

# Symposium Keynote Speaker



**Xiaolin Lu**

**Fellow of  
Texas Instruments, Inc.**

**2016 CIE/USA  
AAEOY  
(Asian American  
Engineer of the Year)  
Awardee**

## **Last Mile Security in Connected Sensor Applications**

Xiaolin Lu is fellow of Texas Instruments and director of Kilby Innovation Lab responsible for driving various differentiated industrial- and energy-related connected system level solutions using TI embedded processors, connectivity, analog and power management devices. Her focus area covers: connected sensors, ultra-low-power connected MCU and analog as well as security.

Xiaolin is well-known as an embedded system and software expert inside and outside TI and has given keynote and plenary talks at numerous technical conferences. She is the author/co-author of more than 60 U.S. issued patents and the recipient of a series of awards: 2016 Asian American Engineer of the Year, and Society of Women Engineers (SWE), etc.

### **Abstract:**

With the growing power of cloud computing, machine learning, data analytics, etc., more and more end devices including sensors, actuators, light bulbs, alarms, motors, and others that we would never imagined to connect to internet before are getting all connected to the cloud through gateway or direct connection. For data analysts, these end devices are data source or control points. They are providing tremendous amount of data, in-real-time, to the biggest processing engine in the world today. This trend is enabling vast majority of innovative applications in the area of needing connected sensors by utilizing smart sensing, automatic connectivity, secured FW upgrade & booting, smart power management, smart analog sampling and signal conditioning, etc. At the same time, these data points are also making the "internet" more exposed to the potential security threats and increase the vulnerability for both cyber and physical worlds. To make these end points secure there are many opportunities in the semiconductor domain especially at the "last mile" of IOT. We will introduce a highly integrated wireless smart sensor node platform and its applications from security perspective. Key features related with end point security and opportunities for further research will be covered through specific use cases. Considering that little has been done in understanding the security threats and developing solutions on the mixed-signal/analog/RF side, I hope the IoT community will start to involve more security innovations in these area.