Fall 2016 Seminar Series

ADVANCES IN SMARTPHONE SECURITY: ATTACKS, DEFENSES AND APPLICATIONS
TUESDAY, OCTOBER 18, 2016
3:30 PM – HEC 450

Mobile smart devices (such as smartphones and tablets) emerged to dominant computing platforms for end-users and are utilized by millions of users on daily basis for a wide variety of tasks. As a result, they store and process vast amount of private and security sensitive information, ranging from the user's location data to credentials for online banking and enterprise Virtual Private Networks (VPNs). This poses many security and privacy concerns and makes mobile platforms attractive attack targets. On the other hand, mobile platforms from the very beginning featured more advanced security mechanisms than PC platforms, for instance, they employed code signing, application sandboxing and application permissions, for which there are no equivalents in non-mobile operating systems. However, despite more advanced protection, in recent years we have witnessed the rapid rise of cyber-attacks against mobile platforms that have threaten corporate networks and affected privacy of individuals and which continue to grow in number, variety and sophistication.

In this talk, we discuss various aspects of mobile platform security including our work in this domain that ranges from attacks and countermeasures to design and development of security sensitive apps and new architectures for their protection.

DR. ALEXANDRA DMITRIENKO
Postdoctoral Researcher

Dr. Alexandra Dmitrienko obtained her doctoral degree in Information Security from the Technical University in Darmstadt in 2015. Her dissertation was highly valued by academia and industry: She received the competitive Doctoral Student Honor Award from Intel, and the Award for the best PhD Thesis on Security and Trust Management from the European Research Consortium in Informatics and Mathematics (ERCIM). In January 2016 she joined ETH Zurich as a postdoctoral researcher. Before joining ETH, she was a researcher at the Fraunhofer Institute for Secure Information Technology in Germany, where since 2015 she led the Mobile Services group. Her research interests during PhD period were mainly focused on security aspects of mobile operating systems, such as Android, and security architectures for security sensitive mobile applications (such as online banking, access management, mobile payments and ticketing). More recently, her research also expanded to non-mobile world – her current activities are related to privacy-preserving communication systems, blockchain technology and side channel attacks on Intel SGX.

Hosted by: Dr. Gary T. Leavens