

A four-day, seven-speaker American Summer School on Model Predictive Control (MPC) has been organized by Sasa V. Rakovic, James B. Rawlings and Ilya V. Kolmanovsky. The first American Summer School of MPC will be held at the University of Wisconsin-Madison from July 25, 2017 to July 28, 2017.

The American Summer School on MPC aims to enable up to 40 graduate students (as well as interested researchers and control practitioners) from a cross-cutting set of disciplines in engineering, science, and applied mathematics to receive advanced education and training from international experts in the theory, implementation and application of MPC. The instructors comprise leading researchers from universities, government laboratories, and industrial companies, and they have been selected for their leading expertise in the different research areas, as well as a diversity of backgrounds and disciplines in engineering, science and applied mathematics.

The main topics of the summer school are:

- Introduction to MPC and MPC essentials (by William S. Levine).
- Classical MPC: regulation, estimation, and disturbance models (by James B. Rawlings).
- Robust MPC (by Sasa V. Rakovic).
- Stochastic MPC (by Ilya V. Kolmanovsky).
- Economic MPC (by David Angeli).
- Online optimization for MPC (by Lorentz T. Biegler).
- Industrial applications of MPC (by Thomas A. Badgwell).

The summer school delivers a carefully crafted overview of the theoretical fundamentals of MPC, and it provides access to, and motivates the development of, freely-available and state-of-the-art numerical software for implementing the advanced MPC methods on difficult and challenging examples and industrial applications. The summer school also anticipates inclusion of class mini-projects that enable all attendees to present, and discuss, problems of direct interest to their research, and also to receive feedback from a set of instructors with valuable expertise in all areas of MPC research.

Additional information, including a detailed summer school schedule and registration information will be made available shortly at the summer school website www.che.wisc.edu/mpc-summer-school

Amounts for a partial travel expense reimbursement and a modest registration fee will be determined after final approval of NSF funding. The registration fee will cover the costs of local expenses, including the banquet, beer, wine and non-alcoholic drinks, media and room costs for the course. Registration will open on May 1, and is on a first-come, first-served basis. Registration is capped at 40 students, so early registration is encouraged.