

# Secure Algorithms for Cyber-Physical Systems

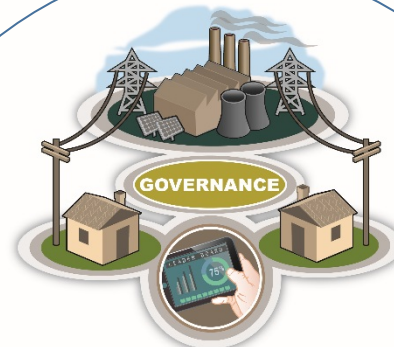
## Challenge:

- How to build security into CPS algorithms
- How to ensure system correctness

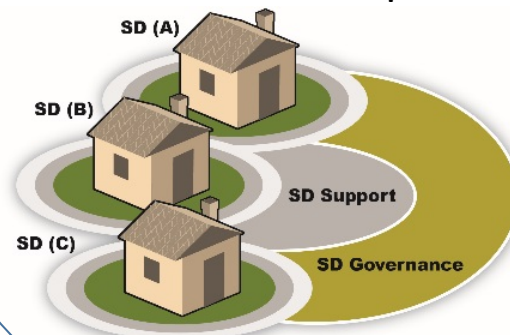
## Solution: Invariants

- Reputation for Information Reliability
- Use information leakage to detect intrusion

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CPS Provides Governance of Physical Phenomena over Multiple Domains



Mitigate Disruption

## Scientific Impact:

- Invariants provide cross-domain information
- Method to be validated on power system, chemical plant

## Broader Impact:

- Enables scale-up of CPS because of self-checking
- Applicable to a range of systems, such as vehicle platoons or air traffic control
- Will incorporate student design teams