Dr. MARTIN KLAUČO

PhD. from Process Control (summa cum laude graduate, 2017), **MSc.** from Automation in Chemical and Food Technology (2013), **MSc.** from Electrical Engineering (2012)

Head of department (2020), docent-equivalent degree by Slovak Academy of Sciences (2020), Startup co-founder (2018)

Year of Birth:	1989
Gender:	male
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Nationality:	Slovak
Current residence:	Bratislava, Slovakia
Marital status:	Single

Education & Experience

Dark blue denotes active engagements

September 2020 - present	**Head of Department** **Department of Information Engineering and Process Control** Slovak University of Technology in Bratislava, Slovakia
February 2020 - present	**Consultant at Porsche Engineering Services** **Prague, Czechia**
September 2019 - present	**Senior Researcher** at Institute of Information Engineering, Automation and Mathematics Research interests: Machine learning approaches in optimal control strategies Slovak University of Technology in Bratislava, Slovakia
May 2019 - present	**External Researcher** at Faculty of Electrical Engineering **Czech Technical University in Prague**
June 2018 - present	**Optimal Control Labs, ltd (www.ocl.sk)** Co-Founder and Chief Operations Officer
September 2017 – August 2019	**Postdoctoral Researcher** at Institute of Information Engineering, Automation and Mathematics Research interests: Machine learning approaches in optimal control strategies Slovak University of Technology in Bratislava, Slovakia

September 2013 – August 2017	**PhD Candidate** at Institute of Information Engineering, Automation and Mathematics Dissertation Thesis: MPC-based Reference Governors: Theory and Application Supervisor: Assoc. Prof. Ing. *Michal Kvasnica*, PhD Slovak University of Technology in Bratislava, Slovakia
October 2015 – March 2016	**Visiting Scholar at UC Berkeley** Research: Application of Optimization in Obstacle Avoidance Problems Supervisor: prof. *Francesco Borrelli*, PhD University of California, Berkeley, CA, USA
September 2010 – June 2013	**MSc.** in Automation in Chemical and Food Technology Thesis: MPC-Based Reference Governors Supervisor: Assoc. Prof. Ing. *Michal Kvasnica*, PhD Slovak University of Technology in Bratislava, Slovakia
September 2012 – August 2013	**Project Application Engineer** China Nuclear Project (Implementation of Core Control System for 440MW Nuclear Reactor) Invensys Systems (Slovakia), Bratislava, Slovakia
August 2010 – August 2012	**MSc.** in Electrical Engineering at DTU Elektro Thesis: Model Predictive Control Wind-Turbines Supervisor: Assoc. Prof. MSc EE. *Niels. K. Poulsen*, PhD Denmark University of Technology, Kongens Lyngby, Denmark

Publishing Activities & Presentations

Springer book	MPC-Based Reference Governors (published in Advances in Industrial Control) https://www.springer.com/gp/book/9783030174040
High quality journals:	*Complexity reduction in explicit MPC: A reachability approach.* Systems & Control Letters, vol. 124, pp. 19–26, 2019 *Machine learning-based warm starting of active set methods in embedded model predictive control*. Engineering Applications of Artificial Intelligence, vol. 77, pp. 1–8, 2019. *MPC-Based Reference Governor Control of a Continuous Stirred-Tank Reactor*. Computers & Chemical Engineering, vol. 108, pp. 289–299, 2018. *Optimal control of a laboratory binary distillation column via regionless explicit MPC*. Computers & Chemical Engineering, vol. 96, pp. 139–148, 2017 *Real-time implementation of an explicit MPC-based reference governor for control of a magnetic levitation system*. Control Engineering Practice, no. 60, pp. 99–105, 2017.

- *Control of a boiler-turbine unit using MPC-based reference governors.* Applied Thermal Engineering, vol. 110, pp. 1437–1447, 2017
- *Computationally Tractable Formulations for Optimal Path Planning with Interception of Targets' Neighborhoods.* Journal of Guidance, Control, and Dynamics, no. 5, vol. 40, pp. 1221–1230, 2017
- *An Optimal Path Planning Problem for Heterogeneous Multi-Vehicle Systems.* International Journal of Applied Mathematics and Computer Science, no. 2, vol. 26, pp. 297–308, 2016

Conferences	IEEE: 19, IFAC: 3, Others: 3
Tutorial session	1 talk delivered in Tutorial Session Algorithms and Hardware for Embedded Optimization (ECC'16 in Aalborg, Denmark)
Invited lectures	1 talk delivered, KU Leuven, Belgium, Applied Mechanics and Energy Conversion Section

Research Projects & Grants

2020-2022	Full-Authority Vehicle Control Strategy (tri-lateral cooperation with Czech Technical University and TU Wien, Austria), APVV DS-FR-19-0031 (**principal investigator**)
2019	STU as the Leader of Digital Coalition, Funding by Slovak Ministry of Education, Science, Research and Sport 002STU-2-1/2018 (**principal investigator – faculty side, 5 team members**)
2018 – 2019	Grant for Excellent Research Teams of Slovak University of Technology in Bratislava: Economically Effective Control of Energy Intensive Chemical Processes (**principal investigator, 3-members)**
2017	Grant for Young Researcher: Advanced Optimal and Safety Oriented Control of Energy-Intensive Processes (**principal investigator**)
2016	Grant for Young Researcher: Complex Predictive Control of Energy-Demanding Chemical Processes (**principal investigator**)
2016 - 2020	APVV-15-0007 – Optimal Control for Process Industries *(team member)*
2017 - 2020	VEGA 1/0004/17 – Energy Efficient Process Control *(team member)*
2016 - 2017	APVV SK-CN-2015-0016 – CN-SK cooperation: Robust Model Predictive Control Meets Robotics *(team member)*
2015 - 2018	VEGA 1/0403/15 - Verifiably Safe Optimal Control *(team member)*
2013 - 2016	VEGA 1/0053/13 - Optimal Process Control *(team member)*
2013 - 2015	APVV 0551-11 - Advanced and effective methods of optimal process control *(team member)*
2012 - 2015	VEGA 1/0973/12 - Control of Processes with Uncertainties in Chemical Technology and Biotechnology *(team member)*
2011 - 2014	VEGA 1/0095/11 - Model Predictive Control on Platforms with Limited Computational Resources *(team member)*

Scholarships, Honors & Awards

2020	**Award for the best book in Technical Sciences (Slovak Literary Fund)**
2020	**Second level researched status (docent equivalent) by Slovak Academy of Sciences**
2017	**Award of the Dean** of FCFT STU in Bratislava for PhD studies
2017	**Award of the Rector** of STU in Bratislava for PhD studies
2016	**Merit Scholarship** at Slovak University of Technology for top 10% PhD students
2015	**Traveling Grant** from Nadácia Tatra Banky, Slovakia
2014	**Merit Scholarship** at Slovak University of Technology for top 10% PhD students
2012	**National Scholarship Program** (SAIA, Slovakia)
2010 – 2011	**Erasmus Scholarship** for abroad study – Denmark
2010	**Dean's award for exceptional studies**, Slovak University of Technology
2009	**Best paper at Student Conference** at Faculty of Chemical and Food Technology, STU Bratislava
2007	**Merit Scholarship** at Slovak University of Technology for top 10% students

Teaching Activities

Lecturer	**Master Courses:** Model Predictive Control (*responsible for the syllabus*), Process Optimization, Theory of Automatic Control for Erasmus students (*responsible for the syllabus*), Programming of Web Applications
	Bachelor Courses: Optimization, Introduction to Process Control (*responsible for the syllabus*), Process Control for Erasmus, Presentation Skills
Teaching assistant	**Master Courses:** Model Predictive Control, Process Optimization, Theory of Automatic Control
	Bachelor Courses: Optimization, Process Control
Thesis supervisor	**Master theses: 7, Bachelor theses: 3**, Other student projects: 11

Other Scientific Activities

2023	**Conference organizer (NOC Chair) IEEE Process Control 2023** (www.process-control.sk)

2021	**Conference organizer (NOC Chair) IEEE Process Control 2021** (www.process-control.sk)
2021	**Conference organizer (NOC Vicechair) IFAC Nonlinear Model Predictive Control Conference 2021 (www.nmpc2021.org)**
January 2018 – present	**Project Reviewer with Slovak Research and Development Agency**
April 2019 - present	**External Evaluator for H2020, EU projects etc.**
May 2018 – present	**Member of TC 2.4 IFAC: Optimal Control**
Reviewing activities	Journals: • Control Engineering Practice – 3 papers • Systems and Control Letters – 1 paper • ISA Transactions – 1 paper • The IEEE Transactions on Automatic Control – 1 paper Conferences: • IEEE Conferences – 31 papers • Other IFAC and IEEE conferences – 6 papers

In Bratislava, Slovakia, September 27, 2022