

Seventh International Symposium on Voronoi Diagrams in Science and Engineering



7th ISVD International Symposium on Voronoi Diagrams in Science and Engineering



June 28th-30th 2010
Quebec City, Qc, Canada

<http://isvd2010.scg.ulaval.ca/Home.html>



Program outlines

	Monday, June 28 th	Tuesday, June 29 th	Wednesday June 30 th
7:30			
8:00	Registration		
8:30			
8:45	Opening		
9:00		Keynote	Keynote
9:10			
9:30			
10:00	Coffee Break	Coffee Break	Coffee Break
10:30	Morning Session	Morning Session	Morning Session
11:00			
11:30			
12:00	Lunch (Chez Greco)	Lunch (Abitibi-Price, ULaval)	Lunch (Chez Greco)
12:30			
13:00			
13:30			
13:45	Keynote	Afternoon Session I	Afternoon Session I
14:00			
14:30	Afternoon Session I		
15:00			
15:10	Afternoon Session II	Afternoon Session II	Afternoon Session II
15:30			
16:00			
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Keynote Speakers

- Prof. Leonidas J. Guibas: *Computer Science Department, Stanford University, USA*
- Prof. Christopher Gold: *GIS unit, University of Glamorgan, UK (cancelled)*
- Prof. Bahman Kalantari: *Department of Computer Science, Rutgers University, USA*
- Prof. Nikolai N. Medvedev: *Novosibirsk State University, Russia*
- Prof. Menelaos Karavelas: *Department of Applied Mathematics, Crete; GREECE*

Local Organizing Committee

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Sponsors

The symposium is sponsored by the

- Center for Research in Geomatics (CRG),
- GEOIDE Network of Centers of Excellence,
- Department of Geomatics Sciences, Laval University,
- International Society for Photogrammetry and Remote Sensing (ISPRS).

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Detailed program - Monday June 28, 2010

Monday June 28, 2010

8:00 - 8:50

Registration

8:50 - 9:10

Opening

9:10 - 10:00

Keynote Speech: Delaunay's impact on Voronoi Diagram

Prof. Nikolai N. Medvedev

10:00 - 10:20

Coffee break

10:20 - 12:00

Morning Session: Mathematical Aspects of VD

Chair: Prof. Mir Abolfazl Mostafavi

- Planar Voronoi Diagrams for Sums of Convex Functions, Smoothed Distance, and Dilation
by Matthew Dickerson, David Eppstein and Kevin Wortman
- Revisiting Hyperbolic Voronoi Diagrams from Theoretical, Applied and Generalized Viewpoints
by Toshihiro Tanuma, Hiroshi Imai and Sonoko Moriyama
- Minimum separating circle for bichromatic points in the plane
by Steven Bitner, Yam Ki Cheung and Ovidiu Daescu
- Jensen-Bregman Voronoi diagrams and centroidal tessellations
by Frank Nielsen and Richard Nock

12:00 - 13:45

Lunch (Chez Greco Restaurant, 2300 Chemin Ste-Foy)

13:45 - 14:45

Keynote Speech: Polynomiography as Voronoi Art

Prof. Bahman Kalantari, and Sergio De Biasi

14:45 - 15:10

Afternoon Session I: Mathematical Aspects of VD

Chair: Prof. Deok-Soo Kim

- Nearest-neighbor queries with well-spaced points
by Chris Gray

15:10 - 15:30

Coffee break

15:30 - 17:00

Afternoon Session II: Spatial Aspects of VD

- Vindictive Voronoi Games and Stabbing Delaunay Circles
by Syed Ishtiaque Ahmed, Masud Hasan and Awalyn Sopan
- Sweeping the Sphere
by Joao Dinis and Margarida Mamede
- On 2-Site Voronoi Diagrams under Arithmetic Combinations of Point-to-Point Distances
by Kira Vyatkina and Gill Barequet

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Detailed program - Tuesday June 29, 2010

Tuesday June 29, 2010

9:00 - 10:00 **Keynote Speech:** Voronoi Diagrams in Geometry Processing and Network Routing
Prof. Leonidas J. Guibas

10:00 - 10:20 Coffee break

10:20 - 12:15 **Morning Session: Spatial Aspects of VD session**

Chair: Prof. Kokichi Sugihara

- Voronoi-based Approaches for Geosensor Networks Coverage Determination and optimisation: A Survey
by Meysam Argany, Mir-Abolfazl Mostafavi and Farid Karimipour
- Round-Trip Voronoi Diagrams and Doubling Density in Geographic Networks
by Matthew Dickerson, Thomas Dickerson and Michael Goodrich
- A Geometric Approach to Drill Path Collision Avoidance
by Mahmudul Hasan and Marina Gavrilova
- Searching Simplexes in Quasi-triangulation
by Deok-Soo Kim, Jae-Kwan Kim and Chong-Min Kim

12:15 - 13:45 Lunch (Pavilion Abitibi-Price, University Campus)

13:45 - 15:10 **Afternoon Session I: Pattern Analysis and Voronoi Tiling**

Chair: Prof. Leonidas J. Guibas

- Maximal Zone Diagrams and Their Computation
by Sergio De Biasi, Bahman Kalantari and Iraj Kalantari
- Homotopic Object Reconstruction Using Natural Neighbor Barycentric Coordinates
by Ojaswa Sharma and François Anton
- Voronoi Diagrams on Periodic Graphs
by Norie Fu, Hiroshi Imai and Sonoko Moriyama

15:10 - 15:30 Coffee break

15:30 - 17:00 **Afternoon Session II: Pattern Analysis and Voronoi Tiling**

- Voronoi-Diagram Approach to Escher-Like Tiling
by Kokichi Sugihara
- Voronoi Tiling, Digital Fabric Printing and Interactive eGarments - Designing the iBody
by Geoffrey Edwards, Mir Abolfazl Mostafavi and David Duguay

19:30 Social Event (Aux Anciens Canadiens Restaurant, 34 Rue St-Louis)

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Detailed program - Wednesday June 30, 2010

Wednesday June 30, 2010

9:00 - 10:00 **Keynote Speech:** Delaunay triangulations and Voronoi diagrams in CGAL:
Algorithms, Data structures and practice
Prof. Menelaos Karavelas

10:00 - 10:20 **Coffee break**

10:20 - 12:00 **Morning Session: 3D and Dynamic VD**

Chair: Prof. Marina Gavrilova

- Smooth morphing Delaunay triangulation
by Xin Liu, Jon Rokne and Marina Gavrilova
- Guaranteed Quality Tetrahedral Delaunay Meshing for Medical Images
by Panagiotis Foteinos, Andrey Chernikov and Nikos Chrisochoides
- Fast Dynamic Voronoi Treemaps
by Avneesh Sud, Danyel Fisher and Huai-Ping Lee
- Moving Network Voronoi Diagram
by Chenglin Fan, Jun Luo and Binhai Zhu

12:00 - 13:45 **Lunch (Chez Greco Restaurant, 2300 Chemin Ste-Foy)**

13:45 - 15:10 **Afternoon Session I: Applications of VD**

Chair: Prof. François Anton

- Fast Discovery of Voronoi Vertices in the Construction of Voronoi Diagram of 3D Balls
by Martin Manak and Ivana Kolingerova
- Hydration shells in Voronoi tessellations
by Vladimir Voloshin, Alexey Anikeenko, Nikolai Medvedev, Alfons Geiger and Dietrich Stoyan
- The Fusion as a Novel Binary Operation on Medial Axes
by Ivan Mekhedov and Leonid Mestetskiy

15:10 - 15:30 **Coffee break**

15:30 - 16:45 **Afternoon Session II: Applications of VD**

- One conception of creating tools for geometric modeling
by Vasyl Tereshchenko
- Alphashape Topology of the Cosmic Web
by Rien van de Weygaert, Gert Vegter, Erwin Platen, Bob Eldering and Nico Kruithof
- Geometry of the Cosmic Web: Minkowsky functionals from the Delaunay tessellations
by Miguel Angel Aragon Calvo, Sergei, F. Shandarin and Alexander Szalay

16:45 - 17:00 **Closing**

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How to get to the «Aux Anciens Canadiens» Restaurant

From Conference hall in Pavillon Gene-H-Kruger (**point A**) walk to Bus Stop at the university Campus (**point B**). Next, take 800 or 801 bus to the Bus Stop Rene-Levesque E Blvd (**point C**) and then walk to Aux Anciens Canadiens Restaurant (**point D**).

