

Call for Papers  
**24<sup>th</sup> International Symposium on  
Methodologies for Intelligent Systems  
ISMIS 2018**

*Special Session  
– Formal Methods for Intelligent Systems –*

**October 29 - 31, 2018, St. Raphael Resort, Limassol, Cyprus**

ISMIS is an established and prestigious conference for exchanging the latest research results in building intelligent systems. Held twice every three years, the conference provides a medium for exchanging scientific research and technological achievements accomplished by the international community.

The scope of ISMIS is intended to represent a wide range of topics on applying Artificial Intelligence techniques to areas as diverse as decision support, automated deduction, reasoning, knowledge based systems, machine learning, computer vision, robotics, planning, databases, information retrieval, etc. The focus is on research in intelligent systems. The conference addresses issues involving solutions to problems that are complex to be solved through conventional approaches and that require the simulation of intelligent thought processes, heuristics and applications of knowledge. The integration of these multiple approaches in solving complex problems is of particular importance. ISMIS provides a forum and a means for exchanging information for those interested purely in theory, those interested primarily in implementation, and those interested in specific research and industrial applications.

### **Formal Methods for Intelligent Systems**

Traditionally, Formal Methods have been used as rigorous means to prove correctness and safety of software and hardware systems. They are rooted in logic and reasoning, and aim to provide guarantees that the system is behaving correctly, which is necessary in safety-critical contexts. Such guarantees can be provided automatically for conventional software/hardware systems using verification technologies such as model checking or theorem proving. However, in several (critical) application domains (e.g. planning and scheduling, machine learning, autonomous controllers synthesis, business processes) the underpinning reasoning techniques do not offer the needed guarantees, and reasoning capabilities necessary to justify safety of the application. The scope of this special session is intended to represent research results and discussions about the application and/or combination of Formal Methods (model checking, theorem proving, mathematical reasoning ...) to solve problems in different areas such as Planning and Scheduling, Machine Learning, Decision Support Systems, Robotics, Autonomy, Business Processes. The session addresses issues involving solutions to problems that will benefit from the adoption of Formal Methods. Examples are for instance guarantee robustness of a plan, or robustness of a (deep) neural, robustness/safety of a decision support system or of a robotic controller or of a business process.

**Topics.** This special session aims at bringing together academic and industrial leaders who will present and discuss the results that combine Formal Methods to solve problems in different areas related to Intelligent Systems. The topics include, but not limited to:

- Intelligent Information Systems
- Autonomic and Evolutionary Computation
- Logic for Artificial Intelligence
- Knowledge Integration and Aggregation
- Intelligent Agent Technology
- Intelligent Data Processing and Analytics

**Paper Submission.** Authors are invited to submit their manuscripts (maximum 10 pages) electronically in Springer's LNCS/LNAI style. For detailed instructions see the conference homepage (<http://cyprusconferences.org/ismis2018/>); any necessary information concerning typesetting can be obtained directly from Springer's webpage. All submissions will be subject to review by the ISMIS 2018 program committee in consultation with the special session organizers.

**Publication.** The accepted papers will be published in ISMIS 2018 proceedings in Springer's LNAI series.

**Important Dates.**

• Paper submission: <b>May 10, 2018</b>	• Camera-Ready: <b>July 31, 2018</b>
• Notification of accept/reject: <b>July 10, 2018</b>	• Author Registration Deadline: <b>July 31, 2018</b>

### **Special Session Chairs.**

**Marco Roveri**  
Fondazione Bruno Kessler  
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**ISMIS 2018: <http://cyprusconferences.org/ismis2018/>**