



DAC/ISSCC Student Design Contest

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The purpose of the Student Design Contest is to promote excellence in the design of electronic systems by providing competition between graduate and undergraduate students at universities and colleges. This year we received over 50 submissions in two categories: "Conceptual" and "Operational". Operational designs are those which have been implemented and tested. Conceptual designs have not yet been fabricated and tested but must have been thoroughly simulated. Students compete for cash prizes donated by a number of industrial supporters, as well as the conference. Prize winners are listed here in the final program and have been invited to show their work at the University Booth on the show floor. Awards will be given at the DAC Pavilion, on Tuesday, June 3, 2003 from 11:30 AM - 12:00 PM. In addition, three of the submissions have been included in this year's technical program (see pages 15, 26, and 34).

DAC 2003 Student Design Contest Winners

Operational Category:

1st Place *A Computationally Efficient ASIC Implementation (Best Overall) for the Decoding of Space-Time Block Codes*

Enver Cavus, Babak Daneshrad - Univ. of California, Los Angeles, CA

2nd Place *A Low-Energy Chip-Set for Wireless Intercom (Session 52.2)*

Josie Ammer, Michael Sheets, Tufan C. Karalar, Mika Kuulusa, Jan Rabaey - Univ. of California, Berkeley, CA

3rd Place *Energy-Aware Design of a Real-Valued FFT*

Alice Wang, Anantha Chandrakasan - Massachusetts Institute of Tech., Cambridge, MA

Conceptual Category:

1st Place *A 16-Bit Mixed-Signal Microsystem with Integrated CMOS-MEMS Clock Reference (Session 31.1)*

Robert M. Senger, Eric D. Marsman, Michael S. McCorquodale, Fadi H. Gebara, Keith L. Kraver, Richard B. Brown - Univ. of Michigan, Ann Arbor, MI

2nd Place *An Integrated Thermally-Based Microflow Sensor*

Masoud Agah, Yang Li, Robert M. Senger, Kensall D. Wise - Univ. of Michigan, Ann Arbor, MI

Honorable Mention:

Towards A Button-Sized 1024-Site Wireless Cortical Microstimulating Array (Operational)

Maysam Ghovanloo, Khalil Najafi - Univ. of Michigan, Ann Arbor, MI

Design Flow for HW/SW Acceleration Transparency in the ThumbPod SecureEmbedded System (Conceptual) (Session 5.1)

David Hwang, Patrick Schaumont, Yi Fan, Alireza Hodjat, Bo Cheng Lai, Kazuo Sakiyama, Shenglin Yang, Ingrid Verbauwhede - Univ. of California, Los Angeles, CA

Analog Turbo Decoder Implemented in SiGe BiCMOS Technology (Conceptual)

Wei Huang, Vinay Iigure, Garrett Rose, Yan Zhang, Mircea Stan - Univ. of Virginia, Charlottesville, VA

Design of a High Performance Security Coprocessor (Conceptual)

Yunqing Chen, Jun Cheng, Tsung Hsing Hu, Jerry Kao - Univ. of Michigan, Ann Arbor, MI



Awards

Marie R. Pistilli Women in EDA Achievement Award

- Karen Bartleson - Director of Interoperability, Synopsys, Inc., Mountain View, CA

For her significant contributions in helping women advance in the field of EDA technology.

2003 IEEE/CASS Fellows

- John Maxwell Cohn - IBM Microelectronics, Essex Junction, VT
For contributions to the development of CAD tools and design methodology for high-performance custom integrated circuits.
- Rolf Ernst - Technical Univ. of Braunschweig, Braunschweig, Germany
For contributions to the design automation of co-design hardware and software embedded systems.
- Andreas Kuehlmann - Cadence Berkeley Labs., Berkeley, CA
For the development of formal equivalence checking technology and its successful application to microprocessor and ASIC designs.
- Sachin Suresh Sapatnekar - Univ. of Minnesota, Minneapolis, MN
For contributions to the optimization of timing and layout in VLSI circuits.

CAS Mac Van Valkenburg Award

Alan N. Willson, Jr. - Univ. of California, Los Angeles, CA

For major contributions to theory, design methods, and hardware implementation of nonlinear circuits and digital signal processing algorithms, to graduate education, and for leadership in the CAS Society.

IEEE Emanuel R. Piore Award

Giovanni DeMicheli - Stanford Univ., Stanford, CA

For contributions to computer-aided synthesis of digital systems.

CAD Transactions Best Paper Award

An Efficient Graph Representation for Arithmetic Circuit Verification, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 20, no. 12, pp. 1443-1454, December 2001.

Yirng-An Chen - Novas Software, Inc., San Jose, CA
Randal E. Bryant - Carnegie Mellon University, Pittsburgh, PA

VLSI Transactions Best Paper Award

A Clock Power Model to Evaluate Impact of Architectural and Technology Optimizations, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, vol. 10, no. 6, pp. 844-855, December 2002.

David E. Duarte - Intel Corp., Hillsboro, OR
N. Vijaykrishnan - Pennsylvania State Univ., University Park, PA
Mary Jane Irwin - Pennsylvania State Univ., University Park, PA

The Association for Computing Machinery/Special Interest Group on Design Automation (ACM/SIGDA) presents its Distinguished Service Awards

- James Plusquellic - Univ. of Maryland, Baltimore, MD
For exemplary service to ACM/SIGDA and the Design Automation Conference as Director of the University Booth program.



Awards

The P. O. Pistilli Undergraduate Scholarships for Advancement in Computer Science and Electrical Engineering

The objective of the P. O. Pistilli Scholarship program is to increase the pool of professionals in Electrical Engineering, Computer Engineering and Computer Science from under-represented groups (women, African American, Hispanic, Native American, and physically challenged). In 1989, ACM Special Interest Group on Design Automation (SIGDA) began providing the program. Beginning in 1993, the Design Automation Conference provided the funds for the scholarship and SIGDA continues to administer the program for DAC. DAC normally funds two or more \$4000 scholarships, renewable up to 5 years, to graduating high school seniors.

The 2003 winners will be announced at the Conference. The 2002 winners were:

Sophy Zheng - attending the Univ. of Chicago
Jennifer Tietz - attending Purdue Univ.
Taylor Schreck - attending Iowa State
Yoo-Jin Kim - attending Univ. of Texas at Austin
Juan Chen - attending Carnegie Mellon Univ.
Elaine Louie - attending Rice Univ.
Yen Ling (Jenny) Liu - attending Cornell Univ.

For more information about the P. O. Pistilli scholarship, please contact Dr. Cherrice Traver, ECE Dept., Union College, Schenectady, NY 12308, email: traverc@union.edu.

Design Automation Conference Graduate Scholarships

Each year the Design Automation Conference sponsors several \$24,000 scholarships to support graduate research and study in Design Automation (DA), with emphasis in "design and test automation of electronic and computer systems". Each scholarship is awarded directly to a university for the Faculty Investigator to expend in direct support of one or more DA graduate students.

The criteria for granting such a scholarship expanded in 1996 to include financial need. The criteria are: the academic credentials of the student(s); the quality and applicability of the proposed research; the impact of the award on the DA program at the institution; and financial need. Preference is given to institutions that are trying to establish new DA research programs.

Prof. Ramesh Karri, Dariusz Czarkowski, Thanos Stouraitis - Polytechnic Univ., Brooklyn, NY

Students: Kaijie Wu, Piyush Mishra

Concurrent Error Detection in Very Deep Sub-Micron VLSI

Prof. Sung Kyu Lim - Georgia Institute of Tech., Atlanta, GA

Students: Kyoung-Keun Lee, Jacob Rajkumar Minz, Pun Hang Shiu

Chip/Package Co-Design of Physical Layout for Fast and Reliable System-On-Packages

Information on next year's DAC scholarship award program will be available on the DAC web page: <http://www.dac.com>.