Daniel T. Soukup

Curriculum Vitae

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Employment

2016–2019	**Postdoctoral fellow**, Kurt Gödel Research Center, University of Vienna, Vienna, Austria.
2016	**PIMS Postdoctoral fellow**, Department of Mathematics and Statistics, University of Calgary, Calgary, AB.
2015	**Postdoctoral fellow**, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.

Education

2015	**PhD Mathematics**, University of Toronto, Toronto, ON. Thesis: Colouring problems of Erdős and Rado on infinite graphs Advisor: William Weiss
2011	**MSc Mathematics**, Eötvös Loránd University, Budapest, Hungary. With Honours.
2009	**BSc Mathematics**, Eötvös Loránd University, Budapest, Hungary.

Academic awards

2017	**Grünwald Géza Prize**, János Bolyai Mathematical Society.
2011	**Pro Scientia Medal**, Hungarian Academy of Sciences.
2011	**Rényi Kató Memorial Prize**, János Bolyai Mathematical Society.
2011	**1st prize**, XXX. National Student Research Conference, College of Nyíregyháza.
2010	**1st prize**, Student Research Conference, Eötvös Loránd University.
2008	**2nd prize**, Student Research Conference, Eötvös Loránd University.

Teaching awards

2014	**Daniel B. DeLury Teaching Award**, University of Toronto.

Grants and scholarships

2018	**NKFI thematic grant (#129211)**, as co-applicant, NKFI, Hungary.
2017	**Oberwolfach Leibniz Fellow**, Set Theory 1707.
2016	**PIMS Postdoctoral Fellowship**, University of Calgary.
2016	**Oberwolfach Leibniz Fellow**, Graph Theory 1602.
2015	**Cambridge Phil. Society Travel Grant**, Newton Institute, Cambridge.
2015	**Azrieli International Post Doc Fellowship (declined)**.
2014	**SGS Conference Grant**, University of Toronto.
2014	**UTM Travel Grant**, University of Toronto.
2011–2015	**Ontario Trillium Scholarship**, University of Toronto.
2010–2011	**Scholarship of the Republic of Hungary**, Eötvös Loránd University.

Teaching interests

Inquiry-based learning; online tools; calculus; linear algebra; discrete mathematics; logic.

Teaching experience

Department of Math & Statistics, University of Calgary

2016	**Course Instructor**, University Calculus I.

Department of Mathematics, University of Toronto

2015	**Course Coordinator**, Calculus I(A).
2014	**Course Instructor**, Calculus I(B).
2014	**Course Coordinator**, Calculus I(A).
2011–2015	**Teaching Assistant**, Linear Algebra, Multivariable Calculus, Abstract Mathematics, Real Analysis I & II (graduate).

Institute of Mathematics, Eötvös Loránd University

2010–2011	**Course Instructor**, Topics in General Topology.
2010	**Special Instructor**, Analysis I.

Outreach

2018	**Public-key cryptography**, 90 min interactive lectures for grade 11/12.

Professional development

2018	**External Funding Day**, DLE Forschungsservice, University of Vienna.
2018	**Classroom Strategies for Inquiry-Based Learning**, UTAustinX.
2018	**Good Supervision**, DLE Forschungsservice, University of Vienna.
2018	**Supervision in Doctoral Education**, DLE Forschungsservice, University of Vienna.
2017	**5th Heidelberg Laureate Forum**, Heidelberg, Germany.

Invited conference/research talks

Please see my website for lecture videos.

2018	**Colouring the real numbers and sum-sets with repetitions**, Combinatorics Seminar, University of Cambridge.
2018	**Colouring large groups and monochromatic sumsets**, Undecidability DMV Studierendenkolleg, University of Hamburg.
2018	**Chromatic number problems on infinite digraphs**, DM Forschungsseminare, University of Hamburg.
2018	**High Davies-trees in infinite combinatorics**, Séminaire Général de Logique, Paris 7.
2017	**Strongly surjective linear orders**, Logik Oberseminar, University of Bonn.
2017	**Monochromatic sumsets for colourings of $\mathbb{R}$**, 14th Luminy Workshop in Set Theory, CIRM, Luminy, France.
2017	**How to make infinite combinatorics simple?**, plenary talk at the 6th European Set Theory Conference, Budapest, Hungary.
2017	**On spaces with small dense sets**, semi-plenary talk at the 51st Spring Topology and Dynamical Systems Conference, Jersey City, NJ, USA.
2017	**Strongly surjective linear orders**, Oberwolfach Set Theory Workshop, Germany.

Contributed conference talks

The presentations and further seminar talks can be found on my website.

2018	**Ladder system uniformization on trees**, Settop 2018, Novi Sad, Serbia.
2017	**Chromatic number - finite, infinite and uncountable** , ÖMG-DMV-Congress 2017, Salzburg, Austria..
2016	**Orientations of graphs with large chromatic number**, 2016 Boise Extravaganza in Set Theory, University of San Diego, CA, USA.
2015	**Problems on uncountable graphs**, Independence Results in Mathematics and Challenges in Iterated Forcing, University of East Anglia, Norwich.

2014	**Davies-trees in infinite combinatorics**, Logic Colloquium 2014, Vienna, Austria.
2014	**Monochromatic path decompositions**, 22nd Ontario Combinatorics Workshop, Toronto, ON, Canada.
2013	**Partitioning bases of topological spaces**, Erdős Centennial, Budapest, Hungary, poster section.
2012	**Variations on (selective) separability**, IVth Workshop on Coverings, Selections, and Games in Topology, Caserta, Italy.
2012	**Constructing Lindelöf, non D-spaces**, Trends in Set Theory, Warsaw, Poland.
2011	**Guessing clubs for aD, non D-space**, Winter School in Abstract Analysis section Set Theory and Topology, Hejnice, Czech Republic.
2010	**Cross-like constructions and refinements**, Winter School in Abstract Analysis section Set Theory and Topology, Hejnice, Czech Republic.

Professional service

Conferences

2019	**Local organizer**, 7th European Set Theory Conference and Advanced Class, Vienna, Austria.
2018	**Local organizer**, Set Theory Today: A conference in honour of Georg Cantor, Vienna, Austria [90 participants].
2013	**Volunteer**, Erdős Centennial Conference, Hun. Academy of Sciences.

Departmental service

2018	**Media management**, seminar announcements and video recordings, Kurt Gödel Research Center, University of Vienna.
2016	**Departmental Colloquium and Tea Time**, organizer, Math & Stats, University of Calgary.
2013	**Summer Seminars in Set Theory**, organizer, Mathemathics Institute, Eötvös Loránd University.

Peer review

2012–	**Reviewing for AMS**.
2011–	**Refereeing**, *Journal of Comb. Theory Series A/B, Combinatorica, Electronic Journal of Combinatorics, Discrete Mathematics, Acta Mathematica Hungarica, Central European Journal of Mathematics, Fundamenta Mathematicae, Topology and its Application, Journal of Graph Theory*.

Professional memberships

Association for Symbolic Logic

European Set Theory Society

Languages

English, near-native.
Hungarian, native.
German, basic.

Citizenship

Hungarian, *[I have held study and work permits for Canada in the past]*.

List of publications

Please find all my manuscripts and current project outlines on my website.

Currently submitted papers

24. D. T. Soukup, Ladder system uniformization on trees II: growing trees, submitted to *Fundamenta Mathematicae* (January 2019), arXiv: 1806.03867

23. D. T. Soukup, Ladder system uniformization on trees I: colouring ladders, submitted to the *Archive for Mathematical Logic* (January 2019), arXiv: 1806.03867

22. V. Fischer, D. T. Soukup, More ZFC inequalities between cardinal invariants, submitted to the *Journal of Symbolic Logic* (September 2018), arXiv: 1802.02791

21. A. Aranda, C. Laflamme, D. T. Soukup, R. Woodrow, A universal partition result for infinite K_n-free and related graphs, submitted to *Discrete Mathematics* (August 2018). arXiv:1611.06142

20. R. Carroy, B. D. Miller, D. T. Soukup, The open graph dichotomy and the second level of the Borel hierarchy, submitted to the proceedings of Simon Thomas' birthday conference (March 2018), arxiv: 1803.03205

19. D. T. Soukup, Two infinite quantities and their surprising relationship, submitted to Matematikai Lapok (November 2017, in Hungarian), English version at arxiv: 1803.04331

Peer-reviewed publications

Citation numbers are based on Google Scholar and exclude self-citations.

18. D. T. Soukup, A model with Suslin trees but no minimal uncountable linear orders other than ω_1 and $-\omega_1$, *Israel Journal of Mathematics* (to appear), arxiv: 1803.03583

17. A. Aranda, C. Laflamme, D. T. Soukup, R. Woodrow, Balanced independent sets in graphs omitting large cliques, *Journal of Combinatorial Theory Series B* (to appear), DOI: https://doi.org/10.1016/j.jctb.2018.11.006

16. P. Komjáth, I. Leader, P. A. Russell, S. Shelah, D. T. Soukup, Z. Vidnyánszky, Infinite monochromatic sumsets for colourings of the reals, *Proceedings of the AMS* (to appear), arXiv:1710.07500 (Citations: 2)

15. P. Ellis, D. T. Soukup, Cycle reversions and dichromatic number in tournaments, *European Journal of Combinatorics* Volume 77, March 2019, Pages 31-48. DOI: https://doi.org/10.1016/j.ejc.2018.10.008

14. D. T. Soukup, L. Soukup, Infinite combinatorics plain and simple, *Journal of Symbolic Logic*, Volume 83, Issue 3 September 2018, pp. 1247-1281, DOI: https://doi.org/10.1017/jsl.2018.8 (Citations: 1)

13.   D. T. Soukup, Uncountable strongly surjective linear orders, *Order* (2018) DOI: https://doi.org/10.1007/s11083-018-9454-7.

12.   R. R. Dias, D. T. Soukup, On spaces with σ-closed-discrete dense sets, *Topology Proceedings* 52 (2018) pp. 245-264. (Citations: 1)

11.   D. T. Soukup, Orientations of graphs with uncountable chromatic number, *Journal of Graph Theory* 88.4 (2018): 606-630, DOI: 10.1002/jgt.22233

10.   D. T. Soukup, Decompositions of edge-colored infinite complete graphs into monochromatic paths II, *Israel Journal of Math.* 221 (2017), 235–273. (Citations: 4)

9.   M. Elekes, D. T. Soukup, L. Soukup, Z. Szentmiklóssy, Decompositions of edge-colored infinite complete graphs into monochromatic paths, *Discrete Mathematics* Volume 340, Issue 8, August 2017, Pages 2053–2069. (Citations: 8)

8.   D. T. Soukup. Trees, ladders and graphs. *Journal of Combinatorial Theory, Series B* 115 (2015) 96–116. (Citations: 2)

7.   D. T. Soukup; L. Soukup. Partitioning bases of topological spaces. *Comment. Math. Univ. Carolin.* 55, 4 (2014) 537–566.

6.   D. T. Soukup; L. Soukup; S. Spadaro. Comparing weak versions of separability. *Topology Appl.* 160 (2013), no. 18, 2538–2566. (Citations: 2)

5.   D. T. Soukup; P. Szeptycki. The union of two D-spaces may not be D. *Fund. Math.* 220 (2013), no. 2, 129–137. (Citations: 2)

4.   D. T. Soukup; P. Szeptycki. A counterexample in the theory of D-spaces. *Topology Appl.* 159 (2012), no. 10-11, 2669–2678. (Citations: 13)

3.   D. T. Soukup. Constructing aD, non D-spaces. *Topology Appl.* 158 (2011), no. 10, 1219-1225. (Citations: 2)

2.   D. T. Soukup; X. Yuming. The Collins-Roscoe mechanism and D-spaces. *Acta Math. Hun.* Vol. 131, Number 3 (2011), 275-284. (Citations: 8)

1.   D. T. Soukup. Properties D and aD are different. *Top. Proc.* 38 (2011) 279-299. (Citations: 2)

Editing

2017   Oberwolfach Report No. 11/2017, Set Theory.

Theses (PhD/MSc/BSc)

2015   Colouring problems of Erdős and Rado on infinite graphs (Citations: 3)

2011   Around D-spaces - recent progress in the theory of covering properties

2009   Cross-like constructions and refinements

Updated: January 4, 2019