



CALL FOR PAPERS FOR SPECIAL SESSION PROPOSAL

SPECIAL SESSION 3

Intelligent Systems for Engineering and Medicine: AI, Robotics, Control, Observers, Automation and Signal Processing

Session description:

This special session focuses on recent advancements in Artificial Intelligence, Robotics, Automation, and Signal Processing. As complex systems increasingly require sophisticated analysis and decision-making tools, the integration of advanced control theory, state estimation (observers), and machine learning has become essential.

The session highlights the synergy between methodological breakthroughs—such as robust/adaptive control and multimodal fusion—and real-world applications, with a particular focus on Biomedical Engineering. Key topics include medical robotics, AI-driven diagnostic support, physiological signal analysis (ECG/EEG/EMG), and the automation of smart medical devices. By bridging the gap between theoretical foundations and clinical or industrial challenges, this session aims to foster interdisciplinary collaborations and shape the future of intelligent cyber-physical systems and connected health.

This session aims to promote interdisciplinary exchanges between methodological developments and concrete applications, particularly in the medical field, to bring about new synergies between artificial intelligence, robotics, control, automation, observers and signal processing.

Session chairs:

- **Mohamed BOUZID**, Sfax Univ., TN
- **Radhia NEFZI HOUIMLI**, Jendouba Univ., TN
- **Mohamed TLIG**, Rouen Normandie Univ., FR
- **Hassani MESSAOUD**, Monastir Univ., TN

Topics of interest (not limited to):

- AI & Machine Learning for Complex Systems
- Advanced Control, Observers & State Estimation
- Intelligent Robotics & Autonomous Systems
- Biomedical Signal Processing & Medical Decision Support
- Rehabilitation Robotics & Assisted Surgery

Important Dates



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