**Engineering Sustainably Secure Cyber-Physical Systems**

Liliana Pasquale, Kushal Ramkumar, Wanling Cai, Gavin Doherty, John McCarthy, Bashar Nuseibeh

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**1. ENGINEERING SECURITY BY DESIGN IS DIFFICULT IN MODERN CYBER-PHYSICAL SYSTEMS (CPS)**

Cyber-Physical Systems (CPS) allow security threats to extend over a wider attack surface and cause physical damage [1].

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**2. SUSTAINABLE SECURITY:**

This project aims to engineer sustainably secure CPS [2] that can preserve security goals and requirements.

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**3. ENGINEERING SECURITY EVOLUTION:**

Designing interactions with stakeholders to foster their engagement and improve the CPS security posture.

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**4. ENGINEERING STAKEHOLDERS INTERVENTIONS:**

**Stakeholders and Tasks**
- **Users:** Monitor data, confirm anomalies, execute security controls
- **Engineers:** Diagnose attacks, select or execute security controls
- **Pentesters:** Diagnose attacks and discover unknown vulnerabilities

**Who?** Reasoning techniques based on models of humans in a cyber-human system (e.g., [3]).

**Situation Awareness**
- Personalised synthetic explanations of the state of the CPS (using LLMs).

**Interaction Design**
- User-centred design
- Human-machine collaboration
- Automation and human agency

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**References**

