

Overview of completed research projects

Principal investigator of the grant project (9)

1. VEGA 1/0263/25, Safe and reliable monitoring, optimization and control in industry, 2025 – 2028
2. VAIA 09I01-03-V05-00002, Reliable Modeling, Estimation and Control for the Future Process Industry Using Set Tools, 2024 – 2026
3. VAIA 09I03-03-V04-00530, Development of reliable and explainable models for industrial monitoring, optimization and control, 2024 – 2026
4. VEGA 1/0691/21, Effective management of industrial operations using data, 01.01.2021 – 2024
5. Erasmus+, KA107 - Mobility of students and university staff between programme countries and partner countries (STU – Thailand), 2020 – 2023
6. APVV SK-FR-2019-0004, Fr-Sk cooperation: Optimal design and process control, 2020 – 2022
7. H2020 MSCA-IF, New directions in guaranteed parameter estimation of nonlinear dynamical systems and their applications in chemical technology problems, 2018 – 2020
8. APVV SK-CN-2017-0026, CN-SK cooperation: Verified estimation and control of chemical processes, 2018 – 2019
9. DAAD, DE-SK cooperation: Reliable and real-time applicable estimation and control of chemical operations, 2018 – 2019

Member of the grant project research team (21)

1. HORIZON-WIDERA-2021-ACCESS-03, no. 101079342, Fostering Opportunities Towards Slovak Excellence in Advanced Control for Smart Industries, 2022 – 2025 (prof. Fikar)
2. VEGA 1/0297/22, Controller design methods for low-level carbon footprint process automation, 2022 – 2025 (doc. Oravec)
3. APVV-21-0019, Data Based Process Control, 2022 – 2025, (prof. Fikar)
4. APVV-20-0261, Energy-efficient Safe and Secure Process Control, 2021 – 2024 (prof. Kvasnica)
5. VEGA 1/0004/17, Energy Efficient Process Control, 2017 – 2020 (prof. Fikar)
6. APVV-15-0007, Optimal Control for Process Industries, 2016 – 2020, (prof. Fikar)
7. APVV-0551-11, Advanced and effective methods of optimal process control, 2012 – 2015 (prof. Fikar)
8. VEGA 1/0053/13, Optimal Process Control, 2013 – 2016 (prof. Fikar)
9. ERC Advanced Grant MOBOCON: Model-based Optimizing Control - from a vision to industrial reality, 2012 – 2017 (prof. Engell)
10. EU-FP7 HYCON 2: Highly-complex and networked control systems, 2012 – 2014 (Prof. Engell)
11. EU-FP7 DYMASOS: Dynamic Management of Physically Coupled Systems of Systems, 2013 – 2016 (prof. Engell)

12. EU-FP7 CPSoS: Towards a European Roadmap on Research and Innovation in Engineering and Management of Cyber-Physical Systems of Systems, 2013 – 2016 (prof. Engell)
13. APVV-0029-07: Algorithms for optimal control of heat and mass transfer processes with hybrid dynamics, 2008 – 2011 (prof. Fikar)
14. APVV SK-FR-0004-11: Fr-Sk cooperation: Dynamic and global process optimization, 2012 – 2013 (prof. Fikar)
15. APVV SK-FR-0003-07: Fr-Sk cooperation: Dynamic and global process optimization, 2008 – 2009 (prof. Fikar)
16. VEGA 1/0973/12: Control of chemical and biochemical processes with uncertainties, 2012 (doc. Bakošová)
17. VEGA 1/0095/11: Predictive control on platforms with limited computing power, 2011 – 2012 (doc. Kvasnica)
18. VEGA 1/0537/10: Control of chemical and biochemical processes with uncertainties, 2010 – 2011 (doc. Bakošová)
19. VEGA 1/0071/09: Advanced methods for optimal control of chemical and biochemical processes, 2009 – 2011 (prof. Fikar)
20. VEGA 1/4055/07: Modern approaches to the control of chemical and biochemical processes with uncertainties, 2008 – 2009 (doc. Bakošová)
21. NIL-I-007-d: Support for NO-SK cooperation in automatic control, 2010 – 2011 (prof. Fikar)

In Bratislava, on 31. 1. 2026

prof. Ing. Miroslav Fikar, DrSc.

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name and signature of the institute director

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signature of the applicant

prof. Ing. Milan Polakovič, CSc.

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name and signature of the vice-dean
for research activities