

TexasWISE 2015 Workshop- Internet of Things (IoT)

THE TexasWISE 2015 workshop was held on March 27, 2015 and brought together many industry leaders, academics and engineering students from the Central Texas region. The workshop has become an annual tradition for Universities and local industry spanning Austin, San Antonio, Houston, College Station and Dallas and was sponsored by the IEEE SSCS, CAS and CEDA, Texas A&M, UT Austin, UT Dallas, Rice University and IBM. This year it was held at the Winedale House, Round Top, Texas which is a favorite location because it is isolated from the regular workday.

The workshop focused on the Internet of Things (IoT) with the goal of bringing academic and industry together. Three prestigious keynote speakers gave lively, interactive talks, followed by an outdoor student poster session and then the Industry Madness session.

Keynote Dr. Scott Hanson, VP Engineering/CTO of Ambiq Micro, started the workshop off with “Chasing Down Every Last Picojoule in the Internet of Things.” He focused on the billions of battery-powered devices that will be shipped as part of the IoT explosion; sub-threshold operation, energy-efficient microcontrollers, radios, sensors, and power electronics with a focus on how dramatic improvements to the energy efficiency can be provided by software, something often overlooked.

Prof. Edward A. Lee, Robert S. Pepper Distinguished Professor in the EECS department U.C. Berkeley gave the next keynote talk entitled “Better Engineering through Better Models.” He talked about how IoT application is a cyber-physical system (CPS,) rooted in Web and Cloud technology, which was not designed for interactions with physical processes. He then provided alternative views of the CPS design problem that focuses on deterministic models for distributed cyber-physical systems.

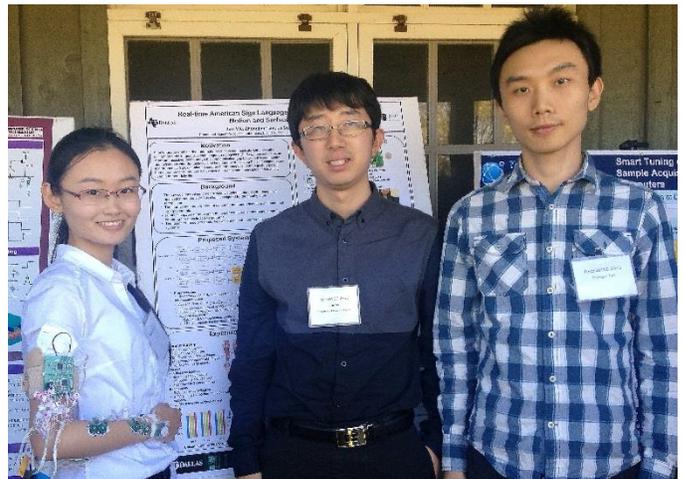
The final keynote speaker was Jamie Smith, Director of embedded systems at National Instruments whose talk “Smart Edge Devices are the Key Building Block of the Industrial Internet of Things” focused on common architecture and tools used to build IoT systems today for energy, transportation, and manufacturing.

One of the most anticipated events for the day is the student poster session which fills up each year. Students from regional Universities talked about their recent work and advancements in the engineering field. Industry leaders and academics spent time interacting with the posters and networking. Based on feedback, many of the participants favorite part of the workshop was this time geared toward discussion IoT advancements.

The final even was an “Industry Madness” session where local companies sent engineering leaders for a panel discussion and demo session. Companies that participated included ARM (Bill Curtis), Freescale (Emmanuel Sambuis), Samsung (Mohan Chirala) and Texas Instruments (Xiaolin Lu) each talking about IoT from their company’s research and product development perspective.



TexasWISE keynote Jamie Smith describes common architecture and tools used to build IoT systems.



Student poster sessions are one of the favorite events of the workshop. Here, students demonstrate a real-time sign language interpreter.



The Industry Madness included industry leaders with products focused on IoT. It offered a great opportunity into where industry sees IoT moving towards and what applications will be coming out first in the future.

This year’s organizers included Taylor Barton, Jennifer Dworak, Jiang Hu, Roozbeh Jafari (Chair), Sunil Khatri, Farinaz Koushanfar, Zhuo Li, Bao Liu, Kevin Nesmith, David Pan, Nan Sun, Cliff Sze, Natarajan Viswanathan, Duncan Walker, Seth Wilk (Co-Chair).