

Medical Robotics Week, 07. - 11.06.2021

University of Basel

- ✓ MESROB 2021: 07.-09.06.2021
- ✓ AUTOMED 2021: 08.-09.06.2021
- ✓ Conference Workshops: 10.-11.06.2021 - #MRW2021

Workshop 1 Program

Practical industry workshop for TwinCat3 (Beckhoff) and Matlab/Simulink (Mathworks)

Thursday, 10.06.2021	
Industrial track Workshop 1 (2 days): Practical industry workshop for TwinCat3 (Beckhoff) and Matlab/Simulink (Mathworks) – Day 1	
08:00	Registration
09:00 – 09:20	Welcome & Introduction to real-time systems Instructors: Georg Rauter, PhD (BIROMED-Lab, Department of Biomedical Engineering, University of Basel, Basel, Switzerland)
09:20 – 09:40	Reading schematics of control cabinets Instructors: Georg Rauter, PhD
09:40 – 10:00	Software installation and programming platform Instructor: Georg Rauter, PhD
10:00 – 10:40	First steps in Matlab/Simulink Instructor: Vasco Lenzi (The MathWorks GmbH, Bern, Switzerland)
10:40 – 11:00	Coffee Break

11:00 – 12:40	My first Matlab/Simulink program in TwinCat3 Instructor: Georg Rauter, PhD
12:40 – 14:00	Lunch Break
14:00 – 15:40	Safety in TwinCAT 3 Instructor: Georg Rauter, PhD
15:40 – 16:00	Coffee break
16:00 – 17:40	Implementing a servo motor in Matlab/Simulink for TwinCat3 Instructor: Georg Rauter, PhD
17:40	End of workshop day 1: Apéro riche at the terrace next to the river Rhine

Friday, 11.06.2021	
Industrial track Workshop 1 (2 days): Practical industry workshop for TwinCat3 (Beckhoff AG) and Matlab/Simulink (Mathworks) – Day 2	
08:00	Registration
09:00 – 10:40	Development of a state machine for a servo motor in Matlab/Simulink for TwinCat3 Instructor: Georg Rauter, PhD
10:40 – 11:00	Coffee break
11:00 – 12:40	Implementation of basic controllers in Matlab/Simulink for control of a servo motor in TwinCAT3 Instructor: Georg Rauter, PhD

12:40 – 14:00	Lunch Break
14:00 – 15:40	TwinCat3 Vision Instructor: Tobias Bachmann (Technical Support / Application, Beckhoff Switzerland AG, Schaffhausen, Switzerland)
15:40 – 16:00	Coffee Break
16:00 – 17:20	Demonstration of visual servoing using Matlab/Simulink Instructor: Vasco Lenzi
17:20 – 17:35	Demonstration of visual servoing using Matlab/Simulink in TwinCAT3 Vision Instructor: Georg Rauter, PhD
17:35 – 17:40	Wrap up and Conclusions Instructor: Georg Rauter, PhD
17:40	End of workshop day 2