

Computer Science Seminar

Scalable Security for IoT

Dr. Suku Nair

Southern Methodist University, Dallas, TX



Explosive growth in deployment of IoTs is expected industry-wide. However, for wide acceptance of IoT in the marketplace, strong security should be embedded into them. Often, traditional crypto-based security schemes aren't feasible due to limited power and computational resources available. Recently we have introduced a new security paradigm/architecture, namely security fusion, for such resource constrained massive deployments. The crux of the approach is in synthesizing strong global security properties from weak point-to-point or component security assurances. In this talk we will focus on a fusion technique based on state machine synthesis of security properties. Furthermore, we will discuss new protocols for scalable local device authentication based on PUF (Physical Unclonable Functions) technologies.

Bio: Suku Nair is a University Distinguished Professor and the Chair of Computer Science and Engineering Department at the Southern Methodist University at Dallas. His research interests include Software Defined Networks, Virtualization Technologies, and Cyber Security. He is the founder of the Cyber Security program at SMU, which currently enjoys the NSA/DHS Center of Excellence in Information Assurance Education Cyber Defense designation. He has published extensively in the area of high assurance computing and networking. His research has been supported through funds from National Science Foundation (NSF), National Security Agency (NSA), National Institute for Standards and Technology (NIST), Office of Naval Research (ONR), and various industry including Lockheed Martin, Alcatel, Raytheon, IBM, and AT&T. He has been a consultant to various IT, Telecom and Cyber Security Companies. Some of his recent awards include the SMU Ford Research Fellowship, IBM faculty award, Distinguished University Citizen award, and the University Distinguished Professorship.

He received his M.S. and Ph.D. in Electrical and Computer Engineering from the University of Illinois at Urbana in 1988 and 1990, respectively.

Date: November 7, 2016

Time: 10:00 am

209 Computer Science Building

