



**INTERNATIONAL**



**KES-AMSTA 2021**  
**15th International KES Conference on Agents and Multi-agent Systems –**  
**Technologies and Applications**

<http://amsta-21.kesinternational.org/>

**Rome, Italy**  
**June 14-16, 2021**

**INVITED SESSION ON “Agent-based Modeling and**  
**Simulation (ABMS)”**

**Name, Title and Affiliation of Chair:**

**Assoc. Prof. Dr. Roman ŠPERKA, PhD** (sperka@opf.slu.cz)

**Background:**

Computational social science involves the use of agent-based modeling and simulation (ABMS) to study complex social systems. ABMS consists of a set of agents and a framework for simulating their decisions and interactions. ABMS is related to a variety of other simulation techniques, including discrete event simulation and distributed artificial intelligence or multi-agent systems. Although many traits are shared, ABMS is differentiated from these approaches by its focus on finding the set of basic decision rules and behavioral interactions that can produce the complex results experienced in the real world. An agent is thus a software representation of a decision-making unit. Agents are self-directed objects with specific traits and typically exhibit bounded rationality, that is, they make decisions by using limited internal decision rules that depend only on imperfect local information. In practice, each agent has only partial knowledge of other agents and each agent makes its own decisions based on the partial knowledge about other agents in the system. We welcome all kinds of papers discussing aforementioned approaches from different domains in this section. We look forward to getting a fruitful symposium in Malta 2019.

**The topics include but are not limited to:**

Agent Based Models for Simulation: Peculiarities, Advantages, Risks;  
Agent Behavior Specification, Mobile and Hybrid Agents;  
Agent Interaction in Environment;  
Platforms for Agent-Based Simulation;  
Frameworks and Tools Supporting ABMS;  
Multi-agent Systems in the Context of ABMS, Situated MAS;  
Simulation Lifecycle in ABMS;  
Data Mining in ABMS;

Complex Systems;  
Intelligent Agent Architectures and Models in ABMS;  
ABMS Methodologies;  
ABMS Verification and Validation;  
Formal Definitions of Agent Based Models;  
Monitoring and Managing of Multi-agent Systems;  
Case Studies of ABMS (vehicular, avionic, health, emergency, sensing, business and finance, management, etc.);  
Industrial Agent Based Models (robotics, production, business and finance, logistics, e-commerce, etc.);  
Statistical Evaluation Methods in Modeling and Simulation.

**Important Dates:**

Submission of Papers: TBA  
Notification of Acceptance: TBA  
Upload of Final Publication Files: TBA

**Paper Publication:**

The conference proceedings will be published by Springer as book chapters in a volume of the KES [Smart Innovation Systems and Technologies series](#), indexed in Scopus and CPCi / Web of Science (publisher's information). Please contact the publisher for more information about this or check the conference website.



**Submission**

Before submitting a paper please follow the guidelines published on the conference mainpage: <http://amsta-21.kesinternational.org/submission.php>

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