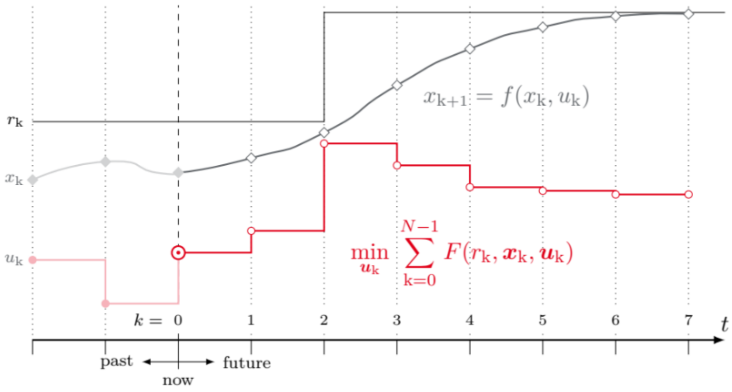

MPC Workshop

Date:	20-21 June 2025 (Friday from 8 a.m. - 5 p.m. and Saturday from 8.15 a.m. - 12 a.m.)
Location:	FHNW, University of Applied Sciences an Arts Northwestern Switzerland Campus Brugg-Windisch, building 4, room 4.223
Language:	English
Meals:	A meal on Friday noon is included.
Target group:	Engineers with an interest in mathematics and background knowledge in the areas of linear algebra, differential equations and control engineering. The course is based on the description of systems in state space.
Course objective:	Providing a solid foundation for the design of model predictive controllers
Course instructors:	Prof. Dr. Konrad Stadler, ZHAW Prof. Dr. Thomas Besselmann, FHNW
Price:	Fr. 400.00 (SGA-Members) , Fr. 500.00 (Non-members)
Contact:	SGA secretariat sekretariat@sga-asspa.ch or online sga-asspa.ch
Registration deadline:	Friday, May 16th, 2025

Course Description:

Model Predictive Control (MPC) is an optimisation-based approach for controlling systems and processes. The general mathematical formulation of MPC allows its application to a wide range of systems and to take constraints on system variables directly into account. Advances in optimisation methods and the available computing power have made MPC a valuable alternative to classical control approaches, even for fast dynamic systems. Today, model predictive controllers can be found in a wide range of applications, ranging from chemical process control systems to the control of frequency converters with sampling times down to a few microseconds.

The focus of this workshop is on the introduction to MPC, starting with the theoretical basics of optimisation up to different MPC variants that can be applied to problems occurring in industry. Since the classical methods of frequency domain control are not considered here, this workshop does not require in-depth knowledge of control engineering. However, a general affinity for mathematics and programming skills are advantageous.