Cybersecurity Seminar Series presents:

"The Importance of Measurement and Decision Making to a Science of Security"

By Patrick McDaniel

Penn State University

Thursday, September 8, 2016 | 3:00 - 4:30 pm

Light refreshments will be offered

Information Sciences Building, 3rd floor

Adaptive defenses alter the environment in response to adversarial action and perceived threats. Such defenses are a specific example of a broader class of management techniques called system agility. In its fullest generality, a science of agility is based on a reasoned modification to a system or environment in response to a functional, performance, or security needs. This talk highlights the activities surrounding the investigation of this science within the recently launched Cyber-Security Collaborative Research Alliance. In this context, the talk identifies questions of when, what, and how to employ changes to improve the security of an environment, as well as consider how to measure and weigh the effectiveness of different approaches to agility.

Patrick McDaniel is a distinguished professor in the School of Electrical Engineering and Computer Science at Penn State University, co-director of the Systems and Internet Infrastructure Security Laboratory, and fellow of IEEE and ACM. Dr. McDaniel is also the program manager and lead scientist for the Army Research Laboratory's Cyber-Security Collaborative Research Alliance. Dr. McDaniel's research efforts centrally focus on a wide range of topics in security technical public policy. He was the editor-in-chief of the ACM journal *Transactions on Internet Technology* (TOIT), and served as associate editor of the journals *ACM Transactions on Information and System Security*, IEEE *Transactions on Computers*, and *IEEE Transactions on Software Engineering*. Dr. McDaniel's was awarded the National Science Foundation CAREER Award and has chaired several top conferences in security including the IEEE Symposium on Security and Privacy and the USENIX Security Symposium. Prior to pursuing his PhD at the University of Michigan, Dr. McDaniel's was a software architect and project manager in the telecommunications industry.

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