



# 2002 Annual EDS AdCom Report

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**Jim Hutchby**

Semiconductor Research Corporation

Chair, Electron Devices Society Technical Committee on VLSI  
Technology and Circuits



# Annual Meeting of the VLSI TECHNOLOGY And CIRCUITS COMMITTEE (Dec. 7, 2002)

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## **AGENDA**

- Annual report (Jim Hutchby)
- Ideas for future activities
  - Specific ideas
  - Responsible committee member
- Identify new candidate members for the committee



## Topics...

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### **PURPOSE OF COMMITTEE**

### **MEMBERSHIP**

### **2001 ACCOMPLISHMENTS**

- IEDM Emerging Technology Session & Panel Discussion
- Initiation of compact modeling workshop
- Proposal for special issues in TED

### **PLANS FOR 2003**



# VLSI TECHNOLOGY AND CIRCUITS COMMITTEE

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## **PURPOSE**

To serve EDS members through enhanced technical exchanges

- Initiate topical workshops of current interest (attached to existing conferences or start new ones)
- Special issues for major publications (e.g. T-ED)
- Panel session topics for major conferences
- Special sessions for major conferences



# VLSI TECHNOLOGY AND CIRCUITS COMMITTEE

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## **CHAIR**

- James A. Hutchby, Semiconductor Research Institute, Research Triangle Park, NC, USA (began in 2002)

## **MEMBERS**

- Ilesanmi Adesida, University of Illinois, Urbana, Illinois, USA
- Ken-ichi Goto, Fujitsu Labs Ltd., Atsugi, Japan
- Jason Jenq, UMC, Process & Technology Division, Hsinchu, Taiwan
- Mark E. Law, University of Florida, Gainesville, FL, USA
- Kwyro Lee, KAIST University, Taejon, Korea
- Lalita Manchanda, Agere Systems, Murray Hill, NJ, USA



# VLSI TECHNOLOGY AND CIRCUITS COMMITTEE (cont'd)

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## **MEMBERS**

- Willy M. Sansen, ESAT-MICAS, KU Leuven, Leuven, Belgium
- Huiling Shang, IBM, T. J. Watson Research Center, Yorktown Heights, New York, USA
- S.C. Sun, Chartered Semiconductor, Singapore
- Akira Toriumi, The University of Tokyo, Tokyo, Japan
- Albert Wang, U. Illinois, Integrated Electronics Lab, Dept. of ECE, Urbana, Illinois, USA
- Jeffrey J. Welser, IBM Technology Group, #3203, Somers, NY, USA
- Reinout Woltjer, Philips, Philips Research Laboratories, Eindhoven, The Netherlands
- Xing Zhou, Nanyang Technological University, Singapore



## 2002 ACCOMPLISHMENTS

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Continued to broaden regional distribution of committee members - recruited 4 new members

- 7 US, 2 Japan, 4 SEA, 2 Europe (current membership)

EDS Website (Xing Zhou and Albert Wang):

- <http://www.ieee.org/organizations/society/eds/groups.html>
- Website was transferred to IEEE to allow for better continuity

Workshop on Compact Modeling

- Organized at the 2002 International Conference on Modeling and Simulation of Microsystems (Xing Zhou)

Mixed Signal Workshop

- Held May 16 - 17, 2002, in Orlando, Florida
- Organized by SRC (Dale Edwards, Jim Hutchby and others)



## 2002 ACCOMPLISHMENTS (cont.)

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### List of proposals and candidate editors for special issues for IEEE TED

- Non-classical CMOS devices design and related circuit concepts - H. Shang
- Non-classical CMOS devices and technologies: Extending the Roadmap
  - Part 1 - New Materials and Process Technologies - Huiling Shang
  - Part 2 - New Device Concepts
  - Part 3 - Fundamental limit of CMOS scaling: Theory/Expmnt
- Advanced non-volatile memory technologies (FeRAM, MRAM, Phase Change Memory, Flash, etc.) for Embedded Memories
- Joint Issue with Transactions on Nanotechnology - Information Processing Technology and Circuit Architectures beyond CMOS - Lalita Manchanda
- RF and Mixed Signal Technologies - Active and Passive Devices, Modeling and Simulation - Albert Wang, S. C. Sun
- Heterogeneous Integration of Dissimilar Technologies - Kwyro Lee





## 2002 ACCOMPLISHMENTS (cont.)

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List of proposals and candidate editors for special issues for IEEE TED

- Organic Electronics
- Precise Electrical Measurement Techniques - Nanometer technologies
- Examination of Si/Dielectric Interface



## LOOKING AHEAD ...

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Add new committee members - continue to broaden international representation

Work with the IEDM Program Committee to support future activities at the IEDM Emerging Technology Session

Identify other activities that can sustain the committee's function year-after-year, e.g.

- Sponsor special issues of the EDS-TED
- Sponsor new workshops - IWFIPT - Lalita Manchanda
- Suggest EDS members for awards
- Suggest EDS members for Fellows