SPRING**SIM'20**

2020 Spring Simulation Conference

AIMS AND SCOPE

In the **Cyber Physical Systems (CPS) Track**, Cyber Physical Systems are complex engineered systems whose operations are controlled, coordinated, monitored, and integrated by computer-based algorithms. Examples of CPS include smart grids, autonomous automotive and avionics systems, medical monitoring and control, process control systems, robotic systems, and automatic pilot avionics. This computing power is embedded in the physical environment of a wide variety of objects and structures, and is interconnected using networks. Such tightly coupled computations and communication capabilities allow CPS to augment with physical processes with new capabilities. With the advent of low-cost programmable internet-ready hardware, CPS are rapidly becoming internet-connected. Such an Internet of Things (IoT) opens new possibilities for collecting, managing and processing large data sets to manage and control such systems at different temporal, physical, and geographical scales. Advances in the CPS and IoT domains are having great economic, social and technical impacts. Therefore, there is an emerging consensus that new methodologies and tools are needed for developing such systems. Topics of interest include, but are not limited to:

- Modeling and simulation of CPS
- Application of multi-domain and multi-formalism modeling and analysis to CPS
- Distributed and cloud computing based-implementations of complex CPS
- Design automation tools and tool chains for model-based design of CPS
- Design of networking systems for CPS
- Control of (networked) CPS
- Simulation-guided formal verification of safety-critical CPS
- Resilient and robust system design of CPS and IoT
- Ubiquitous and pervasive computing for enhanced user interactions with CPS and IoT
- Novel applications of CPS