Texas Workshop on Integrated System Exploration (TexasWISE)
Started by Computer Engineering & Systems Group

The inaugural TexasWISE (Texas Workshop on Integrated System Exploration) was held at the historical Winedale House, Round Top, Texas, on March 8, 2013. Its mission is to promote interactions between integrated circuits/systems faculty as well industry practitioners with their counterparts in other fields, and therefore help to find new inter-disciplinary research directions. Dr. Jiang Hu of Computer Engineering and Systems Group at Texas A&M University led the coordination across the participating organizations of the workshop. Dr. Sunil Khatri organized the poster session of the workshop.

The workshop featured talks by four eminent scholars. Prof. Srinivas Devadas of MIT discussed new approaches for cyber-security and their corresponding computer architectures and implementations, along with a discussion on challenges in this area. Prof. Philip Wong of Stanford University presented the latest progress on semiconductor device technology such as logic switches made with carbon nanotubes. He also described the novel use of nano-scale memory devices to emulate biological brains. Prof. Lin Zhong of Rice University described recent trends in mobile systems, including hardware heterogeneity, and techniques/opportunities in this field. Prof. Roozbeh Jafari of UT Dallas focused his talk on how to leverage wireless electronics to facilitate ubiquitous health systems. The workshop also included a student poster session. There were 27 posters presented by students from Texas A&M University, Rice University, UT Austin, UT Dallas and University of Alabama Birmingham. The posters covered a wide range of research activities including GPU computing, coding for phase change memory, lithography-friendly circuit layout, and neuromorphic VLSI architectures, to name a few. Near 100 people attended the workshop and they are from all over Texas, such as UT San Antonio, Prairie View A&M University, Intel, AMD and Freescale. The attendees liked the program and many expressed their desire for TexasWISE to be is held every year.

Integrated circuits and systems have seen spectacular advances in the past decades and provided the essential foundations for the broader high-tech industry. While
continuing to seek ways to advance Moore’s law, there is also a compelling need to search for new growth directions, and to further broaden the significant impact of integrated circuits/systems in society. Which growth directions to pursue is a topic of a rich debate, and it is the goal of TexasWISE to enable this debate among Texas researchers and industry practitioners. Towards this goal, the CESG believed that a direct interaction among experts in different areas would render a big help. The location of the first TexasWISE was the historic Winedale House, a Texas farmhouse which is almost equidistant from Austin, Houston and College Station. TexasWISE was also completely free for attendees, in order to embody its grassroots approach and appeal. The workshop was sponsored and organized by IEEE Central Texas Section, IBM Research, the ECE Department of Rice University, the CSE and ECE Departments of Texas A&M University, the ECE Department of UT Austin and the EE Department of UT Dallas. The ECE Department of TAMU was the first to pledge sponsorship. The workshop turned out to be very successful and we hope that it will become a new and vibrant Texas tradition!