



# ELO-X Fall School and Workshop on Model Predictive Control and Reinforcement Learning

October 4-12, 2022

University of Freiburg

For industrial and academic researchers, in particular PhD students in engineering, mathematics, physics, and computer science.

The aim of this event is to give both theoretical background and hands-on practical knowledge in the field of Model Predictive Control (MPC) and Reinforcement Learning (RL), participants will learn the main concepts of the two approaches along with their similarities and differences.

**Content:** The event will be divided in two parts, in the first week an intensive course about Model Predictive Control and Reinforcement Learning is taught by Prof. Joschka Boedecker and Prof. Moritz Diehl both from the University of Freiburg. The lecture topics are accompanied by intensive computer exercises. Course prerequisites and detailed content are available at <https://www.syscop.de/teaching/ss2022/model-predictive-control-and-reinforcement-learning>

In the second week of the event will take place the soft skill workshop “How to plan and develop a research project” by Dr. Frank Krüger and Christian Jäger both from University of Freiburg. This workshop will be followed by technical seminars invited guest lectures will be given by Dr. Stefan Gering (Bosch – Germany), Prof. Dr. Silvia Mastellone (FHNW - Switzerland), Prof. Dr. Toshiyuki Ohtsuka (Kyoto University - Japan), Dr. Rien Quirynen (MERL – Boston US), Dr. Yuval Tassa (Google Deepmind – UK). *Some speakers might change.*

**Location and Schedule:** The event will start with a welcoming reception at 19:00 on Monday October 3, 2022. The course will last from Tuesday October 4 to Tuesday October 11, 2022, from 9:00-18:00, in the main historical university building in the city center of Freiburg (Kollegiengebäude I, Platz der Universität 3, D-79098 Freiburg). Lectures and computer exercises take place on October 4-7. In the weekend (October 8-9), an optional social event is foreseen. The lectures from the invited speakers take place on October 10-11. On October 13-14 rooms will be reserved to exchange ideas and create connections among the participants (*optional and self-organized activity by the participants*).

**Registration:** Participation in the course costs 450 Euro for external PhD students, this will cover catering service during the whole event, the welcoming receptions and the dinner on Friday 7 October. The optional social event on the weekend will require a minor cost contributions.

To register or obtain additional information, please visit the webpage of the event <https://www.syscop.de/event/elo-x-fall-school-and-workshop> which will be updated regularly.