



## Invited Session

# ADVANCED CONTROL OF COMPLEX DYNAMICAL PLANTS

June 19-21, 2013, Saint Petersburg, Russia  
<http://mim2013.org>

### Session Chair and Organizer

*Prof. Yuri V. Mitrishkin*

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### Mission

The mission of the session is to attract researchers developing new combinations of known and new control algorithms in new system structures/configurations with high level consistence of algorithm cooperation which will be able to get effective trade-offs of system robustness, performance, and control structure that by-turn leads to system accuracy and reliability limit which is the main goal of efficient control system design in the presence of environment evolution, internal and/or external uncertainties/disturbances. New control systems should be applied to complex stable and unstable dynamical plants which are presented by mixtures of models described by nonlinear partial and ordinary differential equations with time-varying parameters. The controllers to be designed are supposed to be lumped and/or distributed parameter subsystems in the general feedback control system architectures with complex dynamical plants. Control, identification, and modeling of complex dynamical plants in various technological and nature fields in many cases are challenges for control researchers and specialists in the fields under investigation. These challenges give rise long term projects to achieve final solutions. New statements of the problems in such fields, new ideas and approaches, progress in achieving new practical and scientific results may be of great interest and importance for the world society. Outcomes and fresh engineering solutions may influence essentially on other areas of science and technology, generate some revolutionary R&D directions.

### Topics

The aim of the session is to collect the latest advances in the specific challenging fields of complex dynamical plants control, identification, and modeling. The topics of this invited session include but are not restricted to:

- Theory and methods of robust and adaptive systems design,
- Plasma control in thermonuclear installations,
- Control of electric power systems,
- Fission reactors control,
- Control of biology and chemical processes,
- Embedded control systems design for complex production processes,
- Et cetera.

### Important dates

October 01, 2012  
February 1, 2013  
April 15, 2013

Deadline for submission of papers (full-length (6 pages) draft papers)  
Notification of papers acceptance/rejection  
Final papers submission and early registration