ARCAI 2024 Special Session "Finite-time control and filtering for complex dynamical systems"

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Call for Papers:

Complex dynamical systems are ubiquitous in various scientific and engineering domains, ranging from robotics and aerospace to biological networks and economic systems. These systems often exhibit various complex features, such as stochastic characteristics, nonlinearities, impulsive jumps and state constraints, making their control and signal estimation challenging tasks. Finite-time control and filtering techniques have gained significant attention in recent years. Compared with infinite time control and filtering techniques, finite-time techniques offer the advantage of achieving control objectives and accurate state estimation within a specified finite time horizon, thereby enabling faster convergence, improved transient performance, and better adaptability to time-constrained applications. We invite researchers to submit their original research papers, review articles, practical implementations, and case studies that contribute to the advancement of finite-time control and filtering for complex dynamical systems.

The topics include but are not limited to:

- Finite-time control and filtering for stochastic systems
- Finite-time control and filtering for Markov jump systems
- Finite-time control and filtering for impulsive systems
- Finite-time control and filtering for switched systems
- Finite-time control and filtering for fuzzy systems
- Finite-time control and filtering for positive systems
- Finite-time control and filtering for hybrid systems
- Implementation and experimental studies of finite-time control and filtering techniques

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