8th IFAC Conference
on Nonlinear Model Predictive Control
August 21-24, 2024, Kyoto, Japan

INTERNATIONAL FEDERATION
OF AUTOMATIC CONTROL

Website: https://nmpc2024.org
Contact: secretariat@nmpc2024.org

NMPC 2024

Call for Papers

It is our pleasure to invite you to the 8th IFAC Conference on Nonlinear Model Predictive Control (NMPC 2024) to be held from August 21 to 24, 2024.

Background and Scope:

Model predictive control (MPC) is indisputably one of the advanced control techniques that have significantly affected control engineering practice with thousands of controllers implemented in various fields, spanning from the process industry to automotive and robotics. This is due to its unique ability to handle constraints, take preview information about disturbances and setpoint changes into account, and optimize performance. Furthermore, MPC allows the consideration of various types of dynamics, from linear to nonlinear, discrete to continuous, as well as an online adaptation of models and parameters. The research community on MPC is very active, with hundreds of papers published every year. Over the past decades, many theoretical, as well as implementation results, have been achieved.

Important Dates:

Initial Paper Submission Deadline: December 18, 2023

Notification for Acceptance: March 15, 2024

Final Paper Submission Deadline: April 15, 2024

Early Registration Deadline: May 1, 2024

Venue:

Clock Tower Centennial Hall
Kyoto University Main Campus
Yoshida-honmachi, Sakyo-ku Kyoto-shi, Kyoto, 606-8501, Japan

Topics:

NMPC2024 covers a wide range of research directions in control theory and applications. The topics of interest include the following, but are not limited to:

- New frontiers in nonlinear model predictive control
- Stability and recursive feasibility of nonlinear model predictive control
- Predictive control and IoT
- Application of model predictive control in Industry 4.0
- Nonlinear model predictive control on embedded platforms
- Machine learning enabled MPC
- Model predictive control for complex systems
- Model predictive control for systems with distributed parameters
- Model predictive control in automotive domain
- Model predictive control for aeronautic applications
- Model predictive control of mechatronic systems
- Heating, ventilation, air conditioning (HVAC) control
- Model predictive control in medicine applications
- Model predictive control in biotechnology

Plenary Speakers:

Frank Allgöwer, University of Stuttgart, Germany
Sébastien Gros, NTNU Trondheim, Norway
Maryam Kamgarpour, EPF Lausanne, Switzerland
Scott Kuindersma, Boston Dynamics, USA

Special Guest Speaker:

Dimitri Bertsekas, Arizona State University and MIT, USA

Keynote Speakers:

Behçet Açikmeşe, University of Washington, USA
Davide Scaramuzza, University of Zurich, Switzerland
Katja Mombaur, Karlsruhe Institute of Technology, Germany, and University of Waterloo, Canada
TBA

Paper Submission:

All papers must be written in English and prepared in accordance with the IFAC paper style. An author guide is available on the IFAC website (https://www.ifac-control.org/events/authors-guide). All papers must be submitted electrically through PaperPlaza Conference Manuscript Management system (https://ifac.papercept.net/). NMPC2024 offers a variety of submission opportunities as below. Details about each submission category can be found on our website
(https://nmpc2024.org).
- Regular paper (4-6 pages, max 8 pages with extra page charge)
- Discussion paper (1-4 pages, to appear only in preprints, not to appear in IFAC POL)
- Invited paper (4-18 pages)
- Invited discussion paper (1-4 pages, to appear only in preprints, not to appear in IFAC POL)
Plenary speakers and keynote speakers can choose either invited papers or invited discussion papers.

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The venue and schedule are subject to change depending on the COVID-19 pandemic and other circumstances.