



# Call for Papers

Special Issue on

## *Security and Safety in Decision-Making and Control of Multi-Agent Systems*

### Background

With the increasing deployment of multi-agent systems (MASs) in diverse domains such as autonomous vehicles, smart grids, and intelligent transportation, and swarm robotics, the security and safety of MASs has become a pressing and critical challenge. The distributed decision-making and cooperative control of MASs depend heavily on communication networks, rendering them particularly vulnerable to communication failures, adversarial attacks, model uncertainties, and component-level faults. As MASs grow in complexity and interconnectivity, malicious entities can exploit these vulnerabilities to manipulate local decision processes, disrupt information exchange, or induce unsafe collective behaviors. On the other hand, recent advances in artificial intelligence, distributed optimization, and fault-tolerant control have created promising opportunities to design secure and safe MAS frameworks capable of reliable operation under adverse conditions. Addressing the security and safety concerns in MASs requires novel theoretical foundations and robust, resilient algorithms tailored to the unique characteristics of MASs. Research at this intersection is of profound academic, technological, and societal importance.

### Aims and Scope of the Special Issue

This special issue aims to bring together leading researchers and practitioners working on secure, safe, and resilient decision-making and control of MASs. Its goal is to foster knowledge exchange and push forward the frontiers of this interdisciplinary field. We invite original research articles as well as high-quality review papers that explore theoretical advances, practical implementations, emerging challenges, and future research directions related to the security and safety of MASs. All submitted manuscripts will undergo a rigorous single-blind peer review, and selection will be based on originality, technical depth, and relevance to the special issue theme.

This special issue covers (but not limited to) the following topics:

- Distributed attack diagnosis, recovery, and reconfiguration in MASs
- Resilient cooperative control algorithms
- Trustworthy and secure decision-making strategies
- Topology-aware vulnerability analysis and defense mechanisms in MASs
- Game-theoretic approaches for secure coordinated control
- Applications of secure and safe MAS frameworks in transportation, energy, and autonomous systems
- Learning-based safety assurance and resilience enhancement techniques
- Formal verification and safety certification of MASs under cyber-physical threat
- Modeling, simulation, and testbed development for security evaluation in MASs

### Submissions

Authors should submit their manuscripts online directly at: <https://sands.nestor-edp.org> and choose, during submission, the special issue: **Security and Safety in Decision-Making and Control of Multi-Agent Systems**. All relevant papers will be carefully considered and peer-reviewed by a distinguished team of international experts. The instructions for authors are detailed at: <https://sands.edpsciences.org/author-information/instructions-for-authors>.

**Submission deadline – 30 September 2026**

**Article Processing Charges** - S&S is an Open Access journal and no APCs in 2025, APC is 1100 Euro in 2026.

### Guest Editors

**Mohammed Chadli**, University Paris-Saclay Evry, France, [mchadli20@gmail.com](mailto:mchadli20@gmail.com)

**Guanghui Wen**, Southeast University, China, [ghwen@seu.edu.cn](mailto:ghwen@seu.edu.cn)

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**S&S Website**



## Guest Editor Biographies



**Mohammed Chadli** received his M.Sc (DEA) from the Engineering School INSA-Lyon (France, 1999) and from “Ecole Normale Sup.” (Mohammedia, Morocco), the Ph.D. thesis in Automatic Control from the University of Lorraine (UL)-Nancy in 2002. He was Lecturer and Assistant Professor at the “Institut National Polytechnique de Lorraine” (UL, 2000-2004). Since 2004, he was Associate Professor at the University of Picardie and is currently a Full Professor and the Vice Dean of the Faculty of Sciences and Technologies at the University Paris-Saclay Evry, IBISC Lab., France. He was a visiting professorship at the TUO-Ostrava (Czech Rep.), UiA (Norway), SMU-Shanghai (2014-2017), NUAA-Nanjing (2018-2025), and the University of Naples Federico II (Italy, 2019). Dr.

Chadli’s research interests include filtering and control problems (FDI, FTC) and applications to vehicle systems, intelligence systems, network systems, and cyber-physical systems. He is the author of books and book chapters (+50 in Wiley, Springer, Hermes), numerous articles published in international refereed journals and conference proceedings. Dr. Chadli is a senior member of IEEE. He now serves as the Chair of the IEEE France Section Control Systems Society Chapte, and listed in “100000 Leading Scientists in the World”. He now serves as an Associate Editor-in-Chief of *Security and Safety*.



**Guanghui Wen** received the Ph.D. degree in mechanical systems and control from Peking University, China, in 2012. Currently, he is an Endowed Chair Professor and the Vice Dean of the School of Automation, Southeast University, China. His current research interests include autonomous intelligent systems, complex networked systems, distributed control and optimization, resilient control, and distributed reinforcement learning. He was a recipient of the National Science Fund for Distinguished Young Scholars, the China Youth Science and Technology Award, the Australian Research Council Discovery Early Career Researcher Award, and the Asia-Pacific Neural Network Society Young Researcher Award. He has been named a Highly Cited Researcher by Clarivate

Analytics since 2018. He is an IET Fellow.



**Dan Zhao** received the B.S. degree in automation from Xi'an University of Technology, Xi'an, China, in 2013, the M.S. degree in control theory and control engineering from Huazhong University of Science and Technology, Wuhan, China, in 2016, and the Ph.D. degree in cyber science and engineering from Southeast University, Nanjing, China, in 2022, respectively. She is currently a Postdoctoral Fellow with the School of Mathematics, Southeast University, Nanjing, China. Her research interests include multi-agent system, attack detection and isolation, and distributed resilient control. Dr. Zhao was selected for the ninth Young Elite Scientists Sponsorship Program by CAST in 2023. She received the Best Paper Reward at IEEE ICUS 2023.



**Yuezu Lv** received the B.S. degree in engineering mechanism and Ph.D. degree in mechanical systems and control from the College of Engineering, Peking University, China, in 2013 and 2018, respectively. From 2018 to 2021, he was a Lecturer with the Department of Systems Science, School of Mathematics, Southeast University, China. He is currently a Professor with Advanced Research Institute of Multidisciplinary Sciences, Beijing Institute of Technology, China. His research interests include cooperative control of multiagent systems, adaptive control, robust control of uncertain systems, and distributed resilient control. Dr. Lv was a finalist for Zhang Si-Ying (CCDC) Outstanding Youth Paper Award in 2015. He was also the recipient of the 2021 Asia Pacific Neural

Network Society Young Researcher Award by Asia Pacific Neural Network Society, and the Lotfi A. Zadeh Best Conference Paper Award at IEEE International Conference on Circuits, Systems and Simulation 2022. He was selected for the fifth Young Elite Scientists Sponsorship Program by China Association for Science and Technology in 2020.

