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Contributions Welcome

Readers are encouraged to submit news items concerning the Society and its members. Please send your ideas/articles directly to either the Editor-in-Chief or appropriate Editor. All contact information is listed on the back cover page. Whenever possible, e-mail is the preferred form of submission.

Newsletter Deadlines

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

IEEE Electron Devices Society Newsletter

2002 IEEE International Reliability Physics Symposium (IRPS)



Plan to attend the 40th International Reliability Physics Symposium (IRPS) at the Hyatt Regency in Dallas, Texas, April 8-11, 2002!

The IRPS is now the major forum for exchanges between engineers (development and manufacturing) and scientists to share new information and findings regarding reliability and performance of integrated circuits and microelectronic assemblies for both existing as well emerging technologies. Started in the early 1960's by the military and aerospace community, the IRPS's sponsorship moved to the IEEE in 1967 to best serve the world wide community eagerly engaged in research, development and manufacturing of commercial integrated circuits. As the premier conference event for reliability, the IRPS provides an open and professional forum dedicated to serve the worldwide community in the areas of:

- Reliability implications of integrated circuit scaling
 - Failure and degradation mechanisms of microelectronic assemblies
 - Correlation of reliability with the properties of electronic materials
- Reliability optimization by circuit design, modeling, simulation and defect reduction efforts and techniques

Here are some highlights of what will be included in the 2002 IRPS Symposium:

- **Technical Program:** Keynote presentation, a new panel discussion, and high-quality, carefully selected and peer-reviewed technical presentations
- **Tutorials and Workshops:** a highly diverse collection of cutting-

(continued on page 3)

Your Comments Solicited

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

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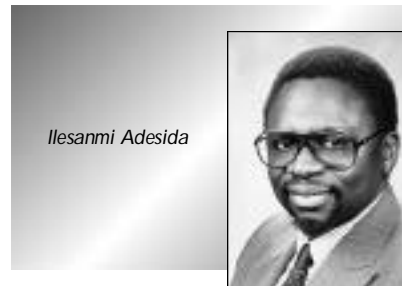
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Announcement of the EDS Graduate Student Fellowship Winners for 2001



Ilesanmi Adesida



Arlene A. Santos

In 2000, the IEEE approved the establishment of the Electron Devices Society Graduate Student Fellowship Program. It is designed to promote, recognize, and support graduate level study and research within the Electron Devices Society's field of interest: Compact Modeling, Compound Semiconductor Devices and Circuits, Device Reliability Physics, Displays, Electronic Materials, Microelectromechanical Systems, Nanotechnology, Optoelectronic Devices, Photovoltaic Devices, Power Devices and ICs, Semiconductor Manufacturing, Technology Computer-Aided Design, Vacuum Devices, VLSI Technology and Circuits.

EDS announced its first winners of the award. Detailed articles about each graduate fellow and their work will appear in forthcoming issues of the EDS Newsletter. The following are brief biographies of the 2001 recipients:

Tushar Kanti Ghosh, received his Beng (1990) and Meng (1993) degrees in Electronics and Tele-Communication Engineering from Bengal Engineering College and Jadavpur University, India, respectively. Currently he is studying for a PhD at the Lancaster University, UK, under the Commonwealth Scholarship and Fellowship Plan. His research area is computer-aided design



(continued on page 23)

EDS ADCOM ELECTED MEMBERS-AT-LARGE

Term Expires:

2002

C. L. Claeys (1)
J. A. Dayton, Jr. (1)
M. Fukuma (1)
K. M. Lau (1)
K. Lee (1)
M. L. Ostling (1)
D. L. Puffrey (1)
K. Shenai (2)

2003

I. Adesida (2)
T. Hiramoto (1)
L. Lunardi (1)
A. A. Santos (2)
S. C. Sun (2)
H. S. P. Wong (1)
P. K. L. Yu (2)

*2004

M. Estrada del Cueto (1)
K. F. Galloway (2)
S. J. Hillenius (2)
C. Jagadish (2)
J. K. O. Sin (1)
R. Singh (2)
N.D. Stojadinovic (1)

Number in parenthesis represents term.

* Members elected 12/01

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Upcoming Technical Meetings

IRPS

(continued from page 1)

edge and debatable topics, which present one of the major elements of the technical program for most attendees

- **Equipment Demonstration:** as always, a technically oriented forum allowing attendees to try-out new equipment hands-on
- **Social and Networking Events:** a wide range of networking opportunities for all participants, including a Tuesday reception and a Wednesday awards luncheon

The technical program will include topics on Silicon Devices (Integrated Circuits, Discrete Devices, MEMS) and non-silicon (GaAs, LEDs and Diode Lasers, Optical Fiber and Flat Panel Displays) Devices. The focus subjects of the presentations will include: Product Reliability and Burn-in, Yield Enhancement Effects on Reliability, Assembly and Packaging, Channel Hot Carriers, Interconnects, Device and Process, Device Dielectric, ESD and Latchup, Process Induced Damage, Failure Analysis, and Qualification Strategies.

For the first time there will be *TWO DAYS* of Tutorials at the 2002 IRPS. The first day of tutorials is new and will cover topics on Basic Reliability geared toward providing world class service for new engineers. The second day of tutorials will cover the traditional Advanced Reliability.

The Keynote Speaker at the 2002 IRPS is Bernard Meyersen, IBM Vice President, Communication, Research & Development Center. Bernie Meyersen's presentation will put into focus the issues and challenges associated with technologies now operating at frequencies never anticipated, even in the recent past.

The Presentation with device performance above 200GHz, and circuit performance approaching 100GHz, associated current loads on semiconductor and metal systems are becoming extraordinary. Similarly, new challenges emerge in the form of decreasing "break-down" voltages for high-speed devices, and new loss mechanisms for passive

devices as radiative effects become dominant at such high frequencies. The Keynote presentation will include an overview of leading edge high performance technologies, and address the aforementioned issues in the context of how they impact the limits of where a given technology may be applied.

The Reception Speaker in the 2002 IRPS is Jack St. Clair Kilby, TI inventor/Engineer as well as 2000 Nobel Prize Laureate. The Nobel Prize was a fitting tribute to Jack's role in inventing of the integrated circuit, which has pioneered astounding technological advancements - from space exploration

and personal computers to medical diagnostic equipment and transportation systems. Jack St. Clair Kilby holds as many as 50 patents, he has been given a National Medal of Science, and he is in the National Inventors Hall of Fame.

The General Chairman of the 2002 IRPS is Dr. William R. Tonti of IBM Microelectronics. You can contact Dr. Tonti via e-mail at wtonti@us.ibm.com.

For additional conference updates please visit the IRPS web site at <http://www.irps.org>

*Bill Abadeer
IBM Microelectronics
Essex Junction, VT*

2002 IEEE Vacuum Electronics Conference (IVEC)

Vacuum electron devices continue to provide rf power in advanced electromagnetic systems, and high levels of performance in other electronic applications because they are efficient, tough, reliable, and affordable. New and improved vacuum electron devices, made possible by rapid technological advances in the vacuum electronics area, are enabling current and future systems having capabilities well beyond those of today.

It is a pleasure to announce the Third IEEE International Vacuum Electronics Conference which is dedicated to the field of vacuum electron devices and their application. IVEC 2002, sponsored by the IEEE Electron Devices Society, will be held April 23-25, 2002 at the Doubletree Hotel in the beautiful and historic city of Monterey, California.

The meeting will be configured to maximally disseminate useful information to manufacturers, device users, academics, and students, and participation from each group is encouraged. On the first morning, there will be a plenary session with speakers covering subjects of special interest. This will be followed by two and a half days of oral and poster



technical presentations. Throughout the meeting and social events, there will be time to renew friendships with colleagues and friends, interact with customers, and meet students.

IVEC 2002 is being organized by a Program Committee. Dr. Richard True of Northrop Grumman is serving as General Chairman. Other members and their chairs include Drs. Dan Goebel, Boeing, Technical Program; Carol Kory, Analex/NASA, Entertainment; William Menninger, Boeing, Publicity; Monica Blank, CPI, and David Whaley, Northrop Grumman, Publications; Robert Parker and Bruce Danly from NRL, Finance; John Booske, U. Wisconsin, Education; Yehuda Goren, Teledyne, Local Arrangements; and James Dayton, Jr., Consultant,

Awards. Meeting arrangements are being handled by Ralph Nadell of Palisades Convention Management.

The Call for Papers has been issued, and it provides a detailed listing of various devices and subject areas of interest, details on the preparation and submission of abstracts, and other information. The deadline for submission of abstracts is December 21, 2001, the notification of acceptance date is February 1, 2002, and the date for submission of final camera-ready papers is March 8, 2002. An electronic version of the Call for Papers is posted on the IVEC 2002 website <http://ivec2002.org>.

IVEC was originally founded to foster increased technical information sharing by the international vacuum electronics community. The U.S. Power Tube Conference, and the European Space Agency Space TWTA Workshop became the U.S. and European legs, respectively, of IVEC. The first IVEC was held in Monterey, California, in May 2000, and the second in April 2001 in Noordwijk, The Nether-

lands. Both meetings attracted greater attendance than their predecessors with significant international participation. IVEC 2002 will again be held in Monterey (on the biennial cycle of the Monterey Conference), and IVEC 2003 will be held in Seoul, Korea.

Since its inception, overall guidance for IVEC has been provided by the EDS Technical Committee on Vacuum Devices, chaired by Dr. James Dayton, Jr. Other current committee members include Drs. B.N. Basu, Banaras Hindu U. (India); Ivor Brodie, SRI; Richard Carter, U. Lancaster (U.K.); Jon Christensen, Boeing; Kwo Ray Chu, National Tsing Hua U.(Taiwan); Georges Faillon, Thales (France); Takeo Kageyama, NEC (Japan); Gunther Kornfeld, Thales (Germany); Carol Kory, Analex/NASA; S.G. Liu, U. Electronic Science and Tech.(China); Neville Luhmann, Jr., U.C. Davis; Dev Palmer, MCNC; Gun Sik Park, Seoul National U. (Korea); Robert Parker, NRL; Vladimir Savvin, Moscow State U.(Russia); Armand Staprans, CPI; Richard True, Northrop Grumman; and

Pierre Waller, ESA (The Netherlands).

For additional information about IVEC 2002, please visit our website: <http://ivec2002.org>. Contact information, breaking news, links to past and future IVEC websites, hotel and conference site links, schedule, registration, and other information are or will be posted.

Copies of printed materials, and answers to questions pertaining to the conference, can be obtained by contacting:

Mr. Ralph Nadell

Palisades Convention Management

411 Lafayette Street, Suite 201

New York, NY 10003

Phone: 212-460-8090 x 203

Fax: 212-460-5460

RNadell@pcm411.com

Our motto is "System Excellence through Vacuum Electronics," and we hope to see you all at IVEC 2002.

Richard True

Northrop Grumman Electron Devices

San Carlos, CA

2002 IEEE International Interconnect Technology Conference (IITC)

The fifth annual IITC (International Interconnect Technology Conference), the premier conference dedicated to advanced interconnect technology, will be held June 3-5, 2002 at the San Francisco Airport Hyatt Regency Hotel, conveniently located 20 minutes from Silicon Valley or downtown San Francisco.

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

The conference provides several venues for learning and professional interaction. The ever-popular short course addressing advanced interconnect process, design and reliability issues will once again be offered on the day preceding the conference (June 2), and participation is strongly encouraged by those wishing to keep abreast of the latest interconnect technology. Without doubt,



the cost and performance of ULSI circuits strongly depend on the capability and productivity of interconnect materials and processing equipment. In recognition of this critical role, supplier exhibits and seminars are included as an integral part of the IITC technical program and will be held on the first and second days of the conference. The exhibits and seminars offer additional learning and networking opportunities, and provide alternative forums to address specific technological challenges.

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

(1) Silicide/Salicide: silicide materials, deposition and formation processes; novel gate and source/drain structures; contact silicidation, etc.

(2) Dielectrics: dielectric materials (low-k, high-k, ARCs, etc.) and deposition processes (vapor, CVD, spin-on, etc.); dry etch and dry cleaning techniques.

(3) Planarization: dielectric/metal CMP processes, equipment and metrology issues; alternative planarization techniques.

(4) Metallization: metal deposition processes/equipment (PVD, CVD, ALD, electro-plating) and materials characterization; metal etch/cleaning processes.

(5) Process Integration: multilevel interconnect processes; clustered processes; novel interconnect structures; contact/via integration; metal barrier and materials interface issues.

(6) Process Control/Modeling: CMP, metal/dielectric deposition and etch, PVD, CVD, electroplating.

(7) Reliability: metal electromigration and stress voiding; dielectric integrity and mechanical stability; thermal effects; passivation issues; interconnect reliability prediction and modeling; plasma damage.

(8) Interconnect Systems: interconnect-related circuit performance modeling and high frequency characterization; interconnect system integration, including system-on-a-chip (SoC) and advanced packaging concepts (flip-chip, chip-on-chip, MCM); novel device architectures; advanced interconnect concepts (3D, rf, optical, superconductors, etc.).

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

interconnect schemes.

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

Robert Geffken, Nobuyoshi Kobayashi and Mehdi Moussavi are the General Co-Chairs of the IITC.

Robert Geffken

IBM

Essex Junction, VT

2002 IEEE International Conference on Microelectronic Test Structures (ICMTS)

The IEEE Electron Devices Society is sponsoring the 2002 International Conference on Microelectronic Test Structures which will bring together designers and users of test structures to discuss recent developments and future directions. The conference will be held at University College, Cork, Ireland, April 9-11, 2002 and will be preceded by a one-day Tutorial Short Course on Microelectronic Test Structures on April 8, 2002. The conference will also feature an equipment exhibition relating to test structure measurements and analysis.

The ICMTS series of conferences has been running since 1986 and rotates on a 3 year cycle between Europe, Japan and the USA making these conferences uniquely accessible to researchers throughout the world. Since its inception, ICMTS has become the premier forum for the dissemination and discussion of information relating to all aspects of semiconductor test structures and their application to process and device characterization, statistical process control and device model development and validation. In continuing to reflect the full range of test structure designs and uses, ICMTS 2002 will feature reviewed papers on test structures associated with the following applications:

- Material and Process Characterisation
- Device & Circuit Modeling
- Replicated Feature Metrology
- Wafer Process Control
- Reliability and Product Failure Analysis
- New Sensors and Devices
- Measurement Utilization Strategy



With the continuing rapid developments in process technology and the associated developments in characterization and modelling strategies it can be difficult, even for those working directly in this area, to keep fully up to date with modern techniques and ideas. To facilitate the promotion of modern practices and methods with respect to test structure design and use, short courses have been an important feature of the ICMTS conference series in recent years. In keeping with this tradition, ICMTS 2002 will be preceded by a one day Tutorial Short Course which will provide an introductory background and an outline of important new developments in selected aspects of characterization including very thin oxides and latch-up.

ICMTS 2002 will be the first time the conference series will be held in Ireland where it will be hosted by University College Cork (UCC). UCC was founded in 1845 and today has 12,000 students and 1,700 staff. It is located in a beautiful campus in the heart of Cork city on the southern coast of Ireland. It was in UCC that George Boole, the university's

first Professor of Mathematics, developed the theoretical foundations which underpin much of today's computer and information technology while in more recent years UCC has become home to the NMRC, which is the largest centre of excellence in Ireland for selected areas of Information and Communication Technology (ICT).

Cork is a small but vibrant city of around 200,000 inhabitants with a compact city centre. It originated as a monastic settlement in the early seventh century and later became a Norman stronghold under King Henry II in the twelfth century. Its location near a sheltered deep harbour led to Cork becoming a prosperous trading city as evidenced by the elegant stone warehouses along the city's quays. The city has a vibrant social scene, which is enhanced by its large student population of almost 30,000. The city contains many fine pubs, cafes and restaurants while the nearby town of Kinsale prides itself as being the gourmet capital of Ireland, where fresh local produce such as seafood, fish and cheese abound. Cork is also home to two of Ireland's famous black beers (Murphy's and Beamish) and to one of its most famous whiskeys (Jamesons).

Further details of ICMTS 2002 and all the conferences in the ICMTS series can be found at the conference web site <http://www.ee.ed.ac.uk/ICMTS/>

Anthony J. Walton
University of Edinburgh
Edinburgh, UK

Society News

EDS Optoelectronic Devices Technical Committee (ODTC) Report

The Optoelectronic Devices Technical Committee of the EDS was re-activated in 1998 with the appointment of Chennupati Jagadish of the Australian National University as the new Chair.



Chennupati
Jagadish

The 2002 Optoelectronic Devices Technical Committee members are:

Chennupati Jagadish,

Australian National University (Chair)

Ilesnami Adesida,

University of Illinois at Urbana-Champaign

Herb Bennett,

National Institute of Standards and Technology

Pallab Bhattacharya,

University of Michigan

Kevin Brennan,

Georgia Institute of Technology

Joe Campbell,

University of Texas at Austin

M. Jamal Deen,

McMaster University

Fouad Korouta,

Eindhoven University of Technology

John Marsh,

Intense Photonics and University of Glasgow

Yoshiaki Nakano,

University of Tokyo

Stephen Pearton,

University of Florida at Gainesville

Ted Sargent,

University of Toronto

Paul Yu,

University of California at San Diego

The committee would like to thank retiring members of ODTC, the late E. Herbert Li (University of Hong Kong), Alfred Ipri (SRI), Ranjit Mand (Mitsubishi) and Jimmy Xu (Brown University) for their services during past few years.

The mission of ODTC is to ensure that the field of optoelectronic devices is suffi-

ciently covered by the EDS in its various functions. The ODTC functions are:

- To identify hot topics in the field of optoelectronic devices
- To maintain a web page for the benefit of EDS members interested in optoelectronic devices
- To identify topics for review articles and special issues of EDS journals
- To review requests for EDS sponsored meetings
- To ensure that the EDS sponsored conferences are sufficiently covering the field of optoelectronic devices
- To initiate workshops in the emerging areas in optoelectronic devices
- To act as a liaison with other technical committees (e.g. compound semiconductor devices and circuits technical committee) within EDS and also interact with other societies (e.g. LEOS, MTT) with similar interests.

In September 2001, ODTC identified following hot topics:

- Organic light emitting devices and displays
- Active and passive photonic bandgap devices
- Direct modulation of semiconductor

lasers to 40 Gbps

- Compound semiconductor - polymer/organic hybrid integration
- Ultrawideband semiconductor optical amplifiers
- Long wavelength vertical cavity surface emitting lasers (VCSELs) using quantum dots or InGaAsN
- Optical interconnects - integration of CMOS with LEDs and VCSELs
- ZnO based lasers and detectors
- Gian Optoelectronics

ODTC web page (<http://www.cobra.tue.nl/eds/optoelectronics.html>) is hosted by the COBRA Inter-University Institute in Eindhoven. Our web master, Dr. Fouad Karouta, is in the process of updating the web page.

For further information on the ODTC activities or if you have comments and suggestions, please contact the chair of ODTC: Chennupati Jagadish, Department of Electronic Materials Engineering, Research School of Physical Sciences and Engineering, The Australian National University, Canberra, ACT 0200, Australia, Ph: 61-2-6125-0363, Fax 61-2-6125-0511, Email: c.jagadish@ieee.org

Nomination Kits for The Class of 2003 IEEE Fellows Now Available

The IEEE Fellow Nomination Kit for the 2003 class of IEEE Fellows is now available. The Fellow Kit can be downloaded at www.ieee.org/fellows/ or requested in hard copy format by sending an email to fellow-kit@ieee.org. Please include your name, mailing address, telephone number and the number of kits you would like to receive.

Any person, including non-members, are eligible to serve as a nominator with the following exceptions: members of the IEEE Board of Directors, members of the IEEE Fellow Committee, IEEE Technical Society/Council Fellow Evaluating Committee Chairs, members of IEEE Technical Society/Council Evaluating Committees reviewing the nomination, or IEEE Staff.

A Candidate must be an IEEE Senior Member at the time the nomination is submitted, his/her IEEE membership dues must be current, and he/she must have completed five years of service in any grade of IEEE Membership.

The deadline for receipt of complete IEEE Fellow Nominations is 15 March 2002.

2000 IEEE Transactions on Semiconductor Manufacturing Best Paper Award

The IEEE Transactions on Semiconductor Manufacturing (TSM) Best Paper Award is presented annually to the authors of that paper considered by the TSM Editorial Board to be the most outstanding paper published during the year. The Award is based on the accuracy, originality, and importance of the technical concept, as well as the quality and readability of the manuscript. The Best Paper is also based on the potential or immediate impact that this work could have on the semiconductor manufacturing industry. This award, presented at the annual Advanced Semiconductor Manufacturing Conference (ASMC), recognizes the ongoing partnership of this conference and the IEEE.

The Editorial Board is pleased to announce that the paper entitled "Real-Time Control of Reactive Ion Etching Using Neural Networks" by David Stokes and Gary May has been recognized as the best paper published in the 2000 IEEE Transactions on Semiconductor Manufacturing. This paper, which appeared in the November issue, describes the use of neural networks for real-time, model-based feedback control of reactive ion etching (RIE). Results indicate that in the presence of disturbances and shifts in RIE performance, the neural controller is able to adjust the etch recipe to match the etch rate to that of the target value in a superior manner to that of a more conventional control scheme. The development of such process control techniques promises to enable manufacturers to continue to meet the extremely tight tolerances necessary for large-scale production.

David Stokes

received the B.A. degree in applied mathematics and computer science from Asbury College, Wilmore, KY, in 1992 and the M.S. and Ph.D. degrees from the School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, in 1994 and 2000, respectively.

He is currently a process engineer at



Cree, Inc., Durham, NC. His research interests include real-time control and endpoint detection of reactive ion etching, semiconductor process modeling and control, neural network control methods, and plasma etching of III-V compound semiconductor materials. He was an Advanced Micro Devices graduate fellow, and has worked as a graduate research assistant at the Georgia Tech Research Institute and the Georgia Tech Microelectronics Research Center.

Gary S. May

received the B.S. degree in electrical engineering from the Georgia Institute of Technology, Atlanta, in 1985 and the M.S. and Ph.D. degrees in electrical engineering and computer science from the University of California at Berkeley in



1987 and 1991, respectively.

He is currently the Motorola Foundation Professor and Associate Chair of the School of Electrical and Computer Engineering, Georgia Institute of Technology. His research is in the field of computer-aided manufacturing of integrated circuits. His interests include semiconductor process and equipment modeling, process simulation and control, automated process and equipment diagnosis, and yield modeling. He was a Member of Technical Staff at AT&T Bell Laboratories, Murray Hill, NJ. He was a National Science Foundation and an AT&T Bell Laboratories Graduate Fellow.

Dr. May was a National Science Foundation "National Young Investigator." He is Editor-in-Chief of *IEEE Transactions on Semiconductor Manufacturing*. He is Chairperson of the National Advisory Board of the National Society of Black Engineers (NSBE).

Congratulations to the EDS Members Elected to the National Academy of Engineering (NAE)

The U.S. National Academy of Engineering (NAE) has elected twenty-one IEEE members in 2001. Eight of the twenty-one members elected are EDS members.

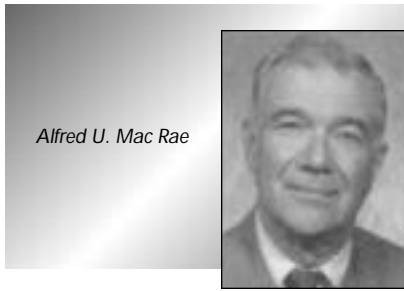
A private, nonprofit institution, the NAE has more than 2,000 peer-elected members and foreign associates—senior professionals in business, academia and government who are among the world's most accomplished engineers.

The EDS members elected in 2001 were: Fellow, Frank S. Barnes; Senior Member, Mark E. Dean; Fellow, Karl Hess; Fellow, Paul S. Peercy; Fellow, Kurt E. Petersen; Fellow, Dwight C. Streit; Fellow, Gerald B. Stringfellow; and Fellow, Marvin H. White.

The other thirteen IEEE members elected are: Fellow, Dimitri P. Bertsekas; Fellow, John Cioffi; Fellow, Jack G. Dongarra; Fellow, James G. Fujimoto; Fellow, Edward D. Lazowska; Member, Nancy A. Lynch; Member, John K. Ousterhout; Associate, Albert P. Pisano; Fellow, H. Vincent Poor; Fellow, Sosale Shankara Sastry; Affiliate, Wolfgang Schmidt; Member, Guy Lewis Steele Jr; and Fellow, James M. Tien.

Our congratulations to all the IEEE members elected to this prestigious institution.

A QUIZ— Enhancing Recognition and Awards



Alfred U. Mac Rae

You probably don't like taking quizzes any more than I do, but please play my game for a few moments. Can you say "yes" to any of these questions? If not, go ahead and skip to the other articles in this Newsletter.

- Have you, or do you know colleagues who have been in professional practice for at least 10 years and have shown significant performance over a period of at least 5 of those years?
- Have you, or do you know colleagues who have an extraordinary record of accomplishments in the field of Electron Devices?
- Have you, or do you know colleagues who have made significant and well recognized contributions to Electron Devices?

I would be surprised if there were many "no" answers to these questions. To those of you who did say "yes", I encourage you to participate in the Electron Devices Society and the IEEE program of Recognition and Awards. Perhaps I am biased (and I sure am), but I truly believe that members of the Electron Devices Society have been making significant contributions to the science and engineering that are the keystone of our present technologically dominated economy. As such, we should not be hesitant to nominate colleagues for the awards (and, heaven forbid, even hinting to colleagues to nominate you for an award). We make the contributions, so let's get the recognition that accompanies them.

Fortunately, there are numerous IEEE awards that members of the EDS qualify. The following list is my view of awards that EDS members have a good chance of receiving. There is a hierarchy of awards and recognition that starts with;

Senior IEEE membership – As stated in the first question above, this recognition is for members who have shown significant

performance over a period of 5 years and it is by self-nomination. Three references from IEEE members are required.

Fellow IEEE membership – This is for recognition of an extraordinary record of accomplishments in areas covered by the IEEE. References by IEEE members are an important part of this nomination process and they provide specific evidence of the candidate's special contributions and their impact. The deadline for nominations is March 15.

Electron Devices Society Awards

- *J.J. Ebers Award* recognizes and honors accomplishments of unusual merit in the electron device field for outstanding technical contributions to electron devices. This deadline is July 1 and the nomination process includes filling out a form and submitting letters of support for the nomination.
- *EDS Distinguished Service Award* recognizes and honors outstanding service to the Electron Devices Society and its sponsored activities. An EDS committee of former winners selects the recipient of the year's award.
- *Paul Rappaport Award* recognizes the best paper to appear in an EDS publication in the preceding calendar year. The recipient is selected by the Editors of EDS publications.
- *EDS Chapter of the Year Award* is given annually based on the quantity and quality of the activities and programs implemented by the chapters during the prior July 1st – June 30th period. It is presented annually. Chapters are nominated either by the chairs and vice-chairs of the EDS Regions/Chapters Subcommittee (SRC's), chapter partners, or self nomination by chapter chairs. The nomination deadline is 15 September.

IEEE Technical Field Awards recognize contributions in fields of science and engineering and in particular classes of service. The nomination deadline is January 31.

- *IEEE Clelio Brunetti Award* for contributions in the field of miniaturization in the electronic arts.
- *IEEE Masaru Ibuka Consumer Electronics Award* for contributions in the field of consumer electronics technology.
- *IEEE Reynold B. Johnson Information*

Storage Award for contributions in the field of information storage, with emphasis on computer storage.

- *IEEE Award in Instrumentation and Measurement* is given in memory of Joseph F. Keithley for outstanding contributions in the field of electrical measurements.
- *IEEE Daniel E. Noble Award* for contributions to emerging technologies recognized within recent years.
- *IEEE Andrew S. Grove Award* for outstanding contributions in the field of solid-state devices and technology.
- *IEEE Frederik Philips Award* for contributions in the management of research and development.
- *IEEE Judith A. Resnik Award* for outstanding contributions to space engineering, within the fields of interest of the IEEE. (As for instance, the development of space hardened devices and solar cells)
- *IEEE David Sarnoff Award* for contributions in the field of electronics.
- *IEEE Solid-State Circuits Award* for outstanding contributions in the field of solid-state circuits.
- *IEEE Charles Proteus Steinmetz Award* for major contributions to the development of standards in the field of electrical and electronics engineering.
- *IEEE Graduate Teaching Award* for inspirational teaching of graduate students.
- *IEEE Undergraduate Teaching Award* for inspirational teaching of undergraduate students.
- *IEEE Kiyo Tomiyasu Award* for contributions to technologies holding the promise of innovative applications during the early to mid-career of an individual(s) or team, within fifteen years of their highest academic degree and not more than age forty-five at the time of the nomination, to any areas of IEEE interest that promise innovative applications.

IEEE Medals are the highest level of recognition in the IEEE and recognize achievements having outstanding significance for the profession. The nomination deadline is July 1.

- IEEE Medal of Honor shall be awarded to a candidate for an exceptional contribution or an extraordinary career in the IEEE fields of interest defined in Arti-

(continued on page 9)

- cle I of the IEEE Constitution. The candidate need not be a member of IEEE.
- IEEE Edison Medal shall be the principal annual award of the IEEE and shall be awarded to a candidate for a career of meritorious achievement in electrical science or electrical engineering or the electrical arts.
 - IEEE Lamme Medal shall be the principal annual award for meritorious achievement in the development of electrical or electronic apparatus or systems.
 - *IEEE Founders Medal* is given for major contributions in the leadership, planning, and administration of affairs of great value to the electrical and electronics engineering profession.

- *IEEE James H. Mulligan, Jr. Education Medal* shall be awarded to recognize a career of outstanding contributions to education.
- *IEEE Medal for Engineering Excellence* shall be awarded for the achievement of exceptional application engineering in the technical disciplines of the IEEE, for the benefit of the public and the engineering profession.
- *IEEE Robert N. Noyce Medal* shall be awarded for exceptional contributions to the microelectronics industry.

This is an impressive list of awards, with EDS members involved in activities that make them prime candidates as winners of

all of them. Get busy. Your "yes" answer to the above quiz makes you well qualified to nominate one or more people for an award. Let's go for it! By the way, the awards are accompanied by a check, plaque or medal, and presentation at a ceremony at an IEEE conference. Nomination forms, lists of previous recipients and additional information on the above awards and recognition can be found in the Awards section of the EDS web site; <http://www.ieee.org/organizations/society/eds/>

Alfred U. MacRae
Chair, EDS Awards Committee
MacRae Technologies
Berkeley Heights, NJ

CALL FOR NOMINATIONS

2002 IEEE Electron Devices Society Graduate Student Fellowship

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

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

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

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

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

Nomination Package:

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

Timetable:

- Nomination packages will be due at the EDS Executive Office no later than May 15, 2002
- Recipients will be notified by July 15, 2002
- Monetary awards will be given by August 15, 2002
- Formal presentation of the awards will take place at the IEDM Awards Ceremony in December 2002.
- Nominations packages can be submitted by mail, fax or e-mail, but a hard copy must be received at the EDS Office.

Send completed package to:

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

For more information contact:

edsfellowship@ieee.org

EDS SENIOR MEMBER PROGRAM

The Electron Devices Society established the EDS Senior Member Program to grant IEEE/EDS members the opportunity to elevate their IEEE membership grade to Senior Member. This is the highest IEEE grade for which an individual can apply and is the first step to becoming a Fellow of IEEE. If you have been in professional practice for 10 years, you may be eligible for Senior Membership.

New Senior Members receive a wood and bronze plaque and a credit certificate for up to US \$25 for a new IEEE society membership. Upon request, a letter will be sent to your employer recognizing this new status as well. In addition, the Electron Devices Society now has a program whereby your local EDS chapter can also benefit from your successful ele-

vation to Senior Member. All that is required is for you to indicate on your Senior Member application form that EDS is your nominating entity. If you are approved for elevation to Senior Member, then your local EDS chapter will receive US\$25 from EDS within approximately six to eight months of your elevation. In addition, as a result of indicating EDS as your nominating entity, EDS will also receive US\$10 from the IEEE as part of the IEEE's Nominate-a-Senior-Member Initiative.

For more information concerning Senior Membership, please visit <http://www.ieee.org/membership/gradescats.html#SENIORMEM>. To apply for Senior Member grade, please complete an application for which is available at

<http://www.ieee.org/organizations/rab/md/smelev.htm>. You can also request a hard copy Senior Member packet via mail or fax by contacting IEEE Admissions and Advancements Department, 445 Hoes Lane, Piscataway, NJ 08854, USA, Fax: +1 732 981 0225.

We strongly encourage you to apply for IEEE Senior Membership to enhance your career. At the same time, you will be helping your local EDS chapter. To take full advantage of this opportunity, please be certain to indicate EDS as the nominating entity on your application form.

Thank you for supporting IEEE and EDS.

*James B. Kuo
University of Waterloo
Waterloo, Canada*

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

Ramam Akkipeddi	Melchor F. Gil Morell	Jiong-Ping Lu*	Jeffrey W. Sleight*
Muhammad A. Alam	Michael J. Hargrove*	Giandomenico Massari	Rosemary L. Smith*
Sharief Babiker*	Christopher Hess*	Satoshi Matsumoto	Emily Sopensky
Marise Bafleur	Liji Huang*	Valery P. Meschanov*	William G. Sutton*
Babak Bastani	Eric Husman*	Slobodan Mijalkovic*	Akira Suzuki*
Douglas A. Buchanan	Dimitris E. Ioannou	Oscar Moya-Aravena	Hiroshi Takahashi
Manuel H. Calvino*	Natarajan M. Iyer*	Junichi Nakamura	John R. Tower*
Jeffrey B. Casady*	Dean Jennings	Tadashi Nishimura	Hideaki Tsuchiya
Tien-Xheng Chao	Martin P. Karnett*	Dimitris C. Pantelakis	Pablo O. Vaccaro
Yoachung Chen*	Masaru Kazumura*	Mahesh B. Patil	Shouzheng Wang
Byung-Jin Cho*	Eun Sok Kim	Robert Pedigo*	Jeff Watt
Bruce G. Danly	David E. Kotecki*	Helmut Puchner	Danny R. Webster
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Daniel Docter	Weidan Li*	Werner Reczek*	J. Richard Wright*
Tarek S. El-Bawab*	Zhenxian Liang*	Stefan Rusu	Kyoungsoon Yang
Arturo Escobosa*	Hong-Chih Lin	K.S. Sankara Reddy	Hyun-Kyu Yu*
Hamid Z. Fardi	Peter C.K. Liu	Akella V. Satya*	Carl M. Zetterling*
Gary K. Fedder*	Wen-Chau Liu	Nava Setter	Xiangkun Zhang*
Hiromu Fujioka*	Michalis Loupis*	Thomas Skotnicki*	

* = Individual designated EDS as nominating entity

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

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

EDS DISTINGUISHED LECTURER PROGRAM - LECTURERS RESIDING IN EUROPE, AFRICA & MIDDLE EAST (Region 8)

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

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-Technology Simulation Tools for RF and Wireless Applications

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-Polysilicon Emitter Technology for Solar Cells

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-Future of Silicon-on-Insulator for Cryogenic Applications
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-Reliability of Submicron MOSFETs after Hot Carrier Injection
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-Electrically Controlled Electromagnetic Crystals on the Base of Thin-Ferrite-Film Structures
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Call for Book Proposals

The IEEE Electron Devices Society, in conjunction with the IEEE Press and alliance with John Wiley and Sons, Inc., is soliciting proposals and original manuscripts for book publication relating to the theory, design and performance of electron and ion devices, solid-state devices, integrated electronic devices, optoelectronic devices and energy sources. It is intended that books sponsored by the Electron Devices Society will be published jointly by Wiley and the IEEE Press.

We are particularly interested in original single-author (or multi-author) books or original edited volumes with contributed chapters by experts in the field. Collections of previously published IEEE articles (selected reprints) will only be considered if substantial original material of a tutorial or background nature is included in order to illuminate papers of current technical interest. New issues of classic, out-of-print books will also be considered.

Advantages of publishing a book through the IEEE Press include:

- Worldwide marketing, production, and distribution by John Wiley and Sons, Inc.

- Coordinated member marketing efforts by the IEEE
- Superior editorial support capabilities, including peer review, by the IEEE Press
- Competitive royalties and attractive pricing
- The prestige of the Wiley, IEEE, and ED Society logos on your book

A basic proposal should include: (1) A prospectus commenting on the rationale for your book, the targeted audience and the potential market, and the author's experience reflecting the ability to accomplish the project, (2) Sample chapters and/or Table of Contents, if available.

For a complete set of IEEE Press Proposal Guidelines, or for more information about the IEEE Press alliance, please visit IEEE at <http://www.ieee.org/organizations/pubs/press/index.htm> or contact, Anthony VenGraitis, IEEE Press Project Editor, 445 Hoes Lane, Piscataway, NJ 08854, USA, E-mail: a.vengraitis@ieee.org

The recently appointed Electron Devices Society IEEE Press Coordinator is Joe E. Brewer (j.brewer@ieee.org).

EDS Student-Teacher and Research/Engineer Scientist (STAR) Program

One of the most important activities of ED/SSC Yugoslavia Chapter, since its formation in 1994, has been the development of the Student-Teacher and Research/Engineer Scientist (STAR) Program. At the very beginning, only a few girls from one high school were involved, but over the years the level of activities on this program has steadily been increasing, especially after forming the University of Nis ED/SSC Student Branch Chapter and University of Nis Student Branch. The current number of girls regularly participating in the STAR Program is 43, and they are coming from three high schools: "Nikola Tesla", "9 May", and "Stevan Sremac". Most of them (20) are from the Electronics High School "Nikola Tesla", the first one with which we had established co-operation. The person from our Chapter currently responsible for STAR program activities is Miss Tatjana Pesic, the University of Nis ED/SSC Student Branch Chapter and University of Nis Student Branch Chair. Most of the activities on this program are organized in conjunction with the ED/SSC Yugoslavia Chapter, University of Nis ED/SSC Student Branch Chapter and

University of Nis Student Branch activity programs. However, having in mind the age of the participating girls and their particular interests, all the activities have usually been accompanied by additional social events aimed to attract their attention more efficiently.

The following are some of the most important activities in which the girls participating in the STAR program have shown great interest. First, the presentation of videotapes "Getting Ready: Careers for Electrical Engineering and Computer Scientist" and "New Generation TCAD", borrowed from the EDS Video tape Lending Library. In addition to the girls involved in the STAR program, the audience was also high school graduates from the Nis area. The videotape presentations were aimed to increase the interest of young scholars in pursuing the careers in engineering disciplines, and particularly in electrical engineering. Also, whenever possible, the girls attended the entertaining parts of our regular chapter meetings and some diploma and master exams at our university. All these events were usually followed by cocktail parties, at which the girls had an opportunity to discuss their career opportu-

nities and exchange thoughts with the university students and professors in an informal, friendly atmosphere.

On a few occasions, we organized visits to the EI Holding Corporation, the largest manufacturer of electronic products in Yugoslavia. The girls were shown some factories belonging to the Corporation, computer center and a factory restaurant. Such visits enabled the girls to feel the atmosphere in an industrial environment and to talk to electrical engineers working in the industry. We have also organized a visit to the museum of the great inventor Nikola Tesla in Belgrade, as a part of the University of Nis ED/SSC Student Branch Chapter and University of Nis Student Branch activities.

Some of the most attractive events for the girls are annual meetings of students of electrical engineering from all over Yugoslavia. These are the most interesting events for the girls, since the various competitions in knowledge and sports are combined with great fun. As has become the regular practice now, the two lucky girls which were selected to be present at the meetings were involved in the program of the local radio station and the organiza-

tion of evening entertaining events. They were very excited about everything they experienced when they talked to the other girls involved in STAR program. All of them showed interest and it is quite possible that in future we can take more of them to participate in the student meetings.

It has also become a practice of our Chapter to take girls to the Yugoslav Conference on Electronics, Telecommunications, Computer Sciences, Automatics and Nuclear Science (ETRAN), as well as to involve them in the organization of the IEEE International Conference on Micro-

electronics (MIEL). These are nice opportunities for them to feel the atmosphere of scientific meetings.

Finally, it should be mentioned that for the STAR program participants every year we regularly organize picnics at nearby mountain resorts and other interesting places. These events are always accompanied by the competitions in knowledge, "funny games", and barbecue parties.

Having in mind the above experiences, it is our intention to continue with our regular STAR program practices: the picnic at some attractive location in the Nis neigh-

borhood, a visit to El Holding Co., a visit to some of the institutes and scientific museums in Belgrade, etc. The most active girls will be invited to the ETRAN conference and annual students meeting, and involved in the organization of the MIEL conference. We also plan to expand the program to include another Electronics High School "Mija Stanimirovic".

Ninoslav Stojadinovic
ED/SSC Yugoslavia Chapter Chair
University of Nis
Nis, Yugoslavia

Results of the 2001 EDS Officers and AdCom Members Election

On December 2, 2001, the EDS AdCom held its annual election of Officers and AdCom Members-at-Large. The following are the results of the election for terms that begin 1 January 2002.

OFFICERS (One Year Term)

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Steven J. Hillenius, Agere Systems, Murray Hill, NJ, USA

Vice President

Hiroshi Iwai, Tokyo Institute of Technology, Yokohama, Japan

Treasurer

Paul K.L. Yu, University of California at San Diego, La Jolla, CA, USA

Secretary

John K. Lowell, Consultant, Dallas, TX, USA

ADCOM MEMBERS (Three-Year Term)

Magali Estrada del Cueto, CINVESTAV-IPN, Mexico City, Mexico

***Kenneth F. Galloway**, Vanderbilt University, Nashville, TN, USA

***Steven J. Hillenius**, Agere Systems, Murray Hill, NJ, USA

***Chennupati Jagadish**, The Australian National University, Canberra, Australia

Johnny K.O. Sin, The Hong Kong Univ. of Science & Tech, Clear Water Bay, Hong Kong

***Rajendra Singh**, Clemson University, Clemson, SC, USA

Ninoslav D. Stojadinovic, University of Nis, Nis, Yugoslavia

* = individual re-elected for a second term

THE IEEE ELECTRON DEVICES SOCIETY CELEBRATES ITS' 50TH ANNIVERSARY

In 2002, the IEEE Electron Devices Society will celebrate its 50th Anniversary. To commemorate this 50th year, a booklet has been prepared to summarize the ideas, individuals, journals, inventions, and the science and technology of our Society. In 1952, our Society was formed as the Institute of Radio Engineers (IRE) Professional Group on Electron Devices (PGED). When the PGED was formed, vacuum tubes, especially microwave tubes, were the dominant electron devices covered in PGED meetings and publications.

During these years, transistors were evolving from the original germanium point-contact devices, to alloy transistors, diffused silicon transistors, and then metal-oxide field-effect transistors (MOSFETs). These transistors were utilized in the silicon integrated circuits. Compound semiconductor devices emerged as optoelectronic and microwave devices. During these past 50 years, significant electron device inventions were recognized by the awarding of three Nobel prizes in physics. The Nobel prize was awarded in 1956 for discovery of the transistor effect, in 1973, for the experimental discovery of tunneling in semiconductors, and in 2000, for the invention of the integrated circuit and for developing semiconductor heterostructures.

These device technologies cover many diverse areas of engineering and science. Our Society has demonstrated an unusual ability to adjust to the continually changing technologies in its publications and meetings. These events are summarized in the text of the 50th Anniversary Booklet written by Michael Riordan, a physicist with a talent for scientific writing. He was assisted by Bill Van Der Vort, the EDS Executive Director, and on a daily basis by Laura Riello of the EDS Executive Office. The IEEE History Center supplied documents and photographs. This booklet will be mailed to all EDS members in April 2002, along with the EDS Newsletter.

The EDS 50th Anniversary Committee Members are: April Brown, Craig Casey (Chair), Jim Early, Bruce Griffing, Steve Hilienius, Tak Ning, Arlene Santos, Lew Terman, Richard True and Cary Yang.

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

Archival CD-ROM of PVSC Proceedings Available!

A limited quantity of the proceedings of the IEEE Photovoltaic Specialists Conference which started back in 1962 is available in a 5 CD set. The CDs include all of the papers, figures and photos for every paper presented at the conferences. The CD-ROM set is divided into separate conferences. Each conference is indexed separately which allows you to search within a specified number of conferences. Included in the CD-ROM set are versions of Acrobat Reader (with search) for Microsoft Windows, Apple Macintosh and UNIX. You may search by author and/or title. You can also use a full text search to find any word within the documents.

The price of the PVSC Archival CD-ROM is U.S. \$300 for IEEE members and U.S. \$400 for non-members. If you are interested in ordering the set, please contact the EDS Office for an order form (contact information on page 2).

EDS Independent Short Courses Held in 2000 Available on Videotape

Circuit Designs and Technology for RF-CMOS

Course given by Dr. Asad Abidi, University of California, Los Angeles, CA, USA

NTSC Product No. EV6975

NTSC ISBN 0-7803-6827-4

PAL Product No. EV6976

PAL ISBN 0-7803-6828-2

Overview of Fiber Optic Communications

Course given by Dr. Joe C. Campbell, University of Texas at Austin, Austin, Tx, USA

NTSC Product No. EV6977

NTSC ISBN 0-7803-6829-0

PAL Product No. EV6978

PAL ISBN 0-7803-6830-4

Using Modeling to Resolve Design and Reliability Issues

Course given by Dr. Sanjay Banerjee, University of Texas at Austin, Austin, Tx, USA

NTSC Product No. EV6979

NTSC ISBN 0-7803-6831-2

PAL Product No. EV6980

PAL ISBN 0-7803-6832-0

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Regional and Chapter News

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

2002 IEEE/SEMI Advanced Semiconductor Manufacturing Conference and Workshop (ASMC) by Margaret M. Kindling

The industry's oldest, continuing advanced semiconductor manufacturing conference, ASMC provides device manufacturers and equipment and materials suppliers with unparalleled opportunities for semiconductor professionals to network and learn the latest in manufacturing strategies and methodologies. The 2002 meeting will be held April 30–May 2 at the Seaport Hotel, Boston, Massachusetts, USA. ASMC draws speakers and attendees from the United States, Europe and Asia. Peer-reviewed papers will be presented on: Advanced Metrology and Processes; CFM; Cost Reduction; Equipment Reliability and Productivity; Factory Automation; Factory Dynamics; 300 MM Manufacturing; MEMS; Photolithography Challenges and Advances; Time-to-Market; Workforce Issues; and Yield Enhancement. The ever-popular poster reception encourages interaction between authors and conference attendees.

ASMC 2002 keynotes include Sasson Somekh, Executive Vice President, Office of the President, Applied Materials; Bob Johnson, Principal Analyst, Semiconductor Manufacturing, Semiconductor Division, Gartner Dataquest; Bruce Sohn, 300mm Program and Fab 11X Manager, Intel Corporation; and David J. Bishop, Director of Communications Subsystems Research, Bell Labs, Lucent Technologies.

The Conference will be held at Boston's Seaport Hotel, in the city's vibrant waterfront district, and in within walking distance to Boston's historic and cultural attractions. Boston epitomizes the essence of the American spirit, offering the sophistication of a rich cultural heritage along with the excitement of a lively harbor city.

Who should attend ASMC 2002? Semiconductor professionals involved in yield and cycle time improvement, pro-

duction and process control, process transfer, cost reduction, preventive maintenance, line supervision, fab operation, CIM, quality, training and education. For registration and general information, contact Margaret Kindling at SEMI, 1401 K St., NW, Suite 601, Washington, DC 20005, USA; T. 1-202-289-0440; F. 1-202-289-0441; E-mail: mkindling@semi.org. Or register by visiting SEMI Online at www.semi.org.

M. Ayman Shibib, Editor

Europe, Middle East & Africa (Region 8)

MTT/ED/AP/LEO UK&RI Chapter by Terry Oxley

The Chapter technical meetings continue to average approximately twenty per year, including AdCom meetings, lectures and workshops/symposia/colloquia. The Chapter has been responsible for launching three major annual events, namely: IEEE International Symposium on Electron Devices for Microwave & Optoelectronic Applications (EDMO); IEEE European Workshop under the acronym MIDAS (Mm-wave, microwave and RF, Integrated circuit Design And Simulation), with a selected topic each year; and IEEE High Frequency Postgraduate Student Colloquium.

The 2nd IEEE European MIDAS Workshop was held at the University of Surrey on the 16th and 17th of July 2001. It was organized jointly by the Chapter and University of Surrey, and sponsored by the IEEE MTT-S and IEE PGE 12. This year the focus was on Mixed Signal Simulation for Communications Systems. The programme included eleven technical sessions, and a delegates' dinner with reception. Presentations included invited well-known experts in the field; Maria Kelly (Anson), Mike Brookbanks (Marconi Caswell), Steve Cripps (Hywave Associates), Michael Steer (North Carolina State University), and Bill Batty (University of Leeds). Special discussion and informal presentation sessions were integrated to promote relaxed debate. Overall this was considered to be a most successful and

interesting workshop, with full interaction between the delegates and invited speakers. The 2002 MIDAS workshop is planned to be held in The Netherlands. For details, contact steve.marsh@ieee.org, or the Chapter Chairman (address details below).

The aim of the IEEE High Frequency Postgraduate Colloquium series is to provide an opportunity for young researchers in the field of high frequency engineering to present their work at an IEEE conference, and gain experience in the art of professional presentation. The 6th Colloquium, organized jointly by the Chapter and Cardiff University, was held the 9th and 10th of September at the Cardiff School of Engineering, University of Wales. Approximately sixteen papers, oral and poster, represented approximately twelve UK&RI universities. The first day programme included an invited talk by Dr Peter Kenington of Wireless Systems International, and an evening dinner/reception at Cardiff Castle. The final session of the second day concluded the meeting with the presentation of prizes for the best oral and poster papers. The colloquium was well attended and well achieved its objectives. For details of the 2002 event, please contact the Chapter Chairman (address details below).

The 9th EDMO Symposium, planned for 15-16 November 2001 in Vienna in collaboration with the local IEEE Chapter, will be reported in the April 2002 issue of EDS Newsletter.

For more information please contact the Chapter Chairman: Dr Ali Reza-zadeh, Department of Electronic Engineering, King's College, University of London, Strand, London WC2R 2LS, UK. Tel/Fax: +44 20 7848 2879. E-Mail: ali.rezazadeh@kcl.ac.uk

Gady Golan, Editor

Report related to the visit of the Minsk ED/MTT Chapter

Chapter Activities

by Dr. Sergei Malyshev

The Chapter was founded in 1995 and is a joint Chapter with MTT. They currently have 14 members with about a

50/50 share between ED and MTT. The 2001 financial support is \$1000 from ED and \$350 from MTT. They are organizing a meeting or seminar monthly, which is also open to non-IEEE members. The association with MTT is a proper choice as beside the microelectronics activities, there is a strong effort going on in the field of optoelectronics and microwaves. Therefore a great part of the activities is falling within the scope of the two Societies.

The activities already performed for 2001 are:

- Monthly seminar
- Participating in the Traveling Summer School, which in July took place in Madrid. The School is organized every year in a different country, and the lecturers are coming from 9 different Universities (Warsaw, Darmstadt, Rome, Chemnitz, Bratislava, Madrid, Prague, Minsk and Moscow)
- Each lecturer is also bringing students to the School.
- Organization of a DL seminar (C. Claeys on August 21)
- After the summer a joint Workshop will be organized with the Lithuanian MTT/ED/AP Chapter.

The Chapter is very active (also promoted the Senior Member program and participated in the Graduate Fellowship Program). They are very pleased about the support, interactions and information exchange with the Society. The contacts with the Partner will be maintained on a regular basis.

As requested by ED, the financial support for fees are going to new members this year. Some of the members who are no longer supported decided to pay the fee themselves. Even with the 50% discount it remains a rather high amount in view of their income. It is important to remark that out of the 14 Chapter members, 5 are from industry, e.g., Integral. For the moment, there are a lot of new and young members in the Chapter.

There are also plans to start a Student Branch in the near future. Besides the well known difficulty related to the membership fee, the only other weak point is the lack of information on support possibilities by the Region. The Partner will take care of this. The members are very positive about the Journals and access possibilities via the Internet. In general, the delay in delivery of the

journals is less than one month.

As there are five active Chapters (ED/MTT, CPMT, LEO, EM and SSC) for the moment, they are planning to form a Section. Now Minsk belongs to the Polish Section. In the past there was a PE Chapter, but they have to restart their activities. Although there are about 100 IEEE members, only 60 paid their fee for 2001. Therefore, some of the required 50 signatures for the creation of a Section were not valid. However, only 19 additional signatures are needed and there is still a list of 36 active members who were not contacted yet. It is expected that the administrative part for the Chapter formation will be completed by the Fall. The acting Section Chair would become Dr. S. Malyshev.

Partner Visit and DL Presentation by Cor Claeys

A lecture for the ED Minsk Chapter was given on Monday, August 20 at Integral. In total, 30 people attended the presentation "Technology Roadmap Challenges for Deep Submicron CMOS". Several participants were from Integral (semiconductor components and IC manufacturing) and Planar (semiconductor equipment manufacturing). It is essential that industry is participating in the Chapter activities. In the case of Integral, some employees are member of EDS. Before the lecture, I had the opportunity to give an overview of EDS activities. There was interest in the Senior Membership Program.

On August 21, I was invited to give a presentation on IEEE and the Electron Devices Society at the Belarusian State University of Informatics and Radioelectronics. The presentation was attended by 28 participants, including the rector, i.e., Prof. Michael Batura. After my presentation, the ED/MTT Minsk Chapter Chair Dr. Sergei Malyshev continued to give Chapter information in Russian. The rector, who was not fully aware of the IEEE activities, mentioned that more of his colleagues should become a member and promised to support



One-day workshop on "Advances In Microelectronics" organized at University of Pune on September 8, 2001.

actions in that sense.

I received travel support from EDS to give my talks which was equally shared by the EDS Distinguished Lecturer Program and the EDS Subcommittee for Regions/Chapters for Region 8.

Ninoslav Stojadinovic, Editor

Asia & Pacific (Region 10)

AP/ED Bombay Chapter by Prof. M.B. Patil

During July-September 2001, the AP/ED Bombay Chapter organized the following three events.

On 11 July 2001, Dr. Abhijeet V. Chavan, Design Manager, Delphi Automotive Systems, gave a talk on "MEMS: Design, Simulation, and Fabrication." The talk was attended by students and faculty members from the EE and ME departments of IIT Bombay. A few researchers from other organizations from Bombay also benefited from the talk and from subsequent discussions with Dr. Chavan.

On 9 August 2001, Prof. Sunil P. Khatri, University of Colorado, Boulder, presented a lecture on "Analysis and Avoidance of Cross Talk in On-chip Buses". The talk was attended by the students specializing in Microelectronics and faculty members of the EE Department of IIT Bombay.

On 8 September 2001, a one-day workshop was organized on "Advances in Microelectronics" at the University of Pune. Prof. A.D. Shaligram, Pune University, introduced VLSI in his talk,



Participants of 2nd Executive Committee Meeting of the ED Kansai Chapter; Standing (l-r) T. Shimazaki, T. Murakami, T. Matsuoka, M. Kuzuhara, A. Suzuki, T. Otsuki, Y. Yamamoto, Sitting (l-r) M. Kazumura, Cary Y. Yang (EDS President), H. Nozawa

“Expanding Horizons of Microelectronics”. This was followed by four technical lectures by faculty members from IIT Bombay. Prof. J. Vasi talked on physics of MOS transistors, followed by a talk on VLSI design by Prof. D. K. Sharma. Prof. M. B. Patil discussed circuit simulation, and finally, Prof. V.R. Rao described challenges in the fabrication of IC’s in the ultra-VLSI era. About 240 participants, including students, faculty members and personnel from VLSI training centres, attended the workshop and interacted with the speakers.

For more information, please contact Prof. M.B. Patil (Secretary, AP/ED Bombay Chapter), Electrical Engineering Department, IIT Bombay, Powai, Mumbai 400076, India, Email: mbpatil@ee.iitb.ac.in

ED/MTT India Chapter

by Dr. K.S. Chari

During the last quarter period, the Chapter pursued the following activities:

The Chapter Chair attended the 4th Biennial Region 10 EDS Chapter Chairs meeting, the Region 10 SRC EDS DL meeting and the EDS ADCOM meeting on 8 July 2001 held at Singapore. At the Chapter Chairs meeting, Dr Chari presented the status of various activities pursued by the India ED/MTT Chapter. In the DL’s meeting, several suggestions on how to optimize the EDS DL visits

were discussed. The Chapter Chair also visited IME and Schlumberger Inc in Singapore.

Dr Renuka Jindal, an EDS ADCOM member and the Chapter partner visited the Chapter on 13 July 2001 and had detailed discussions on the chapter activities in the Ministry of Information Technology (MIT) in New Delhi. He also met the faculty representatives from 3 Universities: Ms Mini Thomas, Prof Moinuddin from Jamia Millia University (Delhi), Prof A. Bhattacharyya, Dr SK Paul, Mr M. Kulkarni and Mr NS Raghavan from Delhi College of Engineering, and Dr Anil Vohra from Kurukshetra University. The EDS Student representative, Ms Ritika Bhandari and Ms Ruchi Tyagi, and other EDS members attended the interactions with Dr Jindal at MIT. Dr Jindal brought to the chapter’s attention the EDS Membership Fee Subsidy Program (MFSP), the EDS Graduate Student Fellowship Program. He encouraged the Chapter to aggressively utilize these venues. The Membership upgradation and related issues were also discussed. Dr Jindal also gave a talk on “Recent trends in the Electron Devices — Emerging Paradigms”. At the end of the talk, a half-hour discussion with Dr Jindal on a variety of issues in R&D, management and career issues was held. This event was attended by about 50 participants.

Dr P. Sudhakar, Principal of Harita Ecological Institute (HEI) and Harita Junior College (Paloncha, Andhra Pradesh) visited the Chapter and discussed the progress of the EDS STAR activities. It was agreed that HEI will hold a major Science Fair in early January 2002 with the Chapter sponsoring the event. Dr Sudhakar also gave a talk at MIT on ‘Surface Acoustic Wave Device, Trends and Applications’. The event was attended by about 60 participants.

The IEEE President Mr. Joel B. Snyder visited Jamaia Millia University (New Delhi) on 17th August 2001. He touched on many topics such as: “What is the IEEE?”, “Who are our members?”, “What IEEE can do?”, IEEE membership profile, IEEE vision for global prosperity, How IEEE can foster professional linkages, On-line data services like Explore, career opportunities and special interest groups under various societies etc. He also stressed on active participation of IEEE in promoting local and international conferences in India. The event was organized by Dr. Mini Thomas, Branch Counselor of the IEEE student branch at JMI, Dr. R. Balasubramaniam., IEEE Delhi Section Chair, Prof Moinuddin Head Electrical Engineering of JMI and Mr. P.K. Srivastava, IEEE India Council Chair. The event was sponsored by IEEE Delhi Section with participation from the Chapter.

At the invitation of the Chapter, Dr Sankara Narayan of Philips Semiconductors (Netherlands) visited the Chapter and delivered a talk on "Advanced (0.1 micron) CMOS Technology". The evolution of the CMOS technology, technology characterization, turn around times, design and test issues were covered in the talk. The talk also described the management issues in design and development.

Dr Murali Nair, President Tech Continuum Inc. (U.S.A) visited the Chapter. Dr Nair agreed to give a comprehensive workshop on Blue Tooth technologies in December 2001.

CPMT/ED/R Singapore Chapter

by Y.C. Ng

The Chapter is honored to receive two Chapter awards and one individual award. Dr. Radhakrishnan (Chapter Chairman) was in Orlando ECTC conference, Florida in 2 June, 2001 to receive the Best Chapter Award from the CPMT Society for Year 2000 along with the Hong Kong Chapter. Mr. YC Ng (Chapter Secretary) was in San Diego, California in 22 July, 2001 for the Reliability Society (RS)'s Chapter Chair's Congress Meeting and received the award for the third position for the Best RS Chapter of Year 2000. Charles Lee, one of the Chapter Executive Committee Member, received the "IEEE/CPMT Outstanding Young Engineer Award" for the Year 2000 in Orlando.

The Chapter organized one international conference – the 8th International Symposium on the Physical and Failure Analysis of Integrated Circuits (IPFA) in July 1999. The symposium drew 168 participants from 19 countries from Asia, Europe and America. They were 52 papers (two of which are invited papers and three exchange papers) presented in the symposium. The papers were selected by peer review from among more than 90 extended abstracts received. The three exchange papers were from ESREF 2000 Best Paper and ISTFA 2000 Best Paper / Outstanding Paper. Four tutorials were conducted by experts in each area of failure analysis and reliability and were attended by more than 80 participants. The equipment exhibition arranged along with IPFA has attracted a number

of personnel from industry with a total of 25 exhibition booths.

The Chapter has organized two technical talks. One by Dr Jezdimir Knezevic of Exeter University (UK) on "System Operational Success through System Operational Science" on 12 March, 2001. There were 170 participants. The second technical talk was presented by Dr. Shankara Prasad, of CEO APT Interactive, Bangalore, titled "Knowledge Management: A Key to an Assembly and Packaging Enterprise's Future" on 9 May, 2001. There were 22 participants.

The Chapter hosted the IEEE-Electron Devices Society (EDS) AdCom Meeting in Singapore on 7-8 July, 2001. Two of our senior chapter members have been elect-

ED Kansai Chapter

by Hiroshi Nozawa

The ED Kansai Chapter held a meeting in the third quarter about the international conference they sponsored twice before. The first and the second meetings were held at the meeting room of the Campus Plaza Kyoto, in Kansai, Japan on July 17. The host was H. Nozawa. Nine officers, including three substitutes, attended and we fortunate to also have Professor Cary Y. Yang, EDS President, join us. The total number of participants was ten. The subject for discussion was deliberating on the pros and cons of holding a Kansai Chapter-sponsored international conference in 2003 and jointly holding it with the ED Singapore Chapter. The validity of it was



Participants of a Working Group Meeting for a Joint International Conference; Standing (l-r) M. Niwa, T. Shimazaki, Y. Yamamoto, A. Suzuki, M. Kuzuhara, A. Fukawa, Sitting (l-r) K. Taniguchi, H. Nozawa, H. Iwai (EDS AdCom Committee Chair), M. Kazumura and T. Nishimura

ed as the EDS AdCom members.

On the encouragement of more student and academic participation, besides the book prize that the Chapter donated to National University of Singapore in 1999, the Chapter also gave the book prize to another local educational institution, Temasek Polytechnic, for the top final year Diploma in Microelectronics student this year. This award is an encouragement to academic excellence and professional development in the area of Microelectronics studies. It will also be used as a means of membership development in promoting awareness of IEEE and its activities

For more information on Chapter activities, please contact Chapter Chair: Dr. Radhakrishnan, email: radhakrishnan@ieee.org.

Wee Kiong Choi, Editor

recognized fundamentally. Specifically, detailed examination of the working group will be organized and carried out separately. According to this policy, a subsequent meeting was held at the same place on August 30. Professor H. Nozawa was the host. Eleven working group members attended and H. Iwai, the Chair of EDS Regions/Chapters Committee also joined us. They discussed a conference name, focused on the technical scope, organization, overlap with other international meetings, the role assignment with the ED Singapore Chapter, the estimated number of papers and participants, and overall expenses etc, sticking in the funds side. It was agreed to carry out in a way that adjustment was possible with the Singapore Chapter coming up around in December.

Hisayo Sasaki Momose, Editor

EDS Meetings Calendar

(As of 13 December 2001)

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

January 6 - 11, 2002, T **Advanced Workshop on 'Frontiers in Electronics'** Location: Colony Cove, St. Croix, US Virgin Islands Contact: Serge Luryi, State University of New York at Stony Brook, NY State Center for Advanced Tech. In Sensor Systems, Stony Brook, NY, USA 11794-2350 Tel: +1 631 632 8420 Fax: +1 632632 8494 E-Mail: serge@ece.sunysb.edu Deadline: 10/31/01 www: <http://nina.ecse.rpi.edu/shur/wofe2002/index.htm>

February 5 - 7, 2002, T **International Solid-State Circuits Conference** Location: San Francisco Marriott Hotel, San Francisco, CA, USA Contact: Willy Sansen, Katholieke Universiteit, Leuven, ESAT-MILAS, Kasteelpark Arenberg 10, Leuven B-3001, Belgium Tel: +32 1632 1078 Fax: +32 1632 1975 E-Mail: isscc@courtesyassoc.com Deadline: 9/5/01 www: <http://www.isscc.org>

February 18 - 23, 2002, T **International Conference on "Modern Problems of Radio Engineering, Telecommunications and Computer Science"** Location: National University "Lvivska Polytechnika", Lviv, Ukraine Contact: Ivan Prudyus, National University "Lvivska Polytechnika", Profesorska Street 2, Lviv (Slavsko), 79013, Ukraine Tel: +380 322 723725 Fax: +380 322 744300 E-Mail: iprudys@polynet.lviv.ua Deadline: 12/1/01 www: <http://www.polynet.lviv.ua/tcset2002>

March 10 - 16, 2002, T **Symposium on Opto and Microelectronic Devices and Circuits** Location: University of Stuttgart, Stuttgart, Germany Contact: Manfred Berroth, University of Stuttgart, Pfaffenwaldring 47, D-70569 Stuttgart, Germany Tel: +49 711 685 7922 Fax: +49 711 685 7900 E-Mail: berroth@int.uni-stuttgart.de Deadline: Not Available www: <http://www.uni-stuttgart.de/int/inhall/sodc/sodc.htm>

March 13 - 16, 2002, T **National Radio Science Conference** Location: Alexandria University, Alexandria, Egypt Contact: Ibrahim Salem, Academy of Scientific Res & Tech, Dept. of Scientific Societies & Int'l Unions, 101 Kasr EL-Eini St, Cairo, Egypt Tel: +20 2 258 0256 Fax: +20 2 792 1270 E-Mail: ia.salem@ieee.org Deadline: 10/15/01 www: <http://ursi-egypt.org>

March 13, 2002, T **IEEE/Sarnoff Symposium on Advances in Wired and Wireless Communications** Location: College of New Jersey, West Trenton, NJ, USA Contact: Peter Zalud, Sarnoff Corporation, 201 Washington Road, Princeton, NJ, USA 08593 Tel: +1 609 734 3004 Fax: Not Available E-Mail: pzalud@sarnoff.com Deadline: Not Available www: <http://ewh.ieee.org/r1/princeton-central-jersey/2001r2.pdf>

March 18 - 20, 2002, T **IEEE International Symposium on Quality Electronic Design** Location: DoubleTree Hotel, San Jose, CA, USA Contact: Melissa Widerkehr, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 101 Fax: +1 301 527 0994 E-Mail: melissaw@widerkehr.com Deadline: 9/15/01 www: <http://www.isqed.org>

March 19 - 21, 2002, T **IEEE Siberian Conference on Electron Devices and Materials** Location: Tomsk State Univ. of Control Sys. & Radioelectron., Tomsk, Russia Contact: Oleg Stoukatch, Tomsk State Univ. of Control Systems & Radioelec., 40 Lenin Avenue, Tomsk, Russia 634050 Tel: +7 3822 233077 Fax: +7 3822 223262 E-Mail: ird@tusur.ru Deadline: 11/19/01 www: <http://www.me.tusur.ru/~lieee>

March 2002, T **International Conference on "Contemporary" Problems of Microwave Electronics and Radiophysics** Location: Contact: Michael Davidovich, Kirov Square 8, Apt 169, 410600 Saratov, Russia Tel: +7 845 2 525562 Fax: +7 845 2 266070 E-Mail: davidovichmv@info.sgu.ru Deadline: Not Available www: Not Available

April 8 - 11, 2002, * **IEEE International Reliability Physics Symposium** Location: Hyatt Regency Dallas, Dallas, Texas, USA Contact: William Tonti, IBM Microelectronics, 1000 River Street M/S 861E, Essex Junction, VT, USA 05452 Tel: +1 802 769 6561 Fax: +1 802 769 6567 E-Mail: w.tonti@us.ibm.com Deadline: 9/19/01 www: <http://www.irps.org>

April 9 - 11, 2002, @ **IEEE International Conference on Microelectronic Test Structures** Location: University College Cork, Cork, Ireland Contact: Alan Mathewson, NMRC Lee Mallings, University College, Cork, Ireland Tel: +353 21 490 4142 Fax: +353 21 427 0271 E-Mail: amathewson@nmrc.ie Deadline: 8/31/01 www: <http://www.ee.ed.ac.uk/ICMTS>

April 17 - 19, 2002, T **International Caracas Conference on Devices, Circuits and Systems** Location: Seaport Conference Center, Oranjestad, Aruba, Dutch Caribbean Contact: Adelmo Ortiz-Conde, Dpto de Electronica, Simon Bolivar University, Caracas 1080, Venezuela Tel: +58 212 9064010 Fax: +58 212 9064025 E-Mail: ortizc@ieeee.org Deadline: 9/28/01 www: <http://pancho.labc.usb.ve/ICDCS2002>

April 22 - 25, 2002, T **International Conference on Modeling and Simulation of Microsystems** Location: San Juan Marriott Resort & Stellaris Casino, San Juan, Puerto Rico Contact: Narayan Aluru, University of Illinois at Urbana Champaign, 117 Transportation, MC 238, Urbana, IL, USA 61801 Tel: +1 217 333 1180 Fax: +1 217 244 4333 E-Mail: aluru@staff.uiuc.edu Deadline: 10/10/01 www: <http://www.cr.org>

April 23 - 25, 2002, @ **IEEE International Vacuum Electronics Conference** Location: Doubletree Hotel, Monterey, CA, USA Contact: Ralph Nadell, Palisades Convention Management, 411 Lafayette Street Suite 201, New York, NY, USA 10003 Tel: +1 212 460 8090 x 203 Fax: +1 212 460 5460 E-Mail: rnadell@pcm411.com Deadline: 12/21/01 www: <http://www.ivec2002.org>

April 30 - May 2, 2002, * **IEEE/SEMI Advanced Semiconductor Manufacturing Conference and Workshop** Location: The Seaport Hotel, Boston, MA, USA Contact: Margaret Kindling, SEMI, 1401 K Street, NW Suite 601, Washington, D.C., USA 20005 Tel: +1 202 289 0440 Fax: +1 202 289 0441 E-Mail: mkindling@semi.org Deadline: 9/3/01 www: <http://www.semi.org/web/wevents.nsf/url/02ASMC>

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 # = Cooperation Support

May 8 - 10, 2002, T **Bianisotropics International Conference & Workshop on Electromagnetics of Complex Media** Location: University Cadi Ayyad, Marrakech, Morocco Contact: Said Zouhdi, University Pierr et Marie Curie (Paris 6), T12, E2 Boite 92, 4, place Jussieu, 75252 Paris Cedex 05, France Tel: +33 1 44 27 43 73 Fax: +33 1 44 27 43 82 E-Mail: sz@ccr.jussieu.fr Deadline: 12/21/01 www: <http://www.ccr.jussieu.fr/bian02>

May 12 - 15, 2002, * **International Conference on Microelectronics** Location: University of Nis, Nis, Yugoslavia Contact: Ninoslav Stojadinovic, University of Nis, Beogradska 14, 18000 Nis, Yugoslavia Tel: +381 18 529 326 Fax: +381 18 46 180 E-Mail: nino@unitop.elfak.ni.ac.yu Deadline: 9/30/01 www: <http://europa.elfak.ni.ac.yu/miel>

May 12 - 16, 2002, @ **IEEE International Conference on Indium Phosphide and Related Materials** Location: Stockholm City Conference Center, Stockholm, Sweden Contact: Gunnar Landgren, Laboratory of Semiconductor Materials, Kungliga Tekniska Hogskolan (KTH), Electrum 229, S-164 40 Kista, Sweden Tel: +46 8 752 11 60 Fax: +46 8 750 51 73 E-Mail: gl@ele.kth.se Deadline: 12/10/01 www: <http://www.congex.com/iprm2002>

May 12 - 15, 2002, T **IEEE Custom Integrated Circuits Conference** Location: Caribe Royale Resort Suites, Orlando, FL, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 11/28/01 www: www.ieee-cicc.org

May 18 - 25, 2002, * **IEEE Photovoltaic Specialists Conference** Location: Hyatt Regency New Orleans, New Orleans, LA, USA Contact: John Benner, National Renewable Energy Laboratory, 1617 Cole Blvd M/S 3211, Golden, CO, USA 80401 Tel: +1 303 384 6496 Fax: +1 303 384 6430 E-Mail: johnbenner@nrel.gov Deadline: 12/14/01 www: <http://www.ieee.org/pvsc>

May 20 - 22, 2002, T **International Conference on Microwaves, Radar and Wireless Communications** Location: Marina Hotel, Gdansk, Poland Contact: Edward Sedek, Telecommunications Research Institute, Poligonowa 30 04-051 Warsaw, Poland Tel: +48 22 810 25 71 Fax: +48 22 810 25 71 E-Mail: sedek@pit.edu.pl Deadline: Not Available www: Not Available

May 26 - 29, 2002, T **International Workshop on Expert Evaluation & Control of Compound Semiconductor Materials & Technologies** Location: Hotel Mercure, Budapest, Hungary Contact: Karoly Somogyi, Institute of Technical Physics & Materials Science, Konkoly Thege M. ut: 29-33, H-1121 Budapest, Hungary Tel: +36 1 3922222/3177 Fax: +36 1 3922235 E-Mail: somogyi@mfa.kfki.hu Deadline: Not Available www: <http://www.diamond-congress.hu/exmatec>

May 28 - 31, 2002, # **International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication** Location: Anaheim Hilton, Anaheim, CA, USA Contact: Rod Kunz, MIT-Lincoln Laboratory, C-171, 244 Wood Street, Lexington, MA, USA 02420 Tel: +1 781 981 7812 Fax: +1 781 981 4983 E-Mail: kunz@ll.mit.edu Deadline: 1/7/02 www: <http://www.eipbn.org>

June 2 - 5, 2002, * **IEEE International Interconnect Technology Conference** Location: Hyatt Regency at the San Francisco Airport, Burlingame, CA, USA Contact: Wendy Walker, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 104 Fax: +1 301 527 0994 E-Mail: wendyw@widerkehr.com Deadline: 1/18/02 www: <http://www.ieee.org/conference/iitc>

June 2 - 5, 2002, T **International High Temperature Electronics Conference** Location: Sheraton Old Town Hotel, Albuquerque, NM, USA Contact: R. Johnson, Auburn University, ECE Department, Auburn, AL, USA 36849 Tel: +1 334 844 1880 Fax: +1 334 844 1898 E-Mail: johnson@eng.auburn.edu Deadline: Not Available www: Not Available

June 2 - 4, 2002, T **IEEE Radio Frequency Integrated Circuits Symposium** Location: Washington State Trade & Convention Center, Seattle, WA, USA Contact: Sayfe Kiaei, Arizona State University, Goldwater Building 411 - MC 7206, Tempe, AZ, USA 85287 Tel: +1 480 727 7761 Fax: +1 480 965 8325 E-Mail: sayfe.kiaei@asu.edu Deadline: 11/26/01 www: <http://www.rfic2002.org>

June 3 - 7, 2002, T **Electromagnetics Conference** Location: US Naval Academy, Annapolis, MD, USA Contact: Terence Wieting, Naval Research Laboratory, Washington, DC, USA Tel: +1 202 767 2101 Fax: +1 202 767 6980 E-Mail: terence.wieting@nrl.navy.mil Deadline: 1/18/02 www: <http://www.amerem.org>

June 3 - 7, 2002, @ **IEEE International Symposium on Power Semiconductor Devices & Integrated Circuits** Location: Hilton of Sante Fe, Sante Fe, NM, USA Contact: Taylor Epland, Texas Instruments Inc., 1250 TI Blvd MS 8700, Dallas, Texas, USA 75243 Tel: +1 214 480 2250 Fax: +1 214 480 2264 E-Mail: t.epland@ti.com Deadline: Not Available www: <http://www.ti.com/ispd02>

June 5 - 7, 2002, T **International Symposium on Plasma Process Induced Damage** Location: Outrigger Resort, Wailea, HI, USA Contact: Della Miller, AVS West, 1265 El Camino Real, Suite 109, Santa Clara, CA, USA 95050 Tel: +1 408 246 3600 Fax: +1 408 246 7700 E-Mail: della@vacuum.org Deadline: 2/1/02 www: <http://www.p2id.org>

June 9, 2002, @ **IEEE International Workshop on Statistical Methodology for VLSI Design and Fabrication** Location: Hilton Hawaiian Village Hotel, Honolulu, HI, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: Not Available www: Not Available

June 9 - 10, 2002, @ **IEEE Silicon Nanoelectronics Workshop** Location: Hilton Hawaiian Village Hotel, Honolulu, HI, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: Not Available www: <http://www.eas.asu.edu/nano/SNW/SNW.htm>

June 11 - 13, 2002, @ **IEEE Symposium on VLSI Technology** Location: Hilton Hawaiian Village Hotel, Honolulu, HI, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 1/8/02 www: <http://www.vlssymposium.org>

June 12 - 14, 2002, T **IEEE International Conference on Sensors** Location: Hyatt Orlando Hotel, Orlando, FL, USA Contact: John Vig, US Army Communications-Electronics Command, AMSEL-RD-C2-PT, Fort Monmouth, New Jersey, USA 07703-5602 Tel: +1 732 427 4275 Fax: +1 732 427 4805 E-Mail: j.vig@ieee.org Deadline: 1/15/02 www: <http://www.ieee.org/sensors>

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June 13 - 15, 2002, @ **IEEE Symposium on VLSI Circuits** Location: Hilton Hawaiian Village Hotel, Honolulu, HI, USA Contact: Phyllis Mahoney, Widerkehr & Associates, 16220 South Frederick Avenue, Suite 312, Gaithersburg, MD, USA 20877-4020 Tel: +1 301 527 0900 ext. 103 Fax: +1 301 527 0994 E-Mail: phyllism@widerkehr.com Deadline: 1/8/02 www: <http://www.vlssymposium.org>

June 19 - 21, 2002, T **European Workshop on Low Temperature Electronics** Location: Institute National Polytechnique de Grenoble, Grenoble, France Contact: Francis Balestra, UMR CNRS/INPG/UJF, ENSERG, 23 Avenue des Martyrs, BP 257, 38016 Grenoble - Cedex 1, France Tel: +33 0 4 76 85 60 38 Fax: +33 0 4 76 85 60 70 E-Mail: balestra@enserg.fr Deadline: 12/15/01 www: Not Available

June 22, 2002, T **IEEE Hong Kong Electron Devices Meeting** Location: University of Hong Kong, Kowloon, Hong Kong Contact: Aaron Ho, The City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, Hong Kong Tel: Not Available Fax: Not Available E-Mail: apaho@cityu.edu.hk Deadline: 4/8/02 www: <http://www.ee.ust.hk/ieeeds>

June 24 - 26, 2002, T **Device Research Conference** Location: University of California at Santa Barbara, Santa Barbara, CA, USA Contact: Sanjay Banerjee, University of Texas, MER 1.606B/R9900, Austin, TX, USA 78712 Tel: +1 512 471 6730 Fax: +1 512 471 8420 E-Mail: banerjee@ece.utexas.edu Deadline: Not Available www: <http://www.tms.org/meetings/specialty/DRC/2002/DRC-2002-Home-HTML>

June 2002, T **Korea-Russia International Symposium on Science and Technology** Location: Novosibirsk State Technical University Contact: Anatoly Vostrikov, Novosibirsk State Technical University, 20 Karl Marx Prospekt, Dept of Applied & Theoretical Physics, Novosibirsk, Russia 630092 Tel: +7 3832 46 5001 Fax: +7 3832 46 0209 E-Mail: rector@nstu.ru Deadline: Not Available www: Not Available

June 30 - July 5, 2002, T **IEEE Semiconductor and Insulating Materials Conference** Location: Smolenice Castle, Bratislava, Slovak Republic Contact: Frantisek Dubecky, Slovak Academy of Sciences, Dubravska cesta 9, 842 39 Bratislava, Slovak Republic Tel: +421 7 5477 5826 ext 2755 Fax: +421 7 5477 5816 E-Mail: elekfdub@savba.sk Deadline: Not Available www: Not Available

July 5 - 9, 2002, T **Siberian Russian Workshop and Tutorial on Electron Devices and Materials** Location: Novosibirsk State Technical University, Novosibirsk, Russia Contact: Alexander Gridchin, Novosibirsk State Technical University, 20 Karl Marx Prospekt, Dept. of Applied & Theoretical Physics, Novosibirsk, Russia 630092 Tel: +7 3832 46 0877 Fax: +7 3832 46 0209 E-Mail: algrid@ref.nstu.ru Deadline: Not Available www: www.ref.nstu.ru/ieeesb/edm

July 15 - 19, 2002, @ **International Vacuum Electron Sources Conference** Location: Saratov State University, Saratov, Russia Contact: Raouf Bakhitizin, Bashkir State University, 32 Frunze Street, Ufa 450074, Russia Tel: +7 3472 236 574 Fax: +7 3472 503 085 E-Mail: raouf@bsu.bashedu.ru Deadline: 2/28/02 www: <http://www.ivesc.sgu.ru>

July 27 - August 3, 2002, @ **IEEE Intersociety Energy Conversion Engineering Conference** Location: Omni Shoreham Hotel, Washington, DC, USA Contact: Eleanor Dicks, 1140 Rockville Place, #138, Rockville, MD, USA 20723 Tel: +1 301 219 8139 Fax: +1 301 946 4374 E-Mail: iecec2002ebdicks@aol.com Deadline: Not Available www: <http://www.iecec2002.com>

August 6 - 8, 2002, * **IEEE Lester Eastman Biennial Conference** Location: University of Delaware, Newark, DE, USA Contact: Kimberley Brown, University of Delaware, 140 Evans Hall, Newark, DE, USA 19716 Tel: +1 302 831 3142 Fax: Not Available E-Mail: kibrown@ee.udel.edu Deadline: 4/14/02 www: <http://nina.ecse.rpi.edu/shur/EastmanConference>

August 18 - 21, 2002, @ **International Conference on Microwave and Millimeter Wave Technology** Location: Beijing, China Contact: Zheng-He Feng, Tsinghua University, Department of Electronic Engineering, Beijing 100084, China Tel: +86 10 62781453 Fax: +86 10 62781453 E-Mail: fengzh@ee.tsinghua.edu.cn Deadline: Not Available www: Not Available

September 2 - 6, 2002, T **International Conference on Unsolved Problems of Noise** Location: National Institutes of Health Campus, Washington, DC, USA Contact: Sergey Bezrukov, Tel: Not Available Fax: Not Available E-Mail: bezrukov@helix.nih.gov Deadline: Not Available www: Not Available

September 3 - 6, 2002, T **IEEE Conference on Intelligent Transportation Systems** Location: Westin Stamford Hotel, Singapore Contact: Fwa

Fang, National University of Singapore, Singapore 119260 Tel: +65 874 6851 Fax: Not Available E-Mail: cvehead@nus.edu.sg Deadline: Not Available www: Not Available

September 4 - 6, 2002, @ **International Conference on Simulation of Semiconductor Processes and Devices** Location: International Conference Center Kobe, Kobe 6500046, Japan Contact: Toru Toyabe, Department of Computational Science and Engineering, Toyo University, 2100 Kujirai, Kawagoe, Saitama, 350, Japan Tel: +81 492 39 1439 Fax: +81 492 31 5026 E-Mail: t.toya@cs.toyo.ac.jp Deadline: 3/1/02 www: <http://www6.eie.eng.osaka-u.ac.jp/sispad>

September 9 - 13, 2002, T **International Crimean Microwave Conference "Microwave & Telecommunication Technology"** Location: Sevastopol Center of Business & Culture, Sevastopol, Ukraine Contact: Pavel Yermolov, P.O. Box 240, Sevastopol, Crimea, Ukraine 99057 Tel: Not Available Fax: +38 0692 555768 E-Mail: micoc@bios.iuf.net Deadline: 3/13/02 www: <http://iee.orbita.ru/aps/crim02e.htm>

September 10 - 13, 2002, T **International Conference on Mathematical Methods in Electromagnetic Theory** Location: National Technical Univ-Kiev Polytechnic Institute, Kiev, Ukraine Contact: Eldar Veliev, IRE NASU, ul, Peoskury 12, Kharkov 61085, Ukraine Tel: +380 572 140748 Fax: +380 572 140749 E-Mail: veliev@kharkov.ua Deadline: 5/5/02 www: Not Available

September 18 - 20, 2002, T **International Conference on Actual Problems of Electron Device Engineering** Location: Saratov State Technical University, Saratov, Russia Contact: A Zakharov, Saratov State Technical University, Saratov, Russia Tel: Not Available Fax: Not Available E-Mail: Not Available Deadline: Not Available www: Not Available

September 22 - 27, 2002, T **International Conference on Ion Implantation Technology** Location: Sagebrush Conference Center, Taos, NM, USA Contact: Bob Brown, PO Box 725, Ranchos De Taos, New Mexico, USA 87571 Tel: +1 505 758 5120 Fax: +1 505 758 5120 E-Mail: bbrown@atmi.com Deadline: 3/1/02 www: <http://www.iit2002.com>

September 23 - 24, 2002, T **IEEE European Gallium Arsenide and Related Compound Applications Symposium** Location: Confer-

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ence Center, Fiera di Milano, Milano, Italy Contact: Giovanni Ghione, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy Tel: +39 011 564 4064 Fax: +39 011 564 4099 E-Mail: ghione@polito.it Deadline: Not Available www: <http://www.eumw.com>

September 23 - 26, 2002, T **International Conference of Actual Problems of Electronics Instrument Engineering** Location: Novosibirsk State Technical University, Novosibirsk, Russia Contact: Alexander Griddin, Tel: +7 3832 46 0877 Fax: +7 3832 46 0209 E-Mail: algrid@ref.nstu.ru Deadline: 4/15/02 www: <http://www.nstu.ru>

September 24 - 26, 2002, T **European Solid-State Device Research Conference** Location: Florence Conference Center, Florence, Italy Contact: Giorgio Baccarani, University of Bologna, Viale Risorgimento 2, 40136 Bologna, Italy Tel: +39 051 209 3012 Fax: +39 051 209 3074 E-Mail: gbaccarani@deis.unido.it Deadline: Not Available www: <http://www.essderc.org>

September 29 - October 1, 2002, * **IEEE Bipolar/BiCMOS Circuits and Technology Meet-**

ing Location: Doubletree Hotel, Monterey, CA, USA Contact: Janice Jopke, CCS Associates, 6611 Countryside Drive, Eden Prairie, MN, USA 55346 Tel: +1 612 934 5082 Fax: +1 612 934 6741 E-Mail: jjopke@aol.com Deadline: Not Available www: Not Available

October 6 - 10, 2002, T **Electrical Overstress/Electrostatic Discharge Symposium** Location: Charlotte Convention Center, Charlotte, NC, USA Contact: Steven Voldman, IBM Microelectronics, 1000 River Street, MS 972 F, Essex Junction, VT, USA 05452 Tel: +1 802 769 8368 Fax: +1 802 769 9659 E-Mail: a108501@us.ibm.com Deadline: 1/14/02 www: Not Available

October 7 - 11, 2002, T **European Symposium on Reliability of Electron Devices, Failure Physics and Analysis** Location: Rimini, Italy Contact: Ing Fantini, Università degli Studi di Modena e Reggio Emilia, Via Vignolese 905, 41100 Modena, Italy Tel: +39 059 2056 165 Fax: +39 059 2056 129 E-Mail: fantini@dsi.unimo.it Deadline: Not Available www: Not Available

October 7 - 10, 2002, * **IEEE International SOI Conference** Location: Colonial Williamsburg Lodge, Williamsburg, VA, USA Contact: Bobbi Armbruster, BACM, 520 Washington Blvd. Suite 350, Marina Del Rey, CA, USA 90292 Tel: +1 310 305 7885 Fax: +1 310 305 1038 E-Mail: bacm@mediaone.net Deadline: Not Available www: Not Available

October 8 - 12, 2002, * **International Semiconductor Conference** Location: Sinaia Hotel, Sinaia, Romania Contact: Doina Vancu, IMT-Bucharest, CAS Office, PO Box 38-160, Bucharest, Romania 72225 Tel: +40 1 490 82 36 Fax: +40 1 490 82 38 E-Mail: CAS@imt.ro Deadline: 4/15/02 www: <http://www.imt.ro/CAS>

October 10 - 13, 2002, T **International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory** Location: Tbilisi State University, Tbilisi, Georgia, Ukraine Contact: Mykhalyo Andriychuk, Inst. of Applied Problems of Mech. & Math. Of NASU, 3"b" Naukova str, 79601 Lviv, Ukraine Tel: +380 322 651944 Fax: +380 322 637088 E-Mail: andr@iapmm.lviv.ua Deadline: Not Available www: Not Available

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Announcement of the EDS Graduate Student Fellowship Winners for 2001

(continued from page 2)

(CAD) and 3-D simulation of multistage depressed collectors for high efficiency space travelling wave tubes.

From 1993 to 1994 he worked on electromagnetic pulse sensors as a Senior Research Fellow at Jadavpur University. He joined the Central Electronics Engineering Research Institute, India in 1994 as a Project Scientist and he has been a Scientist since 1995.

His research interests include CAD of microwave tubes in general and design and simulation of multistage collectors, electron guns and periodic permanent

magnet focussing systems in particular.

He is a member of the Indian Physics Association and a student member of IEEE.

Sergei Kucheyev, was born on January 3, 1976 in the U.S.S.R. In 1997, he graduated from St. Petersburg State Technical University (the former Leningrad Polytechnical Institute) in Russia. After receiving a Master of Physics degree from the same university in 1999, he continued working there as a researcher for several months before starting a Ph.D. project at the Australian National University (Canberra, Australia) under the supervision of Profs. J.S. Williams and C. Jagadish. The Ph.D. project of S.O. Kucheyev has focused on ion-beam processing of III-nitride-based semiconductor devices.



Yee-Chia Yeo received the BEng (first class honors) and MEng degrees from the National University of Singapore, and the M.S. degree from the University of California, Berkeley, all in Electrical Engineering. He is working towards a PhD degree in Electrical Engineering at the University of California, Berkeley.



He has conducted research on sub-100 nm CMOS device fabrication, strained SiGe-channel MOS transistors, alternative gate dielectrics, process integration of dual-metal gates, and novel device structures such as the ultra-thin body transistor. He has authored or co-authored 30 journal/conference papers, and has written a book chapter on MOS transistor gate oxide reliability with Professor Chenming Hu.



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