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TECHNICAL DIGEST

international ELECTRON DEVICES meeting

2000

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DECEMBER 10-13, 2000

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2000 International Electron Devices Meeting
TECHNICAL DIGEST

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WELCOME FROM THE GENERAL CHAIRMAN

Mark Law
General Chair

On behalf of the IEDM Committee, I would like to welcome you to the 2000 IEEE International Electron Devices Meeting. This year the conference returns to San Francisco and continues a long tradition as the leading forum for the presentation of research and development in the area of electron devices and their applications. The strong international nature of our industry and the broad range of topics are evident with invited speakers and contributed papers from major semiconductor centers from around the world. Over 590 abstracts were submitted from 30 different countries. The total number of accepted abstracts was 199. We continue to focus on accessibility to the information in the IEDM abstracts. We include 50 word abstracts on the IEDM home page and encourage everyone to visit the site at:
http://www.ieee.org/conference/iedm.

Two short courses are scheduled for Sunday. These are designed for broad appeal to IEDM participants with material suitable for both newcomers, as well as, experts in the field. The courses are entitled "Technology for the Internet Era" and "Advanced Interconnects: Design, Process, and Integration". These courses have been organized by internationally known researchers and will be presented by people active in the respective topics from around the world.

Judy Hoyt
Technical Program Chair

The plenary talks on Monday will feature presentations on "Microsystems for the Automotive Industry", "III-V Nitride-based LEDs and Lasers: Current Status and Future Opportunities", and "Prospects for Quantum Computation". Speakers from Europe, Asia, and North America will be featured.

The IEDM Luncheon speaker this year will be Marc Abrahams, editor and co-founder of The Annals of Improbable Research. He will be speaking on "Improbable Research and the Ig Nobel Prizes." The Washington Post called Abrahams "the nation's guru of academic grunge." The Journal of the American Medical Association called him "the Puck of science." He has been a commentator for ABC-TV's World News Now and on public radio. I think you will enjoy this very different style of luncheon speech from what we normally offer.

Shuji Ikeda
Technical Program
Vice Chair

On Tuesday night, a panel session is planned on one important and potentially controversial topic: "Beyond 40Gb/s: What technology will work for these applications?" Also on Tuesday evening we will be offering a new format; an emerging technology session. This will feature both lecture presentations and a panel discussion on new and important emerging fields. This year we will focus on single electron transistors/devices and alternative memory technologies.

On behalf of the IEEE Electron Devices Society, which sponsors the IEDM, Judy Hoyt, Technical Program Chair and Shuji Ikeda, Technical Program Vice Chair, I wish to express my sincere appreciation and congratulations to the members of the IEDM committee for the outstanding job they have done in planning and organizing the 2000 meeting. The authors are to be commended for their efforts in preparing and presenting the high-quality papers that form the foundation of the IEDM.

It is with great pleasure that I extend a warm welcome to them and to all the attendees of the 2000 IEEE International Electron Devices Meeting.

Mark E. Law
General Chair

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AWARD PRESENTATIONS

PLENARY SESSION

Monday, December 11

1999 Roger A. Haken Best Student Paper Award
To: Mahmoud Rasras, IMEC, Leuven, Belgium
For the paper entitled: "Photo-carrier Generation as the Origin of Fowler-Nordheim-Induced Substrate Hole Current in Thin Oxides"

Paul Rappaport Award
To: Pallab Bhattacharya, Nalini Chervela, Hong-Tao Jiang, Kishore K. Kamath, David Klotzkin, Joy Laskar*, M. Ramana Murty*, Theodore B. Norris, Jamie Phillips, Jasprit Singh, Tom Sosnowski, University of Michigan and *Georgia Institute of Technology
For the paper entitled: "In (Ga)As/GaAs Self-Organized Quantum Dot Lasers: DC and Small-Signal Modulation Properties"

EDS Chapter of the Year Award
To: ED/SSC Yugoslavia Chapter
"To an EDS chapter based on the quantity and quality of the activities and programs implemented by the chapter."

EDS Distinguished Service Award
To: Michael S. Adler
"To recognize and honor outstanding service to the Electron Devices Society"

J.J. Ebers Award
To: Bernard S. Meyerson, IBM T.J. Watson Research Center
"For outstanding technical contributions to electron devices"

IEDM LUNCHEON

Tuesday, December 12

2000 IEEE Andrew S. Grove Award
To: Wolfgang Fichtner, Swiss Federal Institute of Technology
"For outstanding contributions to semiconductor simulations"

2000 IEEE Morris N. Liebman Memorial Award
To: James S. Harris, Stanford University
"For contributions technology enabling commercialization of Gallium Arsenide devices and circuits"

2000 IEEE David Sarnoff Award
To: Alastair M. Glass, Bell Laboratories, Lucent Technologies
"For pioneering research on electro-optical materials and photo refractive phenomena, and for leadership in development of wavelength Divisions Mutiplexing (WDM) components"

LUNCHEON PRESENTATION

"Improbable Research and the Ig Nobel Prizes," Marc Abrahams, Editor, The Annals of Improbable Research

CONFERENCE HIGHLIGHTS

Date	Time	Room	Event
12/10	9:00 a.m. – 5:30 p.m.	Continental Ballrooms 1-4 & 6-9	Short Courses
12/11	9:00 a.m. – 12:00 p.m.	Grand Ballroom B	Plenary Session
12/11	6:00 p.m. – 7:30 p.m.	Grand Ballroom B	Reception
12/12	12:20 p.m. – 2:00 p.m.	Grand Ballroom B	Luncheon
12/12	8:00 p.m. – 10:00 p.m.	Grand Ballroom A & B	Panel Sessions

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2000 IEDM Conference and Program Committee

Seated from left to right: Bruno Ricco, European Arrangements Co-Chair; Mark Rodder; Short Course Chair; Judy Hoyt, Technical Program Chair; Mark Law, General Chair; Shuji Ikeda, Technical Program Vice Chair; Leda Lunardi, Publications Chair; Jon Abrokwah, Publicity Chair; Takemitsu Kunio, Asian Arrangements Co-Chair; First row standing from left to right: Melissa Widerkehr, Conference Manager; Richard Gregor, Integrated Circuits and Manufacturing Subcommittee Chair; Peter Stolk, CMOS Devices Subcommittee Chair; Guido Groeseneken, European Arrangements Co-Chair; Jong Woo Park, Asian Arrangements Co-Chair; Jean Clerc, Detectors, Sensors and Displays Subcommittee Chair: Andreas Schwerin, Modeling and Simulation Subcommittee Chair; Phyllis Mahoney, Conference Manager; Second row standing from left to right: Michael Gaitan, Treasurer; Kaizad Mistry, CMOS and Interconnect Reliability Subcommittee Chair; Jeff Welser, Solid State Devices Subcommittee Chair; Lisa Su, Short Course Vice-Chair; Yoshihiro Hayashi, Process Technology Subcommittee Chair; Augusto Gutierrez-Aitken, Quantum Electronics and Compound Semiconductors Subcommittee Chair; Paul Packan, Publicity Vice-Chair

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