SPRING**SIM**'20

2020 Spring Simulation Conference

AIMS AND SCOPE

The aim of the **Theory and Foundations for M&S (TMS) Track** is to provide a forum to present the most recent advances in Theory and Foundations of Modeling and Simulation. The focus is on the theories and foundations of modeling, methodology, practice and toolkits, as well as lessons learned and challenges. The track will also focus on the topics below as well as others that help deepening and expanding the M&S foundations for the understanding and development of computing, physical, and human systems. Topics of interest include, but are not limited to:

● Advances in Modeling Formalisms
● Advances in Simulation Algorithms
● Advances in Model Interoperability and Co-simulation
● Multi-Resolution/Multiscale Modeling
● Multi-Paradigm/Multi-Domain Modeling
● Model Checking and Verification
● Modular Modeling of Hybrid Systems
● Modular Modeling of Spatially Distributed Systems
● Modular Representation of Numerical Solvers
● Polymorphic Model Composition

SUB-TRACKS

Model-driven Approaches for Simulation Engineering (Mod4Sim)

The Model-driven Approaches for Simulation Engineering (Mod4Sim) track 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 modeling and simulation-based systems engineering and model-based simulation engineering. Modeling and Simulation-Based Systems Engineering promotes simulation experimentation for design space exploration, performance and behaviour prediction, evaluation of alternatives, or sensitivity analysis. It encourages model continuity and apprises model transformations and code generation as the development practice. Model-based Simulation Engineering endorses the utilization of metamodeling and model transformations in the simulation life cycle to enhance simulation quality and reduce costs, development effort, and time-to-market. We invite and encourage researchers and practitioners of modeling and simulation-based systems engineering and model-based simulation engineering to publish and share their contributions in the Mod4Sim track. Topics of interest include, but are not limited to:

● Model-driven approaches in simulation engineering
● Metamodeling and model transformations
● Model-based design
● Model-based testing
● Rapid control prototyping
● Functional mock-up interface (FMI) and co-simulation for systems development
● Executable architectures
● Domain specific languages
● Model continuity