Curriculum Vitae

August 2, 2024

Balázs Keszegh

Personal Details

Gender: Male
Citizenship: Slovak
Date and place of birth: 16th of December, 1981, Komárno, Slovak Republic
Email: keszegh@renyi.hu

Employment

2016 Sept. –	Alfréd Rényi Institute of Mathematics, Senior Research Fellow
2022 Sept. –	ELTE, Researcher
2017 Sept. – 2022 Aug.	ELTE, CoGe (Colorings in Combinatorial Geometry) Lendület research group (led by Dömötör Pálvölgyi), Researcher
2013 Sept. – 2016 Aug.	Alfréd Rényi Institute of Mathematics, Researcher
2013 May – 2013 July	Theoretical Computer Science Workgroup, Freie Universität, Berlin, Researcher
2010 Sept. – 2012 Aug.	Alfréd Rényi Institute of Mathematics, Young Researcher
2009 Sept. – 2010 Aug.	Ecole Polytechnique Fédérale de Lausanne (EPFL), Department of Combinatorial Geometry, Postdoctoral Researcher
2008 Sept. – 2009 Aug.	Alfréd Rényi Institute of Mathematics, Young Researcher

Grants and scholarships

2022 Sept. –	ÚNKP-22-5 New National Excellence Program of the Ministry for Innovation and Technology, Hungary
2021 Sept. – 2022 Aug.	ÚNKP-21-5 New National Excellence Program of the Ministry for Innovation and Technology, Hungary
2021 Sept. –	János Bolyai Research Scholarship of the Hungarian Academy of Sciences
2013 Sept. – 2016 Aug.	Postdoctoral grant of the Hungarian National Science Fund (OTKA), No. PD 108406
2013 Sept. – 2016 Aug.	János Bolyai Research Scholarship of the Hungarian Academy of Sciences
2013 May – 2013 July	DAAD Study Visit Grant for Senior Academics

Teaching experience

2018 Febr. – Computational Geometry, ELTE, Lecturer

2008 Sept. – 2015 Jan. Introduction to Computer Science, Budapest University of Technology and Economics, Teaching Assistant (5 semesters altogether)

Education

2005–2009 Central European University, Budapest, Department of Mathematics and its Applications, PhD
PhD Dissertation: Combinatorial and computational problems about points in the plane (supervisors: E. Győri and G. Tardos), 2009 June (Summa Cum Laude)

2000–2005 Eötvös Loránd University, Budapest, Faculty of Science, Mathematician Major
Master's Thesis: Forbidden submatrices in 0-1 matrices (supervisor: G. Tardos), 2005

1996–2000 Fazekas Mihály High School, Budapest

Research Visits

2019 July, 1 month Theoretical Computer Science Workgroup, Freie Universität, Berlin

2014 June, 1 month Department of Mathematics, Technion - Israel Institute of Technology, Haifa

2013 April, 1 month Theoretical Computer Science Workgroup, Freie Universität, Berlin, EuroGiga Cross-CRP visit

2012 Nov, 1 month Theoretical Computer Science Workgroup, Freie Universität, Berlin, EuroGiga Cross-CRP visit

2012 March, 2 months Center for Discrete Mathematics, Zhejiang Normal University, Jinhua

2007 Sept, 10 weeks Theoretical Computer Science Workgroup, Technische Universität and Freie Universität, Berlin

2006 Sept, 12 weeks Computer Science Department, Simon Fraser University, Vancouver

2004 Nov, 2 weeks Ecole Normale Supérieure, Paris

2003 Nov, 2 weeks Ecole Normale Supérieure, Paris

Prizes and competitions

2015 Junior Prize of the Hungarian Academy of Sciences

2010 Grünwald Géza Prize of the Bolyai Mathematical Society

2003 Middle-European Math contest in Ostrava, 11th place

2000 International Mathematical Olympiad, silver medal

2000 Hungarian National Mathematical Contest, 3rd place

2000	Kürschák József Mathematical Contest, 2nd place
1999	International Mathematical Olympiad, silver medal
1999	Hungarian National Mathematical Contest, 8th place

Topics of interest

Combinatorial and Computational Geometry, Extremal Combinatorics, Graph Theory

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Publication list

Journal publications

——————2024——————

62. D. Gerbner, **B. Keszegh**, K. Nagy, B. Patkós, G. Wiener: Cooperation in Combinatorial Search, Optimization Letters, https://doi.org/10.1007/s11590-024-02120-1

61. E. Ackerman, **B. Keszegh**: On the number of tangencies among 1-intersecting x-monotone curves, European Journal of Combinatorics **118** (2024), https://doi.org/10.1016/j.ejc.2024.103929

——————2023——————

60. D. Gerbner, **B. Keszegh**, D. Lenger, D. T. Nagy, D. Pálvölgyi, B. Patkós, M. Vizer, G. Wiener: On graphs that contain exactly k copies of a subgraph, and a related problem in search theory, Discrete Applied Mathematics **341** (2023), 196–203.

59. **B. Keszegh**: Coloring directed hypergraphs, Discrete Mathematics **346(9)** (2023), 113526

58. **B. Keszegh**, D. Pálvölgyi: The Number of Tangencies Between Two Families of Curves, Combinatorica **43** (2023), 939–952.

57. E. Ackerman, **B. Keszegh**, D. Pálvölgyi: On tangencies among planar curves with an application to coloring L-shapes, European Journal of Combinatorics, special issue dedicated to EuroComb 2021 (2023), https://doi.org/10.1016/j.ejc.2023.103837

56. V. Bošković, **B. Keszegh**: Saturation of Ordered Graphs, SIAM J. on Discrete Math **37(2)** (2023), https://doi.org/10.1137/22M1485735

55. **B. Keszegh**: A new discrete theory of pseudoconvexity, Discrete Mathematics and Theoretical Computer Science (DMTCS) **25(1)** (2023), dmtcs:9255, 1–35.

——————2022——————

54. E. Ackerman, **B. Keszegh**, G. Rote: An almost optimal bound on the number of intersections of two simple polygons, Discrete and Computational Geometry, **68** (2022), 1049–1077.

53. Ch. Keller, **B. Keszegh**, D. Pálvölgyi: On the Number of Hyperedges in the Hypergraph of Lines and Pseudo-discs, Electronic Journal of Combinatorics, **29(3)** (2022), P3.25 1–9.

52. **B. Keszegh**: Discrete Helly-type theorems for pseudohalfplanes, European Journal of Combinatorics **101** (2022), 103469

——————2021——————

51. **B. Keszegh**, N. Lemons, R. R. Martin, D. Pálvölgyi, B. Patkós: Induced and non-induced poset saturation problems, Journal of Combinatorial Theory, Series A **187** (2021), 105497

50. R. Fulek, **B. Keszegh**: Saturation problems about forbidden 0-1 submatrices, SIAM J. on Discrete Math **35(3)** (2021), 1964–1977.

49. G. Damásdi, S. Felsner, A. Girão, **B. Keszegh**, D. Lewis, D. T. Nagy, T. Ueckerdt: On Covering Numbers, Young Diagrams, and the Local Dimension of Posets, SIAM J. on Discrete Math **35(2)** (2021), 915–927.

48. G. Damásdi, **B. Keszegh**, D. Malec, C. Tompkins, Zh. Wang, O. Zamora: Saturation problems in the Ramsey theory of graphs, posets and point sets, European Journal of Combinatorics **95** (2021), 103321

47. E. Ackerman, **B. Keszegh**, D. Pálvölgyi: Coloring Delaunay-Edges and their Generalizations, Computational Geometry: Theory and Applications **96** (2021), 101745

46. G. Damásdi, D. Gerbner, G.O.H. Katona, **B. Keszegh**, D. Lenger, A. Methuku, D. T. Nagy, D. Pálvölgyi, B. Patkós, M. Vizer, G. Wiener: Adaptive majority problems for restricted query graphs and for weighted sets, Discrete Applied Mathematics **288** (2021), 235–245.

——————2020——————

45. E. Ackerman, **B. Keszegh**, D. Pálvölgyi: Coloring Hypergraphs Defined by Stabbed Pseudo-Disks and ABAB-Free Hypergraphs, SIAM J. on Discrete Math **34(4)** (2020), 2250–2269.

44. **B. Keszegh**, D. Pálvölgyi: Aligned plane drawings of the generalized Delaunay-graphs for pseudo-disks, Journal of Computational Geometry **11(1)** (2020), 354–370.

43. **B. Keszegh**: Two-Coloring Triples such that in Each Color Class Every Element is Missed at Least Once, Graphs and Combinatorics **36(6)** (2020), 1783–1795.

42. **B. Keszegh**, X. Zhu: A note about online nonrepetitive coloring k-trees, Discrete Applied Mathematics **285** (2020), 108–112.

41. D. Gerbner, **B. Keszegh**, A. Methuku, D. T. Nagy, B. Patkós, C. Tompkins, Ch. Xiao: Set systems related to a house allocation problem, Discrete Mathematics **343(7)** (2020), 111886

40. D. Gerbner, **B. Keszegh**, B. Patkós: Generalized forbidden subposet problems, Order **37** (2020), 389–410.

39. **B. Keszegh**: Coloring intersection hypergraphs of pseudo-disks, Discrete and Computational Geometry **64** (2020), 942–964.

——————2019——————

38. **B. Keszegh**, D. Pálvölgyi: Proper Coloring of Geometric Hypergraphs, Discrete and Computational Geometry **62(3)** (2019), 674–689.

37. **B. Keszegh**, D. Pálvölgyi: An abstract approach to polychromatic coloring: shallow hitting sets in ABA-free hypergraphs and pseudohalfplanes, Journal of Computational Geometry **10(1)** (2019), 1–26.

36. D. Gerbner, **B. Keszegh**, A. Methuku, B. Patkós, M. Vizer: An improvement on the maximum number of k-Dominating Independent Sets, Journal of Graph Theory **91(1)** (2019), 88–97.

——————2018——————

35. E. Ackerman, **B. Keszegh**, M. Vizer: On the size of planarly connected crossing graphs, Journal of Graph Algorithms and Applications, Special Issue on Graph Drawing Beyond Planarity **22(1)** (2018), 11–22.

34. D. Gerbner, **B. Keszegh**, C. Palmer, B. Patkós: On the number of cycles in a graph with restricted cycle lengths, SIAM J. on Discrete Math **32(1)** (2018), 266–279.

33. D. Gerbner, **B. Keszegh**, G. Mészáros, B. Patkós, M. Vizer: Line Percolation in Finite Projective Planes, SIAM J. on Discrete Math **32(2)** (2018), 864–881.

32. R. Ben-Avraham, M. Henze, R. Jaume, **B. Keszegh**, O. E. Raz, M. Sharir, I. Tubis: Partial-Matching RMS Distance Under Translation: Combinatorics and Algorithms, Algorithmica **80(8)** (2018), 2400–2421.

——————2017——————

31. **B. Keszegh**, X. Zhu: Choosability and paintability of the lexicographic product of graphs, Discrete Applied Mathematics **223** (2017), 84–90.

30. E. Ackerman, **B. Keszegh**, M. Vizer: Coloring points with respect to squares, Discrete and Computational Geometry **58(4)** (2017), 757–784.

29. D. Gerbner, **B. Keszegh**, D. Pálvölgyi, B. Patkós, G. Wiener and M. Vizer: Finding a non-minority ball with majority answers, Discrete Applied Mathematics **219** (2017), 18–31.

28. E. Győri, **B. Keszegh**: On the number of edge-disjoint triangles in K_4-free graphs, Combinatorica **37(6)** (2017), 1113–1124.

27. D. Gerbner, **B. Keszegh**, D. Pálvölgyi, G. Rote, G. Wiener: Search for the end of a path in the d-dimensional grid and in other graphs, Ars Mathematica Contemporanea **12(2)** (2017), 301–314.

——————2016——————

26. F. Cicalese, **B. Keszegh**, B. Lidický, D. Pálvölgyi, T. Valla: On the Tree Search Problem with Non-uniform Costs, Theoretical Computer Science **647(27)** (2016), 22–32.

25. A. Asinowski, **B. Keszegh**, T. Miltzow: Counting Houses of Pareto Optimal Matchings in the House Allocation Problem, Discrete Mathematics **339(12)** (2016), 2919–2932.

24. D. Gerbner, **B. Keszegh** N. Lemons, C. Palmer, D. Pálvölgyi: Topological orderings of weighted directed acyclic graphs, Information Processing Letters **116(9)** (2016), 564–568.

23. **B. Keszegh**, N. Lemons, D. Pálvölgyi: Online and quasi-online colorings of wedges and intervals, Order **33(3)** (2016), 389–409.

——————2015——————

22. **B. Keszegh**, D. Pálvölgyi: More on Decomposing Coverings by Octants, Journal of Computational Geometry **6(1)** (2015), 300–315.

——————2014——————

21. **B. Keszegh**: Covering Paths and Trees for Planar Grids, Geombinatorics Quarterly 24(1) (2014), 5–10.

20. **B. Keszegh**, B. Patkós, X. Zhu: Nonrepetitive colorings of lexicographic product of paths and other graphs, Discrete Mathematics and Theoretical Computer Science (DMTCS) **16(2)**, PRIMA special issue (2014), 97–110.

19. **B. Keszegh**, D. Pálvölgyi: Convex Polygons are Self-Coverable, Discrete and Computational Geometry, **51(4)** (2014), 885–895.

18. A. Dumitrescu, D. Gerbner, **B. Keszegh**, Cs. D. Tóth: Covering Paths for Planar Point Sets, Discrete and Computational Geometry **51(2)** (2014), 462–484.

17. **B. Keszegh**, D. Pálvölgyi: Octants are Cover Decomposable into Many Coverings, Computational Geometry Theory and Applications **47(5)** (2014), 585–588.

——————2013——————

16. P. Cheilaris, **B. Keszegh**, D. Pálvölgyi: Unique-maximum and conflict-free colorings for hypergraphs and tree graphs, SIAM J. on Discrete Math **27(4)** (2013), 1775–1787.

15. D. Gerbner, **B. Keszegh**, D. Pálvölgyi, G. Wiener: Density-based group testing, Information Theory, Combinatorics, and Search Theory - In Memory of Rudolf Ahlswede, Lecture Notes in Computer Science **7777** (2013), 543–556.

14. **B. Keszegh**, J. Pach, and D. Pálvölgyi: Drawing planar graphs of bounded degree with few slopes, SIAM J. on Discrete Math **27(2)** (2013), 1171–1183.

13. D. Gerbner, **B. Keszegh**, N. Lemons, C. Palmer, B. Patkós, and D. Pálvölgyi: Saturating Sperner Families, Graphs and Combinatorics **29(5)** (2013), 1355–1364.

12. R. Fulek, **B. Keszegh**, F. Morić, I. Uljarević: On Polygons Excluding Point Sets, Graphs and Combinatorics (2013) **29(6)**, 1741–1753.

——————2012——————

11. K. Arikushi, R. Fulek, **B. Keszegh**, F. Morić, and Cs. D. Tóth: Graphs that Admit Right Angle Crossing Drawings, Computational Geometry Theory and Applications **45 (4)**, Elsevier (2012), 169–177.

10. D. Gerbner, **B. Keszegh**, C. Palmer: Generalizations of the Tree Packing Conjecture, Discussiones Mathematicae Graph Theory **32(3)** (2012), 569–582.

9. D. Gerbner, **B. Keszegh**: Path-search in a pyramid and in other graphs, Journal of Statistical Theory and Practice **6(2)** (2012), 303–314.

8. **B. Keszegh**: Coloring half-planes and bottomless rectangles, Computational Geometry Theory and Applications **45(9)**, Elsevier (2012), 495–507.

7. **B. Keszegh**, D. Pálvölgyi: Octants are Cover Decomposable, Discrete and Computational Geometry **47(3)**, Springer (2012), 598–609.

——————2011——————

6. **B. Keszegh**: Box-respecting Colorings of n-dimensional Guillotine-Partitions, Discrete Mathematics **311(8-9)**, Elsevier (2011), 756–760.

——————2010——————

5. D. Gerbner, **B. Keszegh**, N. Lemons, C. Palmer, B. Patkós and D. Pálvölgyi: Polychromatic colorings of arbitrary rectangular partitions, Discrete Mathematics, **310(1)**, Elsevier (2010), 21–30.

——————2009——————

4. **B. Keszegh**, J. Pach, D. Pálvölgyi, and G. Tóth: Cubic graphs have bounded slope parameter, Special Issue of Graph Drawing 2008, Journal of Graph Algorithms and Applications **14(1)** (2010), 5–17.

3. **B. Keszegh**: On linear forbidden submatrices, Journal of Combinatorial Theory, Series A **116**, Elsevier (2009), 232–241.

2. E. Ackerman, O. Aichholzer, and **B. Keszegh**: Improved upper bounds on the reflexivity of point sets, Computational Geometry: Theory and Applications **42(3)**, Elsevier (2009), 241–249.

————2008————

1. **B. Keszegh**, J. Pach, D. Pálvölgyi, and G. Tóth: Drawing cubic graphs with at most five slopes, Computational Geometry: Theory and Applications **40(2)**, Elsevier (2008), 138–147.

Publications in conference proceedings

36. E. Ackerman, G. Damásdi, **B. Keszegh**, R. Pinchasi, R. Raffay: On the Number of Digons in Arrangements of Pairwise Intersecting Circles. Proceedings of SoCG 2024, LIPIcs **293** (2024), 3:1-3:14

35. E. Ackerman, **B. Keszegh**: On the number of tangencies among 1-intersecting curves, Proceedings of Eurocomb 2023, Masaryk University Press (2023), 4–11., https://doi.org/10.5817/CZ.MUNI.EUROCOMB23-001

34. P. Ágoston, G. Damásdi, **B. Keszegh**, D. Pálvölgyi: Orientation of good covers, The 12th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings (2023), 249–257.

33. **B. Keszegh**: A new discrete theory of pseudoconvexity, Proceedings of EuroCG 2022 (2022), 15:1–15:6.

32. P. Ágoston, G. Damásdi, **B. Keszegh**, D. Pálvölgyi: Orientation type of convex sets, Proceedings of EuroCG 2022 (2022), 62:1–62:8.

31. **B. Keszegh**: Discrete Helly-type theorems for pseudohalfplanes, Proceedings of EuroComb 2021, Trends in Mathematics - Research Perspectives CRM Barcelona Vol.14 (2021), 359–365.

30. E. Ackerman, **B. Keszegh**, D. Pálvölgyi: On tangencies among planar curves with an application to coloring L-shapes, Proceedings of EuroComb 2021, Trends in Mathematics - Research Perspectives CRM Barcelona Vol.14 (2021), 123–128.

29. E. Ackerman, B. Keszegh, G. Rote: An almost optimal bound on the number of intersections of two simple polygons, Proceedings of SoCG 2020, LIPIcs **164** (2020), 1:1–1:18.

28. E. Ackerman, **B. Keszegh**, D. Pálvölgyi: Coloring hypergraphs defined by stabbed pseudo-disks and ABAB-free hypergraphs, Proceedings of EuroComb 2019, Acta Mathematica Universitatis Comenianae **88(3)** (2019), 363–370.

27. G. Damásdi, D. Gerbner, G.O.H. Katona, **B. Keszegh**, D. Lenger, A. Methuku, D. T. Nagy, D. Pálvölgyi, B. Patkós, M. Vizer, G. Wiener: Adaptive Majority Problems for Restricted Query Graphs and for Weighted Sets, Proceedings of EuroComb 2019, Acta Mathematica Universitatis Comenianae **88(3)** (2019), 601–609.

26. **B. Keszegh**: Coloring intersection hypergraphs of pseudo-disks, Proceedings of SoCG 2018, LIPIcs **99** (2018), 52:1–52:15.

25. E. Győri, **B. Keszegh**: On the number of edge-disjoint triangles in K_4-free graphs, Proceedings of Eurocomb 2017, Electronic Notes in Discrete Mathematics **61** (2017), 557–560.

24. **B. Keszegh**, D. Pálvölgyi: Proper Coloring of Geometric Hypergraphs, Proceedings of SoCG 2017, LIPIcs **77** (2017), 47:1–47:15.

23. E. Ackerman, **B. Keszegh**, M. Vizer: On the size of planarly connected crossing graphs, Proceedings of Graph Drawing 2016, Lecture Notes in Computer Science **9801** (2016), 311–320.

22. E. Ackerman, **B. Keszegh**, M. Vizer: Coloring points with respect to squares, Proceedings of SoCG 2016, LIPIcs **51** (2016), 5:1–5:16.

21. D. Gerbner, **B. Keszegh**, D. Pálvölgyi, B. Patkós, G. Wiener and M. Vizer: Finding a majority ball with majority answers, Proceedings of Eurocomb 2015, Electronic Notes in Discrete Mathematics **49** (2015), 345–351.

20. **B. Keszegh**, D. Pálvölgyi: An abstract approach to polychromatic coloring: shallow hitting sets in ABA-free hypergraphs and pseudohalfplanes, Proceedings of Graph-Theoretic Concepts in Computer Science - WG 2015, Lecture Notes in Computer Science, **9224** (2016), 266–280.

19. F. Cicalese, **B. Keszegh**, B. Lidický, D. Pálvölgyi, T. Valla: On the Tree Search Problem with Non-uniform Costs, Proceedings of Graph-Theoretic Concepts in Computer Science - WG 2015, Lecture Notes in Computer Science, **9224** (2016), 90–102.

18. R. Ben-Avraham, M. Henze, R. Jaume, **B. Keszegh**, O. E. Raz, M. Sharir, I. Tubis: Minimum Partial Matching and Hausdorff RMS-Distance Under Translation: Combinatorics and Algorithms, 22nd European Symposium on Algorithms - ESA 2014, Lecture Notes in Computer Science **8737** (2014), 100-111.

17. A. Asinowski, **B. Keszegh**, T. Miltzow: Counting Houses of Pareto Optimal Matchings in the House Allocation Problem, Seventh International Conference on Fun with Algorithms - FUN 2014, Lecture Notes in Computer Science **8496** (2014), 301–312.

16. **B. Keszegh**: Covering Paths and Trees for Planar Grids, Proceedings of EuroCG 2014 (2014)

15. A. Dumitrescu, D. Gerbner, **B. Keszegh**, Cs. D. Tóth: Covering Paths for Planar Point Sets, The 8th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings (2013)

14. M. Henze, R. Jaume, **B. Keszegh**: On the complexity of the partial least-squares matching Voronoi diagram, EuroCG 2013 (2013), 193–196.

13. **B. Keszegh**, N. Lemons, D. Pálvölgyi: Online and quasi-online colorings of wedges and intervals, SOFSEM 2013: Theory and Practice of Computer Science, Lecture Notes in Computer Science **7741** (2013), 292–306.

12. **B. Keszegh**, D. Pálvölgyi: Octants are Cover Decomposable, The 7th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings, 217–226.; The Sixth European Conference on Combinatorics, Graph Theory and Applications, EuroComb 2011, Electronic Notes in Discrete Mathematics, **38(1)**, Elsevier (2011), 499–504.

11. D. Gerbner, N. Lemons, **B. Keszegh**, C. Palmer, B. Patkós, and D. Pálvölgyi: Saturating Sperner families, The 7th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings (2011), 341–350.

10. **B. Keszegh**, J. Pach, and D. Pálvölgyi: Drawing planar graphs of bounded degree with few slopes, Graph Drawing 2010, Lecture Notes in Computer Science **6502**, Springer, 293–304.

9. P. Cheilaris, **B. Keszegh**, D. Pálvölgyi: Unique-maximum and conflict-free colorings for hypergraphs and tree graphs, The 7th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings, 207-216.; SOFSEM 2012 Proceedings, 190–201.

8. K. Arikushi, R. Fulek, **B. Keszegh**, F. Morić, and Cs. D. Tóth: Graphs that Admit Right Angle Crossing Drawings, 36th International Workshop on Graph Theoretic Concepts in Computer Science, Zarós (2010), Lecture Notes in Computer Science **6410**, Springer, 135–146.

7. R. Fulek, **B. Keszegh**, F. Morić, I. Uljarević: On Polygons Excluding Point Sets, The 22nd Canadian Conference on Computational Geometry (CCCG10) (2010) Proceedings, 273–276.

6. D. Gerbner, **B. Keszegh**, N. Lemons, C. Palmer, B. Patkós, and D. Pálvölgyi: Polychromatic colorings of arbitrary rectangular partitions, The 6th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications Proceedings (2009), 289–297.

5. **B. Keszegh**, J. Pach, D. Pálvölgyi, and G. Tóth: Cubic graphs have bounded slope parameter, Graph Drawing 2008, Lecture Notes in Computer Science **5417**, Springer, 50–60.

4. **B. Keszegh**: Polychromatic colorings of n-dimensional guillotine-partitions, The 14th Annual International Computing and Combinatorics Conference (COCOON08) (2008) Proceedings, 110–118.

3. **B. Keszegh**: Weak conflict free colorings of point sets and simple regions, The 19th Canadian Conference on Computational Geometry (CCCG07) (2007), Proceedings, 97–100.

2. E. Ackerman, O. Aichholzer and **B. Keszegh**: Improved upper bounds on the reflexivity of point sets, The 19th Canadian Conference on Computational Geometry, Proceedings (2007), 29–32.

1. **B. Keszegh**, J. Pach, D. Pálvölgyi, and G. Tóth: Drawing cubic graphs with at most five slopes, Graph Drawing 2006; Lecture Notes in Computer Science **4372**, Springer, 114-125.

Manuscripts

9. V. Bošković, **B. Keszegh**: Saturation of edge-ordered graphs
   https://arxiv.org/abs/2408.00457

8. **B. Keszegh**, D. Pálvölgyi: On dual-ABAB-free and related hypergraphs
   https://arxiv.org/abs/2406.13321

7. E. Ackerman, G. Damásdi, **B. Keszegh**, R. Pinchasi, R. Raffay: On the number of digons in arrangements of pairwise intersecting circles
   https://arxiv.org/abs/2406.02276

6. S. Bhore, **B. Keszegh**, A. Kupavskii, H. Le, A. Louvet, D. Pálvölgyi, C. D. Tóth: Spanners in Planar Domains via Steiner Spanners and non-Steiner Tree Covers
   https://arxiv.org/abs/2404.05045

5. D. Gerbner, **B. Keszegh**, D. T. Nagy, K. Nagy, D. Pálvölgyi, B. Patkós, G. Wiener: Query complexity of Boolean functions on the middle slice of the cube
   https://arxiv.org/abs/2309.13678

4. E. Ackerman, **B. Keszegh**: The maximum size of adjacency-crossing graphs
   https://arxiv.org/abs/2309.06507

3. **B. Keszegh**, D. Simon: Convex Hull Thrackles
   https://arxiv.org/abs/2307.03252

2. P. Ágoston, G. Damásdi, **B. Keszegh**, D. Pálvölgyi: Orientation of good covers
   https://arxiv.org/abs/2206.01723

1. P. Ágoston, G. Damásdi, **B. Keszegh**, D. Pálvölgyi: Orientation of convex sets
   https://arxiv.org/abs/2206.01721

Talks (conferences etc.)

- On ABAB-free and related hypergraphs:
  - Novi Sad Workshop on Foundations of Computer Science (NSFOCS), Novi Sad, July, 2024
- Saturation saturated:
  - Sum(m)it280, Budapest, July, 2024 (invited talk)
- On the number of tangencies among 1-intersecting curves:
  - EuroComb 2023, Prague, August, 2023
- Orientation of good covers:
  - The 12th Hungarian-Japanese Symposium on Discrete Mathematics and Its Applications, Budapest, March, 2023
- Coloring directed hypergraphs:
  - Maribor Graph Theory Conference, Maribor, September, 2022
- A new discrete theory of pseudoconvexity:
  - 38th European Workshop on Computational Geometry (EuroCG 2022), Perugia, March, 2022
- Discrete Helly-type theorems for pseudohalfplanes:
  - EuroComb 2021, Barcelona (online), September, 2021
- On tangencies among planar curves with an application to coloring L-shapes:
  - EuroComb 2021, Barcelona (online), September, 2021
- Organizer of Section Combinatorics and Geometry of the Developments in Computer Science Conference, Budapest (online), June, 2021
- Coloring hypergraphs defined on ordered vertex sets:
  - MFO Workshop on Discrete Geometry, Oberwolfach (online), September, 2020
- An almost optimal bound on the number of intersections of two simple polygons:
  - SoCG 2020, Zurich (online), June, 2020
- Coloring hypergraphs defined by stabbed pseudo-disks and ABAB-free hypergraphs:
  - EuroComb 2019, Bratislava, August, 2019
- Organizer of Workshop on Combinatorial Geometry within SoCG 2018, Budapest, June, 2018
- Coloring intersection hypergraphs of pseudo-disks:
  - BIRS Extremal Problems in Combinatorial Geometry, Banff, February, 2018
  - SoCG 2018, Budapest, June, 2018
- On the number of edge-disjoint triangles in K_4-free graphs:
  - Hungarian-Israeli combinatorial days at the Technion, Haifa, August, 2016
- Coloring points with respect to squares:
  - SoCG 2016, Boston, June, 2016
- Paintability of the lexicographic product of graphs:
  - Joint Austrian-Hungarian Mathematical Conference, Győr, August, 2015

- More on Decomposing Coverings by Octants:
  - Intuitive Geometry, László Fejes Tóth Centennial, Budapest, June, 2015
- An abstract approach to polychromatic coloring: shallow hitting sets in ABA-free hypergraphs and pseudohalfplanes:
  - International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2015), Munich, June, 2015
- Convex Polygons are Self-Coverable:
  - Sum(m)it:240, Budapest, July, 2014
- Covering Paths and Trees for Planar Grids:
  - 30th European Workshop on Computational Geometry (EuroCG 2014), Dead Sea, March, 2014
- Non-crossing covering paths for planar point sets:
  - Methods for Discrete Structures Colloquium, Berlin, November, 2012
- Online and quasi-online colorings of wedges and intervals:
  - 39th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2013), Špindlerův Mlýn, January, 2013
  - Combinatorics seminar, Zhejiang Normal University, Jinhua, March, 2012
  - Combinatorics seminar, JiaoTong University, Shanghai, April, 2012
- Octants are cover decomposable:
  - The 7th Hungarian-Japanese Symposium on Discrete Mathematics and Its Applications, Kyoto, May 31 - June 3, 2011
  - EuroComb 2011, Budapest, August 29 - September 2, 2011
- Unique-maximum and conflict-free coloring for hypergraphs and tree graphs:
  - The 7th Hungarian-Japanese Symposium on Discrete Mathematics and Its Applications, Kyoto, May 31 - June 3, 2011
  - Workshop on Discrete Mathematics and Graph Theory, Zhejiang University, Jinhua, April, 2012
- Path-search in a pyramid and in other graphs:
  - ZiF Workshop Search Methodologies II, Bielefeld, October 25-29, 2010
- Generalizations of the Tree Packing Conjecture:
  - 8th French Combinatorial Conference, Paris, June 28 - July 2, 2010
- Search with density tests:
  - Coimbra Meeting on 0-1 Matrix Theory and Related, Coimbra, June 17-19, 2010
- Mini course on conflict-free colorings:
  - Freie Universität, Berlin, June 3-6, 2008
- Polychromatic colorings of n-dimensional guillotine-partitions:
  - The 14th Annual International Computing and Combinatorics Conference, Dalian, June 27-29, 2008
- Weak conflict free colorings of point sets and simple regions:
  - Geometry Fest, Budapest, June 11-15, 2007
  - The 19th Canadian Conference on Computational Geometry (CCCG), Ottawa, August 20-22, 2007
- An improved upper bound on the reflexivity of point sets:
  - The 19th Canadian Conference on Computational Geometry (CCCG), Ottawa, August 20-22, 2007

- On linear forbidden submatrices:
  - COMBSTRU semi-final workshop, Prague, March 10-12, 2006
  - Conference on Probabilistic Combinatorics & Algorithms, DIMACS Center, Rutgers, April 24-25, 2006

Some other conference and workshop participations

- Special Semester about Discrete Geometry and Convexity, Budapest, 2023:
  Convex and Discrete Geometry Workshop
  Focused Week: Geometric Spanners
  Graph Drawing and Combinatorial Geometry Workshop
  Focused Week: Combinatorial geometry in Radon convexity spaces
- Focused Workshop on Saturation in the Forbidden Subposet Problem, Budapest, 2023
- A Sparse (Graphs) Coalition, Workshop Session 5: Geometric graphs and hypergraphs (online), 2021
- 8th Polish Combinatorial Conference (online), 2020
- Dagstuhl Workshop on Beyond-Planar Graphs: Combinatorics, Models and Algorithms, Dagstuhl, 2019
- Building Bridges II., Budapest, 2018
- Discrete Geometry and Convexity - Bárány 70, Budapest, 2017
- Discrete Geometry Fest 2017, Budapest, 2017
- Graph Drawing, Athens, 2016
- Oberwolfach Workshop on Discrete Geometry, Oberwolfach, 2014
- EuroGIGA Final Conference, Berlin, 2014
- Erdős Centennial, Budapest, 2013
- EuroGiga GraDR midterm meeting, Berlin, 2012
- EuroGiga Midterm Conference, Prague, 2012
- A Conference in honor of the 70th birthday of Gyula Katona, Budapest, 2011
- Paul Turán Memorial Conference, Budapest, 2011
- 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11-12th, 13-14th, 15-16th Emléktábla Workshop, Hungary, 2010-2024
- Conference on Geometric Graph Theory, Lausanne, 2010
- The Mathematics of Vera Sós, Budapest, 2010
- A Conference in honor of the 70th birthday of Endre Szemerédi, Budapest, 2010
- 3ème cycle romand de Recherche Opérationnelle, Zinal, 2010
- EuroComb, Bordeaux, 2009
- 3ème cycle romand de Recherche Opérationnelle, Zinal, 2009
- Fete of Combinatorics and Computer Science, Keszthely, 2008

- Building Bridges, Budapest, 2008
- International Workshop on Graph-Theoretic Concepts in Computer Science, Dornburg near Jena, 2007
- Advanced Course on Analytic and Probabilistic Techniques in Combinatorics, Barcelona, 2007
- Graph Drawing, Karlsruhe, 2006
- EuroComb, Berlin, 2005