January 2014

Currents

CEDA Contributes to Development of New IEEE Internet of Things Community

CEDA is actively participating in the development of the new IEEE Internet of Things (IoT) Technical Community. The world is rapidly moving toward highly integrated networks of sensors and embedded systems in devices incorporated into everything from appliances to clothing. IEEE is developing the IoT Technical Community to define the research, implementation, application, and usage for this Internet-enabled vision of the future. The groundwork is being laid now, and the IoT Technical Community, in close cooperation with CEDA, is helping IEEE professionals stay abreast of developments in this new multidisciplinary area.

In addition, a new IEEE Internet of Things Web Portal has been launched. This portal contains information on varying aspects of IoT, including conferences, workshops, publications, and more. The IoT Technical Community and CEDA look forward to providing you with a single place to go for IoT information.

Finally, there are several activities and conferences in this area in which CEDA is active, including the following:

- IEEE World Forum on Internet of Things (WF-IoT 2014)
- Internet of Things Workshop (IOT 2013)
- *IEEE Internet of Things Journal* (*J-IOT*)

If you would like to participate in the IoT Technical Community; the new IoT Web Portal; or any of these activities or conferences, please contact David Atienza (CEDA VP of Conferences) at VPconferences@ieee-ceda.com, and stay at the forefront of this exciting new IEEE initiative.

What's New on the Horizon for DAC?

The technical program for the 51st Design Automation Conference (DAC) will feature several new initiatives, while still continuing to offer the best-in-class solutions for advancing EDA (electronic design automation) and ESS (embedded systems and software). DAC 2014, hosted in San Francisco, will not only be consistent in staying on the forefront of electronic design; it will also offer outstanding training, education, exhibits, and superb networking opportunities. See http://www.dac.com for details.

New Security Track

IC and embedded-system design is globalized. Consequently, designers and users of ICs, IP, and embedded systems are beginning to reassess their trust in these systems. The new Security Track at DAC 2014 will highlight the emergence of security and trust as an important dimension of hardware and embedded-systems design, alongside power, performance, and reliability.

CSAW Embedded Systems Security Challenge

The CSAW Embedded Systems Security Challenge (ESSC) is a one-of-a-kind "capture the chip" contest. VLSI testing methods cannot assess hardware trustworthiness, and trust assurance provided by VLSI testing is inadequate at best. ESSC offers a red team/blue team platform that can help measure the effectiveness of developed defenses. This in turn can improve the trustworthiness of the designed hardware.

Columbia University, the ESSC 2013 blue team, designed a microarchitecture trust assessment tool called Fanci, which received the Best Student Paper Award at the 2013 ACM Conference on Computer and Communication Security. The ESSC red team is attempting to uncover vulnerabilities in the Fanci tool.

You can follow ESSC 2013 from now until the special session of ESSC 2013 at DAC 2014. See https://esc.isis.poly.edu for details.

New Automotive Track

DAC will feature a new track on Automotive Systems and Software. This track, which will include two days of two parallel sessions, aims to serve as a melting pot for practitioners and researchers from both industry and academia who are interested in understanding the factors influencing the intersection of automotive systems, elec-

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tronics, and software. The track will feature keynote addresses from automotive industry leaders, multitrack and multiday technical sessions, and exhibits of design capabilities from companies serving the automotive industry. Topics will range from automotive architectures and software to automotive safety, security and reliability, interfaces, driver assistance systems, and electromobility.

IEEE JETCAS *CFP for Special Issue on Robust and Energy-Secure Systems*

The *power wall* has forced chip designers and system architects to integrate novel power and thermal management control loops into systems so as to enable smaller margins between nominal and worst-case operating points. These management protocols are creating new challenges for chip and system designers. Examples include control-loop stability, robustness of management protocols, potential security vulnerabilities in integrated control loops and management firmware, and system security and safety challenges triggered by violations of energy, reliability, power, or thermal limits.

The *IEEE Journal on Emerging and Selected Topics on Circuits and Systems* (*JETCAS*) is publishing a special issue on robust and energy-secure systems. The term "robust and energy-secure systems" encompasses the broad range of research being pursued within industry and academia to ensure reliable and secure operation of systems with integrated power, reliability, and thermal management control loops.

This *JETCAS* special issue seeks novel research papers on holistic approaches to designing emerging on-chip control systems. Papers are solicited in the areas of energy, power, and thermal management; reliability; and security to provide a comprehensive view of the hardware and software aspects of robust and energy-secure systems.

Prospective authors should submit PDF versions of their papers following the instructions provided on the *JETCAS* website (http://jetcas.polito.it/general.html). Submitted manuscripts should not have been previously published, nor should they be currently under consideration for publication elsewhere. Manuscripts will undergo a peer review process according to the standard IEEE publication policy.

Submissions deadline: 31 January 2014

Papers in IEEE Embedded Systems Letters

The top-five accessed articles from *IEEE Embedded Systems Letters* in October 2013 were as follows:

- "A Security Layer for Smartphone-to-Vehicle Communication over Bluetooth," by A. Dardanelli et al.
- "A Flexible Architecture for Managing Vehicle Sharing Systems," by A.G. Bianchessi et al.
- "An Efficient FPGA IP Core for Automation Modulation Classification," by C. Cardoso, A.R. Castro, and A. Klautau
- "Improving the Trustworthiness of Medical Device Software with Formal Verification Methods," by C. Li, A. Raghunathan, and N.K. Jha
- "Hardware-Assisted Detection of Malicious Software in Embedded Systems," by M. Rahmatian et al.

Upcoming Conferences
(David Atienza, david.atienza@epfl.ch)

VLSI Design	Bombay, India, 5-9 January 2014
ASP-DAC	Singapore, 20-23 January 2014
DATE	Dresden, Germany, 24-28 March 2014
GLSVLSI	Houston, Texas, 21-23 May 2014
DAC	San Francisco, 1-5 June 2014

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

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