

Professional education

- 2009–2013 **Doctoral studies**, *Faculty of Mathematics and Physics, Ph.D.*, Advisors: Miroslav Hušek, Pavel Pyrih, Thesis: Homeomorphisms in topological structures
- 2021 **Habilitation**, *Faculty of Mathematics and Physics, doc.*, Thesis: On the interplay of Continuum Theory, Topological Dynamics and Descriptive Set Theory

Positions

- 2011–2013 **Institute of Chemical Technology in Prague**, (*Assistant*)
- 2013–2021 **Faculty of Mathematics and Physics**, *Charles University*, (Assistant Professor)
- 2021–now **Faculty of Mathematics and Physics**, *Charles University*, (Associate Professor)

Pedagogical activities - teaching and supervision

- 2011–2013 Institute of Chemical Technology in Prague: Mathematics I, II, III (seminar)
- 2013–2015 Faculty of Social Sciences: Introductory Mathematics, Mathematics 1, 2 (lecture and seminar)
- 2008–now Faculty of Mathematics and Physics: Mathematical analysis 1,2,3,4 (seminar), General topology 1,2 (lecture and seminar), Descriptive set theory 1,2 (lecture), Topology of a continuum (lecture), Metric spaces (lecture) Open problems seminar, Topological seminar
- 2014–2026 Succesfull Bc students: 15 (A. Doležalová, A. Češík, J. Dudák, K. Šmídová, R. Švarc., J. Bíma, K. Karasová, M. Horský, M. Nešvera, S. Smerčiak, M. Andričík, M. Barna, V. Hanika, M. Štěpánek, M. Vasky), current Bc students: 2 (L. N. Onuferová, L. Hejsek), succesfull Mgr students: 4 (J. Dudák, M. Hevessy, K. Karasová, T. Tížková), current Mgr students: 0, succesfull PhD students: 2 (A. Bartoš, J. Dudák), current PhD students: 3 (M. Hevessy, K. Karasová, B. Rosado Silva)

Grants and achievements

- 2012 Bolzano prize for the work Topological Compactifications.
- 2012–2013 Project GAUK 520812 (PI, budget 75k CZK)
- 2014–2016 Project GAČR 14-06989P (PI, budget 906k CZK)
- 2017–2019 Project GAČR 17-04197Y (member)
- 2017–2019 Project GAČR 17-00941S (member)
- 2018 NEURON award for young promising scientists, budget 500k CZK
- 2018, 2018, 2023 Dean's awards for the lecture *Descriptive Set Theory 1*, resp. for the seminar *Mathematical Analysis 1*, resp. for teaching in 2022-2023
- 2024–2026 Project GAČR 24-10705S (PI, budget 3843k CZK)

Longer research visits and guests

- 2018 **Wroclaw University, Faculty of Mathematics and Computer Science**, Wroclaw, Poland, one month research visit with a lecture *Fixed points of continuous group actions on continua*
- 2019 **University of Vienna**, Vienna, Austria, four weeks long research visit with two lectures *Complexity of the homeomorphism relation*
- 2024 **Domagoj Jelic**, *Mobility*, 1 month
- 2024–2025 **Dario Darji**, *Fulbright*, 10 months

Organising experiences

Editorial, reviews (~ 30) and referee's reports (~ 50):

- 2012–now Mathematical Reviews, Topology and its Applications, Canadian Mathematical Bulletin, Glasnik Matematicki, Topology Proceedings, RACSAM, Springer (book), Advances in Mathematics, Journal of Mathematical Analysis and Applications, Proceedings of the AMS, ...
- 2024–now Editor of the journal *Mathematica Bohemica* (IF=0.3)
- 2026–now Editor of the journal *Commentationes Mathematicae Universitatis Carolinae* (CMUC).
- Organized or co-organized conferences:
- 2016–2026 The 44th, 47th, 50th, 53rd Winter School in Abstract Analysis (Svratka, Sněžné, Vlachovice)
- 2016, 2022 The 12th and 13th Topological Symposium (TOPOSYM)
- 2026 40th Summer Conference on Topology and Its Applications, Split

Recent invited lectures on conferences

- 2021 **9th Visegrad Conference on Dynamical Systems**, *Prague*, plenary lecture “Complexity of some orbit equivalence relations induced by homeomorphism groups”
- 2021 **Workshop on continua, hyperspaces and dynamical systems**, *Mexico*, plenary lecture “Descriptive set theoretical properties of continua”
- 2022 **55th Spring Topology and Dynamical Systems Conference**, *USA*, Waco, semi-plenary lecture “Simplicity of some natural equivalence relations on compact metric spaces”
- 2024 **VIII Symposium on Nonlinear Analysis**, *Poland*, Torun, section lecture “How complex is the classification of transitive homeomorphisms?”
- 2026 **Workshop on Topological Dynamics, Continuum Theory, and related topics**, *Slovenia*, Maribor, plenary lecture “How complex is the arc connection relation?”
- 2026 **59th Spring Topology and Dynamics Conference**, *Birmingham*, USA, semi-plenary lecture “How complex is the arc connection relation?”
- 2026 **5th Pan-Pacific conference on Topology and its Applications**, *Osaka*, Japan, session lecture “Classification complexity of homeomorphism group actions”

Publication data

- 2010–2026 Scopus: 34 papers, 124 citations, h-index 7.
- 2010–2026 MathSciNet: 37 papers, 120 citations, h-index 7. Currently submitted papers: 4.

Selected publications in recent 5 years

- H. Bruin, B. Vejnar: Classification of one dimensional dynamical systems by countable structures, *Journal of Symbolic Logic* 88 (2023), 562–578.
- J. Dudák, B. Vejnar: The complexity of homeomorphism relations on some classes of compacta with bounded topological dimension, *Fundamenta Mathematicae* 263 (2023).
- J. Dudák, B. Vejnar: Compact spaces homeomorphic to their respective squares, *European Journal of Mathematics* 10 (2024), 37.
- K. Karasová, B. Vejnar: Topological fractals revisited; *Chaos, Solitons and Fractals* 192 (2025), 115848.
- L. Candido, M. Cúth, B. Vejnar: On the weak* separability of the space of Lipschitz functions, *Journal of Functional Analysis* 289 (2025), 110925.
- B. Rosado Silva, B. Vejnar: Generically hereditarily equivalent continua and topological characterization of generic maximal chains of generalized Wazewski dendrites, *European Journal of Mathematics* 11:75 (2025).
- K. Karasová, B. Vejnar: Chaos on Peano continua; *Discrete and Continuous Dynamical Systems* (2026).
- B. Vejnar: Classification complexity of chaotic systems; *Bulletin of Symbolic Logic* (2026), 1-15.
- B. Vejnar: The converse to Borsuk's result on fans fails, *Proc. of the Amer. Math. Soc.* (2026).