

SPRINGSIM'19

2019 Spring Simulation Conference

AIMS AND SCOPE

The Theory and Foundations of Modeling and Simulation (TMS) track provides a forum to discuss recent advances in M&S foundations, theory, and practice. The main focus is on modeling and simulation concepts, methodologies, and techniques enabling practices and tools to cope with the challenges that arise from understanding, building, and operating highly complex and ultra large systems, as well as lessons learned in application domains. The TMS track bridges different areas of theory of M&S, including formal modeling, model checking, graph transformation, modeling methods, and simulation techniques. Furthermore, it aims to bring together experts in model-based, model-driven software and systems engineering from embedded, cyber-physical and software intensive systems domains with experts in simulation, with the objective to advance the state of the art in Model-Based Simulation Engineering and Simulation-Based Systems Engineering. Additionally, papers describing design principles as well as applications pertinent (but not limited) to the following topics are also welcome:

Theory and Foundations for M&S

- Advances in Modeling Formalisms (DEVS, Petri nets, Statecharts, etc.)
- Advances in Simulation Algorithms
- Co-simulation and Interoperability (e.g. HLA, FMI, etc.)
- Metamodeling and Model Transformation
- Model Checking and Verification
- Modular Modeling of Hybrid Systems
- Modular Modeling of Spatially Distributed Systems
- Modular Representation of Numerical Solvers
- Multi-Paradigm/Multi-Domain Modeling
- Multi-Resolution/Multiscale Modeling
- Polymorphic Model Composition

Simulation-Driven Engineering

- Domain Specific Languages
- UML, SysML, and Executable Architectures (e.g. Executable UML)
- Model-Based Design, Model Based Systems Engineering
- Model-Based Testing (incl. X-in-the-loop Testing)
- Requirements Modeling and Simulation
- Systems of Systems
- Cyber-Physical Systems
- Ultra Large Scale Systems
- Code generation for emerging target platforms

SUB-TRACKS

DEVS Modeling & Simulation (DEVS)

Model-driven Approaches for Simulation Engineering (Mod4Sim)