



# 15th ACM International Symposium on Advances in Geographic Information Systems (ACM GIS 2007)

## Day 1: Wednesday, Nov 7, 2007

7:00-8:15	Breakfast and Registration
8:30-8:40	Welcome
8:40-10:20	Paper Session 1: Spatial Databases (Session Chair: Isabel Cruz)
	<b>Handling Spatial Data in Distributed Environment</b> <i>Verena Kantere, National Technical University of Athens; Timos Sellis, National Technical University of Athens</i>
	<b>An Interactive Framework for Raster Data Spatial Joins</b> <i>Wan D. Bae, University of Denver; Petr Vojtechovsky, University of Denver; Shayma Alkobaisi, University of Denver; Scott T. Leutenegger, University of Denver; Seon Ho Kim, University of Denver</i>
	<b>Dynamic Storage Balancing in a Distributed Spatial Index</b> <i>Cedric du Mouza, CNAM; Witold Litwin, University of Paris-Dauphine; Philippe Rigaux, University of Paris-Dauphine</i>
	<b>Randomization in Traffic Information Sharing Systems</b> <i>Masaaki Tanizaki, Hitachi Ltd; Ouri Wolfson, University of Illinois at Chicago</i>
10:20-10:50	Coffee Break
10:50-12:30	Paper Session 2: GIS Imagery (Session Chair: Duane Marble)
	<b>Exploiting Automatically Inferred Constraint-Models for Building Identification in Satellite Imagery</b> <i>Martin Michalowski, University of Southern California; Craig A. Knoblock, University of Southern California; Kenneth Bayer, University of Nebraska at Lincoln; Berthe Y. Choueiry, University of Nebraska at Lincoln</i>
	<b>Modeling Satellite Image Streams for Change Analysis</b> <i>Carlos Rueda, University of California at Davis; Michael Gertz, University of California at Davis</i>
	<b>High-Level Web Service for Building Information Visualization and Analysis</b> <i>Benjamin Hagedorn, University of Potsdam; Jürgen Döllner, University of Potsdam</i>
	<b>Comparing Global and Interest Point Descriptors for Similarity Retrieval in Remote Sensed Imagery</b> <i>Shawn Newsam, University of California at Merced; Yang Yang, University of California at Merced</i>
12:30-14:00	Lunch
14:00-14:50	Paper Session 3: Trajectories (Session Chair: Mohamed Mokbel)
	<b>Where We Were: Communities for Sharing Space-Time Trails</b> <i>Scott Counts, Microsoft Research; Marc Smith, Microsoft Research</i>
	<b>Dynamic-Aware Similarity of Moving Objects Trajectories</b> <i>Goce Trajcevski, Northwestern University; Hui Ding, Northwestern University; Roberto Tamassia, Brown University; Peter Scheuermann, Northwestern University; Dennis Vaccaro, Northrop Grumman Corp</i>
14:50-15:50	<b><u>Fast Forward Poster Preview Session</u></b>
15:50-16:20	Coffee Break
16:20-18:00	Paper Session 4: GIS Modeling (Session Chair: Budhendra Bhaduri)
	<b>Multilevel Object-Oriented Classification of Quickbird Images for Urban Population Estimates</b> <i>Claudia Almeida, DSR-INPE; Iris Souza, DSR-INPE; Claudia Durand, DSR-INPE; Carolina Pinho, DPI-INPE; Madalena Pereira, DSR-INPE; Gilberto Ribeiro, DSR-INPE; Raul Feitosa, Catholic University of Rio de Janeiro</i>
	<b>The Road Extension Model in the Land Change Modeler for Ecological Sustainability of IDRISI</b> <i>Ziying Jiang, Clark University</i>
	<b>Using Fuzzy Clustering Methods for Delineating Urban Housing Submarkets</b> <i>Sungsoon Hwang, DePaul University; Jean-Claude Thill, University of North Carolina at Charlotte</i>
	<b>Near-real time motion analysis for APLIS 2007: A systems modeling perspective</b> <i>Mani Thomas, University of Delaware; Chandra Kambhmettu, University of Delaware; Cathleen Geiger, University of Delaware; Jennifer Hutchings, University of Alaska; Melanie Engram, University of Alaska</i>
19:00-21:30	<b><u>Poster Reception</u></b>

## Day 2: Thursday, Nov 8, 2007

7:00-8:00	Breakfast
8:00-9:15	Paper Session 5: Conflation (Session Chair: Erik Hoel)
	<b>Quality-driven Geospatial Data Integration</b> <i>Snehal Thakkar, University of Southern California; Craig Knoblock, University of Southern California; Jose Luis Ambite, University of Southern California</i>
	<b>Automatic Alignment of Large-scale Aerial Rasters to Road-maps</b> <i>Xiaqing Wu, Google Inc; Rodrigo Carceroni, Google Inc; Hui Fang, Google Inc; Steve Zelinka, Google Inc; Andrew Kirmse, Google Inc</i>
	<b>Hierarchical Photo Organization using Geometric Relevance</b> <i>Boris Epshtien, Microsoft Corporation; Eyal Ofek, Microsoft Corporation; Yonathan Wexler, Microsoft Corporation; Pusheng Zhang, Microsoft Corporation</i>
9:15-10:15	<b><u>Invited Lecture by Michael Jones of Google Earth</u></b>
10:15-10:45	Coffee Break
10:45-12:25	Paper Session 6: Road Networks (Session Chair: Robert Laurini)
	<b>Optimal Traversal Planning in Road Networks with Navigational Constraints</b> <i>Leyla Kazemi, University of Southern California; Cyrus Shahabi, University of Southern California; Mehdi Sharifzadeh, Google Inc; Luc Vincent, Google Inc</i>

**Evacuation Route Planning: Scalable Heuristics***Sangho Kim, University of Minnesota; Betsy George, University of Minnesota; Shashi Shekhar, University of Minnesota***Proximity Queries in Large Traffic Networks***Hans-Peter Kriegel, Ludwig-Maximilians-University; Peer Kröger, Ludwig-Maximilians-University; Peter Kunath, Ludwig-Maximilians-University; Matthias Renz, Ludwig-Maximilians-University; Tim Schmidt, Ludwig-Maximilians-University***A Model for Enriching Trajectories with Semantic Geographical Information***Luis Otavio Alvares, UFRGS; Vania Bogorny, Hasselt University; Bart Kuijpers, Hasselt University; Jose Antonio Fernandes de Macedo, Ecole Polytechnique Federale de Lausanne; Bart Moelans, Hasselt University; Alejandro Vaisman, Universidad de Buenos Aires*

12:25-14:00

Lunch

14:00-15:40

Paper Session 7: Search Engines and Semantics (Session Chair: Michael Jones)

**Robust Location Search from Text Queries***Vibhuti Sengar, Microsoft Research India; Tanuja Joshi, Microsoft Research India; Joseph Joy, Microsoft Research India; Samarth Prakash, Microsoft Research India; Kentaro Toyama, Microsoft Research India***STEWARDS: Architecture of a Spatio-Textual Search Engine***Michael D. Lieberman, University of Maryland; Hanan Samet, University of Maryland; Jagan Sankaranarayanan, University of Maryland; Jon Sperling, HUD PD&R***Semantically-Assisted Geospatial Workflow Design***Gobe Hobona, Newcastle University; David Fairbairn, Newcastle University; Philip James, Newcastle University***Environmental Scenario Search and Visualization***Mikhail Zhizhin, Geophysical Center RAS; Eric Kihn, NOAA; Vassily Lyutsarev, Microsoft Research; Sergei Berezin, Moscow State University; Alexey Poyda, Geophysical Center RAS; Dmitry Mishin, Geophysical Center RAS; Dmitry Medvedev, Geophysical Center RAS; Dmitry Voitsekhovskiy, Moscow State University*

15:40-16:10

Coffee Break

16:10-17:50

Paper Session 8: Terrain Modeling (Session Chair: Philippe Rigaux)

**TerraStream: From Elevation Data to Watershed Hierarchies***Andrew Danner, Swarthmore College; Thomas Mølhav, University of Aarhus; Ke Yi, Hong Kong U.S.T.; Pankaj K. Agarwal, Duke University; Lars Arge, University of Aarhus; Helena Mitasova, North Carolina State University***Multi-Scale Dual Morse Complexes for Representing Terrain Morphology***Emanuele Danovaro, Free University of Bozen-Bolzano; Leila De Floriani, University of Genova; Maria Vitali, University of Genova; Paola Magillo, University of Genova***Smugglers and Border Guards - The GeoStar Project at RPI***W Randolph Franklin, RPI; Metin Inanc, RPI; Zhongyi Xie, RPI; Daniel M Tracy, RPI; Barbara Cutler, RPI; Marcus V.A. Andrade, RPI***Distributed Computation of Drainage Basin Delineations from Uncertain Digital Elevation Models***Tomas Ukkonen, Finnish Geodetic Institute; Tapani Sarjakoski, Finnish Geodetic Institute; Juha Oksanen, Finnish Geodetic Institute*

18:30-19:30

**Sponsor Demo Session****20:00-23:30****Banquet****Day 3: Friday, Nov 9, 2007**

7:00-8:00

Breakfast

8:00-9:15

Paper Session 9: Visualization (Session Chair: Peter Widmayer)

**GeoModeler: Tightly linking spatially-explicit models and data with a GIS for analysis and geovisualization***Tiffany Vance, NOAA; Nazila Merati, NOAA; Sharon Mesick, NOAA; Christopher Moore, NOAA; Dawn Wright, Oregon State University***GeoAnalytics Visual Inquiry and Filtering Tools in Parallel Coordinates Plot***Sara Johansson, Linköping University; Mikael Jern, Linköping University***A Web-Enabled Extension of a Spatio-Temporal DBMS***Markus Innerebner, Free University of Bozen-Bolzano; Michael Boehlen, Free University of Bozen-Bolzano; Igor Timko, Free University of Bozen-Bolzano*

9:15-10:15

**Invited Lecture by Franz Leberl of Microsoft 3DI (Vexcel)**

10:15-10:45

Coffee Break

10:45-12:50

Paper Session 10: Spatiotemporal Databases and Moving Objects (Session Chair: Franz Leberl)

**An Object-Oriented Approach to the Representation of Spatiotemporal Geographic Features***Alex Lohfink, University of Glamorgan; Tom Carnduff, University of Glamorgan; Nathan Thomas, University of Glamorgan; Mark Ware, University of Glamorgan***Approximate Order-k Voronoi Cells over Positional Streams***Kostas Patroumpas, National Technical University of Athens; Theofanis Minogiannis, National Technical University of Athens; Timos Sellis, National Technical University of Athens***Partition-Based Lazy Updates for Continuous Queries over Moving Objects***Yuling Hsueh, University of Southern California; Roger Zimmermann, National University of Singapore; Haojun Wang, University of Southern California; Wei-Shinn Ku, Auburn University***CLAM: Concurrent Location Management for Moving Objects***Jing Dai, Virginia Polytechnic and State University; Chang-Tien Lu, Virginia Polytechnic and State University***Location Anonymity in Continuous Location-based Services***Toby Xu, Iowa State University; Ying Cai, Iowa State University*

12:50-13:00

Closing Remarks and Adjournment of Symposium