

## SoCG'17 Accepted Papers

Karthik C. S. and Arpan Saha  
**Ham Sandwich Implies Borsuk-Ulam**

Assaf Naor  
**A spectral gap precludes low-dimensional embeddings**

Haitao Wang  
**Quickest Visibility Queries in Polygonal Domains**

Esther Ezra and Micha Sharir  
**A Nearly Quadratic Bound for the Decision Tree Complexity of  $k$ -SUM**

Anastasios Sidiropoulos and Vijay Sridhar  
**Algorithmic interpretations of fractal dimension**

Hannah Schreiber and Michael Kerber  
**Barcodes of Towers and a Streaming Algorithm for Persistent Homology**

Erik D. Demaine and Tomohiro Tachi  
**Origamizer: A Practical Algorithm for Folding Any Polyhedron**

Mathieu Carrière and Steve Oudot  
**Local Equivalence and Induced Metrics for Reeb Graphs**

Vincent Despre and Francis Lazarus  
**Computing the Geometric Intersection Number of Curves**

Mikkel Abrahamsen, Anna Adamaszek and Tillmann Miltzow  
**Irrational Guards are Sometimes Needed**

Mickaël Buchet, Tamal Dey, Jiayuan Wang and Yusu Wang  
**Declutter and Resample: Towards parameter free denoising**

Chenglin Fan and Benjamin Raichel  
**Computing the Fréchet Gap Distance**

Saladi Rahul  
**Approximate Range Counting Revisited**

Michael Kerber, Robert Tichy and Mario Weitzer  
**Constrained Triangulations, Volumes of Polytopes, and Unit Equations**

Édouard Bonnet and Tillmann Miltzow  
**An Approximation Algorithm for the Art Gallery Problem**

Anne Driemel and Francesco Silvestri  
**Locality-sensitive hashing of curves**

Siu-Wing Cheng and Man Kit Lau  
**Adaptive Planar Point Location**

Mikkel Abrahamsen, Mark de Berg, Kevin Buchin, Mehran Mehr and Ali D. Mehrabi  
**Minimum Perimeter-Sum Partitions in the Plane**

Pradeesha Ashok, Fedor Fomin, Sudeshna Kolay, Saket Saurabh and Meirav Zehavi  
**Exact Algorithms for Terrain Guarding**

Abdul Basit, Zeev Dvir, Shubhangi Saraf and Charles Wolf  
**On the number of ordinary lines determined by sets in complex space**

Herbert Edelsbrunner and Hubert Wagner  
**Topological Data Analysis with Bregman Divergences**

Alexander Pilz, Emo Welzl and Manuel Wettstein  
**From Crossing-Free Graphs on Wheel Sets to Embracing Simplices and Polytopes with Few Vertices**

Luis Barba, Jean Cardinal, John Iacono, Stefan Langerman, Aurélien Ooms and Noam Solomon  
**Subquadratic Algorithms for Algebraic Generalizations of 3SUM**

Timothy M. Chan and Konstantinos Tsakalidis  
**Dynamic Orthogonal Range Searching on the RAM, Revisited**

Jordan Iordanov and Monique Teillaud  
**Implementing Delaunay triangulations of the Bolza surface**

Oswin Aichholzer, Martin Balko, Thomas Hackl, Jan Kynčl, Irene Parada, Manfred Scheucher, Pavel Valtr and Birgit Vogtenhuber  
**A superlinear lower bound on the number of 5-holes**

Pankaj Agarwal, Kyle Fox, Debmalya Panigrahi, Kasturi Varadarajan and Allen Xiao  
**Faster Algorithms for the Geometric Transportation Problem**

Jean-Daniel Boissonnat, Mael Rouxel-Labbé and Mathijs Wintraecken  
**Anisotropic Triangulations via Discrete Riemannian Voronoi Diagrams**

Giordano Da Lozzo, Anthony D'Angelo and Fabrizio Frati  
**On Planar Greedy Drawings of 3-Connected Planar Graphs**

Yi-Jun Chang and Hsu-Chun Yen  
**On Bend-minimized Orthogonal Drawings of Planar 3-graphs**

Geza Toth, Janos Pach and Gabor Tardos  
**Disjointness graphs of segments**

Martin Balko, Josef Cibulka and Pavel Valtr  
**Covering lattice points by subspaces and counting point-hyperplane incidences**

Alexandre Rok and Bartosz Walczak  
**Coloring curves that cross a fixed curve**

Balázs Keszegh and Dömötör Pálvölgyi  
**Proper Coloring of Geometric Hypergraphs**

Khaled Elbassioni  
**Finding Small Hitting Sets in Infinite Range Spaces of Bounded VC-dimension**

Mikkel Abrahamsen, Mark de Berg, Kevin Buchin, Mehran Mehr and Ali D. Mehrabi  
**Range-Clustering Queries**

Maarten Kleinmans, Marc Van Kreveld, Tim Ophelders, Willem Sonke, Bettina Speckmann and Kevin Verbeek  
**Computing Representative Networks for Braided Rivers**

Man Kwun Chiu and Matias Korman  
**High Dimensional Consistent Digital Segments**

Srinivasan Parthasarathy, David Sivakoff, Minghao Tian and Yusu Wang  
**A quest to unravel the metric structure behind perturbed networks**

Timothy M. Chan  
**Orthogonal Range Searching in Moderate Dimensions: k-d Trees and Range Trees Strike Back**

Timothy M. Chan  
**Applications of Chebyshev Polynomials to Low-Dimensional Computational Geometry**

Haitao Wang  
**Bicriteria Rectilinear Shortest Paths among Rectilinear Obstacles in the Plane**

Mikkel Abrahamsen, Jacob Holm, Eva Rotenberg and Christian Wulff-Nilsen  
**Best Laid Plans of Lions and Men**

Jacob Fox, Janos Pach and Andrew Suk  
**Erdős-Hajnal conjecture for graphs with bounded VC-dimension**

Daniel Binham, Pedro Machado Manhaes de Castro and Antoine Vigneron  
**Reachability in a Planar Subdivision with Direction Constraint**

Karl Bringmann, Sergio Cabello and Michael Emmerich  
**Maximum Volume Subset Selection for Anchored Boxes**

Csaba Biró, Édouard Bonnet, Dániel Marx, Tillmann Miltzow and Paweł Rzażewski  
**Fine-grained complexity of coloring unit disks and balls**

Eunjin Oh and Hee-Kap Ahn  
**Dynamic Geodesic Convex Hulls in Dynamic Simple Polygons**

Michael Bekos, Michael Kaufmann and Chrysanthi Raftopoulou  
**On Optimal 2- and 3-Planar Graphs**

Eunjin Oh and Hee-Kap Ahn  
**Voronoi Diagrams for a Moderate-Sized Point-Set in a Simple Polygon**

Sunil Arya, Guilherme D. Da Fonseca and David Mount  
**Near-Optimal eps-Kernel Construction and Related Problems**

Tamal Dey, Facundo Memoli and Yusu Wang  
**Topological Analysis of Nerves, Reeb Spaces, Mappers, and Multiscale Mappers**

Lukas Barth, Benjamin Niedermann, Ignaz Rutter and Matthias Wolf  
**Towards a Topology-Shape-Metrics Framework for Ortho-Radial Drawings**

Assimakis Kattis and Aleksandar Nikolov  
**Lower Bounds for Differential Privacy from Gaussian Width**

Anna Lubiw, Zuzana Masárová and Uli Wagner  
**A Proof of the Orbit Conjecture for Flipping Edge-Labelled Triangulations**

Patrizio Angelini, Michael Bekos, Giuseppe Liotta and Fabrizio Montecchiani  
**A Universal Slope Set for 1-bend Planar Drawings**

Gui Citovsky, Tyler Mayer and Joseph Mitchell  
**TSP With Locational Uncertainty: The Adversarial Model**

Kunal Dutta, Arijit Ghosh, Bruno Jartoux and Nabil Mustafa  
**Shallow packings, semialgebraic set systems, Macbeath regions and polynomial partitioning**

Prosenjit Bose, Irina Kostitsyna and Stefan Langerman  
**Self-approaching paths in simple polygons**