THE 4TH IEEE INTERNATIONAL CONFERENCE ON INDUSTRIAL CYBER-PHYSICAL SYSTEMS
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Special Session on

"Distributed Control and Coordination for Constrained Cyber-Physical Networks"

Organized by

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Call for Papers

Many industrial systems can be described by models of evolving complex cyber-physical networks, where nodes represent the elements of the systems and links mimic the interactions among them. Prototypical examples include public transportation network, smart grids and the multi-robot systems. The effective control of cyber-physical networks requires fast reaction by each node which makes distributed control a popular control framework. The past few years have witnessed a strong upsurge of the study of distributed control and coordination of cyber-physical networks in various fields. During the evolvement of cyber-physical networks, each node usually has state and input constraints originated from the physical models or safety concerns. Furthermore, the communication between the cyber-physical systems is also subject to various disturbance and constraints. Therefore, it is important to consider the distributed control and coordination of constrained interconnecting cyber-physical

Accepted papers will be published in an IEEE proceedings volume and will be also submitted for the International Publication in *IEEE xplore*

networks. This special session focuses on theoretical and technological advances in the effective distributed control, optimization and coordination strategies for various types of constrained cyber-physical networks.

Topics of interest include, but are not limited to:

- Resilient consensus/synchronization for complex cyber-physical networks
- Cyber-security of cyber-physical networks
- Distributed coordination with sampled-data communication
- Efficient coordination of multiple intelligent agent systems
- Distributed coordination for state constrained cyber-physical networks
- Distributed control for cyber-physical networks with input saturation
- Distributed efficient tracking for complex cyber-physical networks
- Distributed fast coordination technique for cyber-physical networks
- Distributed efficient optimization for smart grids
- Distributed accelerated optimization technique for cyber-physical networks
- Artificial intelligence technology for constrained cyber-physical networks