



IEEE Council on Electronic Design Automation

CTS-CEDA Chapter Summary

The IEEE CEDA Chapter, Central Texas Section (CTS-CEDA) was founded in 2012. The founding officers include Chair Zhuo Li (IBM), Vice Chair Magdy Abadir (Freescale Semiconductor), Secretary Cliff Sze (IBM), and Webmaster Natarajan Viswanathan (IBM). As the first local chapter of CEDA in this region, CTS-CEDA has demonstrated a leading role in connecting local EDA professionals, professors, and students.

CTS-CEDA has organized or sponsored 16 seminars, including nine so far in 2013. Speakers have included industry experts from IBM, AMD, and Freescale Semiconductor; CEOs of local start-ups; entrepreneurs; and professors from Stanford University, Missouri University of Science and Technology, and IIT (Indian Institute of Technology) Kolkata.

The chapter has also collaborated with other local IEEE chapters to host meetings and seminars, thereby increasing the breadth of the topics covered and reducing cost. These talks have included a Solid-State Society Distinguished Lecture, an Electronic Device Society Distinguished Lecture, and a Distinguished Speaker Series by the Asian/Asian-American Faculty & Staff Association.

Workshop on Software and Hardware Parallelism

In collaboration with the IEEE Circuits and Systems Society and the IEEE Solid-State Circuits Society, CTS-CEDA conducted an all-day tutorial workshop on software and hardware parallelism on 27 October 2012 in Austin, Texas. The aim of the event was to provide a useful overview of parallel software and hardware implementations for newcomers, as well as a tutorial for experienced professionals from design, software, and EDA companies; professors; and students. There were 74 attendees at the workshop.

The morning session focused on several hardware infrastructures that enable parallel programming. The afternoon session included a live demo and tutorial by Damir Jamsek (IBM) on how to program with OpenCL. The workshop concluded with a panel discussion featuring seven invited speakers about the future of multicore and graphics processing unit (GPU) computing and programming. Invited speakers included

H. Peter Hofstee (IBM), Jason Wong (Altera), Lee Howes (AMD), Mark Bellamy (ARM), Sunil P. Khatri (Texas A&M University), and Andreas Gerstlauer (University of Texas at Austin). The workshop featured discussions on how heterogeneous programming paradigms and languages should evolve and be taught, what abstraction level is appropriate, why standards are important, and what the roles of various standards bodies and cross-industry efforts should be.

Details of this workshop appear in *IEEE Solid-State and Circuits Magazine* (vol. 5, no. 1, 2013, pp. 94-95).

TexasWISE 2013

This year, CTS-CEDA also initiated and co-organized the first Texas Workshop on Integrated System Exploration (TexasWISE), held on 8 March 2013 in Round Top, Texas. This workshop serves as a milestone for CTS-CEDA, bringing together some of the prominent universities in Central Texas. Other organizers include IBM, the IEEE Circuits and Systems Society and the IEEE Solid-State Circuits Society, Rice University, Texas A&M University, the University of Texas at Austin, and the University of Texas at Dallas.

The mission of TexasWISE is twofold: to promote interdisciplinary research between the field of integrated systems and other exploratory areas; and to provide a platform for interaction between academia and industry. There is a compelling need to search for new interdisciplinary growth areas for the integrated circuits and systems industry. In contrast to the common paradigm of individual exploratory research, TexasWISE aims to orchestrate a collective and synergistic way to facilitate such growth. This is expected to maximize the impact of this exploratory research and give Texas a leading role in this activity.

TexasWISE not only provides a chance for face-to-face interaction among Texas IC researchers and practitioners but also attracts outstanding speakers from outside of Texas. Thus, the workshop serves a key role in facilitating interactions along multiple dimensions, between academia and industry.

TexasWISE 2013 included invited talks from four distinguished speakers: The first talk was by H.-S. Philip Wong

(Stanford University) on the challenges of “Semiconductor Technologies for N+m Nodes, Where $m \geq 4$.” The second talk was by Srinivas Devadas (MIT) on “Meeting Cybersecurity Challenges through Innovative Computer System Design.” Additionally, there were two Outstanding Young Speaker Talks from Lin Zhong (Rice University) and Roozbeh Jafari (University of Texas at Dallas).

TexasWISE also included a student poster session, which showcased academic research by 28 students from participating universities. This fostered communication and collaboration among academic scholars and IC industry experts. The workshop attracted more than 98 attendees.

Career Management Workshop

In August 2013, CTS-CEDA cohosted a career management workshop with four other local IEEE chapters. The fast pace of technology changes and productivity improvements in an increasingly competitive market have forced companies to frequently upgrade and improve their products or services and adjust their workforces. Downsizing, outsourcing, automation, financial pressures, short-term demands, and failed strategies all contribute challenges to individuals’ career and ultimate retirement goals. How can one prepare for, react to, and manage this situation? Smart, proactive career planning, management, and transition might be the answer. The objective of this workshop was to increase attendees’ awareness of the unintended consequences of change, teach them to expect the unexpected, and motivate them to proactively execute their career goals.

The workshop attracted 66 attendees and featured five invited talks on the following topics:

- “Vision on Technology and Future Jobs,” by David Smith (HBMG)
- “Defining Career Success – Beyond Skills and Experience,” by Tommy Chiodo (career counselor)
- “Empowered Productivity: Winning the War against Information Overload,” by Maura Thomas (RegainYourTime.com)
- “Build Your Brand,” by David Hughen (AustinHR.com)

- “Repurpose Your Career – 5 Steps to Your Next Career Pivot,” by Marc Miller (career designer)

Learn More about CTS-CEDA

To better promote professional networking, CTS-CEDA has established a mailing list (ceda-texas@listserv.ieee.org) with more than 1,700 recipients. To learn more about CTS-CEDA, please contact Zhuo Li (zhuoli@ieee.org) or visit our website at http://ewh.ieee.org/r5/central_texas/ceda. We welcome your feedback and suggestions to further improve our chapter.

Cliff Sze, Natarajan Viswanathan, and Zhuo Li

Papers in IEEE Embedded Systems Letters

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

- “[Expanding Gate Level Information Flow Tracking for Multilevel Security](#),” by Wei Hu et al.
- “[Wireless Sensor Networks for Pilgrims Tracking](#),” by M. Mohandes et al.
- “[Reconfigurable Computing in Next-Generation Automotive Networks](#),” by S. Shreejith, S.A. Fahmy, and M. Lukasiwycz
- “[Hardware-Assisted Detection of Malicious Software in Embedded Systems](#),” by M. Rahmatian et al.
- “[Formal Methods for Early Analysis of Functional Reliability in Component-Based Embedded Applications](#),” by A. Hazra et al.

Upcoming Conferences (David Atienza, david.atienza@epfl.ch)	
VLSI Design	Mumbai, India, 5-9 January 2014
ASP-DAC	Singapore, 20-23 January 2014
DATE	Dresden, Germany, 24-28 March 2014

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