

Call for Papers

SS10 - Roles of Digital Twin in Industry 4.0

Organized and Co-Chaired by

Robert De Simone¹, Enrico Fraccaroli², Davide Quaglia²

¹ INRIA Sophia Antipolis - Méditerranée (France)

² University of Verona (Italy)

❖ **FOCUS.** The Digital Twin is a dynamic virtual representation of a physical object or system, using real-time data to enable understanding, learning, reasoning and optimization of the target system. Digital Twin is one of the key concepts of modern production engineering following the so-called Industry 4.0 revolution. Even if Digital Twins are basically simulation models, their use is no longer limited to the verification phase of the design flow since they are still useful when the system comes into operation. For this reason they pose new challenges and open new opportunities that are not yet completely explored.

❖ TOPICS

- ❖ Methodologies for Digital Twin construction
- ❖ Solutions for Digital Twin learning and updating and related real-time issues
- ❖ Tools and techniques for Digital Twin simulation and related real-time issues
- ❖ Addressing complexity in Digital Twin management (e.g., model abstraction)
- ❖ System optimization by using the Digital Twin concept
- ❖ Application of the Digital Twin to safety enforcement and predictive maintenance
- ❖ Exploitation of the Digital Twin for the design of the communication infrastructure
- ❖ Digital Twin and artificial intelligence

❖ **AIM.** The aim of this SS is to bring together researchers, practitioners, and experts from industry that conduct research work on related technical fields.

❖ **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 (2020)

❖ 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