



2017 Summer Simulation Multi-Conference (SummerSim 2017)

49th Summer Computer Simulation Conference (SCSC 2017)

July 9-12, 2017 | Bellevue, Seattle Suburb, Washington, USA

MODELING AND SIMULATION FOR INTELLIGENT, ADAPTIVE AND AUTONOMOUS SYSTEMS (MSIAAS'16)

TRACK CHAIRS

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AIMS AND SCOPE

The increasing popularity of the Internet of Things, or IoT metaphor emphasizes that heterogeneous systems are the norm today. A system deployed in a netcentric environment eventually becomes a part of a system of systems (SoS). This makes design, analysis and testing for the system-at-hand a complex endeavor in itself.

Testing in isolation is not the same as a real-system operation, since the system's behavior is also determined by the input, which evolves from the environment. This exact factor is difficult to predict, due to an ever-increasing level of autonomy. Advanced Modeling and Simulation (M&S) frameworks are required in order to facilitate SoS design, development, testing, and integration. In more particular, these frameworks have to provide methods to deal with intelligent, emergent, and adaptive behavior as well as autonomy.

The subject of emergent behavior and M&S of emergent behaviors takes the center stage in such systems as it is unknown how a particular system responds in the face of emergent behavior arising out of interactions with other systems. Intelligent behavior is also defined as an emergent property in some complex systems. Consequently, systems that respond and adapt to such behaviors may be called intelligent systems as well. This track aims to focus on M&S of these aspects of complex SoS engineering and aims to bring researchers, developers and industry practitioners working in the areas of complex, adaptive and autonomous SoS engineering that may incorporate human as an integral part of SoS operations.

TOPICS

- Theory for adaptive and autonomous systems
- Intelligence-based systems
- Computational intelligence and cognitive systems
- Human-in-the-loop systems
- M&S Frameworks for intelligent behavior
- Methodologies, tools, and architectures for adaptive control systems
- Knowledge engineering, generation and management in IAAS
- Weak and Strong emergent behavior, Emergent Engineering
- Complex adaptive systems engineering
- Self-* (organization, explanation, configuration) capability and collaborative behavior in IAAS
- Applications to robotics, unmanned vehicles systems, swarm technology, semantic web technology, and multi-agent systems
- Netcentric IAAS
- Live, Virtual and Constructive (LVC) environments
- Simulator design for IAAS systems
- Modeling tools for IAAS design
- Modeling, engineering, testing and verification of complex behavior
- Development and testing of complex and distributed systems
- Modeling, simulating, and testing IoT environments and applications



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SUBMISSION GUIDELINES

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