

ARCAI 2024 Special Session “Advanced Control of Euler-Lagrange Systems”

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Call for Papers:

It is well known that a wide range of practical systems such as wheeled mobile robots, robot manipulators, quadrotor aircraft, and unmanned aerial vehicles can be modeled as Euler-Lagrange (EL) systems. These systems are highly influenced by the working environment and component materials, and they always suffered from several imperfections such as exogenous disturbances, model uncertainties, nonlinear dynamics, delays, etc. Therefore, more studies of advanced control and estimation techniques are necessary in order to ensure that EL systems can operate as required to carry out specific applications in a robust and reliable manner. In this context, we invite the submission of papers to this Special Session, with a focus on new developments in modeling, estimation and advanced control techniques for EL systems and their applications.

Topics of the Session include but are not limited to

- Advanced control algorithms
- Hybrid EL systems
- Cooperative control of multi-EL systems
- Modeling, parameter estimation and optimization of EL systems
- Trajectory optimization for EL systems
- Path-planning problem for EL systems in complex environments
- Nonlinear observers of EL systems
- Fault detection and fault-tolerant control for EL systems
- Applications of EL systems in real fields

Accepted and presented papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements and indexed by EI Compendex and Scopus. Selected papers will be invited to SCI Journal Special Issues.