

Journal Publications

1. Boaz Ben-Moshe, **Paz Carmi**, and Matthew J. Katz. Computing all large sums-of-pairs in \mathbb{R}^n and the discrete planar two-watchtower problem. *Inf. Proc. Letters* 89, 137–139, 2004.
2. **Paz Carmi**, Sariel Har-Peled, and Matthew J. Katz. On the Fermat-Weber center of a convex object. *Computational Geometry: Theory and Applications (CGTA)*, 32, 188–195, 2005.
3. **Paz Carmi**, Shlomi Dolev, Sariel Har-Peled, Matthew J. Katz, and Michael Segal. Geographic quorum system approximations. *Algorithmica*, 41, 233–244, 2005.
4. **Paz Carmi**, Matthew J. Katz, and Joseph S.B. Mitchell. The minimum-area spanning tree problem. *Computational Geometry: Theory and Applications (CGTA)* 35(:3), 218–225, 2006.
5. **Paz Carmi**, Matthew J. Katz, Michael Segal, and Hanan Shpungin. Fault-tolerant power assignment and backbone in wireless networks. *Ad Hoc & Sensor Wireless Networks* 4(4), 355–366, 2007.
6. **Paz Carmi** and Matthew J. Katz. Power assignment in radio networks with two power levels. *Algorithmica* 47(:2), 183–201, 2007.
7. Amos Beimel, **Paz Carmi**, Kobbi Nissim, and Enav Weinreb. Private approximation of search problems. *SIAM Journal on Computing (SICOMP)* 38(5), 1728–1760, 2008.
8. **Paz Carmi**, Matthew J. Katz, and Nissan Lev-Tov. Polynomial time approximation schemes for piercing and covering with applications in wireless networks. *Computational Geometry: Theory and Applications (CGTA)* 39(3), 209–218, 2008.
9. Boaz Ben-Moshe, **Paz Carmi**, and Matthew J. Katz. Approximating the visible region of a point on a terrain. *GeoInformatica* 12(1), 21–36, 2008.
10. **Paz Carmi**, Vida Dujmovic, Pat Morin, and David R. Wood. Distinct distances in graph drawings. *Electronic Journal of Combinatorics* 15:R107, 2008.
11. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Anil Maheshwari, Pat Morin, and Michiel Smid. Spanners of complete k -partite geometric graphs. *SIAM Journal on Computing (SICOMP)* 38(5), 1803–1820, 2009.
12. Boris Aronov, **Paz Carmi**, and Matthew J. Katz. Minimum-cost load-balancing partitions. *Algorithmica* 54(3), 318–336, 2009.
13. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Anil Maheshwari, Michiel Smid, and Norbert Zeh. Geometric spanners with small chromatic number. *Computational Geometry: Theory and Applications (CGTA)* 42(2), 134–146, 2009.

14. Tetsuo Asano, Prosenjit Bose, **Paz Carmi**, Anil Maheshwari, Chang Shu, Michiel H. M. Smid, and Stefanie Wührer. A Linear-space algorithm for distance preserving graph embedding. *Computational Geometry: Theory and Applications (CGTA)* 42(4), 289–304, 2009.
15. Amos Beimel, Boaz Ben-Moshe, Yehuda Ben-Shimol, **Paz Carmi**, Eldad Chai, Itzik Kitroser, and Eran Omri. Matrix columns allocation problems. *Theoretical Computer Science (TCS)* 410(21-23), 2174–2183, 2009.
16. Prosenjit Bose, **Paz Carmi**, Sebastien Collette, and Michiel Smid. On the stretch factor of convex Delaunay graphs. *Journal of Computational Geometry* 1, 41–56, 2010.
17. Prosenjit Bose, **Paz Carmi**, Mohammad Farshi, Anil Maheshwari, and Michiel Smid. Computing the greedy spanner in near-quadratic time. *Algorithmica* 58(3), 711–729, 2010.
18. Prosenjit Bose, **Paz Carmi**, and Mathieu Couture. Spanners of additively weighted point sets. *Journal of Discrete Algorithms (JDA)* 9(3), 287–298, 2011
19. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Michiel Smid, and Daming Xu. On a family of strong geometric spanners that admit local routing strategies. *Computational Geometry: Theory and Applications (CGTA)* 44(6-7), 319–328, 2011.
20. Glenn Hickey, **Paz Carmi**, Anil Maheshwari, and Norbert Zeh. NAPX: A polynomial time approximation scheme for the Noah’s ark problem. *IEEE/ACM Transactions on Computational Biology and Bioinformatics* 8(2), 551–556, 2011.
21. Michel Barbeau, Prosenjit Bose, **Paz Carmi**, Mathieu Couture, and Evangelos Kranakis. Location oblivious distributed unit disk graph coloring. *Algorithmica* 60(2), 236–249, 2011.
22. **Paz Carmi**, Matthew J. Katz, Ztvi Lotker, and Adi Rosen. Connectivity guarantees for wireless networks with directional antennas. *Computational Geometry: Theory and Applications (CGTA)* 44(9), 477–485, 2011.
23. Karim Abu-Affash, Rom Aschner, **Paz Carmi**, and Matthew J. Katz. Minimum power energy spanners in wireless ad hoc networks. *Wireless Networks* 17(5), 1251–1258, 2011.
24. Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Gila Morgenstern. Multi cover of a polygon minimizing the sum of areas. *Accepted to International Journal of Computational Geometry and Applications (IJCGA)* 21(6): 685–698, 2011.
25. Karim Abu-Affash, Rom Aschner, **Paz Carmi**, and Matthew J. Katz. The MST of symmetric disk graphs is light. *Computational Geometry: Theory and Applications (CGTA)* 45(1-2): 54–61, 2012.
26. Prosenjit Bose, **Paz Carmi**, and Lilach Chaitman-Yerushalmi. On bounded degree plane strong geometric spanners. *Journal of Discrete Algorithms (JDA)* 15: 16–31, 2012.
27. Prosenjit Bose, **Paz Carmi**, Ferran Hurtado, and Pat Morin. A generalized Winternitz theorem. *Journal of Geometry*. 100(1):29-35, 2012
28. **Paz Carmi** and Michiel H. M. Smid. An optimal algorithm for computing angle-constrained spanners. *Journal of Computational Geometry* 3(1): 196-221 2012.

29. Boaz Ben-Moshe, **Paz Carmi**, Moti Shani, and Nir Shvalb. Efficient model for indoor radio paths computation. *Simulation Modeling Practice and Theory* 29: 163-172 2012.
30. Prosenjit Bose, **Paz Carmi**, Lilach Chaitman-Yerushalmi, Sebastien Collette, Matthew J. Katz, and Stefan Langerman. Stable roommates spanner. *Comput. Geom.* 46(2): 120-130 (2013) *Computational Geometry: Theory and Applications (CGTA)*. 46(2): 120-130, 2013.
31. Mohammad Ali Abam, **Paz Carmi**, Mohammad Farshi, and Michiel H. M. Smid. On the power of the semi-separated pair decomposition. *Computational Geometry: Theory and Applications (CGTA)*. 46(6): 631-639, 2013.
32. Prosenjit Bose, **Paz Carmi**, and Stephane Durocher. Bounding the locality of distributed routing algorithms. *Distributed Computing*, 26(1): 39-58, 2013
33. Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Yohai Trabelsi. Bottleneck Non-crossing Matching in the Plane. *Accepted to Computational Geometry: Theory and Applications (CGTA)*.
34. Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Michael Segal. The euclidean bottleneck steiner path problem. *Accepted to Discrete & Computational Geometry (DCG)*
35. Minati De, Gautam K. Das **Paz Carmi**, and Subhas C. Nandy. Approximation Algorithms for a Variant of Discrete Piercing Set Problem for Unit Disks. *Accepted to International Journal of Computational Geometry and Applications (IJCGA)*,
36. **Paz Carmi** and Lilach Chaitman-Yerushalmi. Minimum weight Euclidean t-spanner is NP-hard. *Accepted to Journal of Discrete Algorithms (JDA)*.

Conference Papers

A paper marked with + is a conference paper that has not yet been published in a journal.

1. **Paz Carmi** and Matthew J. Katz. Minimizing the convex hull via local transfers. *Proc. 17th European Workshop on Computational Geometry*, 105–108, 2001.
2. + **Paz Carmi**, Thomas Erlebach, and Yoshio Okamoto. Greedy edge-disjoint paths in complete graphs. *Proc. 29th Workshop on Graph Theoretic Concepts in Computer Science (WG 2003)*, 143–155, 2003.
3. **Paz Carmi** and Matthew J. Katz. Power assignment in radio networks with two power levels. *Proc. 9th Scandinavian Workshop on Algorithm Theory (SWAT 2004)*, 431–441, 2004.
4. Boaz Ben-Moshe, **Paz Carmi**, and Matthew J. Katz. Approximating the visible region of a point on a terrain. *Proc. Algorithm Engineering and Experiments (ALENEX 2004)*, 120–128, 2004.
5. **Paz Carmi**, Matthew J. Katz, and Joseph S. B. Mitchell. The minimum-area spanning tree problem. *Proc. 9th Workshop on Algorithms and Data Structures (WADS 2005)*, 195–204, 2005.

6. Amos Beimel, **Paz Carmi**, Kobbi Nissim, and Enav Weinreb. Private approximation of search problems. *Proc. of the 38th ACM Symposium on Theory of Computing (STOC 2006)*, 119–128, 2006.
7. **Paz Carmi**, Matthew J. Katz, Michael Segal, and Hanan Shpungin. Fault-tolerant power assignment and backbone in wireless networks. *Proc. of the 4th annual IEEE International Conference on Foundation and Algorithms for Wireless Networking (FAWN 2006)* 80–84, 2006.
8. Boris Aronov, **Paz Carmi**, and Matthew J. Katz. Minimum-cost load-balancing partitions. *Proc. the 22nd Annual ACM Symposium on Computational Geometry (SOCG 2006)*, 301–308, 2006.
9. + **Paz Carmi**, Matthew Katz, and Nissan Lev-Tov. Covering points by unit disks of fixed location. *Proc. of the 18th International Symposium on Algorithms and Computation (ISAAC 2007)*, 644–655, 2007.
10. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Anil Maheshwari, Michiel Smid, and Norbert Zeh. Geometric spanners with small chromatic number. *Proc. of the 5th Workshop on Approximation and Online Algorithms (WAOA 2007)*, 75–88, 2007.
11. Tetsuo Asano, Prosenjit Bose, **Paz Carmi**, Anil Maheshwari, Chang Shu, Michiel Smid, and Stefanie Wuhler. Linear-space algorithms for distance preserving embedding. *Proc. of the 19th Annual Canadian Conference on Computational Geometry (CCCG 2007)*, 185–188, 2007.
12. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Michiel Smid, and Daming Xu. On a family of strong geometric spanners that admit local routing strategies. *Proc. of the 10th Workshop on Algorithms and Data Structures (WADS 2007)*, 300–311, 2007.
13. Mathieu Couture, Michel Barbeau, Prosenjit Bose, **Paz Carmi**, and Evangelos Kranakis. Location oblivious distributed unit disk graph coloring. *Proc. of the International Colloquium on Structural Information and Communication (SIROCCO 2007)*, 222–233, 2007.
14. Glenn Hickey, **Paz Carmi**, Anil Maheshwari, and Norbert Zeh. NAPX: A polynomial time approximation scheme for the Noah’s ark problem. *Proc. of the 8th Workshop on Algorithms in Bioinformatics (WABI 2008)*, 76–86, 2008.
15. Prosenjit Bose, **Paz Carmi**, and Mathieu Couture. Spanners of additively weighted point sets. *Proc. of the 11th Scandinavian Workshop on Algorithm Theory (SWAT 2008)*, 367–377, 2008.
16. Prosenjit Bose, **Paz Carmi**, Mohammad Farshi, Anil Maheshwari, and Michiel Smid. Computing the greedy spanner in near-quadratic time. *Proc. of the 11th Scandinavian Workshop on Algorithm Theory (SWAT 2008)*, 390–401, 2008.
17. Prosenjit Bose, **Paz Carmi**, Mathieu Couture, Anil Maheshwari, Pat Morin, and Michiel Smid. Spanners of complete k -partite geometric graphs. *Proc. of the 8th Latin American Theoretical Informatics Symposium (LATIN 2008)*, 170–181, 2008.

18. Prosenjit Bose, **Paz Carmi**, Se'bastien Collette, and Michiel H. M. Smid. On the stretch factor of convex Delaunay graphs. *Proc. of the 19th International Symposium on Algorithms and Computation (ISAAC 2008)*, 656–667, 2008.
19. + Binay K. Bhattacharya, **Paz Carmi**, Yuzhuang Hu, and Qiaosheng Shi. Single vehicle scheduling problems on path/tree/cycle networks with release and handling times. *Proc. of the 19th International Symposium on Algorithms and Computation (ISAAC 2008)*, 800–811, 2008.
20. Mohammad Ali Abam, **Paz Carmi**, Mohammad Farshi, and Michiel H. M. Smid. On the power of the semi-separated pair decomposition. *Proc. of the 11th Workshop on Algorithms and Data Structures (WADS 2009)*, 1–12, 2009.
21. Prosenjit Bose, **Paz Carmi**, and Stephane Durocher. Bounding the locality of distributed routing algorithms. *Proc. of the 28th ACM Symposium on Principles of Distributed Computing (PODC 2009)*, 250–259, 2009.
22. **Paz Carmi** and Michiel Smid. An optimal algorithm for computing angle-constrained spanners. *The 21st International Symposium on Algorithms and Computation (ISAAC 2010)*, 316–327, 2010.
23. + **Paz Carmi** and Lilach Chaitman. Stable roommates and geometric spanners. *Proc. of the 22nd Annual Canadian Conference on Computational Geometry (CCCG 2010)*.
24. + Boaz Ben-Moshe, **Paz Carmi**, Lilach Chaitman, Matthew Katz, Gila Morgenstern, and Yael Stein. Direction assignment in wireless networks. *Proc. of the 22nd Annual Canadian Conference on Computational Geometry (CCCG 2010)*.
25. + Prosenjit Bose, **Paz Carmi**, Dana Jansens, Anil Maheshwari, Pat Morin, and Michiel H. M. Smid. Improved methods For generating quasi-gray codes. *Proc. of the 12th Scandinavian Workshop on Algorithm Theory (SWAT 2010)*, 224–235, 2010.
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28. + Prosenjit Bose, **Paz Carmi**, Michiel Smid, and Daming Xu. Communication-efficient construction of the plane localized Delaunay graph. *Accepted to the 9th Latin American Theoretical Informatics Symposium (LATIN 2010)*, 2010.
29. + Karim Abu-Affash, **Paz Carmi**, and Matthew J. Katz. Bottleneck steiner tree with bounded number of Steiner vertices. *Proc. of the 23rd Annual Canadian Conference on Computational Geometry (CCCG 2011)*
30. + Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Michael Segal. The Euclidean bottleneck Steiner path problem. *Proc. of the 27th ACM Symposium on Computational Geometry (SoCG 2011)*, 440–447, 2011.

31. Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Gila Morgenstern. Multi cover of a polygon minimizing the sum of areas. *Proc. of Workshop on Algorithms and Computation*, 134–145, 2011.
32. + Prosenjit Bose, **Paz Carmi**, Mirela Damian, Robin Flatland, Matthew J. Katz, and Anil Maheshwari. Switching to directional antennas with constant increase in radius and hop distance. *Proc. 12th Algorithms and Data Structures Symp. (WADS 2011)*, 134–146, 2011.
33. + Karim Abu-Affash, **Paz Carmi**, Matthew J. Katz, and Yohai Trabelsi. Bottleneck non-crossing matching in the Plane. *Proc. of the 20th Annual European Symposium on Algorithms (ESA 2012)*, 36–47, 2012.
34. + **Paz Carmi** and Lilach Chaitman-Yerushalmi. Unexplored Steiner ratios in geometric networks. *Proc. of the 18th Annual International Computing and Combinatorics Conference (COCOON 2012)*, 275–286, 2012.