

July 2012

Currents



IEEE Council on Electronic Design Automation

About CEDA

The [IEEE Council on Electronic Design Automation \(CEDA\)](#) provides a focal point for EDA activities spread across six IEEE societies (the Antennas and Propagation, Circuits and Systems, Computer, Electron Devices, Microwave Theory and Techniques, and Solid-State Circuits Societies). CEDA sponsors more than 12 conferences, including DAC, ICCAD, and Design Automation and Test in Europe (DATE).

Moreover, CEDA publishes *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* and *IEEE Embedded Systems Letters*, and copublishes *IEEE Design & Test*. We are also increasingly involved in recognizing EDA leaders through awards such as the A. Richard Newton Award, Early Career Award, and Phil Kaufmann Award. We welcome volunteers and local chapters.

For more information on CEDA, go to <http://www.c-eda.org>.

CEDA Recognizes Outstanding Achievement in EDA during DAC

CEDA presented four achievement awards and honored three newly appointed IEEE Fellows at the 49th Design Automation Conference (DAC), held 3-7 June 2012 in San Francisco.

The awards included the IEEE Transactions on Computer-Aided Design Donald O. Pederson Best Paper Award, the A. Richard Newton Technical Impact Award in Electronic Design Automation, the IEEE CEDA Outstanding Service Contribution Award, and the Phil Kaufman Award.

“It gives me great pleasure to announce this year’s award recipients, all of whom have made lasting contributions to our industry,” said David Yeh, director of Integrated Circuit and Systems Sciences at Semiconductor Research Corp. (SRC) and chair of the CEDA Awards Committee.

“We’re also delighted to be able to honor three Fellows of the IEEE from within the CEDA Community.”

The IEEE Transactions on Computer-Aided Design Donald O. Pederson Best Paper Award recognizes the best paper in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*. The winners of this year’s award were Ümit Y. Ogras (Intel), Paul Bogdan (Carnegie Mellon University), and Radu Marculescu (Carnegie Mellon University) for their paper, “An Analytical Approach for Network-on-Chip Performance Analysis” (published in the December 2010 issue).

The A. Richard Newton Technical Impact Award in Electronic Design Automation is cosponsored by CEDA and the ACM Special Interest Group on Design Automation (SIGDA). This year’s winners were Altan Odabasioglu (Gear Design Solutions), Mustafa Celik (BlueWave Design Automation), and Lawrence T. Pileggi (Carnegie Mellon University) for their paper, “PRIMA: Passive Reduced-Order Interconnect Macromodeling Algorithm” (published in the August 1998 issue).

The winner of this year’s IEEE CEDA Outstanding Service Contribution Award was past DAC General Chair Leon Stok (IBM).

C.L. (David) Liu was the winner of this year’s Phil Kaufman Award. Liu is the William Mong Honorary Chair Professor of Computer Science and former president of National Tsing Hua University in Hsinchu, Taiwan. This annual award, originally presented at 2011 IEEE/ACM International Conference on Computer-Aided Design (ICCAD), is sponsored by CEDA and the Electronic Design Automation Consortium.

Finally, CEDA honored three newly appointed IEEE Fellows: Naehyuck Chang (Seoul National University), Luis Silveira (Technical University of Lisbon), and Steve Trimberger (Xilinx).

Details on DAC are available at <http://www.dac.com>.

CEDA Currents is a publication of IEEE CEDA. Please send contributions to Jose L. Ayala (jayala@fdi.ucm.es).

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CEDA Distinguished Speaker Series

The CEDA Distinguished Speaker Series continued at this year's DAC with a presentation on Digital Analog Design from Mark Horowitz, chair of the Electrical Engineering Department at Stanford University.

Horowitz's talk outlined how analog tools can be more like digital-design tools. The presentation included a description of the advances in digital-design tools over the past 30 years, contrasting this progress with the more modest progress in analog tools.

Digital tools use many abstractions, letting them validate that the implementations match the functional models, and that the composition of cells matches the composition of those models. Horowitz explained why this is more difficult for analog circuits, and he outlined how it can be done by illustrating ways to formally validate analog models, define analog fault models, and efficiently explore the effect of process variations.

In addition to his role as department chair, Mark Horowitz is the Yahoo! Founders Professor at Stanford University and a founder of Rambus. He is also a Fellow of IEEE and the ACM, and is a member of the National Academy of Engineering and the American Academy of Arts and Science. His research interests include using electrical engineering and computer science analysis methods for problems in molecular biology and creating new design methodologies for analog and digital VLSI circuits. He has a BS and MS in electrical engineering from the Massachusetts Institute of Technology and a PhD from Stanford University.

To learn more about CEDA's Distinguished Speaker Series, go to <http://www.c-eda.org>. Please also visit our blog, *The IEEE CEDA Corner*, at <http://www10.edacafe.com/blogs/ceda>.

Papers in IEEE Embedded Systems Letters

The top-five accessed articles from *IEEE Embedded Systems Letters* in April 2012 were as follows:

- "[Smartphone-Based Vehicle-to-Driver/Environment Interaction System for Motorcycles](#)," by C. Spelta et al.
- "[Fault-Tolerant Architecture for an MPEG-4 Based Video Decoder Driver](#)," by S.P. Kamat.
- "[System-Level Energy Optimization for Error-Tolerant Image Compression](#)," by S.H. Kim et al.
- "[Predictive OS Modeling for Host-Compiled Simulation of Periodic Real-Time Task Sets](#)," by P. Razaghi et al.
- "[High-Speed AES Encryptor with Efficient Merging Techniques](#)," by I. Hammad et al.

Upcoming Conferences	
PATMOS	Newcastle, UK, 4-6 September 2012
SMACD	Seville, Spain, 19-21 September 2012
ESWeek	Tampere, Finland, 7-12 October 2012
FMCAD	Cambridge, UK, 22-25 October 2012

IEEE Embedded Systems Letters is open for submissions. Visit mc.manuscriptcentral.com/les-ieee

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