CECS

CENTER FOR EMBEDDED & CYBER-PHYSICAL SYSTEMS

CECS Seminar Series

Presents

Architectural Support for Security in Emerging Platforms

Professor Nael Abu-Ghazaleh

CSE and ECE Departments, University of California, Riverside

Abstract: Computer systems are facing a growing threat from increasingly motivated, organized and sophisticated attackers. The problem is complicated by the rapid evolution that computing platforms are experiencing towards mobile and embedded devices, as well as many-core systems, distributed systems, virtualization and clouds. These emerging platforms offer new system and use models and therefore are subject to new vulnerabilities and threat models. This talk motivates the role that computer architecture must play in securing current and emerging systems. I will define this role spanning three primary directions: (1) new security models for protecting not only systems but also applications; (2) architecture support for monitoring to improve resilience to attacks, but also to rapidly detect and contain successful attacks; and (3) Security for emerging architectures. I will animate each of these directions with examples from our recent work.

Biography--: Nael Abu-Ghazaleh is a faculty member in the Computer Science and Engineering and the Electrical and Computer Engineering Departments at the University of California, Riverside. He received an MS and PhD in Computer Engineering from the University of Cincinnati in the area of Parallel Computer Architecture in 1994 and 1997 respectively. His research interests include architecture support for security, parallel and distributed computing, and wireless networks.

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Harut Barsamian Colloquia Room (EH 2430)

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