With the rapid development of computing, communication and sensing technology, recent years have seen an ever-increasing research interest in the study of distributed cyber-physical systems. Cyber-physical systems may be generically defined as a group of dynamical systems in which both cyber layer (computer/communication/ control) and physical layer (plant models) coexist. The behaviors of cyber-physical systems are exhibited through the local interaction among subsystems that individually have the capability of self-operating. Engineered cyber-physical systems have been developed and studied as seen in robotic networks, power grids, computer networks, and sensor networks. In particular, those systems have found a wide range of potential applications in surveillance and reconnaissance, cooperative exploration for search and rescue missions, environmental sensing and monitoring, cooperative transportation, and congestion and flow control of networks. The International Journal of Cyber-Physical Systems (IJCPS) aims at presenting the state-of-the-art on controls of distributed cyber-physical systems. The particular focus is on distributed control, estimation, optimization and applications of networked cyber-physical systems. The journal provides a venue for disseminating research outcomes on unraveling the structure, security, system properties, and efficient control strategies of networked cyber-physical systems.

Topics Covered:

- Control Applications Using a Team of Ground, Aerial, and Underwater Robots
- Cooperative Control of Cyber-Physical Systems Under Limited Communication
- Detection of Emergent Behaviors in Cyber-Physical Systems
- Distributed Coordination Algorithms for Cyber-Physical Systems
- Distributed Estimation of Environment Unknowns Using a Multiagent Team
- Experimental Validation of Control of Multiagent Systems
- Path Planning and Navigation of Multiagent Systems
- Security on Cyber-Physical Systems
- Task Coordination of Multiagent Systems