Security and Privacy for Emerging IoT and CPS Domains
CODASPY 22 Panel
Opening Statement

Ravi Sandhu
Professor of Computer Science
Lutcher Brown Chair in Cyber Security
Executive Director, ICS
Lead PI, NSF C-SPECC Center

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ravi.sandhu@utsa.edu
www.ics.utsa.edu
www.profsandhu.com
Holistic Cyber Security Research

Objectives

- Policy
  - What?
  - Why?

- Attacks
  - Response
  - Defend

Mechanisms

- Protect
  - Enable
  - Enforce

- Detect
  - How?

Application Context

- Enterprise
- Social
- Cloud
- IoT/CPS
- Metaverse

Complement

World-Leading Research with Real-World Impact!
Holistic Access Control Research

Convergent Access Control (CAC)

Access Control Policy Models → Access Control Enforcement Models

ABAC  ReBAC  RBAC

DAC  MAC

Application Context

Enterprise
Social
Cloud
IoT/CPS
Metaverse

World-Leading Research with Real-World Impact!
Dr Sandhu, in your statement you wrote – “The research community must make conscious efforts to move towards convergence and synergy in four fundamental cyber security technologies – protection, detection, policy and attacks. However, the current research and practice is siloed.” What should be done by the community to support such efforts?

Take a smaller bite.

Academia cannot address this by itself. Need synergy with vendors, users and regulators
Maanak’s Panel Questions

➢ What makes security and privacy **intrinsically different and challenging** in IoT and CPS domains? Can we not borrow some fundamental security technologies developed in the past, to develop improvised solutions to solve this problem?

In theory nothing, in practice everything.

➢ **Zero Trust** has become a marketing buzzword, several security vendors, cloud service providers, and enterprises position themselves as Zero Trust security providers. My question is, what’s the obsession with Zero Trust, is it Buzz or breakthrough, and how it impacts IoT security?

Great marketing term defined more by what it is not rather than what it is.

➢ What are your recommendations to a **graduate student** beginning research in areas of security and privacy in IoT and CPS?

Don’t forget about the forest for the trees.