

GIScience 2008 Schedule

Tuesday, September 23

08:30 - 09:30, **Registration (Lobby) and Coffee**

09:00 - 18:00, **Workshops**

Lunch for all workshops is served at 12:00-13:00.

The Design of Service-Oriented Architecture (SOA) for Geospatial Science, *Xuan Shi (Georgia Institute of Technology) and Robert Raskin (Jet Propulsion Laboratory)*, **Room: Boardroom**

Cyberinfrastructure for GIScience, *Dawn Wright (Oregon State University), Tim Nyerges (University of Washington), Robert Raskin (Jet Propulsion Laboratory), Lynn Usery (United States Geologic Survey), Phil Yang (George Mason)*, **Room: Ivers**

Temporal GIS: the past 20 years and the next 20 years, *May Yuan (University of Oklahoma), Sean Ahearn (Hunter College), David Bennett (University of Iowa), Kathleen Stewart Hornsby (University of Iowa)*, **Room: Mountain View**

Moving Objects: from natural to formal language, Morning workshop: 9:00 – 12:00, *Nico Van de Weghe (Ghent University), Roland Billen (University of Liège), Bart Kuijpers (Hasselt University), Peter Bogaert (Ghent University)*, **Room: Alpine**

Trends in Pervasive and Ubiquitous Geotechnology and Geoinformation, *Johannes Schoening (University of Muenster, Germany), Brent Hecht (University of California at Santa Barbara (UCSB), USA), Antonio Krueger (University of Muenster, Germany), Martin Raubal (University of California at Santa Barbara (UCSB), USA), Michael Rohs (Deutsche Telekom Laboratories, Berlin, Germany)*, **Room: Hearst**

Computational Models of Place, Afternoon workshop: 14:00 – 18:00, *Stephan Winter (The University of Melbourne, Australia), Werner Kuhn (University of Münster, Germany), Antonio Krüger (University of Münster, Germany)*, **Room: Kearns**

Information semantics and its implications for geographical analysis, Morning workshop: 9:00 – 14:00, *Ola Ahlqvist (The Ohio State University), Martin Raubal (University of California Santa Barbara), Angela Schwering (University of Osnabrueck), and Ashton Shortridge (Michigan State University)*, **Room: Judge**

GeoSpatial Visual Analytics, *Gennady and Natalia Andrienko (FhG IAIS), Piotr Jankowski (San Diego State University), Menno-Jan Kraak (ITC)*, **Room: Summit A**

17:00 - 20:00, **Registration (Lobby)**

19:00 - 20:00, **Reception (Summit C)**

20:00 - 21:00, **Welcome, Keynote I (Summit A)**, Chair: Harvey Miller

GIScience and the ‘new’ urban geography
Paul Longley, University College London

Wednesday, September 24th

08:00 - 09:00, **Registration (Lobby)**

08:30 - 10:00, **Keynote II (Summit A)**, Chair: Max Egenhofer

Computational Thinking
Jeannette Wing, National Science Foundation

Visual Computing
Chris Johnson, University of Utah

10:00 - 10:30, **Coffee break**

10:30 - 12:00, **Spatial and temporal reasoning (Summit B)**, Chair: Kate Beard

A Theory of Change for Attributed Spatial Entities
John Stell and Michael Worboys

Reasoning on Spatial Relations between Entity Classes
Stephan Mäs

Spatial Neighborhood-based Data Query using a 3D Network-Based Topological Model
Jiyeong Lee

10:30 - 12:00, **Geospatial semantics I (Ivers-Hearst)**, Chair: Brandon Plewe

Defining the Meanings of Landscape Terms and Their Associated Categories
David M. Mark, Andrew G. Turk and David Stea

Similarity-based Information Retrieval and its Role within Spatial Data Infrastructures
Krzysztof Janowicz, Marc Wilkes and Michael Lutz

Cross-cultural semantic mapping of road network entity concepts using probabilistic geospatial ontologies
Sumit Sen

10:30 - 12:00, **Geosensors I (Mountain View)**, Chair: Stephan Winter

Geosensor Data Abstraction for Environmental Monitoring Application
Young Jin Jung and Silvia Nittel

Decentralized Movement Pattern Detection amongst Mobile Geosensor Nodes
Patrick Laube, Matt Duckham and Thomas Wolle

Effect of Neighborhood on In-Network Processing in Sensor Networks
Muhammad Jafar Sadeq and Matt Duckham

12:00 - 13:30, **Lunch**

13:30 - 15:00, **Wayfinding and navigation (Summit B)**,
Chair: Martin Raubal

Simplest Instructions: Finding Easy-to-Describe Routes for Navigation
Kai-Florian Richter and Matt Duckham

Turn to the Left or to the West: Verbal Navigational Directions in Relative and Absolute Frames of Reference
Toru Ishikawa and Mika Kiyomoto

A variant of shortest path that buys you time to decide where to go
Takeshi Shirabe

13:30 - 15:00, **Moving objects (Ivers-Hearst)**,
Chair: May Yuan

Modeling Herds and Their Evolvments from Trajectory Data
Yan Huang, Cai Chen, and Pinliang Dong

Uncovering Interactions between Moving Objects
Natalia Andrienko, Gennady Andrienko, Monica Wachowicz, Daniel Orellana

A Space-Time GIS for Exploring Stations in Large Tracking Datasets of Moving Objects
Hongbo Yu and Shih-lung Shaw

13:30 – 15:00, **Spatial databases (Mountain View)**,
Chair: Jeremy Mennis

Query Responsive Index Structures
Ludger Becker, Hannes Partzsch and Jan Vahrenhold

Ontology-based Geospatial Data Query and Integration
Tian Zhao, Chuanrong Zhang, Mingzhen Wei and Zhong-Ren Peng

New Data Types and Operations to Support Geo-streams
Yan Huang and Chengyang Zhang

15:00 - 15:30, **Coffee break**

15:30 - 17:00, **Topographic modeling (Summit B)**,
Chair: Ashton Shortridge

Delineation of Valleys and Valley Floors
Ralph K. Straumann and Ross S. Purves

DEM uncertainty modelling using spatial data mining
Felix Hebel and Thorsten Behrens

15:30 - 17:00, **Spatial decision support, (Ivers-Hearst)**,
Chair: Marc Armstrong

Developing a Conceptual Framework for Spatial Decision Support
Naicong Li, Robert Raskin and Michael Goodchild

A Framework for Sensitivity Analysis in Spatial Multiple Criteria Evaluation
Arika Ligmann-Zielinska and Piotr Jankowski

15:30 - 17:00, **Maps and the Web I (Mountain View)**, Chair: Ming Tsou

Identifying Maps on the World Wide Web
Matthew Michelson, Aman Goel and Craig Knoblock

Cartograms for the portrayal of flood risk
Chris Brundson, Nick Tate and Aidan Slingsby

ScaleMaster.org: Illustrating and constructing the multi-scale mapping process
Michael Stryker, Robert E. Roth and Cynthia A. Brewer

15:30 – 17:00, **GIS and Society (Summit A)**, Chair:
Francis Harvey

Politics of Scale and Networks of Association in PPGIS
Rina Ghose

Participation, Governance, and the Geoweb
Renee Sieber

Mapping the Zeitgeist
Brent Hecht and Johannes Schöning

17:30-19:00, **GIScience Journal Editors Panel (Summit A)**, Chair: Jean-Claude Thill

Panelists: *Scott Freundsuh, John Wilson, Brian Lees, Shaski Shekar, Helen Couclelis, Broyan Brodaric*

Thursday, September 25

08:00 - 09:00, **Registration**

08:30 - 10:00, **Keynote III (Summit A)**, Chair: David Mark

Where is the “where”?
Vincent Tao, Microsoft

Mobile Environmental Sensor Systems Across a Grid Environment
John Polak, Imperial College London

10:00 - 10:30, **Coffee break**

10:30 - 12:00, **Geospatial semantics II (Summit B)**,

Chair: Werner Kuhn

A Comparison of Mandarin, English, and Russian Definitions of Physical Features

Chen-Chieh Feng and Alexandre Sorokine

Geographic Analysis of Linguistically Encoded Movement Patterns: a Contextualized Perspective

Alexander Klippel, Alan MacEachren, Prasenjit Mitra, Ian Turton, Xiao Zhang, Anuj Jaiswal, Kean Soon, Jared Oyler and Rui Li

Semantic Mediation as a Gateway to Interoperability, with a Case Study of the International Coastal Atlas Network

Dawn Wright, Yassine Lassoued, Luis Bermudez, Tim Nyerges, Tanya Haddad and Ned Dwyer

10:30 - 12:00, **Spatial relations (Ivers-Hearst)**, Chair: Brian Lees

Refining Topological Relations between Regions Considering Their Shapes

Roland Billen and Yohei Kurata

The 9+-Intersection: A Universal Framework for Modeling Topological Relations

Yohei Kurata

Single-Holed Regions: Their Relations and Inferences

Maria Vasardani and Max Egenhofer

10:30 - 12:00, **Events and processes (Mountain View)**,

Chair: Kathleen Stewart-Hornsby

Performance of Geographically Weighted Regression (GWR) on a simulated spatio-temporal dataset

A Stewart Fotheringham, Urska Demsar and Martin Charlton

RELAM: A spatio-temporal GIS agent model for optimizing forest resource allocation

Christopher Bone and Suzana Dragicevic

The geosynthesis of social networks: approach and empirical results

Theo Arentze, Pauline Van den Berg and Harry Timmermans

10:30 - 12:00, **Geo-ontologies (Summit A)**,

Chair: Andrew Frank

Exploring RDBMS Support for Ontology Enhanced Searching in Geospatial Portals

Nancy Wiegand

A Possible General Ontology of Geographic Phenomena

Brandon Plewe

Ontology, Epistemology, Teleology: Triangulating Geographic Information Science

Helen Couclelis

12:00 - 13:30, **Lunch (Summit C)**

13:30 - 15:00, **Geosensors II (Summit B)**,

Chair: Dawn Wright

Detecting Topological Change Using a Wireless Sensor Network

Christopher Farah, Cheng Zhong, Mike Worboys and Silvia Nittel

Active Map Algebra for Wireless Sensor Networks

David Almeida and Kate Beard

Improving Localization in Geosensor Networks Through Use of Sensor Measurement Data

Frank Reichenbach, Alexander Born, Edward Nash, Christoph Strehlow, Dirk Timmermann and Ralf Bill

13:30 - 15:00, **Network modeling (Ivers-Hearst)**,

Chair: Mei-Po Kwan

Road Networks and their Incomplete Representation by Network Data Models

Simon Scheider and Werner Kuhn

Noisy Road Network Matching

Yago Diez, Mario Lopez and J. Antoni Sellarès

Sensitivity of estimates of travel distance and travel time to street network data quality

Paul Zandbergen

13:30 - 15:00, **Computational Geometry (Mountain View)**, Chair: Jiyeong Lee

Validation and Storage of Polyhedra through Constrained Delaunay Tetrahedralization

Edward Verbree and Hang Si

Modeling Geographical Differences in Trends in the Onset of North American Spring: An Approach Using Thin Plate Regression Splines

Chris Brunsdon

Estimating static and dynamic perceived landscape openness with visibility measurements

Gerd Weitkamp

13:30 – 15:00, **Spatialization (Summit A)**, Chair:
André Skupin

Evaluating 3D Point-Display Spatializations
Sara Irina Fabrikant and Daniel R. Montello

Characterizing GIS Hydrology Commands: Spatialization
with SOM Mapping
*Jochen Wendel, Barbara Buttenfield, Roland Viger and
Jeremy Michael Smith*

15:00 - 15:30, **Coffee break**

15:30 - 17:00, **Spatial analysis (Summit B)**, Chair:
Stewart Fotheringham

Multi-scale Flow Mapping of Large Spatial Interaction
Data
Diansheng Guo

Formalizing Computational Intensity of Spatial Analysis
Shaowen Wang

Uncovering Hidden Spatial Patterns by Hidden Markov
Model
Ruihong Huang and Christina Kennedy

15:30 – 17:00, **Geospatial semantics III (Ivers-Hearst)**,
Chair: Helen Couclelis

Reconciling human and machine based epistemologies for
automated land use detection
Ola Ahlqvist and Anders Wästfelt

Characterizing Regions through Content Classification
Martin Tomko and Ross Purves

15:30 – 17:00, **Image search and analysis (Mountain
View)**, Chair: Jennifer Miller

Knowledge acquisition for geographic image search
Alistair Edwardes and Ross Purves

Inferring multi-temporal links between structural and
functional urban representations from remote sensor
models
Victor Mesev

A Simple Algorithm for Refining Training Samples
Ranga Raju Vatsavai, Shashi Shekhar, Thomas Burk and
Budhendra Bhaduri

15:30 – 17:00, **Maps and the Web II (Summit A)**,
Chair: Dan Sui

Using Folksonomy to Generate Standards-Based Metadata for
Spatially-Related Data
James Campbell

Mapping without Maps: What about the users of geographic
information?
Barbara Poore

What is Open Street Map? * Invited presentation on VGI *
Richard Weait

17:00 - 19:00, **Posters and bebidas (Summit C)**

Friday, September 26

08:30 - 10:00, **Digital Globes Panel (Summit A)**, Chair:
Mike Goodchild, Panelists: David Mark, Rob Raskin,
Vincent Tao, Dawn Wright and Chaowei Yang

10:00 - 10:30, **Coffee break**

10:30 - 12:00, **Geovisualization (Summit B)**, Chair:
Gennedy Andrienko

Clusters on the Move: Why animations are better for
cluster detection
Amy L. Griffin and Sara Irina Fabrikant

Multi-modal Navigation through Spatial Information
Johannes Schöning and Antonio Krüger

10:30 - 12:00, **Time geography and social networks
(Ivers-Hearst)**, Chair: Harvey Miller

Progress in the application of time-geographic concepts to
urban micro-process
Otto Huisman and Pip Forer

Analyzing fields of human behavior
Scott Bridwell

A Hybrid Genetic Algorithm for Analyzing Human
Space-Time Activity Patterns
Guoxiang Ding and Mei-Po Kwan

10:30 - 12:00, **Education, government and policy
(Mountain View)**, Chair: Karen Kemp

The UCGIS Geographic Information Science and
Technology Body of Knowledge: some thoughts from an
European perspective
Wolfgang Reinhardt and Fred Toppen

Investigating GIS Constructions in Chinese Urban
Government: A Case Study of Shenzhen
Wen Lin

Spatial Data Infrastructures: an operational network
approach for sub-national SDIs
Vandenbroucke Danny and Crompvoets Joep

12:15 - 13:00, **Closing, awards, kudos (Summit A)**

