

Special Session on
Novel Control Technology in Precision Motion Control
for Mechatronic Systems

Organizers:

Shota Yabui, Tokyo City University
Masahiro Mae, The University of Tokyo
Juan Padron, Nagaoka University of Technology
Kenji Natori, Chiba University
Kazuaki Ito, Gifu University
Tom Oomen, Eindhoven University of Technology

Technical Outline of the Session and Topics:

Varieties of mechatronic applications require advanced motion control techniques, realized by integrating smart control strategies, high precision sensing, and innovative actuators. Advanced motion control methodologies and/or techniques for fast and precise control of motion (position, velocity, and force) in various industrial mechatronic systems will bring innovative solutions and high quality of life.

The scope of this special session is to bring together prominent researchers in the field of motion control, and to create an atmosphere that attracts, triggers discussion between, and encourages future collaborations between contributors and attendants from both academia and industry in the fields of modeling and control of precision motion systems and the wider control community.

Topics of interest include, but are not limited to:

- High-performance actuators and sensors in motion control systems
- High precision positioning techniques in industrial mechatronic systems
- Nanoscale servo systems in industrial applications
- Mass storage control systems
- Innovative control strategies in advanced motion control
- Modeling and compensation techniques for nonlinearities in industrial mechatronic systems
- Robust and/or adaptive controller algorithms, sensor fusion, and novel mechanical design

IEEE IES Technical Committee Sponsoring the Special Session

- Technical Committee on Motion Control