Special Session on
STABILITY ANALYSIS AND SECURITY CONTROL OF HYBRID NETWORKED SYSTEMS
organized and co-chaired by:

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Call for Papers

Most infrastructures are indeed hybrid systems in which heterogeneous subsystems coexist and interact with each other. The coordinated functioning of several infrastructures such as electric systems, power systems, transportation systems, fresh food distribution chains, Gas-ducts, oil pipelines lays the foundation of modern society. Identifying, understanding and protecting these critical infrastructures are crucial tasks to be pursued by the scientific community at both the academic and applied levels.

As complexity and interconnectedness increase, there is a higher risk of faulty operation in one or more components/subsystems of the overall systems. Also, the systems are vulnerable to malicious attacks as the interdependencies of infrastructures will increase the risk of cascade failure and cyber attacks (e.g., DoS attacks, false data injection attacks and replay attacks etc.), which forces us to rethink the control problem in light of security concerns. There is an urgent need for control algorithms that can defense cyber attacks while completing control tasks.

This special session is to report recent developments on resilient consensus of multi-agent systems under malicious attacks. It is expected to develop effective control algorithms to defense cyber attacks. Topics of interest are included but not limited to:

1) DoS attack and defence scheduling
2) Multi-sensor fusion for attack detection
3) Secure control for networked control systems
4) Secure control for multi-agent systems under attacks
5) Distributed tracking control under malicious attacks
6) Distributed resilient event-triggered filtering
7) Distributed resilient event-triggered control
8) Resilient control under open network environments
9) Signals restriction and estimation under uncertain security attacks

Deadline for submission of special session papers  January 15, 2018
Notification of acceptance  March 1, 2018
Deadline for submission of final manuscripts  April 1, 2018

All the instructions for paper submission are included in the conference website: http://www.ieee-isie2018.org