

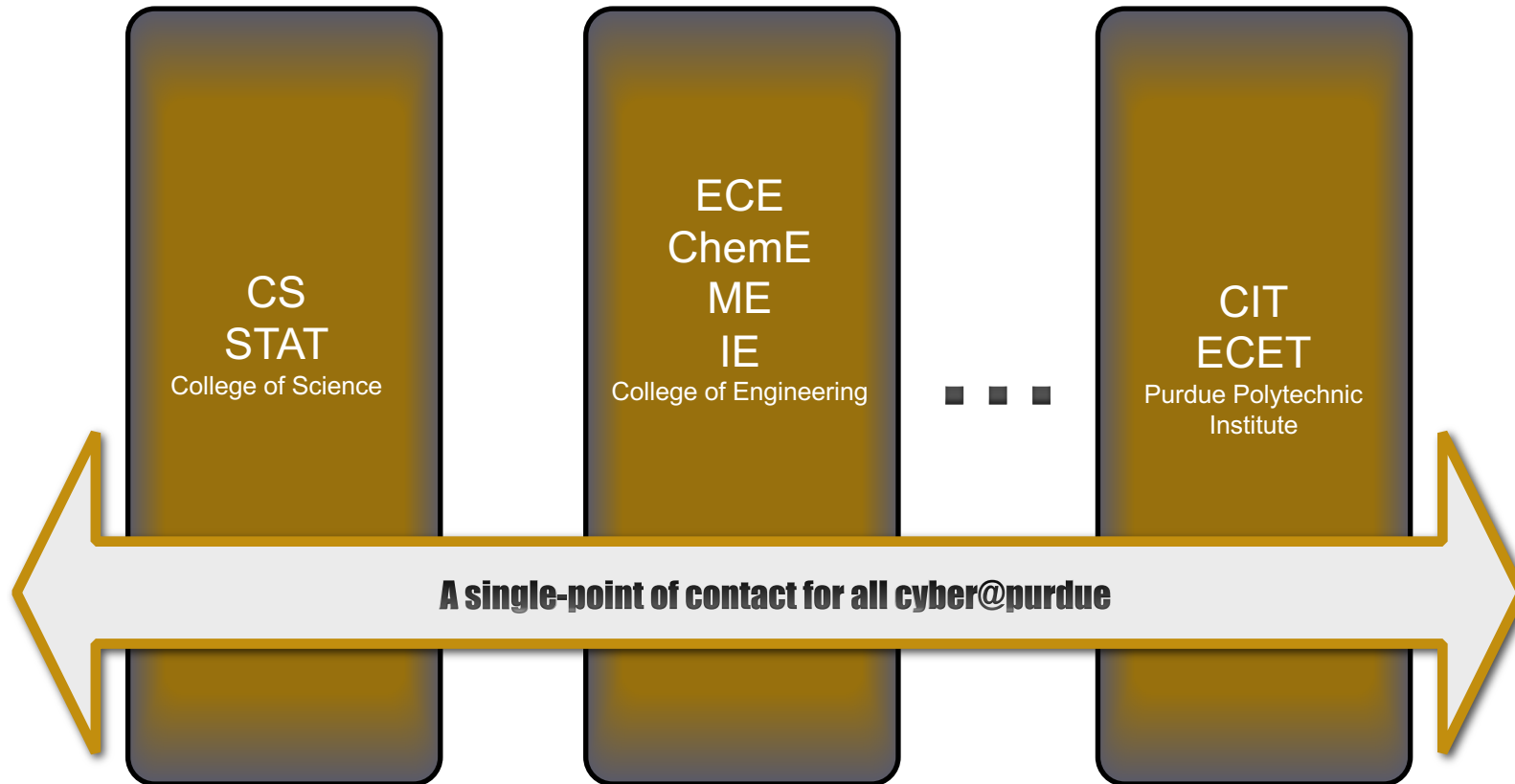
P2SAC SPRING 2023 CONFERENCE

Tuesday May 9, 2023



North America's largest and top-ranked interdisciplinary academic institute for **cyber** (IT) and **cyber-physical systems** (OT); conducting impactful research in ***security, privacy, resiliency, autonomy, trusted electronics, and trustworthy AI.***

Centralized Cyber Coordination



- Agriculture
- Education
- Engineering
- Health and Human Sciences
- Liberal Arts
- Management
- Pharmacy
- Purdue Polytechnic Institute
- Science
- Veterinary Medicine

Cyber-Physical Operational Technology (OT) Industrial Control Systems (ICS)

All digitally-connected (even “air-gapped”) equipment can introduce a security, safety and assurance risk.

Design systems limited to doing what they were designed to do...and *nothing* more.

Most industrial orgs have a quality IT/cybersecurity team with formal intrusion monitoring system and an incidence response plan

Few industrial orgs have a quality OT/Cyber-physical security team, and even few have a (cyber) intrusion monitoring system or formal incidence response plan

Purdue's CERIAS is the preeminent research institute focusing on cyber-physical stems, including:

- Lead technical university for DOE's \$70M Cybersecure Manufacturing Innovation Institute (CyManII), and AnalytixIN
- Secure and energy-efficient mfg architectures
- Secure manufacturing supply-chain

CERIAS Cyber + X Program:

- The absence of cyber-domain understanding in most engineering disciplines (and vice-versa)
- Cross listed with College of Science and School of Engineering
- Assemble inter-/multi-disciplinary student teams to address a single problem/opportunity
 - CS teach the ChemEs, the MEs teach the STATs...

SOL4CE "EMULTYCS" RESEARCH PLATFORM



Scalable Open Lab for Cyber Experimentation (SOL4CE)

- Modeling and simulation platform allowing for cyber-physical Emulation and Analytics (“Emulytics”)
- Can model complex OT systems, including systems with 100k endpoints
- It clones (and links) the capabilities at Sandia National Labs
- Supports Industry-Purdue collaborative research

CERIAS Strategic Partnership Members



THANK YOU

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