Call for Papers
SS05 - Path Planning and Control of Multi-agent Systems under Anomalous Phenomena

Organized and Co-Chaired by

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❖ **FOCUS**. The Special Session deals with the analysis and design of multi-agent configurations to accomplish difficult tasks arising in practical scenarios. In this area, studies on the dynamics and mechanisms of the swarm's behavior can provide guidelines for developing robust control methodologies robust with respect to unpredictable events such as unreliable communication channels and failures phenomena. Beside this, another key challenge is the problem of cooperation between a group of agents performing a shared task using inter-agent communications. From a methodological point of view, both detection and reconfiguration phases are relevant for mitigating the undesired effects of cyber anomalies on the control loop performance. Approaches of interest range from predictive and adaptive schemes to geometric/algebraic based algorithms. Applications e.g. on mobile robots, unmanned aerial vehicles (UAVs), automated highway systems, sensor networks for spatially distributed sensing and microsatellite clusters are welcome.

❖ **TOPICS**

- ❖ Path Planning
- ❖ Constrained and coordination control
- ❖ Swarm modelling
- ❖ Autonomous systems
- ❖ Multi-agent control
- ❖ Networked control systems
- ❖ Resilient control
- ❖ Failures/Attacks detection

❖ **AIM.** The aim of this Special Session is to collect concepts coming from different research areas in order to investigate multi-disciplinary approaches. Specifically, the attention is focused on the capability to merge standard methodologies of the communication and computer science fields with control architectures dedicated to the management of multi-agent systems.

❖ **CONFERENCE FORMAT**. The conference will comprise multitrack sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WIP) and industry practice sessions.

❖ **AUTHOR'S SCHEDULE**

❖Regular and special sessions papers
Submission deadline .... April 1
Acceptance notification .... May 6
Deadline for final manuscripts .... June 17

❖Work-in-progress/ Industry practice papers
Submission deadline .... May 13
Acceptance notification ....June 10
Deadline for final manuscripts .... June 17