



IEEE CEDA Distinguished Speaker Series

The IEEE Council on EDA (CEDA) organizes a Distinguished Speaker Series. Each lecture features the winners of the Best Paper Awards from the [Design Automation Conference \(DAC\)](#), the [International Conference on Computer Aided Design \(ICCAD\)](#), and [IEEE Transactions on Computer Aided Design \(TCAD\)](#), or some other key topic relevant for our community. The presenters are invited to give an in-depth presentation of their work, going beyond the published paper and conference talk. Each lecture either takes place in front of a live audience of experts or is captured in a studio setting. The video-taped lectures are posted on [CEDA's website](#).

This series began in 2006 when the ICCAD 2005 Best Paper Award was presented to Zhenhai Zhu for "[FastSies: A Fast Stochastic Integral Equation Solver for Modeling the Rough Surface Effects](#)." In this talk, Zhu described why the rough surface problem is important, and he provided a quick review of integral-equation-based parasitic extraction solvers. He also showed why these solvers fail to efficiently solve the rough-surface problem, and he presented the key elements in his proposed fast stochastic integral equation solver, FastSies. He described the potential applications of FastSies in high-frequency electromagnetic analysis of 3D structures with rough surfaces.

In 2013, Laurence W. Nagel (Omega Enterprises Consulting) presented "[The History of SPICE](#)" at the IEEE CEDA Simulation of Semiconductor Processes & Devices (SISPAD) Workshop. In this work, Nagel presented the history of Spice from its first release in 1971, and he explained how its origins can be found in the computation and IC design of the 1970s. He also identified Spice's limitations, the reasons for its success, and the advantages and disadvantages of using this tool. Then he discussed the differences between Spice 2 and Spice 3, and how Spice has evolved to support the design of RF circuits.

Later talks on CEDA's website include "[Teaching EDA at Planetary Scale: Reflections on the First EDA MOOCs](#)" by Rob A. Rutenbar in ICCAD 2014, "[Disruptive Engineering and Societal Impact](#)" by Steve Eglash in ISCAS

2015, and "[Back to the Future - Internet of Everything](#)" by David E. Culler in DAC 2015.

IEEE World Forum on Internet of Things

The [2015 IEEE 2nd World Forum on Internet of Things \(WF-IoT\) - Technologies, Applications and Social Implications](#) will take place in Milan, Italy, on 14-16 December 2015. IEEE WF-IoT is a unique event for industry leaders, academics, and decision-making government officials. This event examines key critical innovations across technologies that will alter the research and application space of the future. The IoT envisions a highly networked future in which all objects are integrated to interact with one another, allowing for communication between objects, as well as between humans and objects, and enabling the control of intelligent systems in our daily lives.

The program will include technical sessions on the following topics: IoT Enabling Technologies, IoT Applications and Services, IoT Societal Impacts, and IoT Experimental Results. Workshops are also being planned, including "IoT Security and Privacy Challenges and Priorities." Some of the keynote speakers will include Vinton G. Cerf (Google) and Ian Craddock (University of Bristol).

For more information, please visit <http://www.ieee-nf-iot.org/index.html>.

1st IEEE International Symposium on Nanoelectronic and Information Systems

[IEEE iNIS](#) will take place in Indore, India, on 21-23 December 2015. This symposium will provide a platform for both hardware and software researchers to interact under one umbrella for further development of efficient and secure information-processing technologies. Efficient and secure data sensing, storage, and processing play pivotal roles in the current information age. State-of-the-art nanoelectronic-technology-based hardware systems cater to the needs of efficient sensing, storage, and computing. At the same time, efficient algorithms and software used for faster analysis and retrieval of desired information are becoming increasingly important. *Big data*, which are large, complex data sets, are now an integral part of the Internet

world. Meeting the storage and processing needs for the enormous amount of structured and unstructured data is becoming increasingly more challenging. At the same time, IoT and cyberphysical systems have been evolving with the simultaneous development of hardware and software. The performance and efficiency of present and future computing and information-processing systems largely depend on advances in both hardware and software.

Some of the topics that iNIS 2015 will cover include the following:

- Nanoelectronic VLSI and Sensor Systems (NVS)
- Energy-Efficient, Reliable VLSI Systems (ERS)
- Hardware/Software Solutions for Big Data (SBD)
- Hardware/Software for Internet of Things (IOT)
- Hardware for Secure Information Processing (SIP)
- Cyber Physical Systems and Social Networks (CSN)

For more information, please visit <http://inisweb.org>.

Papers in IEEE Design & Test

The top-five accessed articles from *IEEE Design and Test* in June 2015 were as follows:

- "[Asynchronous Design—Part 1: Overview and Recent Advances](#)," by S.M. Nowick and M. Singh
- "[A Survey of Hardware Trojan Taxonomy and Detection](#)," by M. Tehranipoor and F. Koushanfar
- "[Asynchronous Design—Part 2: Systems and Methodologies](#)," by S.M. Nowick and M. Singh

- "[How Secure Are Printed Circuit Boards against Trojan Attacks?](#)" by S. Ghosh, A. Basak, and S. Bhunia
- "[Digital Analog Design: Enabling Mixed-Signal System Validation](#)," by B. Chan Lim et al.

Papers in IEEE Embedded Systems Letters

The top-five accessed articles from *IEEE Embedded Systems Letters* in June 2015 were as follows:

- "[FPGA-Based Protection Scheme against Hardware Trojan Horse Insertion Using Dummy Logic](#)," by B. Khaleghi et al.
- "[Cooperative On-Chip Temperature Estimation Using Multiple Virtual Sensors](#)," by J. Yong Shin, F. Kurdahi, and N. Dutt
- "[On the Impacts of Greedy Thermal Management in Mobile Devices](#)," by O. Sahin and A.K. Coskun
- "[Mapping of Embedded Applications on Hybrid Networks-on-Chip with Multiple Switching Mechanisms](#)," by G. Jiang et al.
- "[Security-Aware Modeling and Efficient Mapping for CAN-Based Real-Time Distributed Automotive Systems](#)," by C.-W. Lin, Q. Zhu, and A. Sangiovanni-Vincentelli

Upcoming Conferences (David Atienza, david.atienza@epfl.ch)	
ICCAD	Austin, Texas, 2-6 November 2015
ASP-DAC	Macao, China, 25-28 January 2016
DATE	Dresden, Germany, 14-18 March 2016

Find us online at www.c-eda.org.



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

IEEE Design & Test is open for submissions. Visit mc.manuscriptcentral.com/dandt and icce-ceda.org/publications/d-t/paper-submission.

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