Curriculum Vitae
Adrian Dumitrescu

150 W Cherokee Circle, Fox Point, WI 53217
adriandumitrescu.org
Email ad.dumitrescu@gmail.com

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Education

- PhD in Computer Science, Rutgers University, Piscataway, New Jersey, October 1999. Thesis advisor: William Steiger, PhD. Title of dissertation: *Several Problems in Combinatorial Geometry*.

Awards, Research Funding & Grants

- Best paper award at the 34th International Workshop on Combinatorial Algorithms (IWOCA 2023).
- 2013 Excellence in research award, College of Engineering and Applied Science, University of Wisconsin–Milwaukee, March 2013.
- NSF award (Division of Mathematical Sciences), September 2010 – August 2013; $300,000.
- NSF CAREER award (Division of Computing and Communication Foundations), May 2005 – April 2010; approx. $475,000.
- 2006 Graduate School/UWM Foundation research award: $1,500; Oct. 2006.
- DIMACS research award: $2,000; Spring 1999.
- DIMACS research award: $1,000; Summer 1999.
- Teaching assistantship, Rutgers University, 1993-1998.
- Honorable mention, Romanian National Mathematical Olympiad (in 9th, 10th, and 12th grade).

Research Interests

- Theory of Algorithms, Approximation Algorithms, Online Algorithms, Computational and Combinatorial Geometry, Optimization, Algorithmic Robotics, Communication Complexity, Sensor Networks, Extremal Combinatorics, Digital Arts.

Teaching Competencies

- Algorithms and Data Structures, Approximation Algorithms, Randomized Algorithms, Theory of Computation, Computational Geometry, Optimization, Algorithmic Robotics, Communication Complexity, Discrete Mathematics for Computer Science, Combinatorics, Graph Theory.

Professional Membership

- American Mathematical Society

Foreign Languages

- German, French, Italian.

Employment

- February 2021 – present: Scientific Researcher & Founder of Algoresearch L.L.C., Milwaukee, WI.
- August 2015 – January 2021: Professor of Computer Science, University of Wisconsin–Milwaukee.
- June 2007 – August 2015: Associate Professor of Computer Science, University of Wisconsin–Milwaukee.
- January 2001 – June 2007: Assistant Professor of Computer Science, University of Wisconsin–Milwaukee.

  Courses taught:

  - *Introduction to the Theory of Computation* (U/G level): Fall 2001, Spring 2002, Fall 2002, Spring 2004, Spring 2005, Fall 2006, Fall 2007, Spring 2008, Spring 2011, Spring 2014, Fall 2014, Fall 2015, Fall 2016, Spring 2018, Spring 2019, Spring 2020, Fall 2020.
  - *Algorithm Design and Analysis* (U/G level): Spring 2003, Fall 2003, Spring 2004, Spring 2005, Fall 2005, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Spring 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2020.
  - *Social, Professional and Ethical Issues* (U level): Spring 2017, Fall 2017, Spring 2020.
  - *Analysis of Algorithms* (graduate level): Spring 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2004, Spring 2006, Fall 2007, Fall 2009, Spring 2012, Spring 2013, Fall 2014, Fall 2015, Fall 2018, Fall 2019.
  - *Computational Geometry* (graduate level): Fall 2003, Fall 2004, Fall 2006, Spring 2010, Fall 2012.
  - *Randomized Algorithms* (graduate level): Fall 2005, Spring 2007, Fall 2010, Fall 2013.
  - *Approximation Algorithms* (graduate level): Spring 2017.

- Jan. 2000 – Aug. 2000: Visiting Assistant Professor in the Department of Applied Mathematics and Statistics, State University of New York at Stony Brook.
  - Research within the Computational Geometry Lab on projects in the area of algorithms and applied computational geometry.
  - Instructor in *Discrete Mathematics* (undergraduate level), Spring 2000.
- 1993–1999: Teaching Assistant, Rutgers University.
  - Graduate courses: *Introduction to Algorithms and Data Structures*, *Computational Geometry*. Undergraduate courses: *Discrete Mathematics*, *Introduction to Algorithms*.

Visiting Appointments

- October 2025 – November 2025: Visiting Researcher at the Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- May 2024 – July 2024: Visiting Researcher at the Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- September 2023 – November 2023: Visiting Researcher at the Erdős Center, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- March 2016 – June 2016: Visiting Professor in the Department of Computer Science at Université Libre de Bruxelles, Belgium.
- March 2009 – June 2009: Visiting Professor at the Institut de Mathématique B, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
- June 2008 – Aug. 2008: Visiting Researcher at the Alfréd Rényi Institute of Mathematics of the Hungarian Academy of Sciences, Budapest, Hungary.
- Jan. 2000 – Aug. 2000: Visiting Assistant Professor in the Department of Applied Mathematics and Statistics, State University of New York at Stony Brook.

Nominations

- Selected as University of Wisconsin Libraries Research Fellow in the academic years 2010–2011 and 2011–2012.

Publications (Summary and highlights)

- one book, 122 journal publications, 113 in conference proceedings, 11 Computational Geometry Columns, 10 articles in books, 1 other journal publication, 14 new manuscripts and submitted articles (under review), two theses and reports.
- My Erdős number is 2.
- My H-index (Hirsch Number) is 26.
- Maximum number of citations per article: 350 (in Google Scholar).
- Total number of citations: 2660 (in Google Scholar).
- Publication record in DBLP: 285.
- 21 articles invited for publication in special journal issues dedicated to best papers from the respective conferences.

Books

1. Adrian Dumitrescu and Ke Chen, *The Ape Book: Algorithmic Problems and Exercises*, ISBN: 9798674163009, August 2020.

Journal Publications

1. Adrian Dumitrescu, Planar sets with few empty convex polygons , *Studia Scientiarum Mathematicarum Hungarica*, 36(1-2), 2000, 93–109.

2. Adrian Dumitrescu and William Steiger, On a matching problem in the plane, *Discrete Mathematics*, 211(1-3), 2000, 183–195.

3. Adrian Dumitrescu and Rick Kaye, Matching colored points in the plane: some new results, *Computational Geometry: Theory and Applications*, 19(1), 2001, 69–85.

4. Adrian Dumitrescu, Berndt Gärtner, Samuele Pedroni, and Emo Welzl, Enumerating triangulation paths, *Computational Geometry: Theory and Applications*, 20(1-2), 2001, 3–12.

5. Adrian Dumitrescu and William Steiger, Space-time trade-offs for some ranking and searching queries, *Information Processing Letters*, 79(5), 2001, 237–241.

6. Adrian Dumitrescu and Géza Tóth, Ramsey-type results for unions of comparability graphs, *Graphs and Combinatorics*, 18(2), 2002, 245–251.

7. Adrian Dumitrescu and János Pach, Partitioning colored point sets into monochromatic parts, *International Journal of Computational Geometry & Applications*, 12(5), 2002, 401–412.

8. Adrian Dumitrescu, On the maximum multiplicity of some extreme geometric configurations in the plane, *Geombinatorics*, 12(1), 2002, 5–14.

9. Adrian Dumitrescu and Joseph Mitchell, Approximation algorithms for TSP with neighborhoods in the plane, *Journal of Algorithms*, 48(1), 2003, 135–159.

10. Adrian Dumitrescu, Joseph Mitchell, and Micha Sharir, Binary space partitions for axis-parallel segments, rectangles, and hyperrectangles, *Discrete & Computational Geometry*, 31(2), 2004, 207–227.

11. Adrian Dumitrescu and Sumanta Guha, Extreme distances in multicolored point sets, *Journal of Graph Algorithms and Applications*, 8(1), 2004, 27–38.

12. Adrian Dumitrescu, Ichiro Suzuki, and Masafumi Yamashita, Formations for fast locomotion of metamorphic robotic systems, *International Journal of Robotics Research*, 23(6), 2004, 583–593.

13. Adrian Dumitrescu, Ichiro Suzuki, and Masafumi Yamashita, Motion planning for metamorphic systems: feasibility, decidability and distributed reconfiguration, *IEEE Transactions on Robotics and Automation*, 20(3), 2004, 409–418.

14. Adrian Dumitrescu, The cost of cutting out convex n-gons, *Discrete Applied Mathematics*, 143(1-3), 2004, 353–358 .

15. Adrian Dumitrescu, An approximation algorithm for cutting out convex polygons, *Computational Geometry: Theory and Applications*, 29(3), 2004, 223–231.

16. Gabriela Araujo, Adrian Dumitrescu, Ferran Hurtado, Marc Noy and Jorge Urrutia, On the chromatic number of some geometric type Kneser graphs, *Computational Geometry: Theory and Applications*, 32, 2005, 59–69.

17. Adrian Dumitrescu, Monotone paths in line arrangements with a small number of directions, *Discrete & Computational Geometry*, 33, 2005, 687–697.

18. Adrian Dumitrescu, On some monotone path problems in line arrangements, *Computational Geometry: Theory and Applications*, 32, 2005, 13–25.

19. Adrian Dumitrescu, A remark on the Erdős–Szekeres theorem, *American Mathematical Monthly*, 112(12), 2005, 921–924.

20. Gruia Călinescu, Adrian Dumitrescu, Howard Karloff, and Peng-Jun Wan, Separating points by axis-parallel lines, *International Journal of Computational Geometry & Applications*, 15(6), 2005, 575–590.

21. Adrian Dumitrescu, János Pach, and Géza Tóth, The maximum number of empty congruent triangles determined by a point set, *Revue Roumaine de Mathématiques Pures et Appliquées*, 50, 2005, 613–618.

22. Adrian Dumitrescu and János Pach, Pushing squares around, *Graphs and Combinatorics*, 22(1), 2006, 37–50.

23. Adrian Dumitrescu, On distinct distances from a vertex of a convex polygon, *Discrete & Computational Geometry*, 36, 2006, 503–509.

24. Adrian Dumitrescu, Annette Ebbers-Baumann, Ansgar Grüne, Rolf Klein, and Günter Rote, On the geometric dilation of closed curves, graphs, and point sets, *Computational Geometry: Theory and Applications*, 36(1), 2006, 16–38.

25. Sergey Bereg and Adrian Dumitrescu, The lifting model for reconfiguration, *Discrete & Computational Geometry*, 35(4), 2006, 653–669.

26. Adrian Dumitrescu and Guangwu Xu, On two representation problems with infinite multiplicity, *JP Journal of Algebra, Number Theory and Applications*, 9(2), 2007, 215–236.

27. Adrian Dumitrescu and Guangwu Xu, On a query algorithm for a divisibility problem, *ACM Communications in Computer Algebra*, 41(4), 2007, 122–125.

28. Adrian Dumitrescu and Csaba D. Tóth, Analysis of two sweep-line algorithms for constructing spanning trees and Steiner trees, *Journal of Universal Computer Science*, 13(11), 2007, 1615–1627.

29. Sergey Bereg, Adrian Dumitrescu, and János Pach, Sliding disks in the plane, *International Journal of Computational Geometry & Applications*, 18(5), 2008, 373–387.

30. Gruia Călinescu, Adrian Dumitrescu, and János Pach, Reconfigurations in graphs and grids, *SIAM Journal on Discrete Mathematics*, 22(1), 2008, 124–138.

31. Adrian Dumitrescu, Ichiro Suzuki, and Paweł Żyliński, Offline variants of the "lion and man" problem, *Theoretical Computer Science*, 399(3), 2008, 220–235.

32. Adrian Dumitrescu, On distinct distances among points in general position and other related problems, *Periodica Mathematica Hungarica*, 57(2), 2008, 165–176.

33. Adrian Dumitrescu and Csaba D. Tóth, On the number of tetrahedra with minimum, uniform, and distinct volumes in three-space, *Combinatorics, Probability and Computing*, 17(2), 2008, 203–224.

34. Adrian Dumitrescu, On distinct distances and λ-free point sets, *Discrete Mathematics*, 308, 2008, 6533–6538.

35. Adrian Dumitrescu and Minghui Jiang, On a covering problem for equilateral triangles, *The Electronic Journal of Combinatorics*, 15(1), #R37, 2008.

36. Adrian Dumitrescu and Csaba D. Tóth, Light orthogonal networks with constant geometric dilation, *Journal of Discrete Algorithms*, 7, 2009, 112–129.

37. Sergey Bereg, Prosenjit Bose, Adrian Dumitrescu, Ferran Hurtado and Pavel Valtr, Traversing a set of points with a minimum number of turns, *Discrete & Computational Geometry*, 41(4), 2009, 513–532.

38. Adrian Dumitrescu, Micha Sharir and Csaba D. Tóth, Extremal problems on triangle areas in two and three dimensions, *Journal of Combinatorial Theory, Series A*, 116(7), 2009, 1177–1198.

39. Oswin Aichholzer, Sergey Bereg, Adrian Dumitrescu, Alfredo García, Clemens Huemer, Ferran Hurtado, Mikio Kano, Alberto Márquez, David Rappaport, Shakhar Smorodinsky, Diane Souvaine, Jorge Urrutia, and David Wood, Compatible geometric matchings, *Computational Geometry: Theory and Applications*, 42(6-7), 2009, 617–626. Appeared in the list of most cited computational geometry articles published since 2009: `http://www.journals.elsevier.com/computational-geometry/most-cited-articles/` Appeared twice in the top 25 list of hottest articles in this journal, January to March 2009, and April to June 2009.

40. Adrian Dumitrescu, János Pach, and Géza Tóth, A note on blocking visibility between points, *Geombinatorics*, 19(1), 2009, 67–73.

41. Adrian Dumitrescu, Csaba D. Tóth, and Guangwu Xu, On stars and Steiner stars, *Discrete Optimization*, 6(3), 2009, 324–332.

42. Adrian Dumitrescu, Howi Kok, Ichiro Suzuki, and Paweł Żyliński, Vision-based pursuit-evasion in a grid, *SIAM Journal on Discrete Mathematics*, 24(3), 2010, 1177–1204.

43. Sergey Bereg, Adrian Dumitrescu and Minghui Jiang, Maximum area independent sets in disk intersection graphs, *International Journal of Computational Geometry & Applications*, 20(2), 2010, 105–118.

44. Sergey Bereg, Adrian Dumitrescu and Minghui Jiang, On covering problems of Rado, *Algorithmica*, 57, 2010, 538–561.

45. Adrian Dumitrescu and Minghui Jiang, Monochromatic simplices of any volume, *Discrete Mathematics*, 310, 2010, 956–960.

46. Adrian Dumitrescu and Csaba D. Tóth, Long non-crossing configurations in the plane, *Discrete & Computational Geometry*, 44(4), 2010, 727–752.

47. Adrian Dumitrescu and Evan Hilscher, On convexification of polygons by pops, *Discrete Mathematics*, 310, 2010, 2542–2545.

48. Adrian Dumitrescu and Minghui Jiang, Covering a disk by disks, *Beiträge zur Algebra und Geometrie*, 51(1), 2010, 91–109.

49. Adrian Dumitrescu and Csaba D. Tóth, Minimum weight convex Steiner partitions, *Algorithmica*, 60(3), 2011, 627–652.

50. Adrian Dumitrescu and Minghui Jiang, Piercing translates and homothets of a convex body, *Algorithmica*, 61(1), 2011, 94–115.

51. Adrian Dumitrescu and Minghui Jiang, Sweeping points, *Algorithmica*, 60(3), 2011, 703–717.

52. Adrian Dumitrescu and Minghui Jiang, The forest hiding problem, *Discrete & Computational Geometry*, 45(3), 2011, 529–552.

53. Adrian Dumitrescu, Approximate Euclidean Ramsey theorems, *Journal of Computational Geometry*, 2(1), 2011, 16–29.

54. Adrian Dumitrescu, Minghui Jiang, and Csaba D. Tóth, New bounds on the average distance from the Fermat-Weber center of a planar convex body, *Discrete Optimization*, 8(3), 2011, 417–427.

55. Adrian Dumitrescu and János Pach, Minimum clique partition in unit disk graphs, *Graphs and Combinatorics*, 27(3), 2011, 399–411.

56. Adrian Dumitrescu and Minghui Jiang, Constrained k-center and movement to independence, *Discrete Applied Mathematics*, 159(8), 2011, 859–865.

57. Adrian Dumitrescu and Minghui Jiang, Sweeping an oval to a vanishing point, *Discrete Applied Mathematics*, 159(14), 2011, 1436–1442.

58. Adrian Dumitrescu, János Pach, and Géza Tóth, Drawing Hamiltonian cycles with no large angles, *The Electronic Journal of Combinatorics*, 19(2), 2012, 31–34.

59. Adrian Dumitrescu and Minghui Jiang, Dispersion in disks, *Theory of Computing Systems*, 51(2), 2012, 125–142.

60. Adrian Dumitrescu and Minghui Jiang, Minimum-perimeter intersecting polygons, *Algorithmica*, 63(3), 2012, 602–615.

61. Adrian Dumitrescu, Going around in circles, *Computational Geometry: Theory and Applications*, 45, 2012, 370–381. Appeared twice in the top 25 list of hottest articles in this journal, April to June 2012, and July to September 2012.

62. Adrian Dumitrescu and Minghui Jiang, Coloring translates and homothets of a convex body, *Beiträge zur Algebra und Geometrie*, 53(2), 2012, 365–377.

63. Adrian Dumitrescu, The traveling salesman problem for lines and rays in the plane, *Discrete Mathematics, Algorithms and Applications*, 4(4), 2012, 1250044 (12 pages).

64. Adrian Dumitrescu and Csaba D. Tóth, Watchman tours for polygons with holes, *Computational Geometry: Theory and Applications*, 45, 2012, 326–333. Appeared twice in the top 25 list of hottest articles in this journal, January to March 2012, and April to June 2012.

65. Adrian Dumitrescu and Minghui Jiang, On reconfiguration of disks in the plane and other related problems, *Computational Geometry: Theory and Applications*, 46(3), 2013, 191–202. Appeared in the top 25 list of hottest articles in this journal, October to December 2012.

66. Adrian Dumitrescu and Minghui Jiang, On the largest empty axis-parallel box amidst n points, *Algorithmica*, 66(2), 2013, 225–248.

67. Adrian Dumitrescu, Minghui Jiang and János Pach, Opaque sets, *Algorithmica*, 69, 2014, 315–334.

68. Adrian Dumitrescu and Masud Hasan, Cutting out polygons with a circular saw, *International Journal of Computational Geometry and Applications*, 23(2), 2013, 127–139.

69. Adrian Dumitrescu, André Schulz, Adam Sheffer, and Csaba D. Tóth, Bounds on the maximum multiplicity of some common geometric graphs, *SIAM Journal on Discrete Mathematics*, 27(2), 2013, 802–826.

70. Adrian Dumitrescu and Csaba D. Tóth, Packing anchored rectangles, *Combinatorica*, 35(1), 2015, 39–61.

71. Adrian Dumitrescu and Minghui Jiang, Maximal empty boxes amidst random points, *Combinatorics, Probability and Computing*, 22, 2013, 477–498.

72. Adrian Dumitrescu and Minghui Jiang, Disjoint empty disks supported by a point set, *Journal of Geometry*, 104(2), 2013, 277–295. Also at `arXiv:1203.0563v1`.

73. Adrian Dumitrescu, Metric inequalities for polygons, *Journal of Computational Geometry*, 4(1), 2013, 79–93.

74. Adrian Dumitrescu, Joseph Mitchell, and Paweł Żyliński, The minimum guarding tree problem, *Discrete Mathematics, Algorithms and Applications*, 6(1), 2014, 1450011 (17 pages).

75. Adrian Dumitrescu, Joseph Mitchell, and Paweł Żyliński, Watchman routes for lines and line segments, *Computational Geometry: Theory and Applications*, 47(4), 2014, 527–538. Appeared three times in the top 25 list of hottest articles in this journal, October to December 2013, January to March 2014, and April to June 2014.

76. Adrian Dumitrescu, Dániel Gerbner, Balázs Keszegh, and Csaba D. Tóth, Covering paths for planar point sets, *Discrete & Computational Geometry*, 51(2), 2014, 462–484.

77. Adrian Dumitrescu, Sariel Har-Peled, and Csaba D. Tóth, Minimum convex partitions and maximum empty polytopes, *Journal of Computational Geometry*, 5(1), 2014, 86–103.

78. Adrian Dumitrescu, Anirban Ghosh, and Csaba D. Tóth, On fence patrolling by mobile agents, *The Electronic Journal of Combinatorics*, 21(3), 2014, P3.4.

79. Adrian Dumitrescu and Csaba D. Tóth, On the total perimeter of homothetic convex bodies in a convex container, *Beiträge zur Algebra und Geometrie*, 2014, `doi:10.1007/s13366-014-0219-1`.

80. Ke Chen and Adrian Dumitrescu, Nonconvex cases for carpenter's rulers, *Theoretical Computer Science*, 586, 2015, 12–25.

81. Adrian Dumitrescu and Minghui Jiang, Systems of distant representatives in Euclidean space, *Journal of Combinatorial Theory, Series A*, 134, 2015, 36–50.

82. Adrian Dumitrescu, Minghui Jiang, and Csaba D. Tóth, Computing opaque interior barriers á la Shermer, *SIAM Journal on Discrete Mathematics*, 29(3), 2015, 1372–1386.

83. Adrian Dumitrescu and Minghui Jiang, On the approximability of covering points by lines and related problems. *Computational Geometry: Theory and Applications*, 48(9), 2015, 703–717. Also available at `arXiv.org/abs/1312.2549`.

84. Adrian Dumitrescu, Maarten Löffler, André Schulz, and Csaba D. Tóth, Counting carambolas, *Graphs and Combinatorics*, 32(3), 2016, 923–942. Available at `arXiv.org/abs/1410.1579`.

85. Adrian Dumitrescu and Cs. D. Tóth, The traveling salesman problem for lines, balls and planes, *ACM Transactions on Algorithms*, 12(3), 2016, 43:1–43:29. Preprint available at `arXiv.org/abs/1303.6659`.

86. On collections of polygons cuttable with a segment saw, *Discrete Applied Mathematics*, 228, 2017, 98–108. Special issue with selected papers from CALDAM 2015.

87. Adrian Dumitrescu and Anirban Ghosh, Lower bounds on the dilation of plane spanners, *International Journal of Computational Geometry and Applications*, 26(2), 2016, 89–110. Also available at `arXiv.org/abs/1509.07181`.

88. Adrian Dumitrescu and Anirban Ghosh, Lattice spanners of low degree, *Discrete Mathematics, Algorithms and Applications*, 8(3), 2016, article 1650051, 19 pages. Preprint available at `arXiv.org/abs/1602.04381`.

89. Adrian Dumitrescu and Minghui Jiang, Minimum rectilinear Steiner tree of n points in the unit square, *Computational Geometry: Theory and Applications*, 68, 2018, 253–261.

90. Adrian Dumitrescu and Minghui Jiang, On the number of maximum empty boxes amidst n points, *Discrete & Computational Geometry*, 59(3), 2018, 742–756.

91. Adrian Dumitrescu and Csaba D. Tóth, Convex polygons in geometric triangulations, *Combinatorics, Probability and Computing*, 26(5), 2017, 641–659. Preprint available at `arXiv.org/abs/1411.1303`.

92. Kevin Balas, Adrian Dumitrescu, and Cs. D. Tóth, Anchored rectangle and square packings, *Discrete Optimization*, 26, 2017, 131–162. Preprint available at `arXiv.org/abs/1603.00060`.

93. Adrian Dumitrescu, Distinct distances and arithmetic progressions, *Discrete Applied Mathematics*, 256, 2019, 38–41.

94. Adrian Dumitrescu, Ritankar Mandal, and Cs. D. Tóth, Monotone paths in geometric triangulations, *Theory of Computing Systems*, 62(6), 2018, 1490–1524. Special issue with selected papers from IWOCA 2016. Preprint available at `arXiv.org/abs/1608.04812`.

95. Adrian Dumitrescu and Cs. D. Tóth, Problems on track runners, *Computational Geometry: Theory and Applications* Vol. 68 (2020), 101611. Special issue with selected papers from CCCG 2017. Preprint available at `arXiv.org/abs/1508.07289`.

96. Adrian Dumitrescu, On the shortest separating cycle, *Computational Geometry: Theory and Applications* Vol. 68 (2020), 101612. Special issue with selected papers from CCCG 2017.

97. Adrian Dumitrescu, A selectable sloppy heap, *Algorithms*, 12(3), 2019, 58; special issue on efficient data structures; `doi:10.3390/a12030058`.

98. Adrian Dumitrescu, A product inequality for extreme distances, *Computational Geometry: Theory and Applications*, Vol. 85 (2019) 101577.

99. Ke Chen and Adrian Dumitrescu, Selection algorithms with small groups, *International Journal of Foundations of Computer Science*, Vol. 31, No. 3 (2020), 355–369. Preprint available at `arXiv.org/abs/1409.3600`.

100. Adrian Dumitrescu, Anirban Ghosh, and Csaba D. Tóth, Online unit covering in Euclidean space, *Theoretical Computer Science*, Vol. 809, 2020, 218–230. Special issue with selected papers from COCOA 2018. Preprint available at `arXiv.org/abs/1710.00954`.

101. Adrian Dumitrescu and Ritankar Mandal, New lower bounds for the number of pseudoline arrangements, *Journal of Computational Geometry*, 11(1), 2020, 60–92.

102. Adrian Dumitrescu, Distinct distances in planar point sets with forbidden 4-point patterns, *Discrete Mathematics*, Vol. 343, No. 9, 2020, 111967.

103. Ke Chen and Adrian Dumitrescu, On the longest spanning tree with neighborhoods, *Discrete Mathematics, Algorithms and Applications*, 12(5), (2020), 2050067:1–2050067:16. Preprint available at `arXiv.org/abs/1712.03297`.

104. Ke Chen and Adrian Dumitrescu, On Wegner's inequality for axis-parallel rectangles, *Discrete Mathematics*, 343(12), 2020, 112091.

105. Adrian Dumitrescu, Finding a mediocre player, *Discrete Applied Mathematics*, vol. 223, 2021, 15–24. Preprint available at `arXiv.org/abs/1901.0901`.

106. Jean-Lou de Carufel, Adrian Dumitrescu, Wouter Meulemans, Tim Ophelders, Claire Pennarun, Csaba D. Tóth, and Sander Verdonschot, Convex polygons in Cartesian products, *Journal of Computational Geometry*, 11(2), 2020, 205–233. Special issue with selected papers from SOCG 2019.

107. Ke Chen, Adrian Dumitrescu, Wolfgang Mulzer, and Csaba D. Tóth, On the stretch factor of polygonal chains, *SIAM Journal on Discrete Mathematics*, 35(3), 2021, 1592–1614.

108. Adrian Dumitrescu, Anirban Ghosh, and Csaba D. Tóth, Sparse hop spanners for unit disk graphs, *Computational Geometry: Theory and Applications*, vol. 100, 2022, 101808. Preprint available at `arXiv.org/abs/2002.07840`.

109. Adrian Dumitrescu, Peeling sequences, *Mathematics* **2022**, 10, 4287. `https://doi.org.10.3390/math10224287`.

110. Adrian Dumitrescu and Csaba D. Tóth, Online unit clustering and unit covering in higher dimensions, *Algorithmica*, 2022, 84(5): 1213–1231. Preprint available at `arXiv.org/abs/1708.02662`.

111. Adrian Dumitrescu, The Dirac–Goodman–Pollack Conjecture, *Discrete & Computational Geometry*, 2023, 1–15. Preprint available at `arXiv.org/abs/2204.06101`.

112. József Balogh, Felix C. Clemen, and Adrian Dumitrescu, Almost congruent triangles, *Discrete & Computational Geometry*, 73(3), 2025, 764–784. Preprint available at `arXiv.org/abs/2303.14663`.

113. Adrian Dumitrescu and Géza Tóth, Peeling sequences, *Discrete & Computational Geometry*, 73(3), 2025, 837–849. published online `doi.org/10.1007/s00454-023-00616-8`. Preprint available at `arXiv.org/abs/2211.05968`.

114. Adrian Dumitrescu and Josef Tkadlec, Piercing all translates of a set of axis-parallel rectangles, *The Electronic Journal of Combinatorics*, 31(1), 2024, P1.33. Preprint available at `arXiv.org/abs/2106.07459`.

115. Adrian Dumitrescu, Two-sided convexity testing with certificates, *Studia Scientiarum Mathematicarum Hungarica*, 61(2), 2024, 116–133. Preprint available at `arXiv.org/abs/2302.07423`.

116. József Balogh, Felix C. Clemen, and Adrian Dumitrescu, On a traveling salesman problem for points in the unit cube, *Algorithmica*, (2024) 86:3054–3078. Preprint available at `arXiv.org/abs/2310.02839`.

117. Adrian Dumitrescu and Csaba D. Tóth, Observation routes and external watchman routes, *Theoretical Computer Science*, 1019 (2024) 114818. Preprint available at `arXiv.org/abs/2306.11522`.

118. Adrian Dumitrescu, Finding triangles or independent sets, *Studia Scientiarum Mathematicarum Hungarica*, 62(1), 2025, 47–62. Preprint available at `arXiv.org/abs/2105.01265`.

119. Adrian Dumitrescu, General position subset selection in line arrangements, *Algorithms*, 18(6), 2025, 315; special issue on approximation algorithms, `doi:10.3390/a18060315`. Preprint available at `arXiv:2503.06857`.

120. Adrian Dumitrescu, János Pach, and Géza Tóth, Two trees are better than one, *SIAM Journal on Discrete Mathematics*, 39(3), 2025, 1883–1893. Preprint available at `arXiv:2312.09916`.

121. Felix C. Clemen, Adrian Dumitrescu, and Dingyuan Liu, On the multiplicities of interpoint distances, *Acta Mathematica Hungarica*, to appear. Preprint available at `arXiv:2505.04283`.

122. Péter Ágoston, Adrian Dumitrescu, Arsenii Sagdeev, Karamjeet Singh, and Ji Zeng, Maximizing the maximum degree in ordered nearest neighbor graphs, *Computational Geometry: Theory and Applications*, to appear. Preprint available at `arxiv.org/abs/2406.08913`.

Other Journal Publications

1. Mark de Berg, Adrian Dumitrescu, and Khaled Elbassioni, Guest Editors' Foreword, *International Journal of Computational Geometry & Applications*, 27(1-2), 2017, 1–2.

Conference Publications

1. Tudor Ciortea, Adrian Dumitrescu, Adrian Rotaru, Stefan Rusu, and Bogdan Stoenescu, An automated testing equipment for digital boards, *The 5th International Conference on automated Systems*, (SAII-5), Bucharest, 1983, vol. 3.

2. Tudor Ciortea, Adrian Dumitrescu, Imre Pall, Adrian Rotaru, and Stefan Rusu, A memory resident software kernel of a testing equipment for SSI-MSI boards, *The 2nd Symposium on Automated Testing*, (TETA 1983), Cluj, 1983.

3. Silviu Ciobanu, Adrian Dumitrescu, Imre Pall, and Adrian Rotaru, Diagnosis and automated testing, *5th International Conference on Control Systems and Computer Science*, 8-11 June, Romania, 1983.

4. Silviu Ciobanu, Adrian Dumitrescu, Imre Pall, and Adrian Rotaru, Diagnosis functions implementations for a testing equipment, *The 3rd Symposium on Automated Testing*, (TETA 1984), Cluj, 1984.

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111. Péter Ágoston, Adrian Dumitrescu, Arsenii Sagdeev, Karamjeet Singh, and Ji Zeng, Maximizing the maximum degree in ordered nearest neighbor graphs, *Proceedings of the International Conference on Algorithms and Discrete Applied Mathematics* (CALDAM 2025), Coimbatore, Tamilnadu, India, February 2025. Preprint available at `arxiv.org/abs/2406.08913`.

112. Adrian Dumitrescu, General position subset selection in line arrangements, *Proceedings of the 17th International Conference on Algorithms and Complexity* (CIAC 2025), Rome, Italy, June 2025, Vol. 15679 of LNCS, pp. 83–90, Springer, 2025.

113. Adrian Dumitrescu, Jeck Lim, János Pach, and Ji Zeng, A purely geometric variant of the Gale–Berlekamp switching game, *Proceedings of the European Conference on Combinatorics, Graph Theory and Applications* (EUROCOMB 2025), August 2025, Budapest, Hungary. Preprint available at `arXiv:2502.16305`.

Computational Geometry Columns

1. Adrian Dumitrescu, Computational Geometry Column 53, *SIGACT News Bulletin*, 43(2), June 2012, 78–83.

2. Adrian Dumitrescu and Csaba D. Tóth, Computational Geometry Column 54, *SIGACT News Bulletin*, 43(4), December 2012, 90–97.

3. Adrian Dumitrescu and Minghui Jiang, Computational Geometry Column 56, *SIGACT News Bulletin*, 44(2), June 2013, 80–87.

4. Adrian Dumitrescu and Minghui Jiang, Computational Geometry Column 58, *SIGACT News Bulletin*, 44(4), December 2013, 73–78.

5. Adrian Dumitrescu and Csaba D. Tóth, Computational Geometry Column 59, *SIGACT News Bulletin*, 45(2), June 2014, 68–72.

6. Adrian Dumitrescu and Minghui Jiang, Computational Geometry Column 60, *SIGACT News Bulletin*, 45(4), December 2014, 76–82.

7. Bernardo Ábrego, Adrian Dumitrescu, Silvia Fernández, and Csaba D. Tóth, Computational Geometry Column 61, *SIGACT News Bulletin*, 46(2), June 2015, 65–77.

8. Adrian Dumitrescu, Computational Geometry Column 64, *SIGACT News Bulletin*, 47(4), December 2016, 44–47.

9. Khaled Elbassioni and Adrian Dumitrescu, Computational Geometry Column 66, *SIGACT News Bulletin*, 48(4), December 2017, 57–74.

10. Adrian Dumitrescu, Computational Geometry Column 68, *SIGACT News Bulletin*, 49(4), December 2018, 46–54.

11. Adrian Dumitrescu and Minghui Jiang, Computational Geometry Column 69, *SIGACT News Bulletin*, 50(3), September 2019, 75–90. Preprint available at `arXiv.org/abs/1608.06874`.

Articles in Books

1. Tudor Ciortea, Adrian Dumitrescu, Imre Pall, Adrian Rotaru, and Stefan Rusu, A memory resident software kernel of a testing equipment for SSI-MSI boards, *Automation, Machines and Computers* series, vol. 46, Editura Tehnica, Bucharest, 1984, 51–57.

2. Adrian Dumitrescu and Radoš Radoičić, On a coloring problem for the integer grid, in *Towards a Theory of Geometric Graphs*, János Pach (editor), Contemporary Mathematics series of AMS, 2004, pages 67-74.

3. Gruia Călinescu and Adrian Dumitrescu, The carpenter's ruler folding problem, in *Combinatorial and Computational Geometry*, Jacob Goodman, János Pach and Emo Welzl (editors), Mathematical Sciences Research Institute Publications, Cambridge University Press, 2005, pages 155–166.

4. Adrian Dumitrescu, János Pach, and Géza Tóth, The maximum number of empty congruent triangles determined by a point set, in *Convexity and Discrete Geometry*, volume dedicated to Tudor Zamfirescu on his 60th birthday, 2006, pages 217–222.

5. Adrian Dumitrescu, Motion planning and reconfiguration for systems of multiple objects; in *Mobile Robots: Perception & Navigation*, Sascha Kolski (editor), Advanced Robotic Systems, 2007, pp. 523–542.

6. Adrian Dumitrescu, Mover problems, in *Thirty Essays in Geometric Graph Theory*, János Pach (editor), Springer, New York, 2012.

7. Adrian Dumitrescu, Günter Rote, and Csaba D. Tóth, Monotone paths in planar convex subdivisions and polytopes, in *Discrete Geometry and Optimization*, K. Bezdek, A. Deza, and Y. Ye (editors), *Fields Institute Communications 69*, Springer, New York, 2013.

8. Adrian Dumitrescu and Csaba D. Tóth, Binary space partitions, essay in *Encyclopedia of Algorithms*, `link.springer.com/referenceworkentry/10.1007%2F978-3-642-27848-8_511-1`, Ming-Yang Kao (editor), Springer, February 2015.

9. Adrian Dumitrescu and Cs. D. Tóth, Constant-factor approximation for TSP with disks, *Journey Through Discrete Mathematics. A Tribute to Jirí Matoušek* (M. Loebl, J. Nesetril and R. Thomas, editors), Springer, 2017. Preprint available at `arXiv.org/abs/1506.07903`.

10. Adrian Dumitrescu, Arsenii Sagdeev, and Josef Tkadlec, Lattice and non-lattice piercing of axis-parallel rectangles, manuscript, 2023. Invited to a special volume of *Bolyai Society Mathematical Studies* dedicated to the Special Semester on Discrete and Convex Geometry at the Erdős Center, Budapest, Fall 2023. Preprint available at `arXiv:2204.10385`.

New Manuscripts and Submitted Articles (under review)

1. Adrian Dumitrescu and Csaba D. Tóth, Finding points in convex position in density-restricted sets, manuscript, 2022. Preprint available at `arXiv:2205.03437`.

2. Adrian Dumitrescu and Andrzej Lingas, Finding small complete subgraphs efficiently, manuscript, 2023. Invited to a special issue of *Journal of Computer and System Sciences* with selected papers from IWOCA 2023.

3. Adrian Dumitrescu and Csaba D. Tóth, Maximal distortion of geodesic diameters in polygonal domains, manuscript, 2023. Invited to a special issue of *Journal of Computer and System Sciences* with selected papers from IWOCA 2023.

4. Adrian Dumitrescu, Geometric variants of the Gale–Berlekamp switching game, manuscript, 2024. Preprint available at `arXiv:2412.16994`.

5. Adrian Dumitrescu and Arsenii Sagdeev, A stopping game on zero-sum sequences, manuscript, 2024. Invited to a special volume of *Bolyai Society Mathematical Studies* dedicated to the *Summit280 Conference*, Budapest, July 2024. Preprint available at `arXiv:2411.13206`.

6. Adrian Dumitrescu and János Pach, Partitioning complete geometric graphs into plane subgraphs, manuscript, 2024. Preprint available at `arXiv:2405.17172`.

7. József Balogh, Felix C. Clemen, Adrian Dumitrescu, and Dingyuan Liu, Subset selection problems in planar point sets, manuscript, 2024. Preprint available at `arXiv:2412.14287`.

8. Péter Ágoston, Adrian Dumitrescu, Arsenii Sagdeev, Karamjeet Singh, and Ji Zeng, Ordered Yao graphs: maximum degree, edge numbers, and clique numbers, manuscript, 2025. Preprint available at `arXiv:2504.13819`. Results have been presented at the *XXI Spanish Meeting on Computational Geometry*, Santander, June 2025.

9. Adrian Dumitrescu, Jeck Lim, János Pach, and Ji Zeng, A purely geometric variant of the Gale–Berlekamp switching game, manuscript, 2025. Preprint available at `arXiv:2502.16305`.

10. Travis Dillon and Adrian Dumitrescu, Closed curve covering and multiagent TSP ratios, manuscript, 2025. Preprint available at `arXiv:2506.16675`.

11. Felix C. Clemen, Adrian Dumitrescu, and Dingyuan Liu, The number of regular simplices in higher dimensions, manuscript, 2025. Preprint available at `arXiv:2507.19841`.

12. Ke Chen and Adrian Dumitrescu, A couple of simple algorithms for k-dispersion, manuscript, 2025.

13. Adrian Dumitrescu and Zsolt Lángi, Arcs with increasing chords in $\mathbb{R}^d$, manuscript, 2025. Preprint available at `arXiv:2509.01580`.

14. Adrian Dumitrescu and János Pach, On the number of almost ordinary triangles, manuscript, 2025.

Theses and Reports

1. "Several Problems in Combinatorial Geometry", PhD thesis, Rutgers University, October 1999.

2. "On convex polygons determined by points in the plane", Technical Report, Rutgers University, 1996.

Invited Presentations

- June 1999, Algorithms Seminar, McGill University.
- *On a matching problem for colored points in the plane*, October 1999, Algorithms Seminar, State University of New York at Stony Brook.
- *On a matching problem for colored points in the plane*, November 1999, Geometry Seminar, Courant Institute of Mathematical Sciences, New York.
- *On a matching problem for colored points in the plane*, December 1999, Colloquium in Combinatorics, Geometry and Computation, Institute for Theoretical Computer Science, ETH Zürich.
- June 2000, Tenth SIAM Conference on Discrete Mathematics, Minneapolis.

- March 2001, Computer Science Seminar, University of Ottawa.
- March 2001, Computer Science Seminar, University of New Brunswick.
- April 2001, Computer Science Seminar, University of Calgary.
- November 2001, Algorithms Seminar, Illinois Institute of Technology, Chicago.
- February 2002, Geometry Seminar, Courant Institute of Mathematical Sciences, New York.
- May 2002, Midwest Theory Day, Illinois Institute of Technology, Chicago.
- *On the maximum multiplicity of some extreme geometric configurations in the plane*, October 2002, DIMACS Workshop on Geometric Graph Theory, DIMACS Center, Rutgers University.
- *Monotone paths in line arrangements with a small number of directions*, May 2003, Seminar on Combinatorial Computing, City University of New York.
- June 2003, Colloquium of the European Graduate Program, Free University Berlin.
- *Monotone paths in line arrangements with a small number of directions*, October 2003, Workshop on Mathematical Foundations of Geometric Algorithms, Mathematical Sciences Research Institute, Berkeley.
- *On distinct distances from a vertex of a convex polygon*, November 2004, Fall Eastern Section Meeting of AMS, Special Session on Convexity and Combinatorics, Pittsburgh.
- *On distinct distances from a vertex of a convex polygon*, March 2005, Geometry Seminar, Courant Institute of Mathematical Sciences, New York.
- *Sliding disks in the plane* March 2005, Seminar on Combinatorial Computing, City University of New York.
- *The lifting model for reconfiguration*, June 2005, Geometry Seminar, Universitat Politecnica de Catalunya, Barcelona, Spain.
- *Reconfigurations in graphs and grids*, June 2006, Mini-symposium on Geometric Graph Theory at the SIAM Conference on Discrete Mathematics, Victoria, Canada.
- *On the number of tetrahedra with minimum, uniform, and distinct volumes in three-space*, December 2006, Geometry Seminar, Courant Institute of Mathematical Sciences, New York.
- *Traversing a set of points with a minimum number of turns*, March 2007, Combinatorics Seminar, Massachusetts Institute of Technology, Cambridge.
- *Models of reconfiguration*, April 2007, Mathematics Colloquium, University of Wisconsin-Milwaukee.
- *On triangles of distinct areas and tetrahedra of distinct volumes*, May 2007, First Canadian Discrete and Algorithmic Mathematics Conference, Banff, Alberta, Canada.
- *Reconfigurations in graphs and grids*, September 2007, Combinatorics Seminar, University of Wisconsin-Madison.

- *On stars and Steiner stars*, November 2007, Workshop on Algorithms, Combinatorics, and Geometry, University of North Texas, Denton.
- *On distinct distances among points in general position*, December 2007, Seminar on Combinatorial Computing, City University of New York.
- *Models of reconfiguration*, January 2009, Computer Science Colloquium, University of Bonn, Germany.
- *The forest hiding problem*, May 2009, Seminar of the Combinatorial Geometry and Discrete Optimization Groups, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
- *On stars and Steiner stars*, May 2009, Combinatorial Geometry and Optimization Seminar, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
- *Long non-crossing configurations in the plane*, October 2009, Algorithms Seminar, Carleton University, Ottawa, Canada.
- December 2010, Seminar of the Special Semester on Discrete and Computational Geometry, Centre Interfacultaire Bernoulli, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
- *Dispersion in disks*, September 2011, Workshop on Discrete Geometry, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada.
- *Under Pressure*, April 2012, Geometry Seminar, Courant Institute of Mathematical Sciences, New York.
- *Under pressure*, October 2013, Discrete Mathematics Seminar, University of Delaware, Newark.
- *Dispersion in disks*, November 2013, Computational Mathematics Seminar, Mathematics Department, University of Wisconsin-Milwaukee.
- *Under pressure*, January 2015, Seminar, Institute for Theoretical Computer Science, Graz University of Technology, Austria.
- *Opaque barriers for convex domains*, January 2015, Colloquium on Computational Topology and Geometry, Graz University of Technology, Austria.
- *Lower bounds on the dilation of plane spanners*, February 2016, Discrete Mathematics and Algebra Seminar, California State University, Northridge.
- *Lattice spanners of low degree*, May 2016, Algorithms Seminar, Université Libre of Bruxelles (ULB).
- *Perfect vector sets, properly overlapping partitions, and largest empty box*, October 2016, Mathematics Colloquium, University of Wisconsin-Milwaukee.
- *On the dilation of plane spanners*, July 2017, Fields Workshop on Discrete and Computational Geometry, Carleton University, Ottawa, Canada.
- *On the number of convex polygons in a grid*, December 2017, Seminar of the Combinatorial Geometry and Discrete Optimization Groups, Ecole Polytechnique Fédérale de Lausanne, Switzerland.

- *A product inequality for extreme distances*, June 2018, Miniworkshop on Combinatorial Geometry (CG Week'18) at the 34th International Symposium on Computational Geometry, Budapest, Hungary.
- *On the dilation of plane spanners and related problems*, February 2020, Electrical and Computer Engineering Colloquium, Marquette University, Milwaukee.
- *Peeling sequences*, February 2023, Budapest Big Combinatorics + Geometry Seminar, online presentation.
- *On a Traveling Salesman Problem for points in the unit cube*, March 2023, Budapest Big Combinatorics + Geometry Seminar, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- *Which Problem to solve? Let the algorithm decide!*, October 2023, Budapest Big Combinatorics + Geometry Seminar, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- *Lattice and Non-lattice Piercing of Axis-Parallel Rectangles*, November 2023, Graph Drawing and Combinatorial Geometry Workshop, main speaker, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- *Finding Triangles or Independent Sets*, November 2023, Szeged Workshop on Discrete Structures, Szeged, Hungary.
- *Lattice and Non-lattice Piercing of Axis-Parallel Rectangles*, December 2023, Geometry Seminar, Mathematics Department, Hebei Normal University, Shijiazhuang, China.
- *Unstructured Problem Collection*, Seminar, Department of Mathematics, October 2024, University of Illinois at Urbana-Champaign.
- *On Peeling Sequences and Edge Partitions of Complete Geometric Graphs*, October 2024, Graph Theory and Combinatorics Seminar, University of Illinois at Urbana-Champaign.
- *Piercing the Chessboard with Minimum Degree*, December 2024, Geometry Seminar, Mathematics Department, Hebei Normal University, Shijiazhuang, China.
- *Subset Selection Problems*, October 2025, Budapest Big Combinatorics + Geometry Seminar, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- *Subset Selection Problems*, October 2025, Geometry Seminar, Bolyai Institute, University of Szeged, Hungary.

Other Invited Participations

- May 23–30, 2005, DIMACS visit for the purpose of research.
- June 2006, *Discrete and Computational Geometry–Twenty Years Later*, part of the 2006 AMS-IMS-SIAM Summer Research Conference in the Mathematical Sciences, Snowbird Resort, Snowbird, UT.
- November 2006, Dagstuhl-Seminar *Geometric Networks and Metric Space Embeddings*, Schloss Dagstuhl, Wadern, Germany.

- June 30 – July 4, 2008, *Intuitive Geometry, in Memoriam László Fejes Tóth*, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- July 4–6, 2008, *Discrete and Convex Geometry Workshop*, Alfréd Rényi Institute of Mathematics, Budapest, Hungary.
- Sept. 27 – Oct. 1, 2010, *Conference on Geometric Graph Theory*, Centre Interfacultaire Bernoulli, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
- February 5–9, 2018, *Extremal Problems in Combinatorial Geometry*, Banff International Research Station for Mathematical Innovation and Discovery, Alberta, Canada.
- June 4–9, 2023, *New trends from Classical Theorems in Geometry, Combinatorics, and Topology*, Banff International Research Station for Mathematical Innovation and Discovery, Casa Matemática Oaxaca, Mexico.
- July 2–5, 2024, *Discrete Geometry Days*[3], Mathematics Institute of the Budapest University of Technology and Economics, Budapest, Hungary.
- July 8–12, 2024, *Summit:280*, Eötvös University, Budapest, Hungary.

Conference Presentations

- Planar sets with few empty convex polygons, *Tenth Canadian Conference on Computational Geometry* (CCCG 1998), McGill University, Montreal, August 1998.
- On two lower bound constructions, *Eleventh Canadian Conference on Computational Geometry* (CCCG 1999), Vancouver, August 1999.
- Ramsey-type results for unions of comparability graphs, *Eleventh Canadian Conference on Computational Geometry* (CCCG 1999), Vancouver, August 1999.
- On a matching problem in the plane, *Sixth International Workshop on Algorithms and Data Structures* (WADS 1999), Vancouver, August 1999.
- Partitioning colored point sets into monochromatic parts, *Seventh International Workshop on Algorithms and Data Structures* (WADS 2001), Brown University, Providence, RI, August 2001.
- Extreme distances in multicolored point sets, *Second International Workshop on Computational Geometry and Applications* (CGA 2002), Amsterdam, April 2002.
- An approximation algorithm for cutting out convex polygons, *Fourteenth ACM-SIAM Symposium on Discrete Algorithms* (SODA 2003), Baltimore, January 2003.
- Efficient algorithms for generation of combinatorial covering suites, *14-th Annual International Symposium on Algorithms and Computation* (ISAAC 2003), Kyoto, Japan, December 2003.
- Pushing squares around, *20-th Annual Symposium on Computational Geometry* (SOCG 2004), NY, June 2004.

- On distinct distances from a vertex of a convex polygon, *20-th Annual Symposium on Computational Geometry* (SOCG 2004), NY, June 2004.
- On the Fréchet distance of a set of curves, *Sixteenth Canadian Conference on Computational Geometry* (CCCG 2004), Concordia University, Montreal, August 2004.
- A remark on the Erdős–Szekeres theorem, *Sixteenth Canadian Conference on Computational Geometry* (CCCG 2004), Concordia University, Montreal, August 2004.
- Separating points by axis-parallel lines, *Sixteenth Canadian Conference on Computational Geometry* (CCCG 2004), Concordia University, Montreal, August 2004.
- On some monotone path problems in line arrangements, *Sixteenth Canadian Conference on Computational Geometry* (CCCG 2004), Concordia University, Montreal, August 2004.
- The lifting model for reconfiguration, *21st Annual Symposium on Computational Geometry* (SOCG 2005), Pisa, Italy, June 2005.
- On stars and Steiner stars, *19th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2008), San Francisco, January 2008.
- Vision-based pursuit-evasion in a grid, *11th Scandinavian Workshop on Algorithm Theory* (SWAT 2008), Gothenburg, Sweden, July 2008.
- Monochromatic simplices of any volume, *20th Canadian Conference on Computational Geometry* (CCCG 2008), McGill University, Montreal, August 2008.
- On distinct distances among points in general position and other related problems, *20th Canadian Conference on Computational Geometry* (CCCG 2008), McGill University, Montreal, August 2008.
- On stars and Steiner stars. II, *20th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2009), New York, January 2009.
- The forest hiding problem, *21st ACM-SIAM Symposium on Discrete Algorithms*, (SODA 2010), Austin, Texas, January 2010.
- Long non-crossing configurations in the plane, *27th International Symposium on Theoretical Aspects of Computer Science* (STACS 2010), Nancy, France, March 2010.
- Dispersion in unit disks, *27th International Symposium on Theoretical Aspects of Computer Science* (STACS 2010), Nancy, France, March 2010.
- Watchman tours for polygons with holes, *22nd Canadian Conference on Computational Geometry* (CCCG 2010), Winnipeg, Manitoba, Canada, August 2010.
- Approximate Euclidean Ramsey theorems, *22nd Canadian Conference on Computational Geometry* (CCCG 2010), Winnipeg, Manitoba, Canada, August 2010.
- Constrained k-center and movement to independence, *22nd Canadian Conference on Computational Geometry* (CCCG 2010), Winnipeg, Manitoba, Canada, August 2010.
- The traveling salesman problem for lines and rays in the plane, *22nd Canadian Conference on Computational Geometry* (CCCG 2010), Winnipeg, Manitoba, Canada, August 2010.

- Sweeping an oval to a vanishing point, *XIV Spanish Meeting on Computational Geometry* (EGC 2011), Alcalá de Henares, Spain, June 2011.
- Packing anchored rectangles, *23rd ACM-SIAM Symposium on Discrete Algorithms* (SODA 2012), Kyoto, Japan, January 2012.
- The traveling salesman problem for lines, balls and planes, *24th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2013), New Orleans, January 2013.
- The opaque square, *30th Annual Symposium on Computational Geometry* (SOCG 2014), Kyoto, Japan, June 2014.
- On the number of maximum empty boxes amidst n points, *32nd Annual Symposium on Computational Geometry* (SOCG 2016), Boston, MA, June 2016.
- On the shortest separating cycle, *29th Canadian Conference on Computational Geometry* (CCCG 2017), Ottawa, Canada, July 2017.
- A problem on track runners, *29th Canadian Conference on Computational Geometry* (CCCG 2017), Ottawa, Canada, July 2017.
- Finding a mediocre player, *11th International Conference on Algorithms and Complexity* (CIAC 2019), Rome, Italy, May 2019.
- A product inequality for extreme distances, *34th Annual Symposium on Computational Geometry* (SOCG 2019), Portland, OR, June 2019.
- Two-sided convexity testing with certificates, *12th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications* Budapest, Hungary, March 2023.
- General position subset selection in line arrangements, *14th International Conference on Algorithms and Complexity* (CIAC 2025), Rome, Italy, June 2025.

Service

- Computational Geometry Columnist for the SIGACT News Bulletin of the ACM (2012–2020).
- Member on the Editorial Board of J.UCS - *The Journal of Universal Computer Science* (Jan. 2008 to Oct. 2015).
- Member on the Editorial Board of *Algorithms*, an open access journal (Aug. 2008 to Dec. 2014).
- Review of grant proposals (Division of Computing and Communication Foundations), invited NSF panelist, 2005.
- Review of grant proposals (Division of Computing and Communication Foundations), invited NSF panelist, 2012.
- Organizer of 51st Midwest Theory Day on December 10, 2005 at UWM.
- Session Chair at the *Workshop on Algorithms, Combinatorics, and Geometry*, University of North Texas, November 2007, Denton, Texas.

- Session Chair at the *23rd International Workshop on Algorithms and Data Structures*, (WADS 2009), August 2009, Banff, Canada.
- Session Chair at the *22nd Canadian Conference on Computational Geometry* (CCCG 2010), August 9-11, 2010, Winnipeg, Canada.
- Session Chair at the *XIV Spanish Meeting on Computational Geometry* (EGC 2011), June 2011, Alcalá de Henares, Spain.
- Session Chair at the *27th Annual ACM Symposium on Computational Geometry*, (SOCG 2011), June 13–15, 2011, Paris, France.
- Session Chair at the *17th International Conference on Algorithms and Complexity* (CIAC 2025), June 10–12, 2025, Rome, Italy.
- Joint editor (with Takeshi Tokuyama) of a special issue of *Algorithms* devoted to Computational Geometry: `http://www.mdpi.com/journal/algorithms/special_issues/computational_geometry#published`
- Joint editor (with Mark de Berg and Khaled Elbassioni) of a special issue of *International Journal of Computational Geometry and Applications* devoted to the *26th International Symposium on Algorithms and Computation* (ISAAC 2015).
- Member on the Program Committee of the *2nd ACIS International Workshop on Self-Assembling Wireless Networks* (SAWN 2006), June 2006, Las Vegas, Nevada.
- Member on the Program Committee of the *2nd Workshop on Algorithms and Computation* (WALCOM 2009), February 2009, Calcutta, India.
- Member on the Program Committee of the *22nd Canadian Conference on Computational Geometry* (CCCG 2010), August 9-11, 2010, Winnipeg, Canada.
- Member on the Program Committee of the *27th Annual ACM Symposium on Computational Geometry*, (SOCG 2011), June 13–15, 2011, Paris, France.
- Member on the Program Committee of the *23rd Canadian Conference on Computational Geometry* (CCCG 2011), August 10–12, 2011, Toronto, Canada.
- Member on the Program Committee of the *6th Annual International Conference on Combinatorial Optimization and Applications* (COCOA 2012), August 5–9, 2012, Banff, Canada.
- Member on the Program Committee of the *25th Canadian Conference on Computational Geometry* (CCCG 2013), August 2013, Waterloo, Ontario, Canada.
- Member on the Program Committee of the *32nd International Symposium on Theoretical Aspects of Computer Science* (STACS 2015), March 4–7, 2015, Munich, Germany.
- Member on the Program Committee of the *26th International Symposium on Algorithms and Computation* (ISAAC 2015), Dec. 9–11, 2015, Nagoya, Japan.
- Member on the Program Committee of the *33rd International Symposium on Algorithms and Computation* (ISAAC 2022), Dec. 19–21, 2022, Seoul, Korea and also online.

- Member on the Program Committee of the *35th International Workshop on Combinatorial Algorithms* (IWOCA 2024), Ischia, Italy, July 1-4, 2024.
- Member on the Program Committee of the *14th International Conference on Algorithms and Complexity* (CIAC 2025), Rome, Italy, June 2025.
- Refereed papers for the following journals (93 reviews in total):
  - *Acta Informatica* (1 review)
  - *Algorithmica* (6 reviews)
  - *Algorithms* (2 reviews)
  - *American Mathematical Monthly* (1 review)
  - *Canadian Mathematical Bulletin* (1 review)
  - *Computational Geometry: Theory and Applications* (18 reviews)
  - *Discrete Applied Mathematics* (1 review)
  - *Discrete & Computational Geometry* (14 reviews)
  - *Discrete Mathematics* (9 reviews)
  - *Discrete Mathematics and Theoretical Computer Science* (2 reviews)
  - *Discrete Optimization* (1 review)
  - *The Electronic Journal of Combinatorics* (3 reviews)
  - *Graphs and Combinatorics* (1 review)
  - *International Journal of Computational Geometry and Applications* (7 reviews)
  - *International Journal of Computer Mathematics* (1 review)
  - *International Mathematics Research Notices* (1 review)
  - *Journal of Algorithms* (1 review)
  - *Journal of Combinatorial Optimization* (1 review)
  - *Journal of Combinatorial Theory (Series A)* (4 reviews)
  - *Journal of Combinatorial Theory (Series B)* (1 review)
  - *Journal of Computational Geometry* (3 reviews)
  - *Journal of the London Mathematical Society* (1 review)
  - *Journal of Universal Computer Science* (2 reviews)
  - *Note di Matematica* (1 review)
  - *Optimization Methods and Software* (1 review)
  - *Periodica Mathematica Hungarica* (1 review)
  - *SIAM Journal on Computing* (2 reviews)
  - *SIAM Journal on Discrete Mathematics* (4 reviews)
  - *Theoretical Computer Science* (1 review)
  - *Theory of Computing Systems* (1 review)
- Reviewer for the following conferences (69 reviews in total):

- *The 2nd International Workshop on Computational Geometry and Applications* (CGA 2002), 1 review
- *The 5th Workshop on Algorithm Engineering and Experiments* (ALENEX 2003), 1 review
- *The 19th Annual Symposium on Computational Geometry* (SOCG 2003), 1 review
- *The 2003 International Conference on Computational Science and its Applications* (ICCSA 2003), 1 review
- *The 6th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems* (APPROX 2003), 1 review
- *The 20th Annual Symposium on Computational Geometry* (SOCG 2004), 2 reviews
- *The 12th International Symposium on Graph Drawing* (GD 2004), 1 review
- *The 21st Annual Symposium on Computational Geometry* (SOCG 2005), 1 review
- *The 13th Annual European Symposium on Algorithms* (ESA 2005), 1 review
- *The 12th Annual International Computing and Combinatorics Conference* (COCOON 2006), 1 review
- *The 14th Annual European Symposium on Algorithms* (ESA 2006), 1 review
- *The 23rd Annual ACM Symposium on Computational Geometry* (SOCG 2007), 2 reviews
- *The 3rd International Conference on Algorithmic Aspects in Information and Management* (AAIM 2007), 1 review
- *The 24th Annual ACM Symposium on Computational Geometry* (SOCG 2008), 1 review
- *The 20th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2009), 1 review
- *The 25th Annual ACM Symposium on Computational Geometry* (SOCG 2009), 2 reviews
- *The 2nd Workshop on Algorithms and Computation* (WALCOM 2009), 2 reviews
- *The 22nd Canadian Conference on Computational Geometry* (CCCG 2010), 1 review
- *The 9th Latin American Theoretical Informatics Symposium* (LATIN 2010), 1 review
- *The 27th International Symposium on Theoretical Aspects of Computer Science* (STACS 2010), 1 review
- *The 26th Annual ACM Symposium on Computational Geometry* (SOCG 2010), 2 reviews
- *The 23rd Canadian Conference on Computational Geometry* (CCCG 2011), 10 reviews
- *The 22nd International Symposium on Algorithms and Computation* (ISAAC 2011), 2 reviews
- *The 27th Annual ACM Symposium on Computational Geometry* (SOCG 2011), 2 reviews
- *The 6th Annual International Conference on Combinatorial Optimization and Applications* (COCOA 2012), 5 reviews
- *The 28th Annual ACM Symposium on Computational Geometry* (SOCG 2012), 2 reviews
- *The 29th Annual ACM Symposium on Computational Geometry* (SOCG 2013), 1 review
- *The 21st International Symposium on Graph Drawing* (GD 2013), 1 review
- *The 30th Annual ACM Symposium on Computational Geometry* (SOCG 2014), 2 reviews
- *The 26th Annual ACM Symposium on Parallelism in Algorithms and Architectures* (SPAA 2014), 1 review

- *The 41st International Colloquium on Automata, Languages, and Programming* (ICALP 2014), 1 review
- *The 26th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2015), 1 review
- *The 32nd Annual ACM Symposium on Computational Geometry* (SOCG 2016), 1 review
- *The 15th Scandinavian Symposium and Workshops on Algorithm Theory* (SWAT 2016), 1 review
- *The 8th International Conference on Fun with Algorithms* (FUN 2016), 1 review
- *The 29th Canadian Conference on Computational Geometry* (CCCG 2017), 1 review
- *The 34th Annual Symposium on Computational Geometry* (SOCG 2018), 2 reviews
- *The 45th International Colloquium on Automata, Languages, and Programming* (ICALP 2018), 1 review
- *The 35th Annual Symposium on Computational Geometry* (SOCG 2019), 2 reviews
- *The 36th Annual Symposium on Computational Geometry* (SOCG 2020), 2 reviews
- *The 39th International Symposium on Theoretical Aspects of Computer Science* (STACS 2022), 1 review
- *The 30th Annual European Symposium on Algorithms* (ESA 2022), 1 review
- *39th European Workshop on Computational Geometry* (EuroCG 2023), 1 review
- *The 29th Annual International Computing and Combinatorics Conference* (COCOON 2023), 1 review
- *The 40th Annual Symposium on Computational Geometry* (SOCG 2023), 1 review

Graduate Students Supervised in Research

- Uwe Klimach (2001–2002).
- Yang Zhao (2004).
- Rongqing Tu (2005).
- Gen Lu (2006, 2007).
- Evan Hilscher (2009–2011), former MS student; first supported by an undergraduate research assistantship conducted under my supervision, part of *Fostering Undergraduate Research Program*, 2009–2010.
- Anirban Ghosh (2011–2016), former PhD student.
- Ritankar Mandal (2013–2020), former PhD student.
- Ke Chen (2014–2020), former PhD student.

Graduate Theses Supervised

- Brian Baas, MS Thesis, May 2005.
- Evan Hilscher, MS Thesis, December 2011. Title: *Convexification of Polygons by Pops and Animal Testing*

- Ke Chen, MS Thesis, May 2014. Title: *Nonconvex Cases for Carpenter's Rulers*
- Anirban Ghosh, PhD Dissertation, April 2016. Title: *Algorithmic and combinatorial results on Fence Patrolling, Polygon Cutting and Geometric Spanners*
- Ke Chen, PhD Dissertation, December 2020. Title: *Algorithmic and Combinatorial Results in Selection and Computational Geometry*
- Ritankar Mandal, PhD Dissertation, December 2020. Title: *Two Counting Problems in Geometric Triangulations and Pseudoline Arrangements*

MS and PhD Examination Committees

- Eric McDermid (Advisor: Christine Cheng, MS defense, May 2007).
- Yang Zhao (Advisor: John Boyland, PhD defense, July 2007).
- Yirong Wu (Advisor: Christine Cheng, PhD defense, November 2008).
- William Trost (Advisor: Guangwu Xu, MS defense, December 2013).
- Seyedamirhossein Hesamian (Advisor: Guangwu Xu, MS defense, April 19, 2017)
- Saud Al Musa (Advisor: Guangwu Xu, PhD Preliminary Exam, November 27, 2017).
- Saud Al Musa (Advisor: Guangwu Xu, PhD defense, November 12, 2018).