



# Mathematical Problems in Engineering

## Special Issue on **Dynamics and Control of Complex and Switched Systems**

# CALL FOR PAPERS

Hybrid systems are a class of complex systems involving both continuous systems and a set of discrete events. They exhibit complex phenomena as the continuous systems and the discrete events coexist and interact with each other. There are many hybrid systems that arise in a variety of disciplines. For example, in the manufacturing industry, components are fed into a machine following a specified procedure. The process of the machine is continuous, while the startup of the machine is a discrete event. Thus, the overall system is clearly a hybrid system.

As an important class of hybrid systems, switched systems can model the hierarchy and switching structures of a complex system. Engineering examples can be found in chemical processes, air traffic management systems, and computer communications systems, etc. However, till now theory and methodologies of switched systems, in particular involving complicated structure characteristics, still need to be investigated further. The aim of this special issue is to report the recent research progress and advances on all issues and topics related to complex and switched systems and their practical applications. This special issue will be beneficial to scientists, researchers, and practitioners in all related fields in energy and power, systems and control, optimization, and management.

Potential topics include, but are not limited to:

- ▶ Feedback and decentralized control
- ▶ Hybrid process systems
- ▶ Impulsive systems and control
- ▶ Industrial process control
- ▶ Switched systems and applications
- ▶ Large-scale dynamical systems
- ▶ Optimization and optimal control

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