INTRODUCTION:
INTEL-NSF CENTER FOR CPS SECURITY

Lily Yang, Ph.D., MBA

Principal Engineer, Intel-NSF CPS Security Center Director

Security Privacy Research, Intel Labs, Hillsboro, Oregon

Background and Session Agenda

Intel-NSF partnership: co-fund large scale transformational research agenda

"**CPS Security and Privacy**" is the first such program, kicked off Sept 2015

- Total of $6m joint funding for 3 years
- Two proposals were awarded
  - Led by **Stanford** (Lead PI: **Phil Levis**), with **UC Berkeley** and **U Michigan**: "End to End IoT Security"
  - Led by **U Penn** (Lead PI: **Insup Lee**), with **U Michigan** and **Duke**: "Security and Privacy-Aware CPS"

Report out from lead PIs today on the research results from the first year

Intel Perspective: Looking for Synergy

Some examples:

- **Stanford**:
  - Ravel (IoT programming framework)
  - Tock (safe OS for IoT devices)
- **Berkeley**: Encrypted database
- **U Michigan**: Automobile security
- **U Pennsylvania**: Securing Virtual Medical Device
- **Duke**: Resilient control system against sensor attacks

Other Intel/NSF Programs

- 2015: Cyber-Physical Systems (CPS) Security and Privacy
- 2016: Visual and Experiential Computing
- **2017: Information-Centric Networking in Wireless Edge Networks (ICN-WEN)**
  - **Create a new, integrated ICN approach for wireless networks**
  - **Address fundamental challenges of wireless ICN data delivery**
  - NSF 16-586 Letter of Intent Due: Sept 19, 2016
  - Proposals due: November 21, 2016

Intel University Research Programs At a Glance

- Top Down
- Large-scale
- Systems scope
- Interdisciplinary
- Multi-BU
- New markets
- Long-range

- Bottom-up
- Single PI
- Technologies scope
- Unidisciplinary
- Single-BU
- Existing markets
- Product-focused

~$70M/year in academic research investments with broad reach


intel
experience
what's inside™