

IFAC World Congress 2023

CALL FOR PAPERS

Open Invited Track

Adaptive and Learning Control for Robotics and Dynamical Systems

Invited Track Code: **bnr12**

This proposal is endorsed by TC 2.1 **Control Design**

Track proposed by:

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Abstract

In the recent decade, adaptive control for robotics and dynamical systems has been developed, and learning control design is still in its early stages. Control system design is an important phase in the development of complex dynamical systems and robotics. Research on robotics and automation has made significant progress in both theoretical investigation and practical applications. Advances in sensors, actuators, computation technology, and communication networks help provide the necessary tools for the implementation of hybrid control hardware. This open invited track aims to bring together scholars to present the most recent advances and innovations in the subject of adaptive and learning control for robotics and dynamical systems with the goal of summarizing and improving the techniques in this field.

The topics covered here are closely related to the TC 2.1 research areas and we look forward to receiving many contributions to this track from the TC 2.1 and many others.

Description of the topic:

The aim of this open invited track is to provide an opportunity for international researchers to share and review recent advances in the foundations, integration architectures, and applications of adaptive control for robotics and dynamical systems. The track aims to solicit original, full length original articles on new findings and developments from researchers, academicians and practitioners from industries, in the area of analysis, control, synthesis, implementation, and applications of dynamical systems with continuous and discontinuous (hybrid) dynamics. It specifically seeks theoretical and applied research articles that present innovative work merging ideas from computer science and control systems.

The topics of interest include, but are not limited to:

- Advanced Modeling and Control
- Adaptive Control
- Biologically-inspired robotics
- Biomechatronic and Biomechanics
- Control stability.
- Decentralized control
- Digital control systems analysis and design
- Fault-tolerant control
- Hybrid Control Systems
- Human–robot interactions
- Intelligent Control Systems
- Intelligent Learning Control
- Model predictive control
- Nonlinear systems
- Observer Design
- System Optimization
- Robust control and robustness
- Robotics and Mechatronics

Time schedule

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|-------------------|---|
| October 31, 2022 | Deadline for paper submission |
| February 21, 2023 | Notification of acceptance/rejection |
| March 31, 2023 | Final paper submission |
| 09-14 July 2023 | 22nd IFAC World Congress: Yokohama, Japan |

Manuscript Preparation

For Manuscript Preparation please look at <http://www.ifac.papercept.net/conferences/support/support.php>

For Manuscript submission please look at <https://ifac.papercept.net/conferences/scripts/start.pl>

Upon submission, make sure to use the Open invited track code: