The National Academies of
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Statistics and Data Science for Cyber Security and a Secure Internet of Things

June 14, 2018, 1:00 - 4:45 pm

National Academies Keck Center
500 5TH St. NW, Room 100
Washington DC, 20001

Join the webcast: http://naswebcontent.nas.edu/deps/bmsa/deps_186355

Rapid growth in the number of devices connected through the internet of things (IoT) poses major challenges to maintaining connectivity, functionality, and security, as demonstrated by prominent cyber attacks launched through IoT devices. Traditional approaches in cyber security such as firewalls and encryption aim to prevent malicious intrusion, however additional countermeasures and approaches are necessary to detect and respond to malicious behavior and to identify when devices or data are compromised. This symposium will discuss the role of statistical models and theory for IoT and for detecting, overcoming, and neutralizing cyber attacks.

1:00 PM **Welcome and goals of symposium**
Al Hero III, CATS Chair, University of Michigan

1:10 PM **Babe in the Woods: A Cyber Statistician's Journey with Examples**
Josh Neil, Microsoft

1:40 PM **Data Sources for Statistical Cyber Security**
Melissa Turcotte, Los Alamos National Laboratory

2:10 PM **Adversarial Machine Learning: Big Data Meets Cyber Security**
Bowei Xi, Purdue University

2:40 PM **Break**

3:00 PM **Secure Computing and Decision Making in the Internet of Things: Challenges and Approaches**
Soummya Kar, Carnegie Mellon University

3:30 PM **Information Theoretic Approaches to Privacy and Security in the IoT**
Vince Poor, Princeton University

4:00 PM **Panel Discussion**
All presenters and audience, moderated by CATS member José Moura

4:45 PM **Adjourn**