

CALL FOR PAPERS



IEEE CogSIMA™

17-20 May 2021

Nordic Hotel Forum
Tallinn, Estonia

*2021 IEEE International Conference on
Cognitive and Computational Aspects of
Situation Management*

<http://www.cogsima2021.org/>

**Where Cognitive Science meets
Computer Science**

Since 2011 the CogSIMA conferences promote a holistic cognitive approach to multidisciplinary research on dynamic cyber-physical-social systems of systems, whose constituent systems can be autonomous, and often collaborate and interoperate with organizations, machines, computer agents and humans situated in complex dynamic environment.

Critical to these systems of systems are their cognitive capabilities to sense, perceive and comprehend situations, reason and act on situations, demonstrate abilities of learning, self-organization and collective intelligence, and their ability to consider the impact of interdependencies with the other systems.

Adhering to its successful interdisciplinary tradition, CogSIMA 2021 will provide an inspiring forum for scientists and practitioners from diverse backgrounds including cognitive science, computer science, artificial intelligence, psychology, and human factors.

Important Dates

Regular Paper Submissions: December 1, 2020

Poster Paper Submissions: January 11, 2021

Camera Ready (Regular & Poster): March 31, 2021

Special Sessions and Workshops: November 02, 2020

Tutorial Proposals: March 20, 2021

*For questions concerning CogSIMA 2021 contact us at
admin@cogsima.org*

We look forward to seeing you in Tallinn!

Topics of Interest

Situation Management – Foundations

- Conceptual frameworks, architectures, and models of cognitive situation management and control
- New advances in situation awareness, control, and decision support
- Situation awareness: public vs. organizational vs. team vs. individual; distributed vs. shared awareness
- Formalization of situations and situational reasoning
- Situational "Big Data" analysis, situation mining, discovery, early detection of anomalies and patterns
- Stimuli-reaction, negative feedback, and predictive situation control
- Situation modeling, comparison, assessment, validation, metrics, and performance measurements
- Near real-time situation awareness and control
- Mental models, self-awareness, cognitive processes, and impact of barriers

Collective Situation Management and Control

- Collective intelligence and emergent behavior in situation management
- Biologically inspired computational models of situation management
- Cooperation and collaboration in multi-agent situation management
- Models of shared and distributed situation awareness and control
- Adaptation and self-organization in cognitive situation management and control
- Models of collective, autonomous, and resilient situation control in hostile environments
- Integration of self-awareness and self-X capability models into cognitive situation management

Human-Artificial Intelligence Situation Management

- Socially sensitive design and socially responsive design
- Situation management in cyber-physical-social systems
- Integration of human and signal intelligence
- Human teaming with autonomous systems, human-AI teaming
- Computer aided human decision-making in incomplete known, conflicting, and stressful situations
- Processing social media and other related human considerations to improve situation awareness
- The impact of human competence and motivation in situation management
- Distressed and handicapped persons in CogSIMA control loop

Situation Management Applications

- System-level experiments and application specific research
- Situation awareness and control for cyber security
- Autonomous vehicles and transportation systems
- Health care and pandemic situation management
- Computational International Relation and Detection of fake data
- Defense and autonomous mission control application

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