

## Publications:

- [1] Michael Gene Dobbins. Realizability of polytopes as a low rank matrix completion problem. *Discrete & Computational Geometry*, 51(4):761–778, 2014.
- [2] Luis Barba, Otfried Cheong, Jean-Lou De Carufel, Michael Gene Dobbins, Rudolf Fleischer, Akitoshi Kawamura, Matias Korman, Yoshio Okamoto, János Pach, Yuan Tang, Takeshi Tokuyama, Sander Verdonschot, Tianhao Wang. Weight balancing on boundaries and skeletons. In *Proceedings of the 30th Annual Symposium on Computational Geometry*, pages 436–443, 2014.
- [3] Michael Gene Dobbins, Heuna Kim. Packing segments in a convex 3-polytope is NP-hard. In *Proceedings of the 30th European Workshop on Computational Geometry*, 2014.
- [4] Michael Gene Dobbins, Andreas Holmsen, and Alfredo Hubard. The Erdős-Szekeres problem for non-crossing convex sets. *Mathematika*, 60(2):463–484, 2014.
- [5] Michael Gene Dobbins, Andreas Holmsen, and Alfredo Hubard. Realization spaces of arrangements of convex bodies. In *Proceedings of the 31st Annual Symposium on Computational Geometry*, pages 599–614, 2015.
- [6] Michael Gene Dobbins. A point in a  $nd$ -polytope is the barycenter of  $n$  points in its  $d$ -faces. *Inventiones mathematicae*, 199(1):287–292, 2015.
- [7] Prosenjit K. Bose, Jean-Lou De Carufel, Michael Gene Dobbins, Heuna Kim, and Giovanni Viglietta. The shadows of a cycle cannot all be paths. In *Proceedings of the 27th Canadian Conference on Computational Geometry*, pages 70–75, 2015.
- [8] Michael Gene Dobbins, Andreas Holmsen, and Alfredo Hubard. Regular systems of paths and families of convex sets in convex position. *Transactions of the American Mathematical Society*, 368:3271–3303, 2016.
- [9] Boris Aronov, Otfried Cheong, Michael Gene Dobbins, and Xavier Goaoc. The number of holes in the union of translates of a convex set in three dimensions. In *Proceedings of the 32nd International Symposium on Computational Geometry*, pages 10:1–10:16, 2016.
- [10] Michael Gene Dobbins. Antiprismlessness, or: Reducing combinatorial equivalence to projective equivalence in realizability problems for polytopes. *Discrete & Computational Geometry*, 57(4):966–984, 2017.
- [11] Michael Gene Dobbins, Andreas Holmsen, and Alfredo Hubard. Realization spaces of arrangements of convex bodies. *Discrete & Computational Geometry*, 58(1):1–29, 2017.
- [12] Boris Aronov, Otfried Cheong, Michael Gene Dobbins, and Xavier Goaoc. The number of holes in the union of translates of a convex set in three dimensions. *Discrete & Computational Geometry*, 57(1):104–124, 2017.
- [13] Michael Gene Dobbins, Linda Kleist, Tillmann Miltzow, and Paweł Rzażewski.  $\forall\exists$ R-completeness and area-universality. In *International Workshop on Graph-Theoretic Concepts in Computer Science*, pages 164–175. Springer, 2018.
- [14] Michael Gene Dobbins, Heuna Kim, Luis Montejano, and Edgardo Roldán-Pensado. Shadows of a closed curve. *International Mathematics Research Notices*, 2020(7):1992–2006, 2020.
- [15] Michael Gene Dobbins and Florian Frick. Barycenters of points in polytope skeleta. In *Polytopes and Discrete Geometry*, edited by Gabriel Cunningham, Mark Mixer, and Egon Schulte, volume 764 of *Contemporary Mathematics*, pages 83–88. 2021.
- [16] Sergio Cabello, Otfried Cheong, and Michael Gene Dobbins. The inverse Kakeya problem. *Periodica Mathematica Hungarica*, pages 1–6, 2021.

[17] Michael Gene Dobbins. Grassmannians and pseudosphere arrangements. *Journal de l'École polytechnique—Mathématiques*, 8:1225–1274, 2021.

**Submitted for publication:**

[20] Michael Gene Dobbins. Continuous dependence of curvature flow on initial conditions. arXiv:2106.08907.

[21] Michael Gene Dobbins. A strong equivariant deformation retraction from the homeomorphism group of the projective plane to the special orthogonal group. arXiv:2108.02134.

**Other papers (unsubmitted):**

[22] Michael Gene Dobbins, Andreas Holmsen, Tillmann Miltzow. A Universality Theorem for Nested Polytopes. arXiv:1908.02213.

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