

The 2012 International Conference on Advanced Mechatronic Systems (ICAMechS 2012)
Tokyo, Japan, Sept. 18 - 22, 2012



Special session on : Recent Advances in Advanced Control Systems

Session Organizers:

- Professor Shiro Masuda
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- Doctor Tomohiro Henmi
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The proposed special session consists of the following papers.

1. **Title:** Tuning Method for Control Parameter of Adaptive Nonlinear Model Predictive Controller
Author: Tomohiro Henmi
Affiliation: Kagawa National College of Technology
2. **Title:** Two-degree-of-freedom Multirate Control System for Improvement in Steady-state Intersample Response

Author: Shuhei Kimura[†], Takao Sato[†], Akira Yanou[‡], Shiro Masuda^{*}, Nozomu Araki[†] and Yasuo Konishi[†]

Affiliation: [†]University of Hyogo, [‡]Okayama University, ^{*}Tokyo Metropolitan University

3. **Title:** Iterative methods for the H₂ and the mixed H₂/H-infinity control problems using a feasible direction

Author: Yasushi Kami[†] and Eitaku Nobuyama[‡]

Affiliation: [†]Akashi National College of Technology, [‡]Kyushu Institute of Technology

4. **Title:** Application of adaptive control using GPGPU to Hammerstein Model

Author: Daiki Kurahashi, Takao Sato, Nozomu Araki and Yasuo Konishi

Affiliation: University of Hyogo

5. **Title:** Improvement of a trimmer-type mowing robot

Author: Yuki IWANO Astunari KOBAYASHI

Affiliation: Akashi National College of Technology

6. **Title:** A Robot Prosthetic Hand Based on Finger Joint Angle Estimation Using Biosignal

Authors: Nozomu Araki[†], Kenji Inaya[†], Yasuo Konishi[†] and Kunihiko Mabuchi[‡]

Affiliation: [†]University of Hyogo, [‡]The University of Tokyo

To obtain better performance than traditional PID control systems, advanced control is good choice because of its ability. This session discusses about recent advances in advanced control systems. This special session is focused on some new development in such advanced control systems design with both theory and applications. It aims to provide some intelligent analysis and design method in the whole procedure of dealing with advanced control systems.

Subject Coverage (not limited to)

- Advanced Modeling and Control
- Robust control and robustness
- Digital control systems analysis and design
- Adaptive Control
- Mechatronics
- Robot Control
- Model predictive control
- PID Control
- Multirate control
- Nonlinear system