



20th European Workshop on Computational Geometry

March 24-26, 2004 Seville, Spain.

Invited Talks

Combinatorial Geometry for TV Audiences
 Some Stamps on Combinatorial Geometry
 Structure in Visibility Graphs

Authors

Jin Akiyama
 Ferran Hurtado
 David Rappaport

Accepted Papers

3D realization of two triangulations of a convex polygon
 A certified conflict locator for the incremental maintenance of the Delaunay graph of semi-algebraic sets
 A completion of hypotheses method for 3D-geometry. 3D-extensions of Ceva and Menelaus theorems
 A quadratic distance bound on sliding between crossing-free spanning trees
 A simple and less slow method for counting triangulations and for related problems
 Approximate Distance Oracles for Graphs with Dense Clusters
 Approximate Range searching using binary space partitions
 Balanced intervals of two sets of points on a line or circle
 Competitive search ratio of graphs and polygons
 Computing the convex hull of disks using only their chirotope
 Computing the Fréchet distance between piecewise smooth curves
 Computing the Hausdorff distance between curved objects
 Curvature criteria to fit curves to discrete data
 Defining discrete Morse functions on infinite surfaces
 Distributed ranking methods for geographic information retrieval
 Farthest-point queries with geometric and combinatorial constraints
 Finding a door along a wall with an error afflicted robot
 Finding a widest empty 1-corner corridor
 Finding planar regions in a terrain
 Geometric data structures for multihierarchical XML tagging of manuscripts
 Geometric dilation of closed planar curves: A new lower bound
 Guarding art galleries by guarding witnesses
 Improved results for the k-centrum straight-line location problem
 Lower bounds for the polygon exploration problem
 Maximizing the area of overlap of two unions of disks under rigid motion
 Maximum weight triangulation of a special convex polygon
 Minimum number of different distances defined by a finite number of points
 Minimum weight pseudo-triangulations

Authors

S. Bereg
 F. Anton
 E. Roanes-Macías, E. Roanes-Lozano
 O. Aichholzer, K. Reinhardt
 S. Ray, R. Seidel
 M. Andersson, J. Gudmundsson, C. Levkopoulos
 M. de Berg, M. Streppel
 A. Kaneko, M. Kano
 R. Fleischer, T. Kamphans, R. Klein, E. Langetepe
 L. Habert, M. Pocchiola
 G. Rote
 H. Alt, L. Scharf
 L. Alboul, G. Echeverria, M. Rodrigues
 R. Ayala, L. Fernandez, J. Vilches
 M. van Kreveld, I. Reinbacher, A. Arampatzis, R. van Zwol
 O. Daescu, N. Mi, C. Shin, A. Wolff
 T. Kamphans, E. Langetepe
 J.M. Díaz-Bañez, M.A. López, J.A. Sellarès
 S. Funke, T. Malamatos, R. Ray
 J. Jaromczyk, N. Moore
 A. Ebbels-Baumann, A. Grüne, R. Klein
 K. Chawa, B. Jo, C. Knauer, E. Moet, R. van Oostrum, C. Shin
 A. Lozano, J. Mesa, F. Plaustria
 R. Hagius, C. Icking, E. Langetepe
 M. de Berg, S. Cabello, P. Giannopoulos, C. Knauer, R. van Oostrum, R. Veltkamp
 J. Qian, C. Wang
 A. Albuje, S. Segura Gomis
 J. Gudmundsson, C. Levkopoulos



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New bound for incremental constructing arrangements of curves	M. Abellanas, A. Calatayud, J. García-López
New lower bounds for the number of straight-edge triangulations of a planar point set	P. McCabe, R. Seidel
On fencing problems	C. Miori, C. Peri, S. Segura Gomis
On geodesic and monophonic convexity	C. Hernando, M. Mora, I. Pelayo, C. Seara
On geometric properties of enumerations of axis-parallel rectangles	K. Vyatkina
On rectangular cartograms	M. van Kreveld, B. Speckmann
On relative isodiametric inequalities	A. Cerdán, C. Miori, S. Segura Gomis
On the number of pseudo-triangulations of certain point sets	O. Aichholzer, D. Orden, F. Santos, B. Speckmann
Optimal spanners for axis-aligned rectangles	T. Asano, M. de Berg, O. Cheong, H. Everett, H. Haverkort, N. Katoh, A. Wolff
Optimizing a 2D function satisfying unimodality properties	E. Demaine, S. Langerman
Partitioning orthogonal polygons by extension of all edges incident to reflex vertices: lower and upper bounds on the number of pieces	A. Bajuelos, A. Tomás, F. Marques
Planar embeddability of the vertices of a graph using a fixed point set is NP-hard	S. Cabello
Point set stratification and minimum weight structures	M. Abellanas, M. Claverol, F. Hurtado
Pointed encompassing trees	M. Hoffmann, B. Sechmann, C. Tóth
Quadratic-time, linear-space algorithms for generating orthogonal polygons with a given number of vertices	A. Tomas, A. Bajuelos
Region inter-visibility in terrains	M. van Kreveld, E. Moet, R. van Oostrum
Similarity search in semialgebraic pattern spaces	C. Knauer
Smoothed number of extreme points under uniform noise	V. Damerow, C. Sohler
Space-efficient geometric divide-and-conquer algorithms	P. Bose, A. Maheshwari, P. Morin J. Morrison, M. Smid, J. Vahrenhold
Straight line skeleton in linear time, topologically equivalent to the medial axis	M. Tanase, R. Veltkamp
The minimum Manhattan network problem approximations and exact solutions	M. Benkert, T. Shirabe, A. Wolff
The siphon problem	J.M. Díaz-Bañez, C. Seara, I. Ventura
Triangulations without pointed spanning trees	O. Aichholzer, C. Huemer, H. Krasser
Two Optimization problems with floodlights	A. Spillner
Unfolding simple chains inside circles	M. Eskandari, A. Mohades
Using symmetry evaluation to improve robotic manipulation performance	P.Sanz, S. Dabic, R. Marin
Verification of partitions of 2D and 3D objects	L. Palios
Warping cubes: better triangles from marching cubes	L. Tzeng