meetings organizers together, we would be able to share the best practices of each meeting. In meetings, as well as all EDS activities, we need to strive for continuous improvement.

(continued on page 3)

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. Verdonck-Vandebroek
	R.J. Van Overstraeten	

* Members elected 12/94

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CAS '95

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important scientific and creative potential of Central and Eastern Europe. As a consequence, CAS has become a representative conference in the field of semiconductors in Central Europe, and supports the general trend of European integration and envisions an open and free society in the scientific and university world. Famous scientific authorities recognized the importance of the conference and many have accepted to become members of the CAS International Advisory Committee: Prof. S. Cristoloveanu (CNRS, France), Prof. D. Dascalu (Inst. of Microtechnology, Romania), Prof. R. B. Fair (Center of Microelectronics, USA), Prof. U. Goesele (Max-Planck Inst., Germany), Prof. R. Grigorovici (Romanian Academy), Prof. H. G. Grimmeiss (Univ. of Lund, Sweden), Prof. S. M. Hu (IBM, USA), Prof. H. Luth (Inst. of Thin Films and Ion Technology, Germany), Prof. A. Mircea (CNET, France), Dr. Y. Okuto (NEC Corp., Japan), Prof. R. Van Overstraeten (IMEC, Belgium), Prof. S. Radautsan (Moldavian Academy), Prof. S. Selberherr (Technical Univ. Vienna, Austria), Prof. N. Stojadinovic (Univ. of Nis,

Yugoslavia), Prof. K. Sumino (Tohoku Univ., Japan), Prof. S. M. Sze (National Chiao Tung Univ., Taiwan, ROC), Prof. F. J. Tegude (Duisburg Univ., Germany), Prof. A. Tugulea ("Politehnica" Univ., Romania).

In the past four CAS editions, international experts presented invited papers in current and important topics. Among them there were: Prof. S. Amon (Slovenia), Prof. A. Chovet (France), Prof. J. H. Fluitman (The Netherlands), Prof. H. L. Hartnagel (Germany), Dr. A. A. Jaecklin (Switzerland), Prof. G. Kamarinos (France), Prof. E. Langer (Austria), Prof. J. Stoemenos (Greece), Prof. K. Sumino and Prof. H. Tsuya (Japan).

Annually, special awards were awarded for the best paper in each session. A separate competition for student papers was held at CAS'94, with the addition of a Student Papers Session. With a subsidy from the EDS-Romania Chapter, a Student Award was determined for the best paper.

Topics:

From the beginning, CAS has been intended as a bridge between research, education and industry in the field of the semiconductor devices. CAS has been a forum for presentation and discussion on the achievements in physics, design, technology and applications of semiconductor devices and materials. The topics covered by CAS are: semiconductor devices and modeling; processing technologies; monolithic and hybrid integrated circuits; microwave devices; optoelectronic devices; semiconductor sensors; power semiconductor devices; reliability and defect engineering; testing; and applications.

Technical Program:

The CAS'95 Program consists of ten invited papers presented in two plenary sessions. In addition, 100-120 contributed papers, structured in six oral and six poster sessions, are presented simultaneously in three conference halls.

Regular papers (Deadline was April 30) are selected on the basis of a submitted extended abstract (4 pages A4, including a 50 word summary, figures and references), with original and 4 copies written in English. The CAS'95 accepted papers will be published in the conference proceedings, and will be available for all participants on the first day of the conference. Late News are accepted until August 30th.

The total number of contributed papers in the past three CAS editions increased from 83 in 1992 to 147 in 1994. The

weight of the foreign papers increased from 28% in 1992 to 48% in 1994. The number of participants, both total and foreign, follows a growing trend of about 15% from 1992 to 1994.

CAS has gained the status of a regional event and has the potential to become a major forum for scientific exchange between the West and the former Eastern Europe Community. "It is impressive to experience the breadth and quality of original work presented there, particularly from countries which could not afford to send their research personnel to Western Europe, the USA or Japan, but which practice a very lively and highly original research effort where many new concepts and ideas are generated. This international conference is therefore strongly recommended as a most stimulating event" — as quoted by Prof. H. L. Hartnagel, Germany.

The CAS'95 invited speakers are: Prof. H. G. Grimmeiss (Univ. of Lund), Prof. A. Iliadis (Univ. of Maryland, USA), Prof. H. Kosina (TUV Austria), Prof. H. Lange (Hahn-Meitner Inst., Germany), Prof. I. Mojzes (Techn. Univ., Hungary), Dr. M. Penn (Future Horizons, England), Prof. M. Sartori (COREP, Univ. Enterprise Training, Italy), and Prof. J. Zimmermann (LPCS-CNRS, France).

Location:

The CAS'95 Edition will also be held this October at the mountain resort Sinaia, "the Pearl of the Carpathian Mountains," located at about 120 km North from Bucharest, Romania.

Sinaia, the traditional place where CAS is held, is an exciting mountain resort offering a magnificent autumn view during the conference. The participants can tour the splendid Swiss-like town, with its famous Peles Castle and the renowned Casino, and can also make trips in the mountains. We strongly recommend that you attend CAS'95 and schedule this scientific event in your plans for 1995. You definitely will not regret it!

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— Ms. Doina Vancu,
ICCE,
Bucharest, Romania

Meetings Workshop

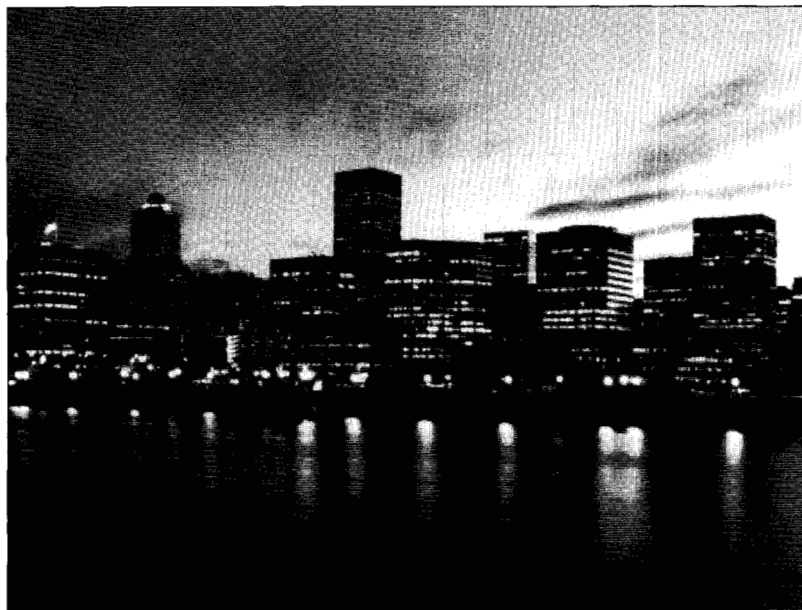
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The first of these workshops was held this past December just before the International Electron Devices Meeting (IEDM). It was a good start. There were 52 participants from 36 EDS meetings. As is often the case with a new venture of this kind, we learned a lot about how to improve the workshop in the future. We plan to hold the workshop again in conjunction with the upcoming IEDM. Please contact Bill Van Der Vort at the EDS Office if you are interested. See page 2 for contact information.

If you are involved in organizing an EDS meeting, please make sure that your aspiring general chairs get the opportunity to attend the next workshop. If you are an EDS member interested in working on organizing a technical meeting, look at the EDS Meetings Calendar and contact the relevant meeting contact. Tell him/her I sent you.

— Bruce Griffing — EDS Meetings Chair,
General Electric Company,
Corporate Research and Development,
Schenectady, New York

1995 International Vacuum Microelectronics Conference (IVMC '95)



The Eighth International Vacuum Microelectronics Conference (IVMC'95) will be held July 30 - August 3, 1995 at the Portland Marriott Hotel, 1401 S.W. Front Avenue, Portland, Oregon 97201 (TEL: (503)226-7600, FAX (503)221-1789). The Marriott is located on the Willamette River, in the heart of downtown Portland steps away from a waterfront promenade of shops and restaurants. Portland is nestled between majestic snow-capped Mt. Hood of the Cascade Mountain range and the confluence of the mighty Columbia and Willamette Rivers. The city offers ninety-four hundred acres of parks which wind their way through the city, blending Portland's eclectic collection of architecture with its natural abundance. Along with its exquisite setting, Portland offers a unique combination of cosmopolitan savoir-faire and small-town friendliness amidst an unspoiled environment. In keeping with the Conference's tradition of international fellowship, this year's meeting will be hosted by the United States and Japan and co-chaired by Dr. Anthony Bell, Oregon Graduate Institute, USA; Prof. William A Mackie, Linfield College, USA; and Prof. Yasuo Nannichi, University of Tsukuba, Japan. The 1996 Conference will be held in St. Petersburg, Russia.

Jointly founded in 1988 by the Naval Research Laboratory, Washington, DC and SRI International, Menlo Park, CA under the sponsorship of the IEEE Electron Devices Society, the Conference has

evolved into the leading annual event for the exciting new technical field of vacuum microelectronics. This technology has captured the imagination of research scientists and engineers from all over the world, and has brought new excitement to the relatively mature vacuum electronics community, along with novel new applications for the emerging nanoscale micromachining technology being driven by the needs of the solid-state microcircuit industry. Since the 1988 meeting in Williamsburg, VA, the Conference has been held in Bath, England; Monterey, California; Nagahama, Japan; Vienna, Austria; Newport Rhode Island; and Grenoble, France. The Conference has experienced steady growth since its inception with the 1994 Grenoble meeting having 236 attendees from 17 countries. A total of 147 oral and poster papers were presented covering a broad range of vacuum microelectronics subjects including but not limited to:

- Theory of electron emission and electron transport
- Electron sources including field-emission sources, field-emitter arrays, solid-state and ferroelectric emitters, photo-emitters, diamond-like films, etc.
- Microminiature ion sources and electron microguns
- 3-D vacuum nanostructures for scanning tunneling microscopes and atomic force microscopes, micromachining science, and nanostructure fabrication science

- Processes relating to lithography, chemistry and physics
- Sensors and instruments including hybrid devices consisting of both solid-state and vacuum microelectronic structures
- Packaging of microelectronic devices
- Vacuum microelectronics for RF applications
- The development, design and demonstration of field-emitter flat-panel displays

A major portion of the ongoing technical effort in vacuum microelectronics is being directed toward developing lower-voltage, higher-current, and higher-transconductance performance from microfabricated electron emission devices through advances in materials, processing, and structural design. The principal applications that have been driving this development are RF devices and full-color flat-panel display. These efforts have been very fruitful; current densities of thousands of amperes per square centimeter have been recently reported from field-emitter arrays — without having to apply heat to the emitters — along with transconductances of 5 microsiemens per emitter tip and emitter-tip packing densities of up to a billion tips per square centimeter. In addition, in what has been the most exciting application of vacuum microelectronics technology, a full-color, six-inch diagonal, 2-mm thick television panel has been demonstrated.

This year's Conference will be a comprehensive forum for the presentation, discussion and exchange of the latest results in all aspects of vacuum microelectronics. An internationally recognized set of plenary speakers will review the details of the technology, as well as give presentations in the areas of applications and market analysis.

In addition to basic theoretical and experimental discussions, the program will include technical sessions on flat-panel field-emission display applications; field-emitter array performance, fabrication and applications; and RF power devices. There will also be panel discussions arranged on-site during the Conference in order to insure a focus on timely topics that are of the most immediate interest to the attendees. The deadline for one-page abstracts of contributed papers was April 15, 1995. Complete papers of no more than 5 pages were required by April 30, 1995. Late news papers will be accepted after April 30 as poster papers or, on a space available basis, as oral papers.

Along with the technical sessions, social events are planned to help expand on the personal fellowship that has been the

trademark of the Conference. A welcoming reception will be held on Sunday, July 30 followed by a Native American open pit salmon bake at Edgefield Village on July 31, and a tour of the Columbia River Gorge — one of the world's most magnificent landscapes and recently designated a National Scenic Area — on August 2.

For further information, please contact IVMC '95 c/o Professional Association Management, 1201 Don Diego Avenue, Santa Fe, NM 87501; TEL: (505)989-

4735; FAX: (505)989-1073; E-mail: 70404.2407@compuserve.com or Dr. Anthony Bell, Oregon Graduate Institute, PO Box 91000, Portland, OR 97291-10000; TEL: (503)690-1141; FAX: (503)690-1406; E-mail: bella@eeap.ogi.edu

— *Capp Spindt, Director*
Vacuum Microelectronics Program
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capable of achieving semiconductor lasers in blue and UV wavelengths making it possible to increase the data storage density. Companies in all three continents are racing to obtain lasers for an affordable digital information storage system with both read and write capabilities.

Nitrides are also ideal for high power devices/circuits, and sensors and detectors with applications in high temperature and unfriendly environments. In aircraft, the devices can replace the bulky hydraulics rendering the craft more reliable and lighter while avoiding costly coolers. In satellites, the bulky coolers can be eliminated reducing the weight by 30-50%. When used as sensors and emitters in jet engines, automobiles, coal burning furnaces in the UV, the devices would allow optimal fuel efficiency and control of effluents for a cleaner environment.

Technical Program:

Under the technical co-sponsorship of the IEEE Electron Devices Society (EDS), Laser and Electro-Optics Society (LEOS), American Physical Society (APS) and the Japan Society of Applied Physics (JSAP), the workshop will have invited and contributed presentations dealing with substrates, epitaxy (MBE, MOCVD, MOMBE, ALE, VPE, LPE and other techniques), doping (donors, acceptors, effects of hydrogen, deep emission centers), characterization (crystallographic, electrical, optical and defects) processing (etching, ohmic contacts, Schottky contacts and others), thin films, interfaces and multi-layer stacks, optical and electronic devices (LEDs, lasers, sensors, transistors). The conference proceedings will be published as well as a special journal issue containing some of the presented papers.

Abstract Submission:

Prospective authors are invited to submit one original and fifteen copies of a two-page abstract and, if deemed necessary, one additional page of figures. Facsimile copies of abstracts will not be accepted. Abstract must be camera-ready and typed on the one side of A4 or 8 1/2" x 11" white paper. The left and right margins should be 2 cm. The upper and lower margin should be 2.5 cm. The first page must include the header containing the title, author's name(s), affiliation(s), address, and the telephone number, facsimile number, and e-mail address, if available, of the corresponding author. **The abstract deadline is May 31, 1995.** The

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1995 Topical Workshop on III-V Nitrides (TWN'95)



TWN'95, a Topical Workshop on III-V Nitrides will be held September 22-23, 1995 at the Nagoya Congress Center, in Nagoya, Japan. The workshop is the first of its kind held in Japan and follows the two very successful workshops held in St. Louis, MO in 1992 and 1994. TWN'95 is the major meeting on the very fashionable topic of GaN and related compounds and devices. The workshop will be held immediately following the 6th International Conference on Silicon Carbide and Related Materials (ICSCRM'95) to be held September 18-21 in nearby Kyoto.

The objective of the workshop is to provide a forum in which practitioners of nitrides and related compounds and devices would get together for in-depth technical discussions, encompassing every aspect of GaN and its related materials, such as $\text{Al}_x\text{In}_y\text{Ga}_{1-x-y}\text{N}$, $\text{GaN}_{1-x}\text{As}_x(\text{P}_x)$,

AlSiCN and other materials which contain nitrogen as one of the constituents.

While certainly not new, gallium nitride and its alloys have recently emerged as important semiconductor materials with applications to blue and ultraviolet portions of the spectrum as emitters and detectors and high temperature electronics. LEDs based on wide bandgap GaN combined with InGaAlP and AlGaAs LEDs provide all the primary colors for full color displays. LED-based traffic lights are undergoing trials. For example, two hundreds of nitride-based LEDs operating in an array at 20 mA, each, are sufficient as a traffic control signal. In contrast to the 100 Watts required for a typical incandescent traffic light bulb, the LED array would consume only 4 Watts. This represents a savings of about 800 kWatt-hrs/yr per traffic light.

The nitride system is also intrinsically

TWN '95

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authors will be notified of the decision of the committee by the middle of July 1995.

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— Hadis Morkoç,
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IEEE DIVISION 1 ELECTION

This September, IEEE will be holding its biennial election for a new Division 1 Director. As many of you are aware, the Electron Devices Society is included in Division 1 along with the following societies/councils:

- Circuits and Systems Society
- Components, Packaging, and Manufacturing Technology Society
- Lasers and Electro-Optics Society
- Solid-State Circuits Council

The Division 1 Director is a member of the IEEE Board of Directors representing the above-stated entities. The candidates for this year's election are:

- **Michael S. Adler** (Past President of the Electron Devices Society)
- **Philip V. Lopresti** (Past President of the Circuits and Systems Society)

We encourage you to vote in this upcoming election.

International Symposium on Semiconductor Manufacturing (ISSM'95)



The International Symposium on Semiconductor Manufacturing (ISSM) is bringing its 1995 edition to Austin, Texas, at the Hyatt Regency, September 17 through 19. The IEEE, through both EDS and CPMTS, the Ultra Clean Society and SEMI are working to establish ISSM as the definitive forum for improvements in semiconductor manufacturing technology and management.

Semiconductor manufacturing, which supported just over \$110 billion in total business in 1994, is a complex and multifaceted discipline. Automation, at virtually every level, is expected in every modern factory, but managing people continues to be one of the most critical factors in defining the effectiveness of these factories. Part of the challenge is complexity, but another part is connected with our industry's practice of pushing to the limits of almost every elemental process. As a consequence, the process variations can be significant within the operating domains of our products.

Clearly, ISSM'95 is about understanding and upgrading our capabilities along every dimension of the manufacturing task. Factory design is a continuously moving target, reflecting changes in both the spatial and environmental demands of our equipment and products. Automation and logistics are ongoing challenges. Management in semiconductor manufacturing now includes managing suppliers and customers, as well as the visible resources. And what have you done to the air/water/land that might endanger future generations? Clearly though, the main stream is improving the output when measured against all the factors of production. How can we do a better job of turning the yield handle, the cycle time handle, the

quality handle, and the cost handle? These items, and more, are the concerns of ISSM'95. Who participates in the International Symposium on Semiconductor Manufacturing? Obviously, the most interesting people the Program and Executive Committees can find. They will come from Japan, Europe, the Asian Tigers, and the United States, at least. These people will be representing factories, technology developers, universities, equipment and factory builders and our consortia.

Last year, ISSM'94 was held in Tokyo, and next year it will be in Japan again. There, the attendance exceeded 500 people, and the reviews were very favorable. There, simultaneous translation was used, and it was so effective that we will do it again this year. The international dialog was a real plus. Most U.S. people found the Ultra Clean Society's challenge to achieve perfection distinctly different from the ROI point of view more common here. The Tokyo environment was eye opening, too.

This year, it is in Austin. So we can look forward to more barbecue than sashimi. Sixth Street rings with music downtown, and the action around the edges is dominated by entrepreneurs and 8-inch fabs. For more information, please contact Robert Strain, ISSM Chair, National Semiconductor Corp., MS E-110, P.O. Box 58090, 2900 Semiconductor Drive, Santa Clara, CA 95052-8090; TEL: (408)721-7386; FAX: (408)736-8503; E-mail: cr4ssc@tevm2.nsc.com

So be sure to register and join the action. See you in September!

— Bob Strain,
National Semiconductor Corporation,
Santa Clara, CA

EDS Officer & AdCom Election Results & Profiles

On December 11, 1994, the EDS AdCom held its annual election of officers and members-at-large. The following are the results of the election and brief biographies of the members-at-large.

I. OFFICERS

The following individuals were re-elected for a one-year term beginning 1/1/95:

President: W. Dexter Johnston, Jr.,
AT&T Bell Laboratories

Vice President: Louis C. Parrillo,
Motorola, Inc.

Treasurer: Lucian A. Kasprzak,
Franciscan University of Steubenville

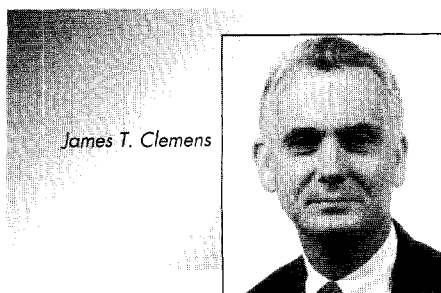
Secretary: James L. Merz,
University of Notre Dame

II. ADCOM MEMBERS-AT-LARGE

A total of seven persons were elected to three-year terms (1995-1997) as members-at-large of the EDS AdCom. Two of the seven individuals were re-elected for a second term. The backgrounds of the electees span a wide range of professional and technical interests.

A. SECOND TERM ELECTEES:

JAMES T. CLEMENS is Head of the VLSI Research Department at the AT&T Bell Laboratories Research Division in Murray Hill, NJ. He received his B.S. (Physics) in 1965 from the Polytechnic Institute of Brooklyn. In 1967 he studied at the Brookhaven National Laboratory, and in 1969 he completed his Ph.D. (Theoretical Nuclear

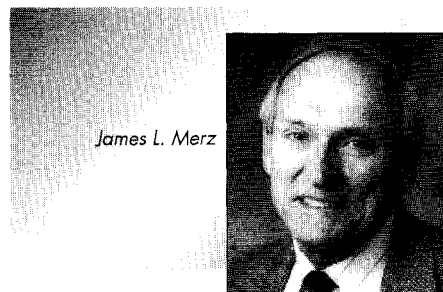


Physics) at the Polytechnic Institute of Brooklyn.

In 1969 he joined the AT&T Corporation, where he has continuously maintained his employment. Dr. Clemens has served on various technical conference committees internationally and he has just

finished serving as the General Chairman of the 1994 International Symposium on VLSI Technology. In 1992, Dr. Clemens was elected to serve on the Administrative Committee (AdCom) of the IEEE Electron Devices Society. For his various contributions to VLSI physics and technology he was elected a Fellow of the IEEE in 1987. Among his other duties, he is the Technical Program Manager for the AT&T/NEC Joint Development Program in deep submicron VLSI fabrication technology.

JAMES L. MERZ received the B.S. degree in Physics from Notre Dame in 1959, and the M.A. and Ph.D. degrees from Harvard in 1961 and 1967. He joined Bell Laboratories in 1966, and in 1978 he went to the University of California, Santa Barbara, as Professor of Electrical Engineering. He was Director of the NSF Center for Quantized Electronic Struc-

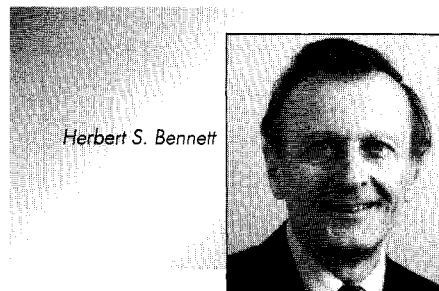


tures (QUEST) from 1989 until 1994, when he moved to the University of Notre Dame as Freimann Professor of Engineering. Dr. Merz is a Fellow of the American Physical Society, a Fellow of the IEEE, and was awarded an Honorary Doctorate by Linköping University, Sweden, in 1993. His present research interests include optical properties of semiconductors, quantum-confined structures, and photonic devices and integrated circuits (PICs).

B. NEW ELECTEES:

HERBERT S. BENNETT is a Senior Research Scientist and an Executive Advisor in the Electronics and Electrical Engineering Laboratory of the National Institute of Standards and Technology, Gaithersburg, MD. He received A.B. and Ph.D. degrees from Harvard University and a M.S. degree from the University of Maryland. His present research interests include semiconductor device physics, optoelectronics, and video technologies (image generation and flat panel displays). His

awards include Maryland's Outstanding Young Scientist Award for 1970 from the Maryland Academy of Sciences. He was the Chairman of the 1994 NUPAD and



helped unify NUPAD, VPAD, and SISDEP to one international meeting that will be called SISPAD. He is a Senior Member of IEEE.

HIROSHI IWAI is a Senior Research Scientist of 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 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 (1994), and IEEE EDS Paul Rappaport Award (1994). He has developed several generations of CMOS, bipolar, and Bi-CMOS LSI's. He has also contributed to research on device physics and T-CAD related to small-geometry transistors. Currently he supervises high speed and high frequency silicon device technologies.

KUNIO TADA Kunio Tada is a Professor of Electronic Engineering at the University of Tokyo. He received a Ph.D. from the above university and joined the faculty in 1965. He is currently Vice President of Japan Society of Applied Physics. He is
(continued on page 8)

AdCom Profiles

(continued from page 7)

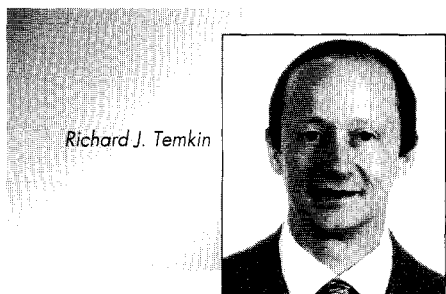
also serving as an Associate Editor of *IEEE Transactions on Electron Devices*. He was elected an IEEE Fellow for his contributions to semiconductor photonic and electronic



Kunio Tada

devices including optical directional-coupler switches, distributed-feedback lasers, and Schottky-clamped transistors. Other awards he has received include the Hatori-Houkou Prize for his contribution to the first implementation of the optical directional-coupler modulator/switch.

RICHARD J. TEMKIN is Head of the Waves and Beams Division of the Plasma Fusion Center and Senior Scientist in the Department of Physics at the Massachusetts Institute of Technology. He received the B.A. degree with highest honors in physics



Richard J. Temkin

from Harvard College in 1966 and the Ph.D. degree from the Massachusetts Institute of Technology in 1971. Since the MIT Francis Bitter National Magnet Laboratory and the MIT Plasma Fusion Center. His research interests include high power microwave devices (the gyrotron and free electron laser); plasma heating with microwaves; high gradient electron accelerators; millimeter wave radar; electron spin resonance at high magnetic fields; and far infrared lasers. He was an Associate Editor of the *IEEE Transactions on Electron Devices* from 1987 to 1994. He is a Fellow of the IEEE and the American Physical Society.

SOPHIE VERDONCKT-VANDEBROEK is a Senior Member of the Technical Staff

EDS is on the Web!

The Electron Devices Society's Home Page premiered on the World-Wide Web on January 4, 1995. The World-Wide Web address or URL (Uniform Resource Locator) for the EDS Home Page is: "http://www.ece.neu.edu/eds/EDShome.html". The EDS Home Page can also be accessed via the IEEE Home Page at the Web address, "http://www.ieee.org".

The EDS Home Page currently includes: the Society's Field of Interest Statement; how to join IEEE and EDS and the benefits of membership; how to subscribe to the periodicals available from EDS; the current Tables of Contents for the Society's periodicals; and, the EDS Meetings Calendar. We hope to continue to expand our Home Page to include other useful sources of information. For example, we will soon be including EDS awards information, the Administrative Committee Roster and highlights (or possibly a full copy) of the current EDS Newsletter. We hope the Home Page will be an effective means of both communicating with our current Society members and attracting new members.

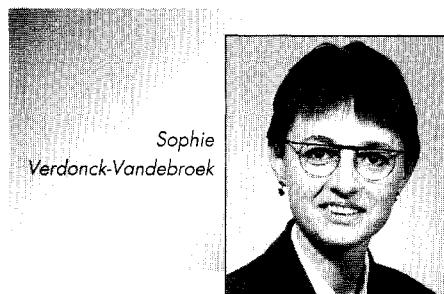
Lisa Dron is the charter EDS Home Page Editor. Dr. Dron is an Assistant Professor in the Electron Devices Research Group at the Northeastern University. She received her Ph.D in Electrical Engineering and Computer Science from MIT in 1994, her M.S.E. from the University of Texas in 1989, and the S. B. degree in Physics from MIT in 1976. Dr. Dron's research interests are in developing intelligent imaging devices for use in machine vision, robotics, and image processing.

Lisa Dron

- Steven J. Hillenius,
AT&T Bell Laboratories,
Murray Hill, NJ 07974-0636

(MRTSII), at the Xerox Wilson Center for Research & Technology, Webster, NY. She received the Ir. E.W. degree in electrical engineering & mechanics at the K. U. Leuven, Belgium, in 1985, and the Ph.D. in EE degree at Cornell University, Ithaca,

IC's. She is a Senior Member of IEEE and the Chair of the Rochester NY EDS Chapter and is serving on the technical program committees of the Device Research Conference, and the International Electron Devices Meeting.



Sophie
Verdonck-Vandebroek

NY. For the years 1990 and 1991, she worked at the IBM T.J. Watson Research Center on SiGe p-MOSFETs. In November 1991, she joined Xerox Corporation where she currently supervises the Micro-electronic Design & Integration Competency. Her awards include: Fulbright Fellow, Honorary Fellow of the Belgian-American Educational Foundation, and the Nellie Yeoh Poh-Lin Whetten Memorial Award. Her current areas of research include high-power CMOS-compatible devices, MEMS, and mixed analog/digital smart-power

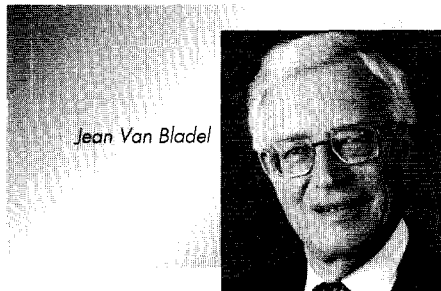
1996 CHAPTER SUBSIDIES

Requests for subsidies from Chapters are due on August 1, 1995. Last year the EDS AdCom awarded funding for 1995 to 16 Chapters, with amounts ranging between US\$150 and US\$1,000. Letters to Chapter Chairs were sent in April, 1995 notifying them of the current funding cycle. A list of guidelines was enclosed with each letter. In general, activities which are considered fundable include, but are not limited to: membership promotion; travel allowances for invited speakers to Chapter events; and support for student activities at local institutions. Letters requesting subsidies should be sent to the EDS Executive Office at the address given on page 2. Final decisions on awards will be made by the EDS Sections/Chapters Committee by early October.

EDS Members and Colleagues Receiving Awards

1995 IEEE Heinrich Hertz Medal

Jean Van Bladel, an EDS member and a Life-Fellow of IEEE, won the 1995 IEEE Heinrich Hertz Medal "for major contributions in fundamental electromagnetic theory and its application to electrical engineering."



Jean Van Bladel

Dr. Van Bladel was born on July 24, 1922 in Antwerp, Belgium. He obtained the Ph.D. degree in Electrical Engineering from the University of Wisconsin in 1950. After working in Philips in Brussels from 1951 to 1954, he spent ten years teaching and doing research in several universities in the United States and in Europe. In 1964, Dr. Van Bladel returned to his native Belgium, where he became professor of electrical engineering at the University of Ghent, and founded the Laboratory of Electromagnetism and Acoustics. He was Dean of the Faculty of Applied Science from 1976 to 1978, and a member of the University Board from 1981 to 1987, the year in which he retired from the University. At the University of Ghent, he directed his research towards problems in electromagnetism, including the problem of coupling through small apertures, the resonance phenomena in dielectric bodies, the engineering significance of Relativity Theory, and the field behavior near singularities.

Dr. Van Bladel has had a long association with the International Union of Radio Sciences (URSI), having been chairman of its Commission on "Fields and Waves" from 1975 to 1978, and its Secretary General from 1979 to 1993. He is a Fellow of both the IEE and the IEEE, a Foreign Member of the "Real Academia de Ciencias" of Spain. He is presently President of the "Koninklijke Academie van Wetenschappen, Letteren en Schone Kunsten" of Belgium. He is the author of five books and some 110 papers.

EDS Members Elected to the IEEE Grade of Fellow

Effective January 1, 1995

Christopher T.M. Chang	Hans Melchior	Willy M.C. Sansen
Dean R. Collins	Robert P. Mertens	Klaus Schuenemann
Tiao-Yuan Huang	Umesh K. Mishra	Charles G. Sodini
Subramanian S. Iyer	Gary K. Montress	Peter W. Staecker
Andre A. Jaecklin	Takao Nakano	Eiji Takeda
Gota Kano	Koji Nihei	Iwona Turlik
Choong-Ki Kim	Seiki Ogura	Harry T. Weaver
Harry Kroger	Masahiro Okamura	Kazuhiko Yamanouchi
Steven E. Laux	Robert K. Parker	Leopoldo D. Yau
Chih-Yuan Lu	James C. Pickel	Jerry R. Yeorgan
Tso-Ping Ma	John A. Pierro	James R. Zeidler

William R. Cherry Award

This award was established in 1980 to recognize the contributions of William R. Cherry to the development and application of photovoltaics. Through his advocacy and efforts solar cells became the standard power source for space satellites and he also set the stage for the development of terrestrial photovoltaics. The award has



Yoshihiro Hamakawa

been presented at each EDS sponsored Photovoltaic Specialist Conference since the 14th in 1980.

Professor Yoshihiro Hamakawa received the Cherry Award at the 1st World Conference on Photovoltaic Energy Conversion which took place in Hawaii during December 1994. This conference was a joint meeting of the American and Japanese communities combining the 24th IEEE PVSC and the 8th PVSEC.

Dr. Hamakawa is Director of Research at the Center for Extreme Materials at Osaka University and Professor of Electrical Engineering. Among the honors he has received are the 1980 Technical Development Prize: Hattori-Houko-Shyo for his con-

tribution to Amorphous Silicon Cell Development, the 1985 25th Toray Science and Technical Development Prize for developments in amorphous SiC, the 1988 Inoue Prize and the 1990 Hayakawa Shyo for contributions to Optoelectronic devices. He is Chair of the Solar Energy Committee in the MITI Sunshine Project. Dr. Hamakawa has authored or co-authored 28 books and 400 papers.

The 25th IEEE PVSC will be in Crystal City, near Washington DC, between May 13-17, 1996.

— John D. Meakin,
University of Delaware,
Newark, DE 19716

Eta Kappa Nu Finalist

EDS member, Susan M. Lord, was selected by Eta Kappa Nu as a Finalist in the 1994 "Outstanding Young Electrical Engineer" competition. Professor Lord received her Ph.D. from the Electrical Engineering department at Stanford University in 1993 and is presently a member of the faculty at Bucknell University in Lewisburg, PA.



Susan M. Lord

Chapter Reports

Regions 1-6, 7 & 9

Santa Clara Valley ED Chapter

— by Jun Amano

Our chapter is located in the center of the Silicon Valley and has over 1,300 members. As a result, we have been a very active chapter. Our main activities are monthly evening seminars and two half-day symposia in January and June. For evening seminars, we had wide varieties of topics covering both Si and III-V compound semiconductor devices and technologies. Some of the topics were: "Very bright InGaAlP LEDs", "Low power CMOS" and "Al reflow process." In January, we had a half-day symposium on "Advanced Interconnect Technologies." Several speakers from local industries and universities presented their views on state-of-the-art interconnect technologies and future directions. On April 17, we had an evening seminar by Prof. Rajendra Singh from Clemson University, who is an EDS Distinguished Lecturer. The topic of his seminar was "Single Wafer Processing." For the May seminar, we plan to have someone from Intel Corp. describing new Intel P6 microprocessor technology. At present, we are under preparation for the June symposium, "Advanced Semiconductor Devices Technology," in identifying and selecting several local speakers.

San Diego AP/ED/MTT Chapter

— by Paul Yu

In January, Richard Dean of Qualcomm, Inc. at San Diego presented a comprehensive discussion on the technological and economic issues involved in wireless communications systems. The meeting was well attended (65), with much discussions following the presentation. In February, James Zeidler of the Naval Command, Control, and Ocean Surveillance Center gave an in-depth discussion on "Diamond Electronics and Diamond Heat Spreaders." An insightful overview of the enabling technologies, as well as the recent breakthroughs in diamond transistor devices, were presented. In March, Harry Wieder of the University of California, San Diego presented a talk on "Reality and Virtual Reality of Electrons in Solids." A historical evolution from an electrical fluid to the electron as a discrete charge having characteristics of both a particle and a wave was enthusiastically described. The recent advances of electron microscope, and the implications of the quantum nature of elec-

trons in small dimension silicon MOSFET device were highlighted.

We plan to have a meeting on May 31, with Michael VanBlaricum of Toyon Research Corporation presenting a talk on "Photonics Systems for Antenna Applications."

Dallas ED Chapter

— by Zepnep Celik Butler

It has been a very busy year for the Dallas section of EDS. During the period of October 1994 to March 1995, we held 5 technical meetings with very diverse topics ranging from High Power Millimeter Wave Sources to Engineering and Science Careers in a Changing High-Tech Job Environment. Our first meeting speaker was Prof. Jerome Butler from Southern Methodist University who talked about Millimeter-Wave Surface Emitters. The November meeting talk was given by Dr. Jeffrey S. May of SGS-Thompson Microelectronics, Inc. who summarized the reliability trends in year 2000. Prof. Kambiz Alavi of the University of Texas at Arlington was the December speaker. Dr. Alavi talked about his research on Superlattice Multiple Quantum Well Electroabsorption Modulators. Engineering and Science Careers in a Changing High-Tech Job Environment was the topic of our January meeting given by Dr. Edward Esposito of Texas Instruments, Inc.. Our February meeting highlighted Dr. Ted Moise of Texas Instruments, Inc. who discussed Nanoelectronics: The Combination of Quantum Mechanics and Circuit Design. We plan to wrap-up the year with an informal get-together to be held in May 1995.

Chicago ED Chapter

— by Carl R. Kannewurf

The Chicago Chapter of the ED Society co-sponsored two fall meetings during November of 1994. At a joint meeting with the Northwest Subsection Mr. Keith Casson, Vice President for R & D at Sheldahl, Inc. gave a presentation entitled, "Quick Turn Manufacturing of Interconnect Systems Using Pre-drilled and Plated Via Arrays." At the second meeting Mr. Norman Phoenix, Senior Electronics Engineer at International Components Corporation and Secretary-Treasurer of the ED Chapter, discussed "Charging Techniques for Rechargeable Batteries." This was a joint meeting with the Power at the Motorola Center, Schaumburg, Illinois.

A Spring meeting is planned for May

10 at the Motorola Center to be co-sponsored by the Northwest Subsection and LEOS Society. The speaker will be Dr. Frank Chambers of Technology Plus and the topic: "Optics at the Board Level?"



Milwaukee AP/ED/IM/MTT Chapter March Meeting with Dr. George Hanson presented a talk on "Transmission Lines and Waveguiding Structures for Millimeter-Wave Integrated Circuits"

Milwaukee AP/ED/IM/MTT Chapter

— by James E. Richie

We had a meeting on March 23 (see photograph). Dr. George Hanson, Assistant Professor of Electrical Engineering at the University of Wisconsin - Milwaukee, presented a talk entitled "Transmission Lines and Waveguiding Structures for Millimeter-Wave Integrated Circuits" to the AP/ED/IM/MTT chapter of the Milwaukee Section. After a review of guiding structures, Dr. Hanson presented an overview of millimeter wave guiding structures such as conventional microstrip, and dielectric waveguides including microstrip-dielectric transition structures. The second half of his talk concentrated on numerical modeling and simulation of these structures including both isotropic and anisotropic dielectric materials.

— Paul K. L. Yu, Associate Editor

Region 8

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

There have been some changes to the 1995 Chapter activities shown in the April 1995 issue of the *EDS Newsletter*. Currently, some fourteen events are planned as summarized below:

Two lectures already held included: "Physical Modeling of Microwave Devices" by Chris Snowden (University of Leeds) at University College Dublin; and



Group picture taken at the 4th Brazilian Microelectronics School at Recife-Pe-Brazil in January, 1995. Over 250 people participated in the symposium and many companies (Mentor, Synopsis, Xilinx, Intusoft and others) were present at the exhibit.

"Frequency Selective Surfaces as Wave-guiding Structures" by Jannis Vardaxglou (Loughborough University) at King's College London.

Following events include:

- 7th June at University College London. Lectures on "Microwaves and Optoelectronics" by Alwyn Seeds.

- 11th July at Danbury Park Conference Center, Chelmsford. One-day course on "NEC (the industry-standard Method of Moments Code)." Organized by ACES (UK) in cooperation with the Chapter. Contact: Dr. Pat Foster, 16 Peachfield Road, Malvern, Worcs WR14 4AP, TEL: +44 1684 574057; FAX: +44 1684 573509; E-mail: prf@maasasl.demon.co.uk

- 15th September at Queen's University Belfast. Symposium on presentation of "Research Students Papers." Contact: Professor J.A.C. Stewart, Dept. Electronic & Electrical Eng., The Queen's University of Belfast, Ashby Building, Stranmillis Road, Belfast BT9 5AH UK. TEL: +44 1232-335440; FAX: +44 1232-662135.

- 20th September at King's College London. Lecture on "Personal communications" by Hamid Aghvami - King's College.

- Autumn at Queen's University Belfast. Lecture on "Mixed Signal System Simulation," by Steve Tucker - HP

- 9th October at Wembley Conference Center, London. Workshop on "RF & Microwaves ICs: the Technology Background." Organized by Nexus in cooperation with the UKRI Communication and MTT/ED/AP/LEO Chapters. Contact: Dr. I. D. Robertson, Dept. of Electronic & Electrical

Engineering, King's College, Strand, London WC2R 2LS UK. TEL: +44 171 873-2523; FAX: +44 171 836-4781; E-mail: udee206@bay.cc.klc.ac.uk

- 10-12th October at the Wembley Conference Center Wembley. "Membership Booth" at Microwaves & RF Conference and Exhibition (MRF95), by Courtesy of Nexus Business Communications Ltd.

- 27th November at King's College London. "FIRST CALL FOR PAPER" available for EDMO'95 Workshop on "High Performance Electron Devices for Microwave and Optoelectronic Applications." Jointly organized by the Chapter and King's College London, with technical co-sponsorship from the ED-Society and in cooperation with MTT-Society and the national IEE. Contact: Dr. A. A. Reza-zadeh, Dept. Electronic & Elec. Eng., King's College, Strand, London WC2R 2LS. TEL: +44 171-873-2879; FAX: +44 171-836-4781; E-mail: a.rezazadeh@bay.cc.kcl.ac.uk

- 28th November at IEE Savoy Place London. "Tutorial meeting on MMTC's." Organized by the IEE in cooperation with the Chapter. Contact Ms. Alison Dewhurst, Electronics Division, IEE, Savoy Place, London WC2R 0BL UK. TEL: +44 171-344-5423; FAX: +44 171-497-3633; E-mail: adewhurst@iee.org.uk

- 29th November at IEE Savoy Place London. Workshop on "Microwave & Millimeter Wave Communications." Organized by the IEE in cooperation with the UKRI Communications and the MTT/ED/LEO Chapter. Contact: Dr. I. D.

Robertson, Dept. Electronic & Electrical Engineering, King's College, Strand, London WC2R 2LS UK. TEL: +44 171-873-2523; Fax: +44 171-836-4781; E-mail: udee206@bay.cc.klc.ac.uk

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

The Chapter is still hopeful that there will be a visit from the ED-Society Distinguished Lecturer Program.

For further information on these activities, please get in touch with the event named contact, or Chapter Chair.

Chapter Chairman: Mr. Terry H. Oxley, at "Tremont," Back Lane, Halam, Newark, Notts NG22 8AG, UK. TEL: +44 1636-815510; FAX: +44 1636-815865.

Germany ED Chapter:

The Germany ED Chapter executive committee has approved a proposal to combine with the Germany MTT/AP Chapter to form an ED/MTT/AP joint chapter. Negotiations have been started. If approved by the MTT/AP Chapter, the petition corresponding to IEEE rules will be initiated.

The Germany ED Chapter will co-sponsor a two day "Workshop on Low-Power-Microwave Electronics," to be held 9th and 10th October 1995 at Reisburch/FRG. The main sponsor is the Germany MTT/AP Joint Chapter. For further information please contact the Chapter Chair.

Chapter Chairman: Dr. Klaus Heime, Institute für Halbleitertechnik, RWTH Aachen, D-52056 Aachen, Germany. TEL: +49-241-8077-46; FAX: +49 241-8888-199.

Poland ED Chapter:

The newly formed Poland Chapter is currently being organized and activities planning is in progress. News of the Chapter plans are thus not yet available.

In the coming year 1996, members of the Chapter will be cooperating with the organizers of MIKON'96. The Chapter Chair is a member of the Scientific Program Committee. This XI International Microwave Conference, with technical emphasis on microwave devices and applications, is planned in Warsaw, 27-30th 1996. For further information please contact the Conference Secretariat: Telecommunications Research Institute, Poligonow, 20, 00-991 Warsaw, Poland. TEL: +48 22-133785/102571; FAX: +48 22-10257, or the Chapter Chair.

Chapter Chairman: Prof. Jerzy W. Klamka, Institute of Electron Technology, Al. Lotnikow 32/46, 02-668 Warszawa.

France MTT/ED Chapter:

We are a joint Chapter of the MTT and ED Societies since March 1994 and we plan that our forthcoming activities contribute to bring together the two communities.

The main 1994 Chapter events are summarized below:

1. We held three afternoon meetings in 1994; on April 12th, we heard Professor M. Salazar-Palma from University of Madrid, Spain on "Electromagnetic Modeling Applied to MMIC's," and Professor Roger Pollard from University of Leeds UK on "Calibration of Network Analyzers;" on May 15, distinguished lecturer Professor Tsukasa Yoneyama gave a talk on "Non-radioactive dielectric waveguides for MMIC's;" on September 30, Dr. John Bandler from Canada gave a talk on "Microwave Circuit Optimization" with CAD demonstrations.

2. We organized the "1994 International Topical Meeting on Optical Microwave Interactions." This event took place on November 21-23, 1994 in Abbaye des Vaux de Cernay, an 11th Century Cistercian Abbey situated in the Vallée de Chevreuse, 35 km South West of Paris (France). This was the first time for the meeting to be held outside of the USA. The meeting was sponsored jointly by MTT-S and the French Center National de la Recherche Scientifique, France-Telecom CNET. The International Technical Program Committee had selected an excellent program attended by over 80 participants and including seven invited papers, 35 contributed papers and a CAD software demonstration. This combined with a good organization and the meeting was considered to be highly successful in the autumn atmosphere of peace and calm of Abbey.

3. The Chapter plans to organize at Areachon near Bordeaux (France) on November 16-18, 1995 an International Topical Meeting on Nomadic Microwave Technologies and Techniques for Mobile Communications and Detection.

The forum intends to bring together IEEE MTT and ED R&D engineers and research experts in all aspects of microwave theory and techniques, electron devices (active, passive, antennas), present their latest results, exchange their ideas on this fast growing field. The main fields are communications, identification, transportation.

Main key words are: microwave,

(1GHz and above) and fast response, low power/low voltage operation, low cost related to materials and technologies (silicon, III-V), packaging, modeling and simulation.

Deadlines are:

Abstract + 2 pages Résumé: July 15

Final Paper (4 pages): October 15

For further information please contact the Chapter Chairman:

Dr. Robert Adde

IEF, Université Paris-Sud, Orsay, France

TEL: (33) 1-69-41-78-50;

FAX: (33) 1-60-19-25-93

E-mail: r.adde@ieee.org

Israel ED Chapter:

1. On February 13th we organized a joint meeting of the Israel Vacuum Society and the IEEE ED Israel Chapter, at the Tel Aviv University. The title of this technical meeting was "Innovations in Microelectronics." Out distinguished guest lecturer was Prof. Adir Bar-Lev from the Technion IIT in Haifa.

2. In charge for the ED in the Technical Organizing Committee of the 18th Convention of IEEE Israel, (March 7-8, 1995), in Tel Aviv was Prof. Nathan Croitoru. Two of the Chairmen of the ED sessions in the conference were: Prof. Nathan Croitoru and Prof. Menachem Nathan, members of the Israeli EDS Chapter.

3. Future activities: At the end of April we will have an IEEE video course on Microelectronics Processes in Tel Aviv University.

Chapter Chairman: Prof. Nathan Croitoru, Dept. of Electrical Engineering - Physical Electronics, Faculty of Engineering - Tel Aviv University, Tel Aviv 69978 ISRAEL

Egypt ED Chapter:

The National Radio Science Committee in Egypt holds every year a national conference. This year the 12th edition of this conference was held in Alexandria from 21 to 23 of March. The conference is sponsored by the National Academy of Science and the IEEE ED/MTT Chapter. The conference is organized by 10 URSI commissions, among which commission D deals with electronic and optical devices and applications. Among the 82 accepted papers there were 4 papers referring to electron devices, which were presented in a dedicated conference section. The section Chairmen were Prof. Dr. Mohamed Ez-Elarab and Prof. Dr. Bashir Saleh. Here are the title and authors of these papers:

1. "Virtually Clocked Transfer Transistor Single-Polysilicon CMOS Active Pixel." - El-Sayed Eid (Alexandria University and AT&T Bell Labs).

2. "A Universal Large Signal DC Model for GaAs MOSFET and HBT Power Devices." - S. El-Rabaie (Menoufia University) and F.M. Ghannouchi (Ecole Polytechnique de Montreal Canada).

3. "An Analytical Saturation Voltage for Reliability Study of Submicron MOSFETs" - M.ElBanna (Alexandria University) and K.H. Badr (Air Defense College).

4. "Electrical and Optical Properties of In Doped Cds Thin Films" - A.A. El-Shazly (Ain Shams University), M.F.M. Hassan (Military Technical College), M.E. Mousa (Air Defense College) and H.S. Soliman (Ain Shams University).

Chapter Chairman: Dr. Ibrahim Salem
The National Radio Science Committee
The Academy of Scientific Research and Technology
17 Elquada St., Heliopolis, Cairo - 11341, Egypt
Fax: +202-34-98-217

— Adrian Veron, Associate Editor
— Terry H. Oxley, Associate Editor

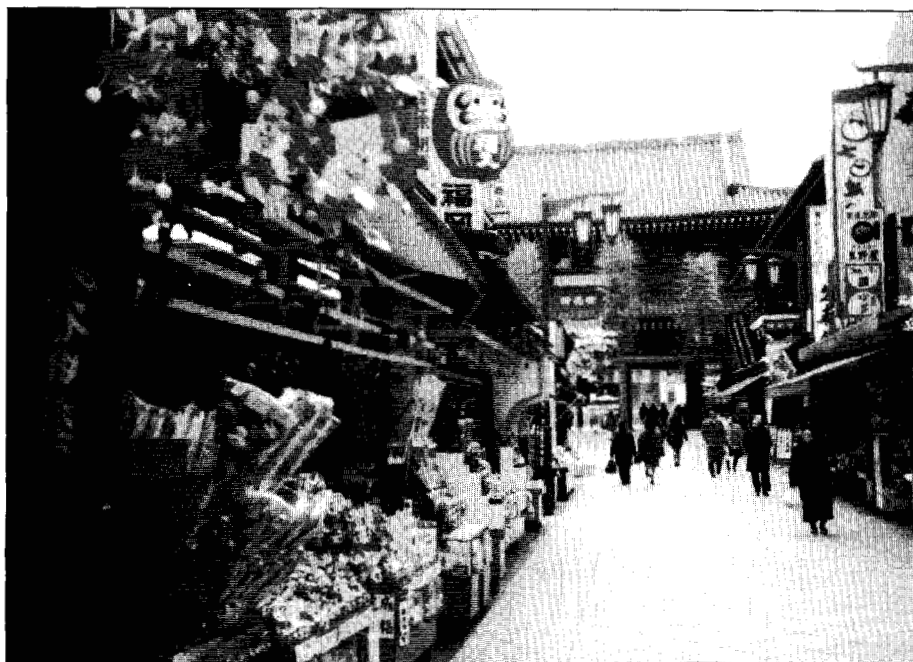
Region 10

First Joint Conference on TCAD (SISPAD'96)

— by Akira Yoshii

The International Conference on Simulation of Semiconductor Processes and Devices (SISPAD'96) will be held on September 2-4, 1996, in Kawasaki, Japan. The conference is the continuation of VPAD previously held in Japan, May 1993, as the International Workshop on VLSI Process and Device Modeling. Therefore, it should be noted that VPAD will not be held in 1995. VPAD, NUPAD and SISDEP were merged into this conference, and this will be the first time for the international TCAD community to meet together under the new name.

This conference is aimed at providing an opportunity for presentation and discussion of the latest topics in process, device and circuit modeling for VLSIs. It will cover a wide range of TCAD and related topics from basic models to their applications, and from numerical algorithms to user interfaces. It will consist of invited and contributed papers which will be carefully selected by our program committee. Scien-



Scene from a Kawasaki Street in Japan — venue for 1995 SISPAD.

tists, engineers and others from industry, government and academia from all parts of the world will come together and the latest developments in this field will be shared effectively.

This is the first announcement of SISPAD'96. We are expecting that SISPAD'96 will be an attractive and fruitful conference for all participants in this field. Please submit papers to this conference by April 1st, 1996. Details will be shown in the First Call for Paper distributed early in June, 1995.

We look forward to seeing you in Kawasaki. For more information, please contact: Akira Yoshii, Conference Chairperson, NTT LSI Laboratories, 3-1, Morinosato-Wakamiya, Atsugi-shi, Kanagawa, 243-01, Japan, FAX: 81-462-40-4306; E-mail: yoshi@aecl.ntt.jp.

Tokyo, Japan ED Chapter

— by Jun Ueda

Now semiconductor technology in the world is at a turning point. Great breakthroughs are necessary for further semiconductor development in the fields of research, development, production and application. One of the key issues to create breakthroughs is to improve active exchanges of information and opinions among industries and academia on the basis of science or on the view point of global resources and social responsibility. The Chapter wants to offer the opportunities of exchanges among members.

In 1995, the Chapter is first going to try to increase the number of members, especially in bigger companies, laboratories and universities whose number of memberships is relatively few. Second, we want to



Dr. Mukai chairing Tokyo, Japan EDS Chapter Meeting to solicit inputs to the EDS Newsletter.

strengthen the activities by cooperating in not only domestic research meetings but also international conferences held in Japan such as SSDM (International Conference on Solid State Devices and Materials). The chapter has a plan to hold the members' general meeting and the meeting of 1995 IEDM review simultaneously at the end of December this year in Tokyo. During April 1995 - March 1996, the Chapter is planning a series of joint technical meetings with two technical groups of IEICE (Institute of Electronics, Information, and Communication Engineers) of Japan. There are about twelve technical meetings

in both groups of "Silicon Devices and Materials" and "Integrated Circuits and Devices," respectively. These meetings are informal and are mostly in Japanese. On July 27 and 28, one meeting will be held in Korea as international workshop on "Advanced LSI's - Scaled Device/Process and High Performance Circuit." The schedule for other upcoming domestic meetings are as follows:

SDM:

- August 17-18, 1995 Sendai, "Semiconductor manufacturing technology and process purification"
- September 13-14, 1995 Atsugi, "Process, device and circuit simulation"
- October 19-20, 1995 Toyohashi, "Lithography and plasma process"
- December 7-8, 1995 Kyoto, "Silicon and related materials"
- January 26, 1996 Tokyo, "Interconnection"
- February 22-23, 1996 "Giant micro-electronics"
- March 21-22, 1996 Tokyo, "SOI substrates and devices"

ICD:

- August 24-25, 1995 Kitami, "Multi-media and telecommunication LSIs"
- September 21-22, 1995 Hamamatsu, "Analog and analog-digital LSIs"
- October 19-20, 1995 Sendai, "Processors, DSPs and next generation VLSI computers"
- December 14-15, 1995 Hiroshima, "ASICs and ASIC application systems, package and module technologies"
- January 17-19, 1996 Tokyo, "Compound semiconductor, and high-speed, high-frequency ICs and devices"
- March 7-8, 1996 Tokushima, "Design methodologies for LSI systems and its application to VLSIs"

Joint SDM & ICD:

- November 21-22, 1996 Kyoto, "Memory LSI technologies (systems/devices/fabrication-process)"

For details, please contact Prof. Fujio Masuoka (SDM), Tohoku University, TEL: +81-22-217-5478; FAX: +81-22-217-5480 and Prof. Atsushi Iwata (ICD), Hiroshima University, TEL: +81-824-24-7856; FAX: +81-824-22-7195.

The 1995 SSDM will be held August 21-24, Osaka. Contact Prof. Chihiro Hamaguchi, Osaka University, TEL: +81-6-879-7765; FAX: +81-6-875-0506 or 1995 SSDM Secretariat c/o Business Center for Academic Societies Japan, TEL: +81-3-5814-5800; FAX: +81-3-5814-5823.

— Hiroshi Iwai, Associate Editor

IEEE Electron Devices Society Meetings Calendar

(As of May 17, 1995)

<u>DATE</u> <u>1995</u>	<u>NAME/LOCATION</u>	<u>CONTACT/ABSTRACT DEADLINE</u>
July 1	1995 HONG KONG ELECTRON DEVICES MEETING /University of Hong Kong, Hong Kong	Peter P.T. Lai - Deadline: Past Due Tel: 852-2859-2691 Fax: 852-2559-8738
July 30 - Aug. 4	1995 IEEE INTERNATIONAL VACUUM MICROELECTRONICS CONFERENCE /Portland Marriott Hotel, Portland, OR	Judith A. Sjoberg - Deadline: Past Due Tel: (505) 989-4735 Fax: (505) 989-1073
July 31 - Aug. 4	1995 INTERSOCIETY ENERGY CONVERSION ENGINEERING CONFERENCE /Buena Vista Palace Hotel, Orlando, FL	D. Yogi Goswami - Deadline: Past Due Tel: (904) 392-0812 Fax: (904) 392-1071
Aug. 6-9	1995 IEEE CORNELL CONFERENCE ON ADVANCED CONCEPTS IN HIGH SPEED SEMICONDUCTOR DEVICES AND CIRCUITS /Cornell University, Ithaca, NY	George N. Maracas - Deadline: Past Due Tel: (602) 965-2562 Fax: (602) 965-0775
Aug. 13-16	1995 IEEE NON-VOLATILE SEMICONDUCTOR MEMORY WORKSHOP /Hyatt Monterey Hotel, Monterey, CA	Rustom Irani - Deadline: Past Due Tel: (510) 498-1729 Fax: (510) 657-8495
Aug. 21-24	1995 INTERNATIONAL CONFERENCE ON APPLICATIONS OF DIAMOND FILMS AND RELATED MATERIALS /NIST, Gaithersburg, MD	Albert Feldman - Deadline: Past Due Tel: (301) 975-5740 Fax: (301) 990-8729
Aug. 21-24	1995 INTERNATIONAL CONFERENCE ON SOLID-STATE DEVICES AND MATERIALS /International House, Osaka, Japan	Bus. Ctr. Academic Soc. - Deadline: Past Due Tel: 81-3-5814-5800 Fax: 81-3-5814-5823
Aug. 29 - Sept. 2	1995 IEEE INTERNATIONAL SYMPOSIUM ON COMPOUND SEMICONDUCTORS /Shilla Hotel, Cheju Island, Korea	Yoon Soo Park - Deadline: Past Due Tel: (703) 696-5755 Fax: (703) 696-2611
Sept. 6-8	1995 IEEE INTERNATIONAL CONFERENCE ON SIMULATION OF SEMICONDUCTOR DEVICES AND PROCESSES /Universitat Erlangen-Nurnberg, Erlangen, Germany	Heiner Ryssel - Deadline: Past Due Tel: 49-9131-85-8633 Fax: 49-9131-85-8698
Sept. 11-14	1995 ELECTRICAL OVERSTRESS/ELECTROSTATIC DISCHARGE SYMPOSIUM /Hyatt Phoenix Hotel, Phoenix, AZ	Ronald Gibson - Deadline: Past Due Tel: (416) 448-5524 Fax: (416) 448-4810
Sept. 12-14	1995 INTERNATIONAL CONFERENCE ON MICROELECTRONICS /University of Nis, Nis, Serbia	Ninoslav Stojadinovic - Deadline: 7/15/95 Tel: 381-18-55-682 Fax: 381-18-46-180
Sept. 18-19	1995 IEEE INTERNATIONAL SYMPOSIUM ON SEMICONDUCTOR MANUFACTURING /Hyatt Regency Hotel, Austin, TX	Robert Strain - Deadline: Past Due Tel: (408) 721-7386 Fax: (408) 736-8503
Sept. 18-21	1995 INTERNATIONAL CONFERENCE ON SILICON CARBIDE AND RELATED MATERIALS /Kyoto Research Park, Kyoto, Japan	Hiroyuki Matsunami - Deadline: Past Due Tel: 81-75-753-5340 Fax: 81-75-751-1576
Sept. 22-23	1995 TOPICAL WORKSHOP ON III-V NITRIDES /Nagoya International Conference Hall, Nagoya, Japan	Hadis Morkoc - Deadline: Past Due Tel: (217) 333-0722 Fax: (217) 244-2278
Sept. 25-26	1995 INTERNATIONAL WORKSHOP ON ACTIVE MATRIX LIQUID CRYSTAL DISPLAYS /Lehigh University, Bethlehem, PA	Miltiadis K. Hatalis - Deadline: 7/1/95 Tel: (610) 758-3944 Fax: (610) 758-4561
Sept. 25-27	1995 EUROPEAN SOLID-STATE DEVICE RESEARCH CONFERENCE /Netherlands Congress Centre, The Hague, The Netherlands	Antonius J.G. Spiekerman - Deadline: Past Due Tel: 31-15-782431 Fax: 31-15-785691
Oct. 1-3	1995 IEEE BIPOLAR/BICMOS CIRCUITS AND TECHNOLOGY MEETING /Marriott City Center Hotel, Minneapolis, MN	Janice V. Jopke - Deadline: Past Due Tel: (612) 934-5082 Fax: (612) 934-6741
Oct. 2-4	1995 IEEE INTERNATIONAL CONFERENCE ON COMPUTER DESIGN: VLSI IN COMPUTERS AND PROCESSORS /Four Seasons Hotel, Austin, TX	Wayne Wolf - Deadline: Past Due Tel: (609) 258-1424 Fax: (609) 258-3745
Oct. 2-5	1995 IEEE INTERNATIONAL SOI CONFERENCE /Westward Look Resort, Tucson, AZ	Sandra Grawet - Deadline: Past Due Tel: (310) 371-3438 Fax: (310) 371-5268
Oct. 5-6	1995 IEEE INTERNATIONAL CONFERENCE ON ADVANCED TECHNOLOGIES /Scientific Park (Y-Parc), Yverdon, Switzerland	Jacques Kowalczyk - Deadline: Not Applicable Tel: 41-21-693-69-81 Fax: 41-21-693-4663
Oct. 11-15	1995 INTERNATIONAL SEMICONDUCTOR CONFERENCE /Hotel Sinaia, Sinaia, Romania	Doina Vancu - Deadline: Past Due Tel: 401-6333040 Fax: 401-3127519
Oct. 15-18	1995 INTERNATIONAL CONFERENCE ON VLSI AND CAD /The Swiss Grand Hotel, Seoul, Korea	Deog Kyoona Jeona - Deadline: 8/17/95 Tel: 82-02-880-7437 Fax: 82-02-887-6575

DATE	NAME/LOCATION	CONTACT - ABSTRACT DEADLINE
Oct. 19-21	1995 SEMICONDUCTOR MANUFACTURING TECHNOLOGY WORKSHOP/ Vanguard International Semiconductor Corporation, Hsinchu, Taiwan, R.O.C.	Chi-Ming Chang - Deadline: Past Due Tel: 886-35-770355 Fax: 886-35-787952
Oct. 22-25	1995 IEEE INTERNATIONAL INTEGRATED RELIABILITY WORKSHOP/ 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	1995 EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE AND EXHIBITION/ Acropolis Convention Center, Nice, France	Heinz Ehmann - Deadline: Past Due Tel: 49-89-7201235 Fax: 49-89-7201291
Oct. 24-28	1995 INTERNATIONAL CONFERENCE ON SOLID-STATE AND INTEGRATED-CIRCUITS TECHNOLOGY/ Beijing International Convention Centre, Beijing, China	Mengqi Zhou - Deadline: Past Due Tel: 861-8263459 Fax: 861-8263458
Oct. 25-27	1995 INTERNATIONAL SYMPOSIUM ON SIGNALS, SYSTEMS AND ELECTRONICS/ Parc 55 Hotel, San Francisco, CA	Tatsuo Itoh - Deadline: Past Due Tel: (310) 206-4820 Fax: (310) 206-4819
Oct. 29	1995 GALLIUM ARSENIDE RELIABILITY WORKSHOP/ 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	1995 IEEE GALLIUM ARSENIDE INTEGRATED CIRCUITS SYMPOSIUM/ Sheraton Harbor Island Resort, San Diego, CA	George Bechtel - Deadline: Past Due Tel: (415) 941-3438 Fax: (415) 941-5120
Nov. 1	1995 IEEE ELECTRON DEVICES ACTIVITIES IN WESTERN NEW YORK/ Rochester Institute of Technology, Rochester, NY	Eby Friedman - Deadline: 10/15/95 Tel: (716) 275-1022 Fax: (716) 275-2073
Nov. 5-9	1995 IEEE INTERNATIONAL CONFERENCE ON COMPUTER-AIDED DESIGN/ San Jose Red Lion Hotel, San Jose, CA	Kevin Lepine - Deadline: Past Due Tel: (303) 530-4562 Fax: (303) 530-4334
Nov. 7-10	1995 IEEE REGION 10 CONFERENCE (TENCON '95) ON MICROELECTRONICS AND VLSI/ Hong Kong Convention and Exhibition Centre, Wanchai, Hong Kong	Nelson Yung - Deadline: Past Due Tel: 852-859-2685 Fax: 852-559-8738
Nov. 13-15	1995 IEEE/SEMI ADVANCED SEMICONDUCTOR MANUFACTURING CONFERENCE AND WORKSHOP/ Hyatt Regency Hotel, Cambridge, MA	Margaret M. Kindling - Deadline: Past Due Tel: (202) 457-9584 Fax: (202) 659-8534
Nov. 16-18	1995 IEEE INTERNATIONAL TOPICAL MEETING ON NOMADIC MICROWAVE TECHNOLOGIES AND TECHNIQUES FOR MOBILE COMMUNICATIONS AND DETECTION/ Palais Des Congres, Arcachon, France	Robert Adde - Deadline: 7/15/95 Tel: 33-1-69-41-78-50 Fax: 33-1-60-19-25-93
Nov. 27	1995 WORKSHOP ON HIGH PERFORMANCE ELECTRON DEVICES FOR MICROWAVE AND OPTOELECTRONIC APPLICATIONS/ King's College, Strand, London, England	Ali A. Rezazadeh - Deadline: 9/1/95 Tel: 44-171-873-2879 Fax: 44-171-836-4781
Nov. 27 Dec. 1	1995 IEEE INTERNATIONAL SYMPOSIUM ON PHYSICAL AND FAILURE ANALYSIS OF INTEGRATED CIRCUITS/ Shangri-la Hotel, Singapore	Jonnovan Hong - Deadline: Past Due Tel: 65-773-1141 Fax: 65-773-1142
Dec. 6-9	1995 IEEE SEMICONDUCTOR INTERFACE SPECIALISTS CONFERENCE/ Mills House Hotel, Charleston, SC	William L. Warren - Deadline: 8/15/95 Tel: (505) 272-7628 Fax: (505) 272-7304
Dec. 10-13	1995 IEEE INTERNATIONAL ELECTRON DEVICES MEETING/ Washington Hilton & Towers Hotel, Washington, DC	Phyllis Mahoney - Deadline: 7/5/95 Tel: (301) 527-0900 Fax: (301) 527-0994
Dec. 18-20	1995 INTERNATIONAL CONFERENCE ON MICROELECTRONICS/ Malaysia Institute of Microelectronic Systems, Kuala Lumpur, Malaysia	M.I. Elmasry - Deadline: Past Due Tel: (519) 888-4567 Fax: (519) 746-5195
1996		
Feb. 5-7	1996 IEEE MULTI-CHIP MODULE CONFERENCE/ The Cocoonut Grove, Santa Cruz, CA	David Tuckerman - Deadline: 9/12/95 Tel: (408) 945-9992 Fax: (408) 945-0151
Feb. 8-10	1996 IEEE INTERNATIONAL SOLID-STATE CIRCUITS CONFERENCE/ San Francisco Marriott, San Francisco, CA	Diane S. Suiters - Deadline: 9/8/95 Tel: (202) 639-4255 Fax: (202) 347-6109
March 18-21	1996 NATIONAL RADIO SCIENCE CONFERENCE/ The Military Technical College, Cairo, Egypt	Ibrahim A. Salem - Deadline: Not Available Tel: 20-2-258-0256 Fax: 20-2-349-8217
March 26-28	1996 IEEE INTERNATIONAL CONFERENCE ON MICROELECTRONIC TEST STRUCTURES/ Grand Hotel Trento, Trento, Italy	Giovanni Soncini - Deadline: 8/25/95 Tel: 39-461-810105 Fax: 39-461-810851
April 21-25	1996 IEEE INTERNATIONAL CONFERENCE ON INDIUM PHOSPHIDE AND RELATED MATERIALS/ Conference Center "Stadtgarten", Schwabisch Gmund, Germany	Melissa Estrin - Deadline: Not Available Tel: (908) 562-3896 Fax: (908) 562-8434
April 29 - May 3	1996 IEEE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM/ Wyndham Anatole Hotel, Dallas, TX	Roy Walker - Deadline: 9/22/95 Tel: (315) 339-3971 Fax: (315) 336-9134

New Program For EDS Chapters

April S. Brown



Julia J. Brown



STAR (Student-Teacher and Research Engineer/Scientist) is a new program sponsored by the IEEE EDS and MTTs to address the growing concern that girls develop biases against careers in mathematics, science, and engineering at a young age. This educational out-reach program promotes involvement of society members with local junior high and high schools to inspire a positive image of engineering careers. Through a one-to-one interaction of society volunteers with a Teacher-Student Team, the goal of STAR is to create a technical support network for teachers and a mentor program for the students.

Children are bombarded everyday by the media with movies and television shows which portray engineers as social outcasts (i.e. nerds). A Barbie doll who

said math is hard was recently marketed and fortunately recalled. The mission of STAR is to help change this negative image. There are numerous successful programs already in place at universities and companies which support interactions between scientist and the community to help to portray a more positive image of career scientists. We hope that the STAR program will provide an additional means of support in achieving this goal. As the program matures, we hope that opportunities to provide direct input to the media may evolve. But more importantly, a network to support local teachers by giving input on setting up low cost experiments which can easily be incorporated into their curriculum, for example, will be supported by this program.

The first step for interested society members is to contact a local school and identify an enthusiastic teacher. The choice of an eager teacher is critical since the greatest impact on the students may be through exposing the teachers to exciting technology which can be used in their curriculum. After the teacher is identified, the next step is for the teacher to choose one or two girls to participate in the program. The planned activities over the course of a year may be lunches or dinners, a field trip to a local engineering company or university, or informal discussions at the school. In addition, the society administrator of the program will make materials available to the program participants. These include an IEEE USAB slide presentation entitled, "What is an Engineer," and various brochures. We will be happy to work with the individual chapter to help plan a program of events. The students can learn about real engineers and career options,

and the teachers can learn about national or local programs aimed at increasing the participation of girls and young women in math and the sciences. At the end of each year, the students and teachers will be recognized at local chapter meetings for their participation in the program. This program provides an opportunity for local chapters to increase their community involvement in the promotion of women in science. Funding has been allocated by both EDS and MTTs to pay for incurred expenses. Society members interested in participating or desiring further information should contact April Brown (EDS) and/or Julia Brown (MTTS) at: April Brown (Georgia Tech.; E-mail: april.brown@ee.gatech.edu; TEL: (404)853-9447; FAX: (404) 853-9410); Julia Brown (Hughes Research Labs; E-mail: jbrown@madmax.hrl.hac.com; TEL: (310)317-5068; FAX: (310) 317-5483).

April S. Brown is the Chair of the IEEE Women in Engineering Committee. The scope of this committee is to: 1) gather and disseminate information regarding the status of women and initiatives for, by, and on behalf of women in engineering and science; 2) enable mentoring and education programs within the IEEE; 3) increase the participation of women within IEEE; and 4) address ways to improve the climate for women in IEEE and in the workforce. To contact this committee you may e-mail April Brown at the address above or women@ieee.org.

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and
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