

Day 1 : Wednesday Aug.10 11:00-12:00

1 $\alpha$

56 Convex blocking and partial orders on the plane

Caneq Peláez, José Miguel Díaz-Báñez, Marco A. Heredia, J. Antoni Sellarès, Jorge Urrutia and Inmaculada Ventura.

22 On  $k$ -Gons and  $k$ -Holes in Point Sets

Birgit Vogtenhuber, Oswin Aichholzer, Ruy Fabila-Monroy, Clemens Huemer, Jorge Urrutia, Marco A. Heredia, Hernan Gonzalez-Aguilar, Thomas Hackl and Pavel Valtr.

99 Hardness Results for Two-Dimensional Curvature-Constrained Motion Planning

David Kirkpatrick, Irina Kostitsyna and Valentin Polishchuk.

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54 Optimizing Budget Allocation in Graphs

Boaz Benmoshe, Eran Omri and Michael Elkin.

8 Bottleneck Steiner Tree with Bounded Number of Steiner Vertices

A. Karim Abu-Affash, Paz Carmi and Matthew Katz.

35 Connecting Two Trees with Optimal Routing Cost

Mong-Jen Kao, Bastian Katz, Marcus Krug, Der-Tsai Lee, Martin Nöllenburg, Ignaz Rutter and Dorothea Wagner.

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29 Minimum Many to Many Matchings for Computing the Distance Between Two Sequences

David Rappaport, Godfried Toussaint and Mustafa Mohamad.

97 Staying Close to a Curve

Anil Maheshwari, Jörg-Rüdiger Sack, Kaveh Shahbaz and Hamid Zarrabi-Zadeh.

88 Isotopic Frechet Distance

Erin Chambers, David Letscher, Tao Ju and Lu Liu.

Day 1 : Wednesday Aug.10 13:30-15:10

2 $\alpha$

107 Edge Unfoldings of Platonic Solids Never Overlap

Takashi Horiyama and Wataru Shoji.

38 Development of Curves on Polyhedra via Conical Existence

Joseph O'Rourke and Costin Vilcu.

49 Common Developments of Several Different Orthogonal Boxes

Zachary Abel, Erik Demaine, Martin Demaine, Hiroaki Matsui, Guenter Rote and Ryuhei Uehara.

43 Edge-Unfolding Orthogonal Polyhedra is Strongly NP-Complete

Zachary Abel and Erik D. Demaine.

85 A Topologically Convex Vertex-Ununfoldable Polyhedron

Zachary Abel, Erik D. Demaine and Martin L. Demaine.

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89 Isoperimetric Triangular Enclosure with a Fixed Angle

Prosenjit Bose and Jean-Lou De Carufel.

1 Robust approximate assembly partitioning

Elisha Sacks, Victor Milenkovic and Yujun Wu.

75 Approximation Algorithms for a Triangle Enclosure Problem

Karim Douieb, Matthew Eastman, Anil Maheshwari and Michiel Smid.

3 Finding the Maximum Area Parallelogram in a Convex Polygon

Kai Jin and Kevin Matulef.

32 Illumination problems on translation surfaces with planar infinities

Nikolay Dimitrov.

2 $\gamma$

- 16 [Detecting VLSI Layout and Connectivity Errors in a Query Window](#)  
Ananda Swarup Das, Prosenjit Gupta and Kannan Srinathan.
- 17 [Finding Maximum Density Axes Parallel Regions for Weighted Point Sets](#)  
Ananda Swarup Das, Prosenjit Gupta, Kannan Srinathan and Kishore Kothapalli.
- 83 [Bichromatic Line Segment Intersection Counting in  \$O\(n \sqrt{\log n}\)\$  Time](#)  
Timothy M. Chan and Bryan T. Wilkinson.
- 27 [Sequential Dependency Computation via Geometric Data Structures](#)  
Gruia Calinescu and Howard Karloff.
- 78 [Point Location in Well-Shaped Meshes Using Jump-and-Walk](#)  
Jean-Lou De Carufel, Craig Dillabaugh and Anil Maheshwari.

Day 2 : Thursday Aug.11 9:00 - 10:20

3 $\alpha$

- 91 [Where and How Chew's Second Delaunay Refinement Algorithm Works](#)  
Alexander Rand.
- 42 [Probabilistic Bounds on the Length of a Longest Edge in Delaunay Graphs of Random Points in d-Dimensions](#)  
Esther M. Arkin, Antonio Fernandez Anta, Joseph S. B. Mitchell and Miguel A. Mosteiro.
- 59 [Outerplanar graphs and Delaunay triangulations](#)  
Md. Ashraful Alam, Igor Rivin and Ileana Streinu.
- 57 [Toward the Tight Bound of the Stretch Factor of Delaunay Triangulations](#)  
Ge Xia and Liang Zhang.

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- 52 [Rigid components in fixed-lattice and cone frameworks](#)  
Matthew Berardi, Brent Heeringa, Justin Malestein and Louis Theran.
- 74 [Orientations of Simplices Determined by Orderings on the Coordinates of their Vertices](#)  
Emeric Gioan, Kevin Sol and Gérard Subsol.
- 44 [Pushing the boundaries of polytopal realizability](#)  
David Bremner, Antoine Deza, William Hua and Lars Schewe.
- 47 [On the generation of topological  \$\(n\_k\)\$ -configurations](#)  
Jürgen Bokowski and Vincent Pilaud.

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- 62 [Sliding labels for dynamic point labeling](#)  
Andreas Gemsa, Martin Nöllenburg and Ignaz Rutter.
- 28 [A Discrete and Dynamic Version of Klee's Measure Problem](#)  
Hakan Yıldız, John Hershberger and Subhash Suri.
- 9 [Kinetically-aware Conformational Distances in Molecular Dynamics](#)  
Chen Gu, Xiaoye Jiang and Leonidas Guibas.
- 55 [Collinearities in Kinetic Point Sets](#)  
Benjamin Lund, George Purdy, Justin Smith and Csaba Toth.

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70 [Convexifying Polygons Without Losing Visibilities](#)

Oswin Aichholzer, Greg Aloupis, Erik D. Demaine, Martin L. Demaine, Vida Dujmović, Ferran Hurtado, Anna Lubiw, Günter Rote, André Schulz, Diane L. Souvaine and Andrew Winslow.

96 [Expansive Motions for d-Dimensional Open Chains](#)

Sarah Eisenstat and Erik D. Demaine.

34 [Making triangulations 4-connected using flips](#)

Prosenjit Bose, Dana Jansens, André Van Renssen, Maria Saumell and Sander Verdonschot.

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53 [Approximating the Medial Axis by Shooting Rays: 3D Case](#)

Svetlana Stolpner, Kaleem Siddiqi and Sue Whitesides.

30 [An Incremental Algorithm for High Order Maximum Voronoi Diagram Construction](#)

Khuong Vu and Rong Zheng.

12 [Approximating a Motorcycle Graph by a Straight Skeleton](#)

Stefan Huber and Martin Held.

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11 [Small Octahedral Systems](#)

Grant Custard, Antoine Deza, Tamon Stephen and Feng Xie.

68 [Combinatorics of Minkowski decomposition of associahedra](#)

Carsten Lange.

10 [A Fourier-Theoretic Approach for Inferring Symmetries](#)

Xiaoye Jiang, Jian Sun and Leonidas Guibas.

Day 2 : Thursday Aug.11 16:05 - 17:25

5 $\alpha$

20 [Rigidity-Theoretic Constructions of Integral Fary Embeddings](#)

Timothy Sun.

36 [Drawing some planar graphs with integer edge-lengths](#)

Therese Biedl.

101 [Approximating the Obstacle Number for a Graph Drawing Efficiently](#)

Deniz Sarioz.

25 [A Note on Minimum-Segment Drawings of Planar Graphs](#)

Stephane Durocher, Debajyoti Mondal, Rahnuma Islam Nishat and Sue Whitesides.

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40 [Characterization of Shortest Paths on Directional Frictional Polyhedral Surfaces](#)

Gutemberg Guerra Filho and Pedro J. De Rezende.

15 [Memory-Constrained Algorithms for Shortest Path Problem](#)

Tetsuo Asano and Benjamin Doerr.

82 [Finding Optimal Geodesic Bridges Between Two Simple Polygons](#)

Amit Bhosle and Teofilo Gonzalez.

81 [Approximating Geodesic Distances on 2-Manifolds in  \$\mathbb{R}^3\$](#)

Christian Scheffer and Jan Vahrenhold.

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41 **An In-Place Priority Search Tree**

Minati De, Anil Maheshwari, Subhas Nandy and Michiel Smid.

106 **Orthogonal Range Search using a Distributed Computing Model**

Pouya Bisadi and Bradford Nickerson.

61 **On Finding Skyline Points for Range Queries in Plane**

Anil Kishore Kalavagattu, Ananda Swarup Das, Kishore Kothapalli and Kannan Srinathan.

37 **Space-efficient Algorithms for Empty Space Recognition among a Point Set in 2D and 3D**

Minati De and Subhas Nandy.

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23 **Realizing Site Permutations**

Stephane Durocher, Saeed Mehrabi, Debajyoti Mondal and Matthew Skala.

86 **Establishing Strong Connectivity using Optimal Radius Half-Disk Antennas**

Greg Aloupis, Mirela Damian, Robin Flatland, Matias Korman, Ozgur Ozkan, David Rappaport and Stefanie Wuhler.

92 **Euclidean Movement Minimization**

Mohammadamin Fazli, Mohammadali Safari, Nima Anari, Pooya Jalaly Khalilabadi and Mohammad Ghodsi.

2 **A Randomly Embedded Random Graph is Not a Spanner**

Abbas Mehrabian.

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31 **Approximation Algorithms for the Discrete Piercing Set Problem for Unit Disks**

Minati De, Gautam Das and Subhas Nandy.

24 **New Lower Bounds for the Three-dimensional Orthogonal Bin Packing Problem**

Chia-Hong Hsu and Chung-Shou Liao.

14 **The  $2 \times 2$  Simple Packing Problem**

André Van Renssen and Bettina Speckmann.

5 **On covering of any point configuration by disjoint unit disks**

Yosuke Okayama, Masashi Kiyomi and Ryuhei Uehara.

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46 **Improving Accuracy of GNSS Devices in Urban Canyons**

Boaz Ben-Moshe, Elazar Elkin, Harel Levi and Ayal Weissman.

84 **Geometry-Free Polygon Splitting**

Sherif Ghali.

6 **Robustness of topology of digital images and point clouds**

Peter Saveliev.

4 **Planar Pixelations and Shape Reconstruction**

Brandon Rowekamp.

Day 3 : Friday Aug.12 13:30 - 15:10

7 $\alpha$

- 69 [Algorithms for Bivariate Majority Depth](#)  
Dan Chen and Pat Morin.
- 102 [Exact Algorithms and APX-Hardness Results for Geometric Set Cover](#)  
Elyot Grant and Timothy Chan.
- 65 [Enumerating Minimal Transversals of Geometric Hypergraphs](#)  
Khaled Elbassioni, Imran Rauf and Saurabh Ray.
- 104 [Helly Numbers of Polyominoes](#)  
Jean Cardinal, Hiro Ito, Matias Korman and Stefan Langerman.
- X EMPTY

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- 58 [Open Guard Edges and Edge Guards in Simple Polygons](#)  
Csaba Toth, Godfried Toussaint and Andrew Winslow.
- 63 [Computing k-Link Visibility Polygons in Environments with a Reflective Edge](#)  
Salma Sadat Mahdavi, Ali Mohades and Bahram Kouhestani.
- 50 [Edge-guarding Orthogonal Polyhedra](#)  
Giovanni Viglietta, Nadia M. Benbernou, Erik D. Demaine, Martin L. Demaine, Anastasia Kurdia, Joseph O'Rourke, Godfried Toussaint and Jorge Urrutia.
- 18 [Wireless Localization within Orthogonal Polyhedra](#)  
Tobias Christ and Michael Hoffmann.
- 95 [Weak Visibility Queries in Simple Polygons](#)  
Mojtaba Nouri Bygi and Mohammad Ghodsi.

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- 21 [The Possible Hull of Imprecise Points](#)  
Jeff Sember and William Evans.
- 87 [A Slow Algorithm for Computing the Gabriel Graph with Double Precision](#)  
David L. Millman and Vishal Verma.
- 77 [An Experimental Analysis of Floating-Point Versus Exact Arithmetic](#)  
Martin Held and Willi Mann.
- 72 [On Inducing n-gons](#)  
Marjan Abedin, Ali Mohades and Marzieh Eskandari.
- 48 [Weak Matching Points with Triangles](#)  
Fatemeh Panahi, Ali Mohades, Mansoor Davoodi and Marzieh Eskandari.