

# Zoznam publikácií

Celkový počet: **51 + 1 aktuálne prijatá**

Osobne prednesené prezentácie: **10 v anglickom jazyku** z toho **6** na zahraničných konferenciách

## AAA, Vedecké monografie vydané v zahraničných vydavateľstvách

1. Klaučo, M. [75%] – Kvasnica, M. [25%]: MPC-Based Reference Governors, Editor(i): M. J. Grimble, A. Ferrara, Springer, 2019.

## ADC, Vedecké práce v zahraničných karentovaných časopisoch

1. Oravec, J. [55%] – Klaučo, M. [45%]: Real-Time Tunable Approximated Explicit MPC, **Automatica**, ISSN: 0005-1098, oficiálne prijatá publikácia dňa 24.2.2022,
2. Klaučo, M. [40%] – Kalúz, M. [20%] – Kvasnica, M. [40%]: Machine learning-based warm starting of active set methods in embedded model predictive control. *Engineering Applications of Artificial Intelligence*, zv. 77, str. 1–8, 2019.
3. Kvasnica, M. [70%] – Bakaráč, P. [10%] – Klaučo, M. [20%]: Complexity reduction in explicit MPC: A reachability approach. *Systems & Control Letters*, zv. 124, str. 19–26, 2019.
4. Holaza, J. [45%] – Klaučo, M. [15%] – Drgoňa, J. [5%] – Oravec, J. [15%] – Kvasnica, M. [15%] – Fikar, M. [5%]: MPC-Based Reference Governor Control of a Continuous Stirred-Tank Reactor. *Computers & Chemical Engineering*, zv. 108, str. 289–299, 2018.
5. Klaučo, M. [50%] – Kvasnica, M. [50%]: Control of a boiler-turbine unit using MPC-based reference governors. *Applied Thermal Engineering*, zv. 110, str. 1437–1447, 2017.
6. Drgoňa, J. [32%] – Klaučo, M. [32%] – Janeček, F. [5%] – Kvasnica, M. [31%]: Optimal control of a laboratory binary distillation column via regionless explicit MPC. *Computers & Chemical Engineering*, zv. 96, str. 139–148, 2017.
7. Klaučo, M. [40%] – Kalúz, M. [40%] – Kvasnica, M. [20%]: Real-time implementation of an explicit MPC-based reference governor for control of a magnetic levitation system. *Control Engineering Practice*, č. 60, str. 99–105, 2017.
8. Oravec, J. [30%] – Klaučo, M. [30%] – Kvasnica, M. [30%] – Löfberg, J. [10%]: Computationally Tractable Formulations for Optimal Path Planning with Interception of Targets' Neighborhoods. *Journal of Guidance, Control, and Dynamics*, č. 5, zv. 40, str. 1221–1230, 2017.

## ADF, Vedecké práce v ostatných domácich časopisoch

1. Furka, M. [80%] – Klaučo, M. [10%] – Kvasnica, M. [10%]: Stabilization of Furuta Pendulum using Nonlinear MPC. *Research Papers Faculty of Materials Science and Technology in Trnava*, č. 45, zv. 27, str. 42–48, 2019.
2. Klaučo, M. [60%] – Valo, R. [10%] – Drgoňa, J. [30%]: Reflux control of a laboratory distillation column via MPC-based reference governor. *Acta Chimica Slovaca*, č. 2, zv. 10, str. 139–143, 2017.

## ADM, Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

1. Klaučo, M. [50%] – Blažek, S. [10%] – Kvasnica, M. [40%]: An Optimal Path Planning Problem for Heterogeneous Multi-Vehicle Systems. *International Journal of Applied Mathematics and Computer Science*, č. 2, zv. 26, str. 297–308, 2016.

## ADN, Vedecké práce v domácich časopisoch registrovaných v databázach Web of Science alebo SCOPUS

1. Kiš, K. [70%] – Klaučo, M. [30%]: Neural network based explicit MPC for chemical reactor control. *Acta Chimica Slovaca*, č. 2, zv. 12, str. 218–223, 2019.
2. Klaučo, M. [60%] – Čirka, Ľ. [35%] – Kukla, J. [5%]: Non-linear model predictive control of conically shaped liquid storage tanks. *Acta Chimica Slovaca*, č. 2, zv. 11, str. 141–146, 2018.

## AEC, Vedecké práce v zahraničných recenzovaných vedeckých zborníkoch, monografiách

1. Schirrer, A. [18%] – Haniš, T. [18%] – Klaučo, M. [18%] – Thormann, S. [18%] – Hromčík, M. [14%] – Jakubek, S. [14%]: Safety-extended Explicit MPC for Autonomous Truck Platooning on Varying Road Conditions. Editor(i): Rolf Findeisen, Sandra Hirche, Klaus Janschek, Martin Mönnigmann, V Preprints of the 21st IFAC World Congress (Virtual), Berlin, Germany, July 12-17, 2020, zv. 21, 2020.
2. Nehéz, M. [50%] – Bernát, D. [25%] – Klaučo, M. [25%]: Comparison of Algorithms for Near-Optimal Dominating Sets Computation in Real-World Networks. Editor(i): B. Rachev, A. Smrikarov, V Proceedings of the 16th International Conference on Computer Systems and Technologies, Association for Computing Machinery (ACM), Dublin, Ireland, str. 199–206, 2015.

## AFC, Publikované príspevky na zahraničných vedeckých konferenciách

1. Efremov, D. [45%] – Haniš, T. [45%] – Klaučo, M. [10%]: Haptic Driver Guidance for Lateral Driving Envelope Protection Using Model Predictive Control. V IEEE Intelligent Vehicles Symposium, IEEE Xplore, Las Vegas, NV, USA, USA, 2021.
2. Kiš, K. [50%] – Klaučo, M. [40%] – Mészáros, A. [10%]: Neural Network Controllers in Chemical Technologies. V 2020 IEEE 15th International Conference of System of Systems Engineering, IEEE, str. 397–402, 2020.
3. Efremov, D. [25%] – Klaučo, M. [25%] – Haniš, T. [25%] – Hromčík, M. [25%]: Driving Envelope Definition and Envelope Protection Using Model Predictive Control. V Proceedings of the American Control Conference, Denver, Colorado, USA, 2020.
4. Lohr, Y. [40%] – Klaučo, M. [40%] – Fikar, M. [10%] – Mönnigmann, M. [10%]: Machine Learning Assisted Solutions of Mixed Integer MPC on Embedded Platforms. Editor(i): Rolf Findeisen, Sandra Hirche, Klaus Janschek, Martin Mönnigmann, V Preprints of the 21st IFAC World Congress (Virtual), Berlin, Germany, July 12-17, 2020, zv. 21, 2020.
5. Kalúz, M. [30%] – Klaučo, M. [30%] – Čirka, Ľ. [30%] – Fikar, M. [10%]: Flexy2: A Portable Laboratory Device for Control Engineering Education. V 12th IFAC Symposium Advances in Control Education, str. 159–164, 2019.

6. Bakaráč, P. [30%] – Holaza, J. [25%] – Klaučo, M. [10%] – Kalúz, M. [5%] – Löfberg, J. [5%] – Kvasnica, M. [25%]: Explicit MPC based on Approximate Dynamic Programming. V European Control Conference 2018, Limassol, Cyprus, str. 1172–1177, 2018.
7. Janeček, F. [25%] – Klaučo, M. [25%] – Kalúz, M. [25%] – Kvasnica, M. [25%]: OPTIPLAN: A Matlab Toolbox for Model Predictive Control with Obstacle Avoidance. V Preprints of the 20th IFAC World Congress, Toulouse, France, zv. 20, 2017.
8. Holaza, J. [40%] – Klaučo, M. [30%] – Kvasnica, M. [30%]: Solution Techniques for Multi-Layer MPC-Based Control Strategies. V Preprints of the 20th IFAC World Congress, Toulouse, France, zv. 20, 2017.
9. Jelemenský, M. [25%] – Klaučo, M. [25%] – Paulen, R. [25%] – Lauwers, J. [5%] – Logist, F. [5%] – Van Impe, J. [1%] – Fikar, M. [14%]: Time-Optimal Control and Parameter Estimation of Diafiltration Processes in the Presence of Membrane Fouling. V 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems, zv. 11, str. 242–247, 2016.
10. Drgoňa, J. [30%] – Janeček, F. [25%] – Klaučo, M. [25%] – Kvasnica, M. [20%]: Regionless Explicit MPC of a Distillation Column. V European Control Conference 2016, Aalborg, Denmark, str. 1568–1573, 2016.
11. Oravec, J. [35%] – Klaučo, M. [30%] – Kvasnica, M. [30%] – Löfberg, J. [5%]: Optimal Vehicle Routing with Interception of Targets' Neighbourhoods. V European Control Conference 2015, Linz, Austria, str. 2538–2543, 2015.
12. Drgoňa, J. [34%] – Klaučo, M. [33%] – Kvasnica, M. [33%]: MPC-Based Reference Governors for Thermostatically Controlled Residential Buildings. V 54th IEEE Conference on Decision and Control, Osaka, Japan, zv. 54, 2015.
13. Klaučo, M. [40%] – Blažek, S. [15%] – Kvasnica, M. [40%] – Fikar, M. [5%]: Mixed-Integer SOCP Formulation of the Path Planning Problem for Heterogeneous Multi-Vehicle Systems. V European Control Conference 2014, Strasbourg, France, str. 1474–1479, 2014. **(osobne prednesené)**
14. Klaučo, M. [40%] – Drgoňa, J. [5%] – Kvasnica, M. [50%] – Di Cairano, S. [5%]: Building Temperature Control by Simple MPC-like Feedback Laws Learned from Closed-Loop Data. V Preprints of the 19th IFAC World Congress Cape Town (South Africa) August 24 - August 29, 2014, str. 581–586, 2014. **(osobne prednesené)**
15. Klaučo, M. [50%] – Kvasnica, M. [50%]: Explicit MPC Approach to PMV-Based Thermal Comfort Control. V 53rd IEEE Conference on Decision and Control, Los Angeles, California, USA, zv. 53, str. 4856–4861, 2014. **(osobne prednesené)**
16. Drgoňa, J. [30%] – Kvasnica, M. [30%] – Klaučo, M. [30%] – Fikar, M. [10%]: Explicit Stochastic MPC Approach to Building Temperature Control. V IEEE Conference on Decision and Control, Florence, Italy, str. 6440–6445, 2013. **(osobne prednesené)**
17. Klaučo, M. [80%] – Kvasnica, M. [20%]: Modeling of Networked Systems in Simulink. Editor(i): Ivan Taufer, Daniel Honc, Milan Javurek, V Proceedings of the 10th International Scientific - Technical Conference Process Control 2012, University of Pardubice, Kouty nad Desnou, Czech Republic, 2012.

## AFD, Publikované príspevky na domácich vedeckých konferenciách

1. Kiš, K. [50%] – Klaučo, M. [40%] – Kvasnica, M. [10%]: Explicit MPC in the form of Sparse Neural Networks. Editor(i): R. Paulen and M. Fikar, V Proceedings of the 23rd International Conference on Process Control, IEEE, Slovak University of Technology, str. 163–168, 2021.
2. Furka, M. [50%] – Kiš, K. [30%] – Klaučo, M. [10%] – Kvasnica, M. [10%]: Usage of Homomorphic Encryption Algorithms in Process Control. Editor(i): R. Paulen and M. Fikar, V Proceedings of the 23rd International Conference on Process Control, IEEE, Slovak University of Technology, str. 43–48, 2021.
3. Lohr, Y. [25%] – Klaučo, M. [25%] – Kalúz, M. [25%] – Mönnigmann, M. [25%]: Mimicking Predictive Control with Neural Networks in Domestic Heating Systems. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 22nd International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, str. 19–24, 2019.
4. Bakaráč, P. [40%] – Klaučo, M. [40%] – Fikar, M. [20%]: Comparison of Inverted Pendulum Stabilization with PID, LQ, and MPC Control. Editor(i): J. Cigánek, Š. Kozák, A. Kozáková, V 2018 Cybernetics & Informatics (K&I), Slovak Chemical Library, Bratislava, Lazy pod Makytou, Slovakia, zv. 29, 2018.
5. Ingole, D. [30%] – Drgoňa, J. [15%] – Kalúz, M. [15%] – Klaučo, M. [15%] – Bakošová, M. [10%] – Kvasnica, M. [15%]: Model Predictive Control of a Combined Electrolyzer-Fuel Cell Educational Pilot Plant. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 21st International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, str. 147–154, 2017.
6. Janeček, F. [40%] – Klaučo, M. [30%] – Kvasnica, M. [30%]: Trajectory Planning and Following for UAVs with Nonlinear Dynamics. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 21st International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, str. 333–338, 2017.
7. Holaza, J. [34%] – Valo, R. [33%] – Klaučo, M. [33%]: A Novel Approach of Control Design of the pH in the Neutralization Reactor. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 21st International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, str. 191–196, 2017.
8. Kalúz, M. [35%] – Klaučo, M. [35%] – Kvasnica, M. [30%]: Real-Time Implementation of a Reference Governor on the Arduino Microcontroller. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 20th International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, str. 350–356, 2015. **(osobne prednesené)**
9. Drgoňa, J. [45%] – Klaučo, M. [35%] – Valo, R. [5%] – Bendžala, J. [5%] – Fikar, M. [10%]: Model Identification and Predictive Control of a Laboratory Binary Distillation Column. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 20th International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, 2015.
10. Klaučo, M. [60%] – Jelemenský, M. [10%] – Valo, R. [20%] – Fikar, M. [10%]: Identification and Control of a Laboratory Distillation Column. Editor(i): J. Cigánek, Š. Kozák, A. Kozáková, D. Rosinová, V Medzinárodná konferencia Kybernetika a Informatika '14, Nakladateľstvo STU v Bratislave, Oščadnica, zv. 27, 2014.
11. Klaučo, M. [70%] – Poulsen, N. K. [10%] – Mirzaei, M. [10%] – Ishihara, N. [10%]: Frequency Weighted Model Predictive Control of Wind Turbine. Editor(i): Fikar, M., Kvasnica, M., V

Proceedings of the 19th International Conference on Process Control, Slovak University of Technology in Bratislava, Štrbské Pleso, Slovakia, str. 347–352, 2013. **(osobne prednesené)**

### AFG, Abstrakty príspevkov zo zahraničných vedeckých konferencií

1. Furka, M. [40%] – Kiš, K. [35%] – Bakaráč, P. [10%] – Klaučo, M. [15%]: Nonlinear MPC Policy for Systems with Data Driven Identification. V Proceedings of the 7th IFAC Conference on Nonlinear Model Predictive Control, IFAC-PapersOnline, č. 54, 2021.
2. Klaučo, M. [50%] – Kvasnica, M. [50%]: Parametric Optimization with the MPT Toolbox and its Applications in Optimal Control. V 30th European Conference on Operational Research, Dublin, zv. 30, 2019. **(osobne prednesené)**
3. Klaučo, M. [50%] – Kvasnica, M. [50%]: Towards On-Line Tunable Explicit MPC Using Interpolation. V Preprints of the 6th IFAC Conference on Nonlinear Model Predictive Control, Madison, Wisconsin, USA, 2018. **(osobne prednesené)**
4. Ingole, D. [40%] – Drgoňa, J. [20%] – Kalúz, M. [15%] – Klaučo, M. [15%] – Bakošová, M. [5%] – Kvasnica, M. [5%]: Explicit Model Predictive Control of a Fuel Cell. V The European Conference on Computational Optimization, Leuven, Belgium, zv. 4, 2016.

### AFH, Abstrakty príspevkov z domácich vedeckých konferencií


1. Kiš, K. [50%] – Klaučo, M. [50%]: Neural Networks Trained as Explicit Tunable MPC Feedback Controllers. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 22nd International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, 2019. **(osobne prednesené)**
2. Furka, M. [50%] – Klaučo, M. [50%]: Development and Implementation of Control Algorithms for Furuta Pendulum. Editor(i): M. Fikar and M. Kvasnica, V Proceedings of the 22nd International Conference on Process Control, Slovak Chemical Library, Štrbské Pleso, Slovakia, 2019. **(osobne prednesené)**

### AGJ, Prihlášky úžitkových vzorov

1. Bakaráč, P. [85%] – Klaučo, M. [5%] – Oravec, J. [5%] – Furka, M. [5%]: Mikroprocesorová platforma s vnoreným dynamickým procesom. 2020.
2. Bakaráč, P. [90%] – Klaučo, M. [5%] – Oravec, J. [5%]: Elektronická senzorová doska. 2019.

Dátum: 24.2.2022

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prodekan pre vedeckovýskumnú činnosť

  
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