



Discrete Dynamics in Nature and Society

Special Issue on
Networked Dynamical Systems 2016

CALL FOR PAPERS

There has been tremendous amount of research to date on networked dynamical systems due to their wide engineering applications in, for example, attitude synchronization of spacecraft, design of distributed sensor networks, and scheduling of distributed microgrids. One common yet interesting phenomenon in the aforementioned systems is that various globally collective behaviors can be emerged as results of employing some local and simple coordination rules. Research along this line will definitely yield benefits such as the ease of maintenance and installation, the large robustness, and the low cost for numerous engineering applications. However, many issues still need to be addressed before all the advantages can be harvested.

The main focus of this special issue will be on new and existing analysis and synthesis approaches for networked dynamical systems. The special issue will become an international forum for researchers in a wide range of disciplines from applied mathematics, control theory, electrical engineering, industrial engineering, sociology, aerospace engineering, and bioengineering to present and summarize their theoretical and technological achievements on networked dynamical systems and relevant domains.

Potential topics include, but are not limited to:

- ▶ Decentralized control of complex networks
- ▶ Consensus, flocking, and swarming of multiagent systems
- ▶ Synchronization of complex networks
- ▶ Distributed fault tolerant coordination
- ▶ Analysis and synthesis of coupled mechanical systems
- ▶ Distributed optimization of networked dynamical systems
- ▶ Distributed adaptive control
- ▶ H_∞ and H_2 control of multiagent systems
- ▶ Coordination with communication constraints
- ▶ Distributed control of smart microgrids
- ▶ Distributed prediction control in multiagent systems
- ▶ Distributed control and estimation of vision-based multiagent systems
- ▶ Analysis and synthesis of cyber physical systems

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