Currents

CEDA

IEEE Council on Electronic Design Automation

A New Term Has Started

Dear members of our professional community:

The IEEE Council on EDA is now four years old and has started several new activities and initiatives. It is good to see an IEEE organization solely dedicated to the needs of our community. The list of past accomplishments is long and ranges from sponsoring key conferences and workshops, to organizing special events and lectures, to creating awards targeted to our profession. I would like to thank the outgoing leadership for their great effort and dedication in making CEDA successful.

In January 2010, a new two-year term began, and the new officers are ramping up their activities as I write these words. We have established the new standing committees, which will carry out the bulk of CEDA's work in the various domains. I would like to thank all the volunteers for offering their valuable time and effort to help our community and make CEDA a success.

Congratulations, best wishes, and great success for the 2010-2011 term!

Andreas Kuehlmann, president

VLSI-SoC 2010

The 18th IEEE/IFIP International Conference on VLSI and System-on-Chip explores the state of the art and new developments in very large-scale integration (VLSI), SoCs, and their designs. VLSI-SoC provides a forum for exchanging ideas and presenting industrial and research results in VLSI and ultra-large-scale integration (ULSI) systems, SoC design, VLSI CAD, and microelectronic design and test.

This year, VLSI-SoC will host four outstanding keynote speakers. Subhasish Mitra (Stanford University) will give the first talk on Monday, 27 September. Mitra works on robust system design, VLSI design, CAD, validation and test, and design for emerging technologies. On the same day, Nikil Dutt (University of California, Irvine) will give the second talk. Dutt's research focuses on embedded systems and CAD.

On 28 September, Giovanni De Micheli (École Polytechnique Fédérale de Lausanne) will present the third talk. De Micheli's research focuses on various aspects of design technologies for integrated circuits and systems, as well as systems on heterogeneous platforms (including electrical, microelectromechanical, and biological components). On 29 September, Sani Nassif (IBM) will present the fourth keynote talk. Nassif's research focuses on design-technology coupling, statistical modeling, statistical technology characterization, and similar areas.

VLSI-SoC 2010 will be held in Madrid, where some exciting social events are planned. See http://www.vlsi-soc.com for details.

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2010 EDAA Lifetime Achievement Award

The European Design and Automation Association (EDAA) Lifetime Achievement Award is given to individuals who have made outstanding contributions to the state of the art in electronic design, automation, and test of electronic systems. To be eligible, candidates must have made innovative contributions that impact the way electronic systems are designed. Past recipients include Kurt Antreich (2003), Hugo De Man (2004), Jochen Jess (2005), Robert Brayton (2006), Tom W. Williams (2007), Ernest S. Kuh (2008), and Jan M. Rabaey (2009).

The winner of this year's award is Daniel D. Gajski, who is a full professor in the Department of Electrical Engineering and Computer Science at the University of California, Irvine, where he also holds the Henry Samueli Endowed Chair in Computer System Design and directs the Center for Embedded Computer Systems. Before coming to UCI, Gajski spent 10 years in industry, focusing on digital circuits, supercomputing, and VLSI design, and another 10 years in the Department of Computer Science at the University of Illinois at Urbana-Champaign. He has a Dipl Ing and an MS in electrical engineering from the University of Zagreb in Croatia, and a PhD in computer and information sciences from the University of Pennsylvania.

He has made many fundamental contributions to EDA and embedded systems, including his leadership of the earliest attempts at high-level synthesis. As he led the efforts for increased automation and abstraction, he has made key contributions to the fields of silicon compilation, high-level synthesis, and system-level design.

Gajski has published more than 250 journal and conference papers; has edited, authored, or coauthored seven books and numerous book chapters; and has received several best-paper awards and nominations. He has been named an IEEE Fellow for contributions to VLSI design, system-level design methodologies, and CAD tools, and in 2006 he received an honorary doctorate from the University of Oldenburg for his contributions to embedded systems and design science. For more information, see http://www.edaa.com.

The New Frontier for EDA: The Smart Grid

The field of EDA has been branching out from its roots in chip design, toward multiple new frontiers, including the design of complex systems and the analysis and optimization of embedded software. The latest frontier is the development of smart grids, which involve modernizing the world's electricity systems to achieve high levels of efficiency, reliability, resiliency, and security—important characteristics in today's energy-constrained environments. Design automation methods and tools have made significant contributions to advancing the state of the art in hardware design, which shares many of these characteristics.

Therefore, CEDA and the IEEE Computer Society's Design Automation Technical Committee (DATC) have joined forces to organize a new workshop on Synergies between Design Automation and Smart Grid, to be held on 13 June 2010 in conjunction with the 2010 Design Automation Conference. This workshop will bring together world-class researchers and practitioners from both the power energy and design automation communities to explore the potential of leveraging design automation techniques to benefit the development of smart grids. We've identified several overlapping areas between these two fields, including system management, simulation, modeling, optimization, fault detection, and security. For each topic, we will ask experts from these two communities to jointly prepare a tutorial that highlights challenges and state-of-the-art techniques. We will also organize breakout sessions to identify some potential areas where design automation techniques could benefit the development of smart grids. The goal is to forge a partnership between the two communities to collaborate on novel cross-discipline research problems, thus accelerating the progress of smart grids and expanding the scope of design automation.

If you have any questions, please contact DATC chair David Kung (kung@us.ibm.com).

Andreas Kuehlmann (CEDA president),
David Kung (DATC chair)

Papers in IEEE Embedded Systems Letters

The top-five accessed articles from *IEEE Embedded Systems Letters* during December 2009 were as follows:

- "Embedded Software Design of Scalable Low-Area Elliptic-Curve Cryptography," by M.N. Hassan et al.

- "Temperature Compensated Time Synchronization," by T. Schmid et al.

- "Hardware Resource Virtualization for Dynamically Partially Reconfigurable Systems," by H. Chun-Hsian et al.

- "Optimizing Bandwidth of Call Traces for Wireless Embedded Systems," by R. Shea et al.

- "A Layer-Multiplexed 3D On-Chip Network Architecture," by R. Sunkam et al.

Upcoming Conferences (Bill Joyner, william.joyner@src.org)	
NOCS	Grenoble, France, 3-6 May 2010
GLSVLSI	Providence, R.I., 16-18 May 2010
DAC	Anaheim, California, 13-18 June 2010
MPSOC	Gifu, Japan, 28 June–2 July 2010
MEMOCODE	Grenoble, France, 26-28 July 2010
FMCAD	Lugano, Switzerland, 20-23 Oct. 2010

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