



2014 CAD Contest at ICCAD

Contests and their benchmarks have become an important driving force for electronic design automation (EDA). Since 2012, the International Conference on Computer-Aided Design (ICCAD) has annually held highly competitive EDA contests, cohosted by CEDA and the Taiwan Ministry of Education, on modern topics to foster research advancements. The 2012 CAD Contest attracted 56 teams from seven regions, and the 2013 CAD Contest attracted 87 teams from nine regions.

Achieving greater success for this tradition, the 2014 CAD contest has attracted 93 teams from nine regions, including the US, Canada, Brazil, Russia, India, Singapore, China, Hong Kong, and Taiwan. Industry experts from Cadence Design Systems and IBM designed and ran three contest problems on verification, timing-driven placement, and design for manufacturing (DFM) flow. The contest results were announced during the contest session at ICCAD 2014, and a new set of contest benchmarks were released.

Topic chair Jacky Chih-Jen Hsu (Cadence Design Systems) managed the first contest problem, concentrating on efficiently solving combinational single-output netlists. First place went to “EasySat,” from a team led by Yu-Liang Wu at Chinese University in Hong Kong and his students Xing Wei and Yi Diao. Second place went to “AlcomSAT,” developed by a team from the lab of Jie-Hong Roland Jiang at National Taiwan University. Third place went to “Troller Coaster,” from the lab of Chung-Yang Ric Huang at National Taiwan University.

Topic chair Myung-Chul Kim (IBM) managed the second problem, focusing on incremental timing-driven placement. First place went to “UFRGS/FURG BRAZIL,” from a team led by Paulo Francisco Butzen and Marcelo de Oliveira Johann at Universidade Federal do Rio Grande do Sul and their students Jucemar Monteiro, Guilherme Flach, Julia Casarin Puget, and Mateus Paiva Fogaca. Second place went to “VDA-TP,” from the lab of Hung-Ming Chen at National Chiao

Tung University. Third place went to “CUHK-ITP,” from the lab of Evangeline F.Y. Young at Chinese University in Hong Kong.

Topic chair Rasit O. Topaloglu (IBM) managed the third problem, exploring lithography mask optimization. First place went to “number2,” developed by a team from the lab of Jwu-E Chen at National Central University and his students Yen-Chun Liu and Chih-Ming Chang. Second place went to “hululululu,” developed by a team from National Central University. Third place went to “NCTU_EDALI,” from the lab of professor Yih-Lang Li at National Chiao Tung University.

In conjunction with the contest, a new set of [industrial benchmarks](#) for each contest problem has been released, facilitating scientific evaluation of related research results. These benchmark suites are sure to be a key driving force that will further the advancement of related research. Moreover, many of the participants have prepared conference papers on research related to their contest submissions, the first of which will appear at the 2015 Design Automation Conference (DAC).

Preparation for the 2015 CAD Contest is ongoing. Details will be announced soon. You are invited to participate!

Contest chair: Iris Hui-Ru Jiang

Contest co-chairs: Natarajan Viswanathan, Tai-Chen Chen, and Jin-Fu Li

CFP for IEEE Journal of Exploratory Solid-State Computation Devices and Circuits

CEDA is a technical cosponsor of the new *IEEE Journal of Exploratory Solid-State Computation Devices and Circuits (JxCDC)*, an open-access IEEE journal for publication in multidisciplinary fields of research on solid-state circuits using exploratory materials and devices for novel energy-efficient computation beyond standard CMOS transistor technology. *JxCDC* is calling for contributions. Please see the [call for papers](#) on the CEDA website for details.

What's New on the Horizon for DAC 2015

The technical program for the 2015 [Design Automation Conference](#) will maintain the tradition of offering best-in-class solutions that promise to advance EDA and embedded systems and software (ESS). DAC 2015 will also feature three special initiatives: IP Design, Automotive Electronics, and Security. These initiatives will form their own tracks and will include invited talks, embedded tutorials, special sessions and panels, and regular research papers. In addition, the 52nd DAC will highlight contents related to the Internet of Things (IoT).

Hosted in San Francisco, DAC 2015 not only will remain on the forefront of electronic design but also will offer outstanding training, education, and exhibits, as well as superb networking opportunities.

Special Track on IP

DAC 2015 will add a special track on semiconductor and system IP. Monday, June 8, will feature parallel tracks of talks and sessions in which users can share how they decide what IP to reuse, what to purchase, and what to design from scratch. In addition, the exhibition will highlight exhibitors who produce verification and design IP, along with the ecosystem of tools that support this important design activity.

Designer Track

The Designer Track at DAC 2015 will bring together IC designers and embedded-software developers from across the globe. This track will include presentation and poster sessions, panels, and invited talks. Regular submissions will be accepted in three categories: front end, back end, and ESS. The Designer Track's regular submissions will be in the form of a slide presentation.

Important Information for DAC 2015

The deadline for the IP Track and the Designer Track is **20 January 2015**. For more information, please visit the DAC website (<http://www.dac.com>).

For specific questions about the overall conference technical programs, please contact technical program committee co-chairs X. Sharon Hu (shu@nd.edu) and Rob Aitken (rob.aitken@arm.com). For the special initiatives, please contact Michael McNamara (mac@adapt-ip.com) for IP Design, Samarjit Chakraborty (samarjit@tum.de) and Anthony Coopridier (acooprid@ford.com) for Automotive Electronics, and Ramesh Karri (rkarri@poly.edu) for Security. For the Designer Track, contact Karam S Chatha (kchatha@qti.qualcomm.com) and Dan Bourke (danb@cadence.com).

Papers in IEEE Embedded Systems Letters

The top-five accessed articles from *IEEE Embedded Systems Letters* in October 2014 were as follows:

- "[An Embedded Architecture for Energy-Efficient Stream Computing](#)," by A. Panda and K.S. Chatha
- "[A Security Layer for Smartphone-to-Vehicle Communication over Bluetooth](#)," by A. Dardanelli et al.
- "[Optimized Allocation of Data Variables to PCM/DRAM-Based Hybrid Main Memory for Real-Time Embedded Systems](#)," by Z. Wang, Z. Gu, and Z. Shao.
- "[Specifying Dynamic Adaptations for Embedded Applications Using a DSL](#)," by A.C. Santos et al.
- "[Smartphone-Based Vehicle-to-Driver/Environment Interaction System for Motorcycles](#)," by C. Spelta et al.

Upcoming Conferences (David Atienza, david.atienza@epfl.ch)	
ASP-DAC	Tokyo, 19-22 Jan. 2015
DATE	Grenoble, France, 9-13 Mar. 2015
DAC	San Francisco, 7-11 June 2015

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

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