

List of Publications

Michiel Smid

December 22, 2016

Books

1. Giri Narasimhan, Michiel Smid. *Geometric Spanner Networks*. Cambridge University Press, Cambridge, 2007.
2. Anil Maheshwari, Michiel Smid. *Introduction to Theory of Computation*. A textbook freely available at <http://cg.scs.carleton.ca/~michiel/TheoryOfComputation>
3. Michiel Smid. *Discrete Structures for Computer Science: Counting, Recursion, and Probability*. A textbook freely available at <http://cg.scs.carleton.ca/~michiel/DiscreteStructures>

Edited works

4. Frank Dehne, Jörg-R. Sack, Michiel Smid. *Proceedings 8th Workshop on Algorithms and Data Structures*, Lecture Notes in Computer Science, Vol. 2748, Springer-Verlag, Berlin, 2003.
5. Ravi Janardan, Michiel Smid, Debasish Dutta. *Geometric and Algorithmic Aspects of Computer-Aided Design and Manufacturing*. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Volume 67, American Mathematical Society, Providence, 2005.

Chapters in Books

6. Michiel Smid. *Closest-point problems in computational geometry*. In: Handbook of Computational Geometry (Jörg-R. Sack and Jorge Urrutia, editors), Elsevier Science, Amsterdam, 1999, pp. 877–935.

7. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Computational geometry: generalized intersection searching*. In: Handbook of Data Structures and Applications (Dinesh Mehta and Sartaj Sahni, editors), Chapman & Hall/CRC, Boca Raton, 2005, pp. 64-1 – 64-17.
8. Ravi Janardan, Michiel Smid. *Geometric algorithms for layered manufacturing*. In: Geometric and Algorithmic Aspects of Computer-Aided Design and Manufacturing (Ravi Janardan, Michiel Smid, and Debasish Dutta, editors), DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Volume 67, American Mathematical Society, Providence, 2005, pp. 189–220.
9. Michiel Smid. *The well-separated pair decomposition and its applications*. In: Handbook of Approximation Algorithms and Metaheuristics (Teofilo F. Gonzalez, editor), Chapman & Hall/CRC, Boca Raton, 2007, pp. 53-1 – 53-12.
10. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Applications of geometric spanner networks*. In: Encyclopedia of Algorithms (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2008, pp. 40–43.
11. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Geometric spanners*. In: Encyclopedia of Algorithms (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2008, pp. 360–364.
12. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Planar geometric spanners*. In: Encyclopedia of Algorithms (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2008, pp. 653–656.
13. Michiel Smid. *The weak gap property in metric spaces of bounded doubling dimension*. In: Efficient Algorithms, Essays Dedicated to Kurt Mehlhorn on the Occasion of His 60th Birthday (Susanne Albers, Helmut Alt, Stefan Näher, editors), Lecture Notes in Computer Science, Vol. 5760, Springer-Verlag, Berlin, 2009, pp. 275–289.
14. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Applications of geometric spanner networks*. In: Encyclopedia of Algorithms, Second Edition (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2016, pp. 86–90.
15. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Geometric spanners*. In: Encyclopedia of Algorithms, Second Edition (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2016, pp. 846–852.
16. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Planar geometric spanners*. In: Encyclopedia of Algorithms, Second Edition (Ming-Yang Kao, editor), Springer-Verlag, Berlin, 2016, pp. 1570–1574.
17. Prosenjit Gupta, Ravi Janardan, Saladi Rahul, Michiel Smid. *Computational geometry: generalized (or colored) intersection searching*. In: Handbook of Data Structures and Applications, Second Edition, (Dinesh Mehta and Sartaj Sahni, editors), to appear.

Journal Articles

18. Michiel Smid. *Duadic codes*. IEEE Transactions on Information Theory **33** (1987), pp. 432–433.
19. Michiel Smid, Leen Torenvliet, Peter van Emde Boas, Mark Overmars. *Two models for the reconstruction problem for dynamic data structures*. Journal of Information Processing and Cybernetics EIK **25** (1989), pp. 131–155.
20. Michiel Smid, Mark Overmars, Leen Torenvliet, Peter van Emde Boas. *Maintaining multiple representations of dynamic data structures*. Information and Computation **83** (1989), pp. 206–233.
21. Michiel Smid. *A data structure for the union-find problem having good single-operation complexity*. Algorithms Review **1** (1990), pp. 1–11.
22. Mark Overmars, Michiel Smid, Mark de Berg, Marc van Kreveld. *Maintaining range trees in secondary memory, part I: partitions*. Acta Informatica **27** (1990), pp. 423–452.
23. Michiel Smid, Mark Overmars. *Maintaining range trees in secondary memory, part II: lower bounds*. Acta Informatica **27** (1990), pp. 453–480.
24. Yu-Tai Ching, Kurt Mehlhorn, Michiel Smid. *Dynamic deferred data structuring*. Information Processing Letters **35** (1990), pp. 37–40.
25. Michiel Smid. *Maintaining the minimal distance of a point set in less than linear time*. Algorithms Review **2** (1991), pp. 33–44.
26. Michiel Smid. *Range trees with slack parameter*. Algorithms Review **2** (1991), pp. 77–87.
27. Michiel Smid. *The reconstruction problem for dynamic data structures, an overview*. CWI-Quarterly **4** (1991), pp. 149–172.
28. Michiel Smid. *Maintaining the minimal distance of a point set in polylogarithmic time*. Discrete & Computational Geometry **7** (1992), pp. 415–431.
29. Hans-Peter Lenhof, Michiel Smid. *An optimal construction method for generalized convex layers*. International Journal of Computational Geometry & Applications **3** (1993), pp. 245–267.
30. Hans-Peter Lenhof, Michiel Smid. *Using persistent data structures for adding range restrictions to searching problems*. RAIRO Theoretical Informatics and Applications **28** (1994), pp. 25–49.
31. Christian Schwarz, Michiel Smid, Jack Snoeyink. *An optimal algorithm for the on-line closest-pair problem*. Algorithmica **12** (1994), pp. 18–29.

32. Hans-Peter Lenhof, Michiel Smid. *Maintaining the visibility map of spheres while moving the viewpoint on a circle at infinity*. *Algorithmica* **13** (1995), pp. 301–312.
33. Michiel Smid. *Dynamic rectangular point location, with an application to the closest pair problem*. *Information and Computation* **116** (1995), pp. 1–9.
34. Mordecai Golin, Rajeev Raman, Christian Schwarz, Michiel Smid. *Simple randomized algorithms for closest pair problems*. *Nordic Journal of Computing* **2** (1995), pp. 3–27.
35. Hans-Peter Lenhof, Michiel Smid. *Sequential and parallel algorithms for the k closest pairs problem*. *International Journal of Computational Geometry & Applications* **5** (1995), pp. 273–288.
36. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Further results on generalized intersection searching problems: counting, reporting, and dynamization*. *Journal of Algorithms* **19** (1995), pp. 282–317.
37. Amitava Datta, Hans-Peter Lenhof, Christian Schwarz, Michiel Smid. *Static and dynamic algorithms for k -point clustering problems*. *Journal of Algorithms* **19** (1995), pp. 474–503.
38. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Algorithms for generalized halfspace range searching and other intersection searching problems*. *Computational Geometry: Theory and Applications* **5** (1996), pp. 321–340. Also published (erroneously) in **6** (1996), pp. 1–19.
39. Sanjiv Kapoor, Michiel Smid. *New techniques for exact and approximate dynamic closest-point problems*. *SIAM Journal on Computing* **25** (1996), pp. 775–796.
40. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Fast algorithms for collision and proximity problems involving moving geometric objects*. *Computational Geometry: Theory and Applications* **6** (1996), pp. 371–391.
41. Sunil Arya, Michiel Smid. *Efficient construction of a bounded-degree spanner with low weight*. *Algorithmica* **17** (1997), pp. 33–54.
42. Phillip Bradford, Rudolf Fleischer, Michiel Smid. *More efficient parallel totally monotone matrix searching*. *Journal of Algorithms* **23** (1997), pp. 386–400.
43. Gautam Das, Sanjiv Kapoor, Michiel Smid. *On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees*. *Algorithmica* **19** (1997), pp. 447–460.
44. Prosenjit Gupta, Ravi Janardan, Michiel Smid, Bhaskar Dasgupta. *The rectangle enclosure and point-dominance problems revisited*. *International Journal of Computational Geometry & Applications* **7** (1997), pp. 437–455.

45. Frank Follert, Elmar Schömer, Jürgen Sellen, Michiel Smid, Christian Thiel. *Computing a largest empty anchored cylinder, and related problems*. International Journal of Computational Geometry & Applications **7** (1997), pp. 563–580.
46. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *A technique for adding range restrictions to generalized searching problems*. Information Processing Letters **64** (1997), pp. 263–269.
47. Mordecai Golin, Rajeev Raman, Christian Schwarz, Michiel Smid. *Randomized data structures for the dynamic closest-pair problem*. SIAM Journal on Computing **27** (1998), pp. 1036–1072.
48. Michiel Smid, Ravi Janardan. *On the width and roundness of a set of points in the plane*. International Journal of Computational Geometry & Applications **9** (1999), pp. 97–108.
49. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Efficient algorithms for counting and reporting pairwise intersections between convex polygons*. Information Processing Letters **69** (1999), pp. 7–13.
50. Jayanth Majhi, Ravi Janardan, Michiel Smid, Prosenjit Gupta. *On some geometric optimization problems in layered manufacturing*. Computational Geometry: Theory and Applications **12** (1999), pp. 219–239.
51. Jayanth Majhi, Ravi Janardan, Jörg Schwerdt, Michiel Smid, Prosenjit Gupta. *Minimizing support structures and trapped area in two-dimensional layered manufacturing*. Computational Geometry: Theory and Applications **12** (1999), pp. 241–267.
52. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Algorithms for some intersection searching problems involving circular objects*. International Journal of Mathematical Algorithms **1** (1999), pp. 35–52.
53. Sunil Arya, David M. Mount, Michiel Smid. *Dynamic algorithms for geometric spanners of small diameter: Randomized solutions*. Computational Geometry: Theory and Applications **13** (1999), pp. 91–107.
54. Jörg Schwerdt, Michiel Smid, Jayanth Majhi, Ravi Janardan. *Computing the width of a three-dimensional point set: an experimental study*. ACM Journal of Experimental Algorithmics **4** (1999), Article 8.
55. Jörg Schwerdt, Michiel Smid, Ravi Janardan, Eric Johnson, Jayanth Majhi. *Protecting critical facets in layered manufacturing*. Computational Geometry: Theory and Applications **16** (2000), pp. 187–210.
56. Giri Narasimhan, Michiel Smid. *Approximating the stretch factor of Euclidean graphs*. SIAM Journal on Computing **30** (2000), pp. 978–989.

57. Gautam Das, Michiel Smid. *A lower bound for approximating the geometric minimum weight matching*. Information Processing Letters **74** (2000), pp. 253–255.
58. Danny Z. Chen, Gautam Das, Michiel Smid. *Lower bounds for computing geometric spanners and approximate shortest paths*. Discrete Applied Mathematics **110** (2001), pp. 151–167.
59. Jayanth Majhi, Ravi Janardan, Michiel Smid, Jörg Schwerdt. *Multi-criteria geometric optimization problems in layered manufacturing*. International Journal of Mathematical Algorithms **2** (2001), pp. 201–225.
60. Christos Levcopoulos, Giri Narasimhan, Michiel Smid. *Improved algorithms for constructing fault-tolerant spanners*. Algorithmica **32** (2002), pp. 144–156.
61. Michiel Smid, Vanam Srilakshmi. *Computing the smallest T-shaped polygon containing k points*. International Journal of Computer Mathematics **79** (2002), pp. 143–156.
62. Giri Narasimhan, Michiel Smid. *Approximation algorithms for the bottleneck stretch factor problem*. Nordic Journal of Computing **9** (2002), pp. 13–31.
63. Jörg Schwerdt, Michiel Smid, Man Chung Hon, Ravi Janardan. *Computing an optimal hatching direction in layered manufacturing*. International Journal of Computer Mathematics **79** (2002), pp. 1067–1081.
64. Ivaylo Ilinkin, Ravi Janardan, Jayanth Majhi, Jörg Schwerdt, Michiel Smid, Ram Sriram. *A decomposition-based approach to layered manufacturing*. Computational Geometry: Theory and Applications **23** (2002), pp. 117–151.
65. Ulrich Wendt, Katharina Stiebe-Lange, Michiel Smid. *On the influence of imaging conditions and algorithms on the quantification of surface topography*. Journal of Microscopy **207** (2002), pp. 169–179.
66. Ulrich Wendt, Katharina Lange, Michiel Smid, Rahul Ray, Klaus Tönnies. *Surface topography quantification by integral and feature-related parameters*. Materialwissenschaft und Werkstofftechnik (Materials Science and Engineering Technology) **33** (2002) pp. 621–627.
67. Man Chung Hon, Ravi Janardan, Jörg Schwerdt, Michiel Smid. *Minimizing the total projection of a set of vectors, with applications to layered manufacturing*. Computer-Aided Design **35** (2003), pp. 57–68.
68. Jörg Schwerdt, Michiel Smid, Ravi Janardan, Eric Johnson. *Protecting critical facets in layered manufacturing: implementation and experimental results*. Computer-Aided Design **35** (2003), pp. 647–657.

69. Michiel Smid, Rahul Ray, Ulrich Wendt, Katharina Lange. *Computing large planar regions in terrains, with an application to fracture surfaces*. Discrete Applied Mathematics **139** (2004), pp. 253–264.
70. Prosenjit Bose, Michiel Smid, David R. Wood. *Light edges in degree-constrained graphs*. Discrete Mathematics **282** (2004), pp. 35–41.
71. Prosenjit Bose, Anil Maheshwari, Giri Narasimhan, Michiel Smid, Norbert Zeh. *Approximating geometric bottleneck shortest paths*. Computational Geometry: Theory and Applications **29** (2004), pp. 233–249.
72. Danny Z. Chen, Michiel Smid, Bin Xu. *Geometric algorithms for density-based data clustering*. International Journal of Computational Geometry & Applications **15** (2005), pp. 239–260.
73. Prosenjit Bose, Joachim Gudmundsson, Michiel Smid. *Constructing plane spanners of bounded degree and low weight*. Algorithmica **42** (2005), pp. 249–264.
74. Danny Krizanc, Pat Morin, Michiel Smid. *Range mode and range median queries on lists and trees*. Nordic Journal of Computing **12** (2005), pp. 1–17.
75. Anil Maheshwari, Michiel Smid. *A dynamic dictionary for priced information with application*. Algorithmica **44** (2006), pp. 151–165.
76. Ivaylo Ilinkin, Ravi Janardan, Michiel Smid, Eric Johnson, Paul Castillo, Jörg Schwerdt. *Heuristics for estimating contact area of supports in layered manufacturing*. ACM Journal of Experimental Algorithmics **11** (2006), Article 1.6.
77. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Distance-preserving approximations of polygonal paths*. Computational Geometry: Theory and Applications **36** (2007), pp. 183–196.
78. Prosenjit Bose, Anil Maheshwari, Pat Morin, Jason Morrison, Michiel Smid, Jan Vahrenhold. *Space-efficient geometric divide-and-conquer algorithms*. Computational Geometry: Theory and Applications **37** (2007), pp. 209–227.
79. Joachim Gudmundsson, Christos Levkopoulos, Giri Narasimhan, Michiel Smid. *Approximate distance oracles for geometric spanners*. ACM Transactions on Algorithms, **4** (2008), Article 10.
80. Boris Aronov, Mark de Berg, Otfried Cheong, Joachim Gudmundsson, Herman Haverkort, Michiel Smid, Antoine Vigneron. *Sparse geometric graphs with small dilation*. Computational Geometry: Theory and Applications **40** (2008), pp. 207–219.
81. Anil Maheshwari, Michiel Smid, Norbert Zeh. *I/O-efficient algorithms for computing planar geometric spanners*. Computational Geometry: Theory and Applications **40** (2008), pp. 252–271.

82. Prosenjit Bose, Hua Guo, Evangelos Kranakis, Anil Maheshwari, Pat Morin, Jason Morrison, Michiel Smid, Yihui Tang. *On the false-positive rate of Bloom filters*. Information Processing Letters **108** (2008), pp. 210–213.
83. Prosenjit Bose, Paz Carmi, Mathieu Couture, Anil Maheshwari, Michiel Smid, Norbert Zeh. *Geometric spanners with small chromatic number*. Computational Geometry: Theory and Applications **42** (2009), pp. 134–146.
84. Prosenjit Bose, Paz Carmi, Mathieu Couture, Anil Maheshwari, Pat Morin, Michiel Smid. *Spanners of complete k -partite geometric graphs*. SIAM Journal on Computing **38** (2009), pp. 1803–1820.
85. Tetsuo Asano, Prosenjit Bose, Paz Carmi, Anil Maheshwari, Chang Shu, Michiel Smid, Stefanie Wuhler. *A linear-space algorithm for distance preserving graph embedding*. Computational Geometry: Theory and Applications **42** (2009), pp. 289–304.
86. Joachim Gudmundsson, Michiel Smid. *On spanners of geometric graphs*. International Journal of Foundations of Computer Science **20** (2009), pp. 135–149.
87. Prosenjit Bose, Pat Morin, Michiel Smid, Stefanie Wuhler. *Rotationally monotone polygons*. Computational Geometry: Theory and Applications **42** (2009), pp. 471–483.
88. Rossen Atanassov, Prosenjit Bose, Mathieu Couture, Anil Maheshwari, Pat Morin, Michel Paquette, Michiel Smid, Stefanie Wuhler. *Algorithms for optimal outlier removal*. Journal of Discrete Algorithms **7** (2009), pp. 239–248.
89. Prosenjit Bose, Michiel Smid, Daming Xu. *Delaunay and diamond triangulations contain spanners of bounded degree*. International Journal of Computational Geometry & Applications **19** (2009), pp. 119–140.
90. Marc Mörig, Dieter Rautenbach, Michiel Smid, Jan Tusch. *An $\Omega(n \log n)$ lower bound for computing the sum of even-ranked elements*. Information Processing Letters **109** (2009), pp. 955–956.
91. Rolf Klein, Christian Knauer, Giri Narasimhan, Michiel Smid. *On the dilation spectrum of paths, cycles, and trees*. Computational Geometry: Theory and Applications **42** (2009), pp. 923–933.
92. Prosenjit Bose, Pat Morin, Michiel Smid, Stefanie Wuhler. *Clamshell casting*. Algorithmica **55** (2009), pp. 666–702.
93. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Efficient non-intersection queries on aggregated geometric data*. International Journal of Computational Geometry & Applications **19** (2009), pp. 479–506.

94. Prosenjit Bose, Sébastien Collette, Stefan Langerman, Anil Maheshwari, Pat Morin, Michiel Smid. *Sigma-local graphs*. *Journal of Discrete Algorithms* **8** (2010), pp. 15–23.
95. Hee-Kap Ahn, Mohammad Farshi, Christian Knauer, Michiel Smid, Yajun Wang. *Dilation-optimal edge deletion in polygonal cycles*. *International Journal of Computational Geometry & Applications* **20** (2010), pp. 69–87.
96. Prosenjit Bose, Paz Carmi, Sébastien Collette, Michiel Smid. *On the stretch factor of convex Delaunay graphs*. *Journal of Computational Geometry* **1** (2010), pp. 41–56.
97. Prosenjit Bose, Paz Carmi, Mohammad Farshi, Anil Maheshwari, Michiel Smid. *Computing the greedy spanner in near-quadratic time*. *Algorithmica* **58** (2010), pp. 711–729.
98. Prosenjit Bose, Paz Carmi, Mathieu Couture, Michiel Smid, Daming Xu. *On a family of strong geometric spanners that admit local routing strategies*. *Computational Geometry: Theory and Applications* **44** (2011), pp. 319–328.
99. Joachim Gudmundsson, Pat Morin, Michiel Smid. *Algorithms for marketing-mix optimization*. *Algorithmica* **60** (2011), pp. 1004–1016.
100. Mohammad Ali Abam, Mark de Berg, Mohammad Farshi, Joachim Gudmundsson, Michiel Smid. *Geometric spanners for weighted point sets*. *Algorithmica* **61** (2011), pp. 207–225.
101. Anil Maheshwari, Michiel Smid, Norbert Zeh. *Low-interference networks in metric spaces of bounded doubling dimension*. *Information Processing Letters* **111** (2011), pp. 1120–1123.
102. Siu-Wing Cheng, Christian Knauer, Stefan Langerman, Michiel Smid. *Approximating the average stretch factor of geometric graphs*. *Journal of Computational Geometry* **3** (2012), pp. 132–153.
103. Prosenjit Bose, Mirela Damian, Karim Douïeb, Joseph O’Rourke, Ben Seamone, Michiel Smid, Stefanie Wührer. *$\pi/2$ -Angle Yao graphs are spanners*. *International Journal of Computational Geometry & Applications* **22** (2012), pp. 61–82.
104. Paz Carmi, Michiel Smid. *An optimal algorithm for computing angle-constrained spanners*. *Journal of Computational Geometry* **3** (2012), pp. 196–221.
105. Minati De, Anil Maheshwari, Subhas C. Nandy, Michiel Smid. *An in-place min-max priority search tree*. *Computational Geometry: Theory and Applications* **46** (2013), pp. 310–327.
106. Mohammad Ali Abam, Paz Carmi, Mohammad Farshi, Michiel Smid. *On the power of the semi-separated pair decomposition*. *Computational Geometry: Theory and Applications* **46** (2013), pp. 631–639.

107. Prosenjit Bose, Michiel Smid. *On plane geometric spanners: A survey and open problems*. Computational Geometry: Theory and Applications **46** (2013), pp. 818–830.
108. Prosenjit Bose, Vida Dujmović, Pat Morin, Michiel Smid. *Robust geometric spanners*. SIAM Journal on Computing **42** (2013), pp. 1720–1736.
109. Prosenjit Bose, Kai Dannies, Jean-Lou De Carufel, Christoph Doell, Carsten Grimm, Anil Maheshwari, Stefan Schirra, Michiel Smid. *Network farthest-point diagrams and their application to feed-link network extension*. Journal of Computational Geometry **4** (2013), pp. 182–211.
110. Prosenjit Gupta, Ravi Janardan, Yokesh Kumar, Michiel Smid. *Data structures for range-aggregate extent queries*. Computational Geometry: Theory and Applications **47** (2014), pp. 329–347.
111. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *An optimal algorithm for the Euclidean bottleneck full Steiner tree problem*. Computational Geometry: Theory and Applications **47** (2014), pp. 377–380.
112. Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Megan Owen, Michiel Smid. *A note on the unsolvability of the weighted region shortest path problem*. Computational Geometry: Theory and Applications **47** (2014), pp. 724–727.
113. Jasine Babu, Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Fixed-orientation equilateral triangle matching of point sets*. Theoretical Computer Science **555** (2014), pp. 55–70.
114. Prosenjit Bose, Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Michiel Smid. *Optimal data structures for farthest-point queries in cactus networks*. Journal of Graph Algorithms and Applications **19** (2015), pp. 11–41.
115. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *On full Steiner trees in unit disk graphs*. Computational Geometry: Theory and Applications **48** (2015), pp. 453–458.
116. Vida Dujmović, Pat Morin, Michiel Smid. *Average stretch factor: How low does it go?* Discrete & Computational Geometry **53** (2015), pp. 296–326.
117. Joachim Gudmundsson, Michiel Smid. *Fast algorithms for approximate Fréchet matching queries in geometric trees*. Computational Geometry: Theory and Applications **48** (2015), pp. 479–494.
118. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Higher-order triangular-distance Delaunay graphs: Graph-theoretical properties*. Computational Geometry: Theory and Applications **48** (2015), pp. 646–660.

119. A. Karim Abu-Affash, Ahmad Biniiaz, Paz Carmi, Anil Maheshwari, Michiel Smid. *Approximating the bottleneck plane perfect matching of a point set*. Computational Geometry: Theory and Applications **48** (2015), pp. 718–731.
120. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *On the hardness of full Steiner tree problems*. Journal of Discrete Algorithms **34** (2015), pp. 118–127.
121. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Matchings in higher-order Gabriel graphs*. Theoretical Computer Science **596** (2015), pp. 67–78.
122. Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Michiel Smid. *Packing plane perfect matchings into a point set*. Discrete Mathematics and Theoretical Computer Science **17** (2015), pp. 119–142.
123. Aritra Banik, Jean-Lou De Carufel, Anil Maheshwari, Michiel Smid. *Discrete Voronoi games and ϵ -nets, in two and three dimensions*. Computational Geometry: Theory and Applications **55** (2016), pp. 41–58.
124. Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Michiel Smid. *Plane geodesic spanning trees, Hamiltonian cycles, and perfect matchings in a simple polygon*. Computational Geometry: Theory and Applications **57** (2016), pp. 27–39.
125. Prosenjit Bose, Paz Carmi, Mirela Damian, Jean-Lou De Carufel, Darryl Hill, Anil Maheshwari, Yuyang Liu, Michiel Smid. *On the stretch factor of convex polyhedra whose vertices are (almost) on a sphere*. Journal of Computational Geometry **7(1)** (2016), pp. 444–472.
126. Mahdi Amani, Ahmad Biniiaz, Prosenjit Bose, Jean-Lou De Carufel, Anil Maheshwari, Michiel Smid. *A plane 1.88-spanner for points in convex position*. Journal of Computational Geometry **7(1)** (2016), pp. 520–539.
127. Prosenjit Bose, Jean-Lou De Carufel, Alina Shaikhet, Michiel Smid. *Probing convex polygons with a wedge*. Computational Geometry: Theory and Applications **58** (2017), pp. 34–59.
128. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Strong matching of points with geometric shapes*. CGTA, to appear.
129. Ahmad Biniiaz, Paul Liu, Anil Maheshwari, Michiel Smid. *Approximation algorithms for the unit disk cover problem in 2D and 3D*. CGTA, to appear.
130. Anil Maheshwari, Subhas C. Nandy, Drimit Pattanayak, Sasanka Roy, Michiel Smid. *Geometric path problems with violations*. Algorithmica, to appear.

Conference Papers

131. Mark Overmars, Michiel Smid. *Maintaining range trees in secondary memory*. Proceedings 5th Annual Symposium on Theoretical Aspects of Computer Science (STACS), Lecture Notes in Computer Science, Vol. 294, Springer-Verlag, Berlin, 1988, pp. 38–51.
132. Michiel Smid, Mark Overmars, Leen Torenvliet, Peter van Emde Boas. *Maintaining multiple representations of dynamic data structures*. Proceedings Computing Science in the Netherlands (CSN88), 1988, pp. 315–333.
133. Michiel Smid, Mark Overmars, Leen Torenvliet, Peter van Emde Boas. *Multiple representations of dynamic data structures*. Information Processing 89, Proceedings IFIP 11th World Computer Congress, Elsevier Science Publishers, Amsterdam, 1989, pp. 437–442.
134. Pieter H. Hartel, Michiel Smid, Leen Torenvliet, Willem G. Vree. *A parallel functional implementation of range queries*. Proceedings Computing Science in the Netherlands (CSN89), 1989, pp. 173–189.
135. Michiel Smid. *Maintaining the minimal distance of a point set in less than linear time*. Proceedings 2nd Canadian Conference on Computational Geometry, 1990, pp. 1–4.
136. Michiel Smid. *Algorithms for semi-online updates on decomposable problems*. Proceedings 2nd Canadian Conference on Computational Geometry, 1990, pp. 347–350.
137. Harry Buhrman, Edith Spaan, Michiel Smid. *Bounding the number of oracle queries for self-reducible sets*. Proceedings Computing Science in the Netherlands (CSN90), 1990, pp. 79–93.
138. Michiel Smid, Peter van Emde Boas. *Dynamic data structures on multiple storage media, a tutorial*. Proceedings Software Seminar SOFSEM '90, Czechoslovakia, 1990, pp. 279–308.
139. Michiel Smid. *Maintaining the minimal distance of a point set in polylogarithmic time*. Proceedings 2nd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 1991, pp. 1–6.
140. Hans-Peter Lenhof, Michiel Smid. *An optimal construction method for generalized convex layers*. Proceedings 2nd Annual International Symposium on Algorithms, Lecture Notes in Computer Science, Vol. 557, Springer-Verlag, Berlin, 1991, pp. 349–363.
141. Michiel Smid. *Rectangular point location and the dynamic closest pair problem*. Proceedings 2nd Annual International Symposium on Algorithms, Lecture Notes in Computer Science, Vol. 557, Springer-Verlag, Berlin, 1991, pp. 364–374.

142. Christian Schwarz, Michiel Smid. *An $O(n \log n \log \log n)$ algorithm for the on-line closest pair problem.* Proceedings 3rd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 1992, pp. 280–285.
143. Christian Schwarz, Michiel Smid, Jack Snoeyink. *An optimal algorithm for the on-line closest pair problem.* Proceedings 8th Annual ACM Symposium on Computational Geometry, 1992, pp. 330–336.
144. Hans-Peter Lenhof, Michiel Smid. *Maintaining the visibility map of spheres while moving the viewpoint on a circle at infinity.* Proceedings 3rd Scandinavian Workshop on Algorithm Theory (SWAT), Lecture Notes in Computer Science, Vol. 621, Springer-Verlag, Berlin, 1992, pp. 388–398.
145. Mordecai J. Golin, Christian Schwarz, Michiel Smid. *Further dynamic computational geometry.* Proceedings 4th Canadian Conference on Computational Geometry, 1992, pp. 154–159.
146. Hans-Peter Lenhof, Michiel Smid. *Enumerating the k closest pairs optimally.* Proceedings 33rd Annual IEEE Symposium on Foundations of Computer Science (FOCS), 1992, pp. 380–386.
147. Mordecai Golin, Rajeev Raman, Christian Schwarz, Michiel Smid. *Randomized data structures for the dynamic closest-pair problem.* Proceedings 4th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 1993, pp. 301–310.
148. Mordecai J. Golin, Rajeev Raman, Christian Schwarz, Michiel Smid. *Simple randomized algorithms for closest pair problems.* Proceedings 5th Canadian Conference on Computational Geometry, 1993, pp. 246–251.
149. Amitava Datta, Hans-Peter Lenhof, Christian Schwarz, Michiel Smid. *Static and dynamic algorithms for k -point clustering problems.* Proceedings 3rd Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 709, Springer-Verlag, Berlin, 1993, pp. 265–276.
150. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Further results on generalized intersection searching problems: counting, reporting, and dynamization.* Proceedings 3rd Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 709, Springer-Verlag, Berlin, 1993, pp. 361–372.
151. Sanjiv Kapoor, Michiel Smid. *New techniques for exact and approximate dynamic closest-point problems.* Proceedings 10th Annual ACM Symposium on Computational Geometry, 1994, pp. 165–174.
152. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Efficient algorithms for generalized intersection searching on non-iso-oriented objects.* Proceedings 10th Annual ACM Symposium on Computational Geometry, 1994, pp. 369–378.

153. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *On intersection searching problems involving curved objects*. Proceedings 4th Scandinavian Workshop on Algorithm Theory (SWAT), Lecture Notes in Computer Science, Vol. 824, Springer-Verlag, Berlin, 1994, pp. 183–194.
154. Sunil Arya, Michiel Smid. *Efficient construction of a bounded degree spanner with low weight*. Proceedings 2nd Annual European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 855, Springer-Verlag, Berlin, 1994, pp. 48–59.
155. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Fast algorithms for collision and proximity problems involving moving geometric objects*. Proceedings 2nd Annual European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 855, Springer-Verlag, Berlin, 1994, pp. 278–289.
156. Sunil Arya, David M. Mount, Michiel Smid. *Randomized and deterministic algorithms for geometric spanners of small diameter*. Proceedings 35th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 1994, pp. 703–712.
157. Sunil Arya, Gautam Das, David M. Mount, Jeffrey S. Salowe, Michiel Smid. *Euclidean spanners: short, thin, and lanky*. Proceedings 27th Annual ACM Symposium on the Theory of Computing (STOC), 1995, pp. 489–498.
158. Prosenjit Gupta, Ravi Janardan, Michiel Smid, Bhaskar Dasgupta. *The rectangle enclosure and point-dominance problems revisited*. Proceedings 11th Annual ACM Symposium on Computational Geometry, 1995, pp. 162–171.
159. Michiel Smid, Ravi Janardan. *On the width and roundness of a set of points in the plane*. Proceedings 7th Canadian Conference on Computational Geometry, 1995, pp. 193–198.
160. Frank Follert, Elmar Schömer, Jürgen Sellen, Michiel Smid, Christian Thiel. *Computing a largest empty anchored cylinder, and related problems*. Proceedings 15th Conference on the Foundations of Software Technology and Theoretical Computer Science, Lecture Notes in Computer Science, Vol. 1026, Springer-Verlag, Berlin, 1995, pp. 428–442.
161. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Efficient algorithms for counting and reporting pairwise intersections between convex polygons*. Proceedings 8th Canadian Conference on Computational Geometry, 1996, pp. 8–13.
162. Danny Z. Chen, Gautam Das, Michiel Smid. *Lower bounds for computing geometric spanners and approximate shortest paths*. Proceedings 8th Canadian Conference on Computational Geometry, 1996, pp. 155–160.
163. Srinivasa Arikati, Danny Z. Chen, L. Paul Chew, Gautam Das, Michiel Smid, Christos D. Zaroliagis. *Planar spanners and approximate shortest path queries among obstacles*

- in the plane*. Proceedings 4th Annual European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 1136, Springer-Verlag, Berlin, 1996, pp. 514–528.
164. Gautam Das, Sanjiv Kapoor, Michiel Smid. *On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees*. Proceedings 16th Conference on the Foundations of Software Technology and Theoretical Computer Science, Lecture Notes in Computer Science, Vol. 1180, Springer-Verlag, Berlin, 1996, pp. 64–75.
 165. Jörg Schwerdt, Michiel Smid, Stefan Schirra. *Computing the minimum diameter for moving points: an exact implementation using parametric search*. Proceedings 13th Annual ACM Symposium on Computational Geometry, 1997, pp. 466–468.
 166. Jayanth Majhi, Ravi Janardan, Michiel Smid, Prosenjit Gupta. *On some geometric optimization problems in layered manufacturing*. Proceedings 5th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 1272, Springer-Verlag, Berlin, 1997, pp. 136–149.
 167. Christos Levcopoulos, Giri Narasimhan, Michiel Smid. *Efficient algorithms for constructing fault-tolerant geometric spanners*. Proceedings 30th Annual ACM Symposium on the Theory of Computing (STOC), 1998, pp. 186–195.
 168. Jayanth Majhi, Ravi Janardan, Michiel Smid, Jörg Schwerdt. *Multi-criteria geometric optimization problems in layered manufacturing*. Proceedings 14th Annual ACM Symposium on Computational Geometry, 1998, pp. 19–28.
 169. Jörg Schwerdt, Michiel Smid, Jayanth Majhi, Ravi Janardan. *Computing the width of a three-dimensional point set: an experimental study*. Proceedings 2nd Workshop on Algorithm Engineering (WAE), 1998, pp. 62–73.
 170. Jörg Schwerdt, Michiel Smid, Ravi Janardan, Eric Johnson, Jayanth Majhi. *Protecting facets in layered manufacturing*. Proceedings 19th Conference on the Foundations of Software Technology and Theoretical Computer Science, Lecture Notes in Computer Science, Vol. 1738, Springer-Verlag, Berlin, 1999, pp. 281–292.
 171. Jörg Schwerdt, Michiel Smid, Ravi Janardan, Eric Johnson. *Protecting critical facets in layered manufacturing: implementation and experimental results*. Proceedings 2nd Workshop on Algorithm Engineering and Experiments (ALENEX), 2000, pp. 43–57.
 172. Giri Narasimhan, Michiel Smid. *Approximation algorithms for the bottleneck stretch factor problem*. Proceedings 18th Annual Symposium on Theoretical Aspects of Computer Science (STACS), Lecture Notes in Computer Science, Vol. 2010, Springer-Verlag, Berlin, 2001, pp. 502–513.

173. Man Chung Hon, Ravi Janardan, Jörg Schwerdt, Michiel Smid. *Computing optimal hatching directions in layered manufacturing*. Proceedings International Conference on Computational Science (ICCS), Lecture Notes in Computer Science, Vol. 2073, Springer-Verlag, Berlin, 2001, pp. 683–692.
174. Anil Maheshwari, Michiel Smid, Norbert Zeh. *I/O-efficient shortest path queries in geometric spanners*. Proceedings 7th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 2125, Springer-Verlag, Berlin, 2001, pp. 287–299.
175. Iyaylo Ilinkin, Ravi Janardan, Jayanth Majhi, Jörg Schwerdt, Michiel Smid, Ram Sriram. *A decomposition-based approach to layered manufacturing*. Proceedings 7th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 2125, Springer-Verlag, Berlin, 2001, pp. 389–400.
176. Katharina Lange, Rahul Ray, Michiel Smid, Ulrich Wendt. *Computing large planar regions in terrains*. Proceedings 8th International Workshop on Combinatorial Image Analysis (IWCIA), 2001, pp. 139–151. Appears also in Electronic Notes in Theoretical Computer Science, Volume 46, 2001.
177. Ulrich Wendt, Katharina Lange, Michiel Smid, Rahul Ray. *Surface topography quantification using computational geometry*. Poster presented at the Dreiländertagung für Elektronenmikroskopie (Conference on Modern Microscopical Methods), Innsbruck, 2001.
178. Joachim Gudmundsson, Christos Levcopoulos, Giri Narasimhan, Michiel Smid. *Approximate distance oracles for geometric graphs*. Proceedings 13th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2002, pp. 828–837.
179. Iyaylo Ilinkin, Ravi Janardan, Michiel Smid. *Terrain polygon decomposition, with application to layered manufacturing*. Proceedings 8th Annual International Computing and Combinatorics Conference (COCOON), Lecture Notes in Computer Science, Vol. 2387, Springer-Verlag, Berlin, 2002, pp. 381–390.
180. Prosenjit Bose, Michiel Smid, David R. Wood. *Light edges in degree-constrained graphs*. Proceedings 14th Canadian Conference on Computational Geometry, 2002, pp. 142–145.
181. Pankaj K. Agarwal, Torben Hagerup, Rahul Ray, Micha Sharir, Michiel Smid, Emo Welzl. *Translating a planar object to maximize point containment*. Proceedings 10th European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 2461, Springer-Verlag, Berlin, 2002, pp. 42–53.
182. Prosenjit Bose, Joachim Gudmundsson, Michiel Smid. *Constructing plane spanners of bounded degree and low weight*. Proceedings 10th European Symposium on Algorithms

- (ESA), Lecture Notes in Computer Science, Vol. 2461, Springer-Verlag, Berlin, 2002, pp. 234–246.
183. Danny Z. Chen, Michiel Smid, Bin Xu. *Geometric algorithms for density-based data clustering*. Proceedings 10th European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 2461, Springer-Verlag, Berlin, 2002, pp. 284–296.
 184. Ulrich Wendt, Katharina Lange, Michiel Smid, Klaus Tönnies. *3D-Quantification of steel fracture surfaces using algorithms based on computational geometry*. Proceedings 15th International Congress on Electron Microscopy, 2002, pp. 857–858.
 185. Joachim Gudmundsson, Christos Levcopoulos, Giri Narasimhan, Michiel Smid. *Approximate distance oracles revisited*. Proceedings 13th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 2518, Springer-Verlag, Berlin, 2002, pp. 357–368.
 186. Prosenjit Bose, Anil Maheshwari, Giri Narasimhan, Michiel Smid, Norbert Zeh. *Approximating geometric bottleneck shortest paths*. Proceedings 20th Annual Symposium on Theoretical Aspects of Computer Science (STACS), Lecture Notes in Computer Science, Vol. 2607, Springer-Verlag, Berlin, 2003, pp. 38–49.
 187. Anil Maheshwari, Michiel Smid. *A dynamic dictionary for priced information with application*. Proceedings 14th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 2906, Springer-Verlag, Berlin, 2003, pp. 16–25.
 188. Danny Krizanc, Pat Morin, Michiel Smid. *Range mode and range median queries on lists and trees*. Proceedings 14th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 2906, Springer-Verlag, Berlin, 2003, pp. 517–526.
 189. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Distance-preserving approximations of polygonal paths*. Proceedings 23rd Conference on the Foundations of Software Technology and Theoretical Computer Science, Lecture Notes in Computer Science, Vol. 2914, Springer-Verlag, Berlin, 2003, pp. 217–228.
 190. Prosenjit Bose, Anil Maheshwari, Pat Morin, Jason Morrison, Michiel Smid, Jan Vahrenhold. *Space-efficient geometric divide-and-conquer algorithms*. Proceedings 20th European Workshop on Computational Geometry, 2004, pp. 65–68.
 191. Iyaylo Ilinkin, Ravi Janardan, Michiel Smid, Eric Johnson, Paul Castillo, Jörg Schwerdt. *Approximating contact-area of supports in layered manufacturing*. Proceedings 16th Canadian Conference on Computational Geometry, 2004, pp. 91–94.
 192. Joachim Gudmundsson, Giri Narasimhan, Michiel Smid. *Fast pruning of geometric spanners*. Proceedings 22nd Symposium on Theoretical Aspects of Computer Science

- (STACS), Lecture Notes in Computer Science, Vol. 3404, Springer-Verlag, Berlin, 2005, pp. 508–520.
193. Prosenjit Gupta, Ravi Janardan, Michiel Smid. *Efficient non-intersection queries on aggregated geometric data*. Proceedings 11th Annual International Computing and Combinatorics Conference (COCOON), Lecture Notes in Computer Science, Vol. 3595, Springer-Verlag, Berlin, 2005, pp. 544–553.
 194. Rolf Klein, Christian Knauer, Giri Narasimhan, Michiel Smid. *Exact and approximation algorithms for computing the dilation spectrum of paths, trees, and cycles*. Proceedings 16th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 3827, Springer-Verlag, Berlin, 2005, pp. 849–858.
 195. Michiel Smid. *Geometric spanners with few edges and degree five*. Proceedings 12th Computing: The Australasian Theory Symposium (CATS), 2006, pp. 7–9.
 196. Boris Aronov, Prosenjit Bose, Erik Demaine, Joachim Gudmundsson, John Iacono, Stefan Langerman, Michiel Smid. *Data structures for halfplane proximity queries and incremental Voronoi diagrams*. Proceedings 7th Latin American Theoretical Informatics Symposium (LATIN), Lecture Notes in Computer Science, Vol. 3887, Springer-Verlag, Berlin, 2006, pp. 80–92.
 197. Joachim Gudmundsson, Michiel Smid. *On spanners of geometric graphs*. Proceedings 10th Scandinavian Workshop on Algorithm Theory (SWAT), Lecture Notes in Computer Science, Vol. 4059, Springer-Verlag, Berlin, 2006, pp. 388–399.
 198. Prosenjit Bose, Pat Morin, Michiel Smid, Stefanie Wührer. *Rotationally monotone polygons*. Proceedings 18th Canadian Conference on Computational Geometry, 2006, pp. 105–108.
 199. Phillip Bradford, Irina Perevalova, Michiel Smid, Charles Ward. *Indicator random variables in traffic analysis and the birthday problem*. Proceedings 2nd IEEE Local Computer Networks Workshop on Network Security. Published in the Proceedings of the 31st IEEE Conference on Local Computer Networks, 2006, pp. 1016–1023.
 200. Prosenjit Bose, Michiel Smid, Daming Xu. *Diamond triangulations contain spanners of bounded degree*. Proceedings 17th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 4288, Springer-Verlag, Berlin, 2006, pp. 173–182.
 201. Joachim Gudmundsson, Oliver Klein, Christian Knauer, Michiel Smid. *Small Manhattan networks and algorithmic applications for the earth mover’s distance*. Proceedings 23rd European Workshop on Computational Geometry, 2007, pp. 174–177.

202. Stefanie Wuhrer, Prosenjit Bose, Pat Morin, Michiel Smid. *Algorithms for designing clamshell molds*. Computer-Aided Design and Applications 4 (2007), pp. 1–10.
203. Prosenjit Bose, Paz Carmi, Mathieu Couture, Michiel Smid, Daming Xu. *On a family of strong geometric spanners that admit local routing strategies*. Proceedings 10th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 4619, Springer-Verlag, Berlin, 2007, pp. 300–311.
204. Prosenjit Bose, Aaron Lee, Michiel Smid. *On generalized diamond spanners*. Proceedings 10th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science, Vol. 4619, Springer-Verlag, Berlin, 2007, pp. 325–336.
205. Tetsuo Asano, Prosenjit Bose, Paz Carmi, Anil Maheshwari, Chang Shu, Michiel Smid, Stefanie Wuhrer. *Linear-space algorithms for distance preserving embedding*. Proceedings 19th Canadian Conference on Computational Geometry, 2007, pp. 185–188.
206. Hee-Kap Ahn, Mohammad Farshi, Christian Knauer, Michiel Smid, Yajun Wang. *Dilation-optimal edge deletion in polygonal cycles*. Proceedings 18th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 4835, Springer-Verlag, Berlin, 2007, pp. 88–99.
207. Prosenjit Bose, Paz Carmi, Mathieu Couture, Anil Maheshwari, Michiel Smid, Norbert Zeh. *Geometric spanners with small chromatic number*. Proceedings 5th Workshop on Approximation and Online Algorithms (WAOA 2007), Lecture Notes in Computer Science, Vol. 4927, Springer-Verlag, Berlin, 2008, pp. 75–88.
208. Prosenjit Bose, Paz Carmi, Mathieu Couture, Anil Maheshwari, Pat Morin, Michiel Smid. *Spanners of complete k -partite geometric graphs*. Proceedings 8th Latin American Theoretical Informatics Symposium (LATIN), Lecture Notes in Computer Science, Vol. 4957, Springer-Verlag, Berlin, 2008, pp. 170–181.
209. Prosenjit Bose, Paz Carmi, Mohammad Farshi, Anil Maheshwari, Michiel Smid. *Computing the greedy spanner in near-quadratic time*. Proceedings 11th Scandinavian Workshop on Algorithm Theory (SWAT), Lecture Notes in Computer Science, Vol. 5124, Springer-Verlag, Berlin, 2008, pp. 390–401.
210. Prosenjit Gupta, Ravi Janardan, Yokesh Kumar, Michiel Smid. *Data structures for range-aggregate extent queries*. Proceedings 20th Canadian Conference on Computational Geometry, 2008, pp. 7–10.
211. Prosenjit Bose, Paz Carmi, Sébastien Collette, Michiel Smid. *On the stretch factor of convex Delaunay graphs*. Proceedings 19th Annual International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science, Vol. 5369, Springer-Verlag, Berlin, 2008, pp. 656–667.

212. Mohammad Ali Abam, Paz Carmi, Mohammad Farshi, Michiel Smid. *On the power of the semi-separated pair decomposition*. Proceedings 11th Algorithms and Data Structures Symposium (WADS), Lecture Notes in Computer Science, Vol. 5664, Springer-Verlag, Berlin, 2009, pp. 1–12.
213. Mohammad Ali Abam, Mark de Berg, Mohammad Farshi, Joachim Gudmundsson, Michiel Smid. *Geometric spanners for weighted point sets*. Proceedings 17th European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 5757, Springer-Verlag, Berlin, 2009, pp. 190–202.
214. Prosenjit Bose, Paz Carmi, Michiel Smid, Daming Xu. *Communication-efficient construction of the plane localized Delaunay graph*. Proceedings 9th Latin American Theoretical Informatics Symposium (LATIN), Lecture Notes in Computer Science, Vol. 6034, Springer-Verlag, Berlin, 2010, pp. 282–293.
215. Prosenjit Bose, Paz Carmi, Dana Jansens, Anil Maheshwari, Pat Morin, Michiel Smid. *Improved methods for generating quasi-Gray codes*. Proceedings 12th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT), Lecture Notes in Computer Science, Vol. 6139, Springer-Verlag, Berlin, 2010, pp. 224–235.
216. Yakov Nekrich, Michiel Smid. *Approximating range-aggregate queries using coresets*. Proceedings 22nd Canadian Conference on Computational Geometry, 2010, pp. 253–256.
217. Siu-Wing Cheng, Christian Knauer, Stefan Langerman, Michiel Smid. *Approximating the average stretch factor of geometric graphs*. Proceedings 21st Annual International Symposium on Algorithms and Computation (ISAAC), Part I, Lecture Notes in Computer Science, Vol. 6506, Springer-Verlag, Berlin, 2010, pp. 37–48.
218. Paz Carmi, Michiel Smid. *An optimal algorithm for computing angle-constrained spanners*. Proceedings 21st Annual International Symposium on Algorithms and Computation (ISAAC), Part I, Lecture Notes in Computer Science, Vol. 6506, Springer-Verlag, Berlin, 2010, pp. 316–327.
219. Prosenjit Bose, Mirela Damian, Karim Douïeb, Joseph O’Rourke, Ben Seamone, Michiel Smid, Stefanie Wührer. *$\pi/2$ -Angle Yao graphs are spanners*. Proceedings 21st Annual International Symposium on Algorithms and Computation (ISAAC), Part II, Lecture Notes in Computer Science, Vol. 6507, Springer-Verlag, Berlin, 2010, pp. 446–457.
220. Karim Douïeb, Matthew Eastman, Anil Maheshwari, Michiel Smid. *Approximation algorithms for a triangle enclosure problem*. Proceedings 23rd Canadian Conference on Computational Geometry, 2011, pp. 105–110.
221. Minati De, Anil Maheshwari, Subhas C. Nandy, Michiel Smid. *An in-place priority search tree*. Proceedings 23rd Canadian Conference on Computational Geometry, 2011, pp. 331–336.

222. Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Megan Owen, Michiel Smid. *Unsolvability of the weighted region shortest path problem*. Proceedings 28th European Workshop on Computational Geometry, 2012, pp. 65–68.
223. Pooya Davoodi, Michiel Smid, Freek van Walderveen. *Two-dimensional range diameter queries*. Proceedings 10th Latin American Theoretical Informatics Symposium (LATIN), Lecture Notes in Computer Science, Vol. 7256, Springer-Verlag, Berlin, 2012, pp. 219–230.
224. Gregory Bint, Anil Maheshwari, Michiel Smid. *xy-Monotone path existence queries in a rectilinear environment*. Proceedings 24th Canadian Conference on Computational Geometry, 2012, pp. 35–40.
225. Alexis Beingessner, Michiel Smid. *Computing the coverage of an opaque forest*. Proceedings 24th Canadian Conference on Computational Geometry, 2012, pp. 95–99.
226. Prosenjit Bose, Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Michiel Smid. *On farthest-point information in networks*. Proceedings 24th Canadian Conference on Computational Geometry, 2012, pp. 199–204.
227. Peter Brass, Christian Knauer, Chan-Su Shin, Michiel Smid, Ivo Vigan. *Range-aggregate queries for geometric extent problems*. Proceedings 19th Computing: The Australasian Theory Symposium (CATS), 2013, pp. 3–10.
228. Jasine Babu, Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Fixed-orientation equilateral triangle matching of point sets*. Proceedings 7th International Workshop on Algorithms and Computation (WALCOM), Lecture Notes in Computer Science, Vol. 7748, Springer-Verlag, Berlin, 2013, pp. 17–28.
229. Aritra Banik, Sandip Das, Anil Maheshwari, Michiel Smid. *The discrete Voronoi game in a simple polygon*. Proceedings 19th Annual International Computing and Combinatorics Conference (COCOON), Lecture Notes in Computer Science, Vol. 7936, Springer-Verlag, Berlin, 2013, pp. 197–207.
230. Prosenjit Bose, Vida Dujmović, Pat Morin, Michiel Smid. *Robust geometric spanners*. Proceedings 29th ACM Symposium on Computational Geometry, 2013, pp. 449–458.
231. Prosenjit Bose, Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Michiel Smid. *Optimal data structures for farthest-point queries in cactus networks*. Proceedings 25th Canadian Conference on Computational Geometry, 2013, pp. 175–180.
232. Luis Barba, Alexis Beingessner, Prosenjit Bose, Michiel Smid. *Computing covers of plane forests*. Proceedings 25th Canadian Conference on Computational Geometry, 2013, pp. 217–222.

233. Joachim Gudmundsson, Michiel Smid. *Fréchet queries in geometric trees*. Proceedings 21st European Symposium on Algorithms (ESA), Lecture Notes in Computer Science, Vol. 8125, Springer-Verlag, Berlin, 2013, pp. 565–576.
234. Sandip Das, Anil Maheshwari, Ayan Nandy, Michiel Smid. *A facility coloring problem in 1-D*. Proceedings 10th Conference on Algorithmic Aspects in Information and Management (AAIM), Lecture Notes in Computer Science, Vol. 8546, Springer-Verlag, Berlin, 2014, pp. 88–99.
235. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Approximating full Steiner tree in a unit disk graph*. Proceedings 26th Canadian Conference on Computational Geometry, 2014, pp. 113–117.
236. Aritra Banik, Jean-Lou De Carufel, Anil Maheshwari, Michiel Smid. *Voronoi games and epsilon nets*. Proceedings 26th Canadian Conference on Computational Geometry, 2014, pp. 142–147.
237. Prosenjit Bose, Simon Pratt, Michiel Smid. *The convex hull of points on a sphere is a spanner*. Proceedings 26th Canadian Conference on Computational Geometry, 2014, pp. 244–250.
238. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Bottleneck bichromatic plane matching of points*. Proceedings 26th Canadian Conference on Computational Geometry, 2014, pp. 431–435.
239. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Higher-order triangular-distance Delaunay graphs: Graph-theoretical properties*. Proceedings 1st Conference on Algorithms and Discrete Applied Mathematics (CALDAM), Lecture Notes in Computer Science, Vol. 8959, Springer-Verlag, Berlin, 2015, pp. 89–100.
240. Ulrike Große, Joachim Gudmundsson, Christian Knauer, Michiel Smid, Fabian Stehn. *Fast algorithms for diameter-optimally augmenting paths*. Proceedings 42nd International Colloquium on Automata, Languages, and Programming (ICALP), Part I, Lecture Notes in Computer Science, Vol. 9134, Springer-Verlag, Berlin, 2015, pp. 678–688.
241. Ahmad Biniiaz, Anil Maheshwari, Subhas C. Nandy, Michiel Smid. *An optimal algorithm for plane matchings in multipartite geometric graphs*. Proceedings 14th Algorithms and Data Structures Symposium (WADS), Lecture Notes in Computer Science, Vol. 9214, Springer-Verlag, Berlin, 2015, pp. 66–78.
242. Ahmad Biniiaz, Paul Liu, Anil Maheshwari, Michiel Smid. *A faster 4-approximation algorithm for the unit disk cover problem*. Proceedings 27th Canadian Conference on Computational Geometry, 2015, pp. 262–267.

243. Ahmad Biniiaz, Evangelos Kranakis, Anil Maheshwari, Michiel Smid. *Plane and planarity thresholds for random geometric graphs*. Proceedings 11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks (ALGOSENSORS), Lecture Notes in Computer Science, Vol. 9536, Springer-Verlag, Berlin, 2015, pp. 1–12.
244. Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Michiel Smid. *Plane geodesic spanning trees, Hamiltonian cycles, and perfect matchings in a simple polygon*. Proceedings 1st IFIP International Conference on Topics in Theoretical Computer Science (TTCS 2015), Lecture Notes in Computer Science, Vol. 9541, Springer-Verlag, Berlin, 2016, pp. 56–71.
245. Ahmad Biniiaz, Anil Maheshwari, Michiel Smid. *Bottleneck matchings and Hamiltonian cycles in higher-order Gabriel graphs*. Proceedings 32nd European Workshop on Computational Geometry, 2016, pp. 179–182.
246. Prosenjit Bose, Darryl Hill, Michiel Smid. *Improved spanning ratio for low degree plane spanners*. Proceedings 12th Latin American Theoretical Informatics Symposium (LATIN), Lecture Notes in Computer Science, Vol. 9644, Springer-Verlag, Berlin, 2016, pp. 249–262.
247. Mahdi Amani, Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Jean-Lou De Carufel, Michiel Smid. *A plane 1.88-spanner for points in convex position*. Proceedings 15th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT), Leibniz International Proceedings in Informatics (LIPIcs), Vol. 53, Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2016, pp. 25:1–25:14.
248. Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Michiel Smid. *Minimizing the continuous diameter when augmenting paths and cycles with shortcuts*. Proceedings 15th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT), Leibniz International Proceedings in Informatics (LIPIcs), Vol. 53, Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2016, pp. 27:1–27:14.
249. Ahmad Biniiaz, Prosenjit Bose, Ingo van Duijn, Anil Maheshwari, Michiel Smid. *A faster algorithm for the minimum red-blue-purple spanning graph problem for points on a circle*. Proceedings 28th Canadian Conference on Computational Geometry, 2016, pp. 140–146.
250. Prosenjit Bose, Jean-Lou De Carufel, Alina Shaikhet, Michiel Smid. *Essential constraints of edge-constrained proximity graphs*. Proceedings 27th International Workshop on Combinatorial Algorithms (IWOCA), Lecture Notes in Computer Science, Vol. 9843, Springer-Verlag, Berlin, 2016, pp. 55–67.
251. Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Michiel Smid. *Plane bichromatic trees of low degree*. Proceedings 27th International Workshop on Combinatorial Algorithms (IWOCA), Lecture Notes in Computer Science, Vol. 9843, Springer-Verlag, Berlin, 2016, pp. 68–80.

252. Ahmad Biniiaz, Prosenjit Bose, Jean-Lou De Carufel, Cyril Gavoille, Anil Maheshwari, Michiel Smid. *Towards plane spanners of degree 3*. Proceedings 27th Annual International Symposium on Algorithms and Computation (ISAAC), Leibniz International Proceedings in Informatics (LIPIcs), Vol. 64, Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2016, pp. 19:1–19:14.
253. Farah Chanchary, Anil Maheshwari, Michiel Smid. *Querying relational event graphs using colored range searching data structures*. CALDAM 2017, to appear.

Theses

254. Michiel Smid. *On duadic codes*. Master’s Thesis, EUT Report 86-WSK-04, Eindhoven University of Technology, 1986.
255. Michiel Smid. *Dynamic Data Structures on Multiple Storage Media*. Ph.D. Thesis, University of Amsterdam, 1989.

Other Publications

256. Michiel Smid, Leen Torenvliet, Peter van Emde Boas, Mark Overmars. *The reconstruction of dynamic data structures*. Report FVI-UvA-86-30, University of Amsterdam, 1986.
257. Mark Overmars, Michiel Smid. *Partitioning range trees*. Report FVI-UvA-87-05, University of Amsterdam, 1987.
258. Michiel Smid. *Dynamic deferred data structures*. ITLI Prepublication Series CT-89-01, University of Amsterdam, 1989.
259. Michiel Smid. *A worst-case algorithm for semi-online updates on decomposable problems*. Report A 03/90, Universität des Saarlandes, Saarbrücken, 1990.
260. Michiel Smid. *Finding k points with a smallest enclosing square*. Report MPI-I-92-152, Max-Planck-Institut für Informatik, Saarbrücken, 1992.
261. Michiel Smid. *Lecture notes: selected topics in data structures*. Report MPI-I-94-155, Max-Planck-Institut für Informatik, Saarbrücken, 1994.
262. Michiel Smid. *On the circumradius of acute point sets*. Report TR 96-08, Department of Computer Science, King’s College, London, 1996.
263. Michiel Smid. *Algorithmische Geometrie: reine Theorie?* Universitätsschriften, Antrittsvorlesungen der Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, 1998, pp. 91–105.

264. Reiner Dumke, Georg Paul, Michiel Smid, Daniel Goulet. *Konzepte und Erfahrungen zur internationalen Zusammenarbeit in der Informatikausbildung an der Fakultät für Informatik der Otto-von-Guericke-Universität Magdeburg*. Symposium Neue Entwicklungen in der Informatikausbildung (im Rahmen der GI-Jahrestagung), Magdeburg, 1998, pp. 35–44.
265. Jörg Schwerdt, Michiel Smid. *Computing the width of a three-dimensional point set: documentation*. Report Nr. 4, Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, 1999.
266. Giri Narasimhan, Michiel Smid. *Approximating the stretch factor of Euclidean paths, cycles and trees*. Report Nr. 9, Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, 1999.
267. Michiel Smid. *Primalty testing in polynomial time*. Notes on the Agrawal-Kayal-Saxena algorithm, 2003.
268. Michiel Smid. *Spanning trees with $O(1)$ average stretch factor*. Unpublished manuscript, 2009.
269. Prosenjit Bose, Paz Carmi, Michiel Smid, Daming Xu. *Communication-efficient construction of the plane localized Delaunay graph*. <http://arxiv.org/abs/0809.2956>.
270. Michiel Smid. *On some combinatorial problems in metric spaces of bounded doubling dimension*. Unpublished manuscript, 2010.
271. Michiel Smid. *Notes on binary dumbbell trees*. Unpublished manuscript, 2012.
272. Ahmad Biniiaz, Anil Maheshwari, Subhas C. Nandy, Michiel Smid. *An optimal algorithm for plane matchings in multipartite geometric graphs*. Submitted to IJCGA.
273. Boris Aronov, Prosenjit Bose, Erik Demaine, Joachim Gudmundsson, John Iacono, Stefan Langerman, Michiel Smid. *Data structures for halfplane proximity queries and incremental Voronoi diagrams*. Submitted to Algorithmica.
274. Ahmad Biniiaz, Evangelos Kranakis, Anil Maheshwari, Michiel Smid. *Plane and planarity thresholds for random geometric graphs*. Submitted to TCS.
275. Ahmad Biniiaz, Prosenjit Bose, Anil Maheshwari, Michiel Smid. *Plane bichromatic trees of low degree*. Submitted to DCG.
276. Prosenjit Bose, Darryl Hill, Michiel Smid. *Improved spanning ratio for low degree plane spanners*. Submitted to Algorithmica.
277. Ulrike Große, Joachim Gudmundsson, Christian Knauer, Michiel Smid, Fabian Stehn. *Fast algorithms for diameter-optimally augmenting paths and trees*. Submitted to TCS.

278. Gregory Bint, Anil Maheshwari, Subhas C. Nandy, Michiel Smid. *Partial enclosure range searching*. Submitted to CGTA.
279. Ahmad Biniiaz, Prosenjit Bose, Ingo van Duijn, Anil Maheshwari, Michiel Smid. *Faster algorithms for the minimum red-blue-purple spanning graph problem*. Submitted to Journal of Graph Algorithms and Applications.
280. Ahmad Biniiaz, Prosenjit Bose, Jean-Lou De Carufel, Cyril Gavoille, Anil Maheshwari, Michiel Smid. *Towards plane spanners of degree 3*. Submitted to Journal of Computational Geometry.
281. Prosenjit Bose, Jean-Lou De Carufel, Alina Shaikhet, Michiel Smid. *Essential constraints of edge-constrained proximity graphs*. Submitted to Journal of Graph Algorithms and Applications.
282. Ahmad Biniiaz, Prosenjit Bose, David Eppstein, Anil Maheshwari, Pat Morin, Michiel Smid. *Spanning trees in multipartite geometric graphs*. Submitted to Algorithmica.
283. Jean-Lou De Carufel, Carsten Grimm, Stefan Schirra, Michiel Smid. *Minimizing the continuous diameter when augmenting a tree with a shortcut*. Submitted to SoCG 2017.

Software

284. Jörg Schwerdt, Michiel Smid, Stefan Schirra. *Parametric Search 1.0*. LEDA extension package, 1999,
<http://www.mpi-sb.mpg.de/LEDA/friends/paramsearch.html>
285. Jörg Schwerdt, Michiel Smid. *Sphere Geometry 2.0*. LEDA extension package, 2002,
<http://www.mpi-sb.mpg.de/LEDA/friends/SphereGeometry.html>
286. Petra Specht, Michiel Smid. *Visualization of Spanners*, 2002,
<http://isgwww.cs.uni-magdeburg.de/tspanner/spanner.html>

Video

287. Hans-Peter Lenhof, Michiel Smid. *An animation of a fixed-radius all-nearest-neighbors algorithm*. 3rd Annual Video Review of Computational Geometry, 1994. In: Proceedings 10th Annual ACM Symposium on Computational Geometry, 1994, page 387.