

Program of EuroCG 2012

(Assisi, 19-21 March)

Sunday, March 18

18:30-21:00 **Welcoming** (Hotel Giotto, via Fontebella 41, <http://www.hotelgiottoassisi.it/>)

Monday, March 19

9:00-9:10 Opening

9:10- 10:10 **Invited lecture:** Olivier Devillers. *Delaunay triangulations, theory vs practice.*

10:10-10:20 *Fast Forward of Session 1.1*

10:20-11:00 Coffee Break

11:00-12:15 **Session 1.1**

<i>Session 1.1 - A: Delaunay Graphs (chair: S. Langerman)</i>	<i>Session 1.1 - B: Graph Drawing - I (chair: E. Di Giacomo)</i>
Mikhail Bogdanov, Monique Teillaud and Gert Vegter. <i>Covering spaces and Delaunay triangulations of the 2D flat torus.</i>	Alexander Pilz. <i>Augmentability to Cubic Graphs.</i>
Okke Schrijvers, Frits van Bommel and Kevin Buchin. <i>Delaunay triangulations on the word RAM: Towards a practical worst-case optimal algorithm.</i>	Anna Kwiatkowska and Maciej Syslo. <i>Book Embedding of N-free posets.</i>
Jean-Daniel Boissonnat, Ramsay Dyer, Arijit Ghosh and Steve Oudot. <i>Equating the witness and restricted Delaunay complexes.</i>	Toru Hasunuma and Ayane Haruna. <i>A Linear Time Algorithm for the Queue-Numbers of Maximal Outerplanar Graphs.</i>
Miguel A. Mosteiro. <i>Probabilistic Lower Bounds on the Length of a Longest Edge in Delaunay Graphs of Random Points in a d-Ball.</i>	Luca Castelli Aleardi and Éric Fusy. <i>Canonical ordering for triangulations on the cylinder, with applications to periodic straight-line drawings.</i>
Don Sheehy. <i>Tighter Bounds on the Size of Optimal Meshes.</i>	Martin Balko. <i>Grid Representations and the Chromatic Number.</i>

12:15-12:20 Short Break

12:20-12:30 *Fast Forward of Session 1.2*

12:30-14:00 Lunch Break

14:00-15:15 **Session 1.2**

Session 1.2 – A: <i>Computational Models and Complexity Results (chair: M. Hoffman)</i>	Session 1.2 – B: <i>Points, Lines, and Curves (chair: T. Mchedlidze)</i>
Tetsuo Asano, Kevin Buchin, Maïke Buchin, Matias Korman, Wolfgang Mulzer, Günter Rote and André Schulz. <i>Memory-Constrained Algorithms for Simple Polygons.</i>	Ruy Fabila-Monroy, Clemens Huemer and Eulàlia Tramuns. <i>The expected number of points in circles.</i>
Mark de Berg, Marcel Roeloffzen and Bettina Speckmann. <i>Kinetic Collision Detection for Low-Density Scenes in the Black-Box Model.</i>	József Solymosi and Miloš Stojaković. <i>Many collinear k-tuples with no $k+1$ collinear points.</i>
Sylvie Temme and Jan Vahrenhold. <i>Revisiting the Construction of SSPDs in the Presence of Memory Hierarchies.</i>	Stefan Huber, Martin Held, Roland Kwitt and Peter Meerwald. <i>Topology-Preserving Watermarking of Vector Data.</i>
Christian Knauer and Daniel Werner. <i>Erdős-Szekeres is NP-hard in 3 dimensions - and what now?</i>	Kevin Buchin, Maïke Buchin, Wouter Meulemans and Bettina Speckmann. <i>Locally Correct Fréchet Matchings.</i>
Jean-Lou De Carufel, Carsten Grimm, Anil Maheshwari, Megan Owen and Michiel Smid. <i>Unsolvability of the Weighted Region Shortest Path Problem.</i>	Tillmann Miltzow and Alexander Pilz. <i>Selection of Extreme Points and Halving Edges of a Set by its Chirotope.</i>

15:15-15:20 Short Break

15:20-15:30 *Fast Forward of Session 1.3*

15:30-16:00 Coffee Break

16:00-17:00 **Session 1.3**

Session 1.3 – A : <i>Guarding and Art Gallery Problems (chair: M. van Kreveld)</i>	Session 1.3 – B : <i>Optimization, Approximation, and Robust Algorithms (chair: M. Teillaud)</i>
Prosenjit Bose, Jean Cardinal, Sébastien Collette, Ferran Hurtado, Matias Korman, Stefan Langerman and Perouz Taslakian. <i>Coloring and Guarding Arrangements.</i>	Rainer Erbes, Anja Mantel, Elmar Schömer and Nicola Wolpert. <i>Triangle-Triangle Tolerance Tests.</i>
Alexander Kröller and Christiane Schmidt. <i>Energy-Aware Art Gallery Illumination.</i>	Ioannis Z. Emiris, Vissarion Fisikopoulos and Luis Peñaranda. <i>Optimizing the computation of sequences of determinantal predicates.</i>
Farnoosh Khodakarami, Farzad Didehvar and Ali Mohades. <i>A Fixed Parameter Algorithm for Guarding 1.5D Terrains.</i>	Efi Fogel, Michael Hemmer, Asaf Porat and Dan Halperin. <i>Lines Through Segments in Three Dimensional Space.</i>
Giovanni Viglietta. <i>Partial Searchlight Scheduling is Strongly PSPACE-complete.</i>	Manos N. Kamarianakis and Menelaos I. Karavelas. <i>Analysis of the Incircle predicate for the Euclidean Voronoi diagram of axes-aligned line segments.</i>

17:00 -17:45 **Open Problems Session.**

Tuesday, March 20

9:10- 10:10 **Invited lecture:** Jan Kratochvíl. *Geometric Intersection Graphs: Old Problems, New Approaches (and Vice Versa)*.

10:10-10:20 *Fast Forward of Session 2.1*

10:20-11:00 Coffee Break

11:00-12:15 **Session 2.1**

Session 2.1-A: <i>Triangulations, Skeletons, and Partitions (chair: F. Hurtado)</i>	Session 2.1-B: <i>Graph Drawing – II (chair: C. Binucci)</i>
Christiane Schmidt. <i>Maxmin Length Triangulation in Polygons.</i>	Tamara Mchedlidze. <i>Upward planar embedding of a n-vertex oriented path into $O(n^2)$ points.</i>
Wolfgang Aigner, Franz Aurenhammer and Bert Jüttler. <i>On Triangulation Axes of Polygons.</i>	Maryam Tahmasbi and Zahra Mazaheri. <i>Aligned Matched Drawability of Some Graph Triples.</i>
Wolfgang Mulzer and Daniel Werner. <i>A Lower Bound for Shallow Partitions.</i>	Kolja Knauer, Piotr Micek and Bartosz Walczak. <i>Outerplanar graph drawings with few slopes.</i>
Edgardo Roldán-Pensado and Pablo Soberón. <i>An extension of a Theorem of Yao & Yao.</i>	Stefan Felsner, Michael Kaufmann and Pavel Valtr. <i>The graphs that can be drawn with one bend per edge.</i>
Oswin Aichholzer, Howard Cheng, Satyan L. Devadoss, Thomas Hackl, Stefan Huber, Brian Li and Andrej Risteski. <i>What makes a Tree a Straight Skeleton?</i>	Jan Kratochvíl and Torsten Ueckerdt. <i>Non-crossing Connectors in the Plane.</i>

12:15-12:20 Short Break

12:20-12:30 *Fast Forward of Session 2.2*

12:30-14:00 Lunch Break.

14:00-15:15 **Session 2.2**

Session 2.2 – A : <i>Optimization and Approximation Algorithms (chair: B. Speckmann)</i>	Session 2.2 – B : <i>Efficient and On-line Algorithms (chair: S. Fekete)</i>
Christian Scheffer and Jan Vahrenhold. <i>Simplified Medial-Axis Approximation with Guarantees.</i>	Marta Fort and J. Antoni Sellarès. <i>Maximizing k-influence regions.</i>
Wolfgang Mulzer and Daniel Werner. <i>Approximating Tverberg Points in Linear Time for Any Fixed Dimension.</i>	Robert Schieweck and Anita Schöbel. <i>Properties and Algorithms for Line Location with Extensions.</i>
Asish Mukhopadhyay and Satish Chandra Panigrahi. <i>All-maximum and all-minimum problems under some measures.</i>	Julien Rivaud and Francis Lazarus. <i>On the homotopy test on surfaces with boundaries.</i>
Kevin Verbeek. <i>Homotopic C-oriented Routing.</i>	Robert Georges, Frank Hoffmann and Klaus Kriegel. <i>On the Exploration Problem for Polygons with One Hole.</i>

Ioannis Z. Emiris, Vissarion Fisikopoulos and Christos Konaxis. <i>Exact and approximate algorithms for resultant polytopes.</i>	Caneek Peláez, Adriana Ramírez-Vigueras, Carlos Seara and Jorge Urrutia. <i>On the Rectilinear Convex Layers of a Planar Set.</i>
--	---

15:15-15:20 Short Break

15:20-15:30 *Fast Forward of Session 2.3*

15:30-16:00 Coffee Break

16:00-17:00 **Session 2.3**

Session 2.3 – A: Point Sets and Colors – I (chair: S. Felsner)	Session 2.3 – B: Proximity and Geometric Graphs (chair: J. O'Rourke)
Sergey Bereg, José Miguel Díaz-Báñez, Ruy Fabila-Monroy, Pablo Pérez-Lantero, Adriana Ramírez-Vigueras, Toshinori Sakai, Jorge Urrutia and Inmaculada Ventura. <i>On balanced 4-holes in bichromatic point sets.</i>	Prosenjit Bose, Vida Dujmović, Ferran Hurtado, John Iacono, Stefan Langerman, Henk Meijer, Vera Sacristán, Maria Saumell and David R. Wood. <i>Proximity graphs: E, δ, Δ, χ and ω.</i>
David Eppstein, Marc van Kreveld, Bettina Speckmann and Frank Staals. <i>One-to-one Point Set Matchings for Grid Map Layout.</i>	Luis F. Barba, Ruy Fabila-Monroy, Dolores Lara, Jesús Leaños, Cynthia Rodríguez, Gelasio Salazar and Francisco Zaragoza. <i>The Erdős-Sós Conjecture for Geometric Graphs.</i>
Jean Cardinal, Nathann Cohen, Sébastien Collette, Michael Hoffmann, Stefan Langerman and Günter Rote. <i>Coloring Dynamic Point Sets on a Line.</i>	Mirosław Kowaluk. <i>Planar β-skeletons via point location in monotone subdivisions of subset of lunes.</i>
Greg Aloupis, Muriel Dulieu, John Iacono, Stefan Langerman, Özgür Özkan, Suneeta Ramaswami and Stefanie Wührer. <i>Order type invariant labeling and comparison of point sets.</i>	Matthew Bauer and Mirela Damian. <i>Some Sparse Yao Graphs are Spanners.</i>

17:00 -17:45 **Business Meeting.**

19:30 **Bus for Social Dinner.**

Wednesday, March 21

9:30- 10:30 **Invited lecture:** Günter Rote. *Motion planning for a rigid robot in the plane.*

10:30-10:40 *Fast Forward of Session 3.1*

10:40-11:10 Coffee Break

11:10-12:10 **Session 3.1**

Session 3.1-A: <i>Voronoi Diagrams</i> (chair: F. Aurenhammer)	Session 3.1-B: <i>Point Sets and Colors - II</i> (chair: W. Didimo)
<p>Evanthia Papadopoulou and Maksym Zavershynskyi. <i>On the order-k Voronoi diagram of line segments.</i></p> <p>Evanthia Papadopoulou and Sandeep Kumar Dey. <i>On the Farthest Line-Segment Voronoi Diagram.</i></p> <p>Darius Geiß, Rolf Klein and Rainer Penninger. <i>Optimally solving a general transportation problem using Voronoi diagrams.</i></p> <p>Andreas Gemsa, D. T. Lee, Chih-Hung Liu and Dorothea Wagner. <i>Higher Order City Voronoi Diagrams.</i></p>	<p>Victor Alvarez and Atsuhiko Nakamoto. <i>Colored Quadrangulations with Steiner Points.</i></p> <p>Viola Mészáros. <i>Extremal problems in colored point sets in the plane.</i></p> <p>Oswin Aichholzer, Ferran Hurtado and Birgit Vogtenhuber. <i>Compatible Matchings for Bichromatic Plane Straight-line Graphs.</i></p> <p>Sergey Kopeliovich and Kira Vyatkina. <i>On Counting Empty Pseudo-Triangles in a Point Set.</i></p>

12:10-12:15 Short Break

12:15-12:25 *Fast Forward of Session 3.2*

12:25-14:00 Lunch Break

14:00-15:00 **Session 3.2**

Session 3.2-A: <i>Tiling, Folding, Piercing, and Gluing</i> (chair V. Sacristán)	Session 3.2-B: <i>Zonotopes, Convex Sets, and Mapping</i> (chair: T. Ueckerdt)
<p>Kokichi Sugihara. <i>Computer Generation of Triply-Crossing Tile Patterns.</i></p> <p>Farhad Shahrokhi. <i>New separation theorems and sub-exponential time algorithms for packing and piercing of fat objects.</i></p> <p>Erik D. Demaine, Martin L. Demaine, Jin-ichi Itoh, Anna Lubiw, Chie Nara and Joseph O'Rourke. <i>Refold Rigidity of Convex Polyhedra.</i></p> <p>Marc van Kreveld, Maarten Löffler and János Pach. <i>How Many Potatoes are in a Mesh?</i></p>	<p>Hiba Abdallah and Quentin Mérigot. <i>On the reconstruction of convex sets from random normals measurements.</i></p> <p>Michal Černý and Miroslav Rada. <i>On Ellipsoidal Approximations of Zonotopes.</i></p> <p>Miroslav Rada and Michal Černý. <i>A Uniform Approach to Enumeration of Facets, Enumeration of Vertices and Computation of Volume of a Zonotope.</i></p> <p>Richard Klein, Hari K. Voruganti and Michael Sears. <i>Domain Mapping using Harmonic Functions in non-convex domains of genus non-zero.</i></p>

15:00-15:05 **Closing Remarks.**