


<b>Day One</b>				
08.30 - 17.30	<b>Registration open</b>			
09.30 - 10.00	<b>Opening</b>			Room HS 45
10.00 - 11.00	<b>Keynote</b> <b>Microscopic simulations of travel behavior for urban and regional systems</b>			Room HS 45
	<p><b>Kai Nagel</b></p> 	<p>It has been computationally possible for some time now to perform simulations with several millions of "particles". Progress in object-oriented software has made it possible to enhance particles to "agents", with increasingly complex internal state and actions. We apply this approach to the modeling and simulation of urban and regional systems, where we do not only model the movement of vehicles and people, but also the behavioral decisions that lead to travel. A major obstacle is the availability of the input data, and in particular its spatial aspects. Obtaining network data has become much easier first with commercial providers and recently with openstreetmap, which now even starts to include aspects such as public transit data or land use information. Obtaining behavioral data remains difficult. An extremely useful data source are annotated or even non-annotated tracks from persons, vehicles, and goods, ranging at least over a day but possibly over much longer periods. While it has become technically relatively easy to collect such data, privacy is increasingly an issue and needs to be addressed. The presentation will discuss how such data is used in our work, and how future directions will influence what we do.</p>		
11.00 - 11.30	<b>Coffee break</b>			
<b>Session 1</b>	<b>1A: Empirical Methods (Mary Hegarty)</b>	<b>1B: Semantics (Werner Kuhn)</b>	<b>1C: Geoweb (Alexander Zipf)</b>	<b>1D: Geocomputation (Kathleen Stewart Hornsby)</b>
11.30 - 13.00	<p>Visual exploration of eye movement data using the Space-Time-Cube * <i>Xia Li, Arzu Coltekin, Menno-Jan Kraak</i></p> <p>Map Users' Preferences and Performance under Time Pressure <i>Jan Wilkening</i></p> <p>A Study on Empirically Relevant Aspects for Qualitative Alignment of Sketch Maps <i>Jia Wang, Christoph Mülligann, Angela Schwering</i></p> <p>Comparing Color and Leader Line Approaches for Highlighting in Geovisualization <i>Amy Griffin, Anthony C. Robinson</i></p>	<p>Semantic Referencing - Determining Context Weights for Similarity Measurement * <i>Krzysztof Janowicz, Benjamin Adams, Martin Raubal</i></p> <p>Semantic Labeling of Geo-Concept Clusters <i>Sofia Kontaxaki, Margarita Kokla, Marinos Kavouras</i></p> <p>Connecting Linked GeoData and Geonames in the Spatial Semantic Web <i>Stefan Hahmann, Dirk Burghardt</i></p> <p>KnowledgeScapes: linking knowledge to spatial features <i>Femke Reitsma, Vlad Tanasescu</i></p>	<p>Multi-Source Toponym Data Integration and Mediation for a Meta-Gazetteer Service * <i>Philip D. Smart, Christopher B. Jones, Florian A. Twaroch</i></p> <p>Distributed Web-processing for Ubiquitous Information Services – OGC WPS Critically Revisited <i>Bernd Resch, Guenther Sagl, Thomas Blaschke, Manfred Mittlboeck</i></p> <p>A Study of Data Representation of Natural Features in OpenStreetMap <i>Peter Mooney, Pdraig Corcoran, Adam Winstanley</i></p> <p>Model of Public Participation for the Geoweb <i>Renee Sieber, H. Rahemtulla</i></p>	<p>A Mismatch Description Language for Conceptual Schema Mapping and its Cartographic Representation * <i>Thorsten Reitz</i></p> <p>Component-based Web Clients for Scientific Data Exploration Using the DCC Framework <i>Andre Santanche, Peter Baumann</i></p> <p>Generating Fine Resolution Area Class Maps Subject to Coarser Resolution Data Constraints <i>Phaedon Kyriakidis, Guofeng Cao</i></p> <p>Influenza Surveillance Using Volunteered Geographic Information (VGI): A GIS-based Hidden Markov Modeling Approach <i>Wei Chen, Daniel Sui</i></p>
	Room HS 55	Room HS 85	Room HS 91	Room HS 95
13.00 - 14.30	<b>Lunch</b>			

Posters

14.30 - 15.30

Teaching GIScience with Free and Open Source Software ?

A first Assessment

*Stefan Steiniger, Andrew Hunter*

Geospatial Learning@PrimarySchool: A Minimal GIS Approach

*Thomas Bartoschek, Henning Bredel, Martina Forster*

Introducing Map Mashups in Primary School

*Emmanuel Stefanakis*

Applying Traditional Speed-up Techniques into Switch-Point-based Multimodal Shortest Paths Algorithms

*Lu Liu, Liqiu Meng*

Free from a Shortest Path

*Takeshi Shirabe*

Estimating Spatial Distributions of Earnings at the Small Area Level: A Spatial Microsimulation Approach

*Kazumasa Hanaoka*

Scale of analysis: Micro versus Macro Urban Remote Sensing

*Victor Mesev*

Formalizing Guidelines for Building Meaningful Self-Organizing Maps

*Jochen Wendel, Barbara P. Buttenfield*

Exploratory Visualization of Mobile Object Data in Attribute-time Space

*Tetsuo Kobayashi, Andrei Ostanin*

Generating Focus Maps Using Open Standards

*Julian Hagenauer, Zipf Alexander*

Scale and Nutritional Terrain

*Ashton Shortridge, Kirk Goldsberry, Almaz Naizghi*

The Impact of Crowd Sourcing on Spatial Data Quality Indicators

*Martijn van Exel, Eduardo Dias, Steven Fruijtier*

Quantitative Studies on the Data Quality of OpenStreetMap in Germany

*Dennis Zielstra, Alexander Zipf*

Web Technologies for Public Health Surveillance in Low and Middle-income Countries

*Jonathan Cinnamon, Nadine Schuurman*

The Disappearance of Landscape Objects in Databases: An Ontology Driven Approach to Object Representation.

*Bettina Waldvogel*


Modeling Temporal Uncertainty of Events: A Descriptive Perspective

*Yihong Yuan, Yu Liu*

15.30 - 16.00

Coffee break

Session 2	2A: Empirical Methods (Lynn S. Liben)	2B: Navigation and LBS (Martin Tomko)	2C: Geovisualisation (Menno-Jan Kraak)	2D: Qualitative approaches (Stephan Winter)
<p><b>16.00 - 17.30</b></p>	<p>Cognitive Invariants of Geographic Event Conceptualization: What Matters and What Refines? * <i>Alexander Klippel, Rui Li, Frank Hardisty, Chris Weaver</i></p> <p>The Role of Motivation and Complexity on Wayfinding Performance <i>Samvith Srinivas, Stephen Hirtle</i></p> <p>Semistatic Animations - Integrating Past, Present and Future in Map Animations <i>Alexander S. Nossum</i></p> <p>Legibility of Transitions in Dynamic Geovisual Displays: Determining the Influence of Change Blindness in Geovisual Analytics <i>Kirk Goldsberry, Carolyn Fish</i></p> <p style="text-align: right;"><b>Room HS 55</b></p>	<p>Comparing the Effectiveness of GPS-enhanced Voice Guidance for Pedestrians with Metric- and Landmark-Based Instruction Sets * <i>Karl Rehr, Elisabeth Häusler, Sven Leitinger</i></p> <p>Criteria of Geographic Relevance <i>Stefano De Sabbata</i></p> <p>Computing the Fewest-turn Map Directions Based on the Connectivity of Natural Roads <i>Bin Jiang, Xintao Liu</i></p> <p>Fast Generation of Many Shortest Path Alternatives <i>Stéphanie Vanhove, Veerle Fack</i></p> <p style="text-align: right;"><b>Room HS 85</b></p>	<p>Combining Synchronous and Asynchronous Collaboration within 3D City Models * <i>Jan Klimke, Jürgen Döllner</i></p> <p>TwitterHitter: Geovisual Analytics for Harvesting Insight from Volunteered Geographic Information <i>Jeremy White, Robert Roth</i></p> <p>A User-centered Approach for Designing and Developing Spatiotemporal Crime Analysis Tools <i>Robert E. Roth, Kevin S. Ross, Benjamin G. Finch, Wei Luo, Alan M. MacEachren</i></p> <p>Sammon's Projection for Clustering Complex Geographical Objects <i>Gennady Andrienko, Natalia Andrienko</i></p> <p style="text-align: right;"><b>Room HS 91</b></p>	<p>A Visibility and Spatial Constraint-based Approach for Geopositioning * <i>Jean-Marie Le Yaouanc, Eric Saux, Christophe Claramunt</i></p> <p>Regions of Vulnerability: Spatial Modelling of Different Conceptual Approaches <i>Stefan Kienberger, Diana Contreras, Stefan Lang</i></p> <p>Detecting the Social Influences in GIS Technology: Getting Value from Comparative Retrospective Studies <i>Nicholas Chrisman</i></p> <p>Regionalisation and Clustering of Large Spatially-Referenced Population Datasets: the Case of Surnames <i>James Cheshire, Paul Longley, Pablo Mateos</i></p> <p style="text-align: right;"><b>Room HS 95</b></p>

<b>Day Two</b>	
<b>08.30 - 17.30</b>	<b>Registration open</b>
<b>09.30 - 10.30</b>	<p><b>Keynote</b> <span style="float: right;"><b>Room HS 45</b></span></p> <p><b>Cognitive Development as a Foundation for Understanding Geospatial Representations</b></p> <p><b>Lynn S. Liben</b> </p> <p>The technology for creating representations of geospatial data is evolving at breathtaking speed. The human users of those representations, however, evolve comparatively slowly--millions of years when considered from the perspective of Homo sapiens; years and decades when considered from the perspective of any given individual. It is critical to consider the cognitive qualities (strengths and limitations) of the user when designing geospatial representations or when investigating their use. This presentation draws on concepts and data from developmental psychology to identify challenges and opportunities presented by geospatial representations, and to demonstrate dramatic individual differences among users. Findings from this approach should inform the design of geospatial representations and educational programs. The goal is to develop geospatial representations that serve and extend human cognitive skills and insights.</p>

<b>10.30 - 11.00</b>	<b>Coffee break</b>
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<b>Session 3</b>	<b>3A: Movement (Patrick Laube)</b>	<b>3B: Sensor networks (Bernd Resch)</b>	<b>3C: Networks (Michael Goodchild)</b>	<b>3D: Representing space, place and time (Christoph Schlieder)</b>
<b>11.00 - 13.00</b>	<p>Time-Geographic Density Estimation for Moving Point Objects *</p> <p><i>Joni Downs</i></p> <p>A Conceptual Data Model for Trajectory Data Mining *</p> <p><i>Vania Bogorny, Carlos Alberto Heuser, Luis Otavio Alvares</i></p> <p>Uncovering Patterns of Suspension of Movement</p> <p><i>Daniel Orellana, Monica Wachowicz, Henjo J. de Knegt, Arend Ligtenberg, Arnold K. Bregt</i></p> <p>How Context Influences the Segmentation of Movement Trajectories - An Experimental Approach for Environmental and Behavioral Context</p> <p><i>Anna-Katharina Lautenschütz</i></p> <p>Using Correlated Random Walks to Analyze Interaction Between Brown Hyena Pairs in Northern Botswana</p> <p><i>Jennifer Miller, Glyn Maude</i></p> <p style="text-align: right;"><b>Room HS 55</b></p>	<p>Detecting Change in Snapshot Sequences *</p> <p><i>Mingzheng Shi, Stephan Winter</i></p> <p>Efficient Data Collection and Event Boundary Detection in Wireless Sensor Networks Using Tiny Models *</p> <p><i>Kraig King, Silvia Nittel</i></p> <p>GeoCENS: Geospatial Cyberinfrastructure for Environmental Sensing</p> <p><i>Steve Liang, David Chang, James Badger, Rohana Rezel, Shawn Chen, Chih-Yuan Huang, Ren-Yu Li</i></p> <p>Combining Process and Sensor Ontologies to Support Geo-Sensor Data Retrieval</p> <p><i>Anusuriya Devaraju, Holger Neuhaus, Krzysztof Janowicz, Michael Compton</i></p> <p>Monitoring Region Relations in Limited Granularity Geosensor Networks</p> <p><i>Matt Duckham, Lin-Jie Guan, Sanjiang Li, Jochen Renz</i></p> <p style="text-align: right;"><b>Room HS 85</b></p>	<p>User-Centric Time-Distance Representation of Road Networks *</p> <p><i>Christian Kaiser, Fergal Walsh, Carson J. Q. Farmer, Alexei Pozdnoukhov</i></p> <p>Detecting Road Intersections from GPS Traces *</p> <p><i>Alireza Fathi, John Krumm</i></p> <p>Efficient Spatio-Temporal Search of Objects Moving on a Graph</p> <p><i>Thuy Le, Bradford Nickerson</i></p> <p>Location-Based Social Network Capital</p> <p><i>Edward Pultar, Stephan Winter, Martin Raubal</i></p> <p>Road Network Analysis as a Means of Socio-spatial Investigation – the CoMStaR Project</p> <p><i>Frauke Anders, Reinhard König</i></p> <p style="text-align: right;"><b>Room HS 91</b></p>	<p>5D Modelling of Geo-Information: Full Integration of 2D/3D Space, Time and Scale Dimensions *</p> <p><i>Peter van Oosterom, Jantien Stoter</i></p> <p>Microtheories for Spatial Data Infrastructures - Accounting for Diversity of Local Conceptualizations at a Global Level *</p> <p><i>Stephanie Duce, Krzysztof Janowicz</i></p> <p>Event Objects for Spatial History</p> <p><i>Karl Grossner</i></p> <p>Tri-Space: Conceptualization, Transformation, Visualization</p> <p><i>André Skupin</i></p> <p>Toward A Foundational Ontology of the Landscape</p> <p><i>Gaurav Sinha, David Mark</i></p> <p style="text-align: right;"><b>Room HS 95</b></p>

<b>13.00 - 14.30</b>	<b>Lunch</b>
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Posters

14.30 - 15.30

On Correlation Between Mobile Phone Usage and Travel Behavior  
A Case Study of Harbin, China  
*Yihong Yuan, Martin Raubal*

Implementation and Comparison of Home Range Estimators for  
Grizzly Bears in Alberta, Canada, based on GPS data  
*Stefan Steiniger, Tracy Timmins, Andrew Hunter*

Exploratory Analysis of Spatial Relations among Polygons  
*Yukio Sadahiro*

Detecting Ethnic Residential Clusters Using the Optimisation Partitioning  
Method  
*Seong-Yun Hong*

Construction of Circular and Rectangular Cartograms by  
Solving Constrained Non-linear Optimization Problems  
*Ryo Inoue, Eihan Shimizu*

A Sensitivity Analysis for the Selection of Business Critical Geodata  
in Swiss Outdoor Advertisement  
*Dirk Hecker, Christine Körner, Hermann Streich, Urs Hofmann*

Linking UK Public Geospatial Data to Build 24/7 Space-Time  
Specific Population Surface Models  
*Samuel Leung, David Martin, Samantha Cockings*

Comparing Urban Spatial Structures: A Model Selection Approach  
*Kaori Ito*

The Design of a Bayesian Network for mobility Management in  
Wireless Sensor Networks  
*Daniela Ballari, Monica Wachowicz*

Forest or slope?  
Comparing 2d and 3d Visualisations Through the Wording of Task Answers  
*Susanne Bleisch, Jason Dykes, Stephan Nebiker*

Testing the Usability of Time-Geographic Maps  
*John Morgan*

A Comparison of Measured and Perceived Visual Complexity for Dynamic  
Web Maps  
*Susan Schnur, Kenan Bektas, Masoud Salahi, Arzu Coltekin*

Places as Media of Containment  
*Simon Scheider, Krzysztof Janowicz*

Multi-scale Landform Characterization for Land Use Evaluation Using Fuzzy  
Sets  
*Andrew Bock, Stefan Leyk*

GIS-based Subsidence Hazard Assessment around an Abandoned Coal  
Mine in Korea  
*Jangwon Suh, Yosoon Choi, Hyeong-Dong Park, HyunHo Kwon, SukHo Yoon, WaRa Go*

A Framework for Developing an Integrated Planning and Decision Support  
System for Land Consolidation  
*Demetris Demetriou, John Stillwell, Linda See*


15.30 - 16.00

Coffee break

Session 4	4A: Terrain modelling (David Mark)	4B: Accessibility and routing (Harvey Miller)	4C: Environmental modelling (Stefan Leyk)	4D: Conflation and generalisation (Christopher Jones)
<p><b>16.00 - 17.30</b></p>	<p>An Assessment of Hydrologic Enforcement Methods on Various Hydrographic Drainage Features <i>Tzee Kiu Chow</i></p> <p>Parallel Algorithms for Processing Hydrologic Properties from Digital Terrain <i>Robert Wallace, David Tarboton, Daniel Watson, Kim Schreuders, Teklu Tesfa</i></p> <p>Increasing the Accuracy of Low Spatial Resolution Digital Elevation Models using Geostatistical Conflation <i>Cutberto U. Paredes Hernandez, Nicholas J. Tate, Kevin J. Tansey, Peter F. Fisher, Wilver E. Salinas Castillo</i></p>	<p>Spatial-enabled Adaptive Large Neighborhood Search for Optimizing the Wood Supply Chain <i>Johannes Scholz, Norbert Bartelme</i></p> <p>Urban .Access: High-Resolution Estimation of Urban Accessibility <i>Itzhak Benenson, Karel Martens, Amit Rosenthal</i></p> <p>Distance Transformations for Accessibility Mapping in the Public Transport Domain: A Performance Assessment <i>Matthias Mueller, Tassilo Glander</i></p>	<p>Classification and Mapping of Seabed Type from Deep Water Multi-Beam Echosounder (MBES) Data <i>Kazi Ishtiak Ahmed, Helen Caughey, Peter Hung, Paul Harris, Urška Demšar, Sean McLoone, A. Stewart Fotheringham, Xavier Monteys, Ronan O'Toole</i></p> <p>Modeling Nuclear Accidents Using an Atmospheric Transport Model and the Particle Filter <i>Paul Hiemstra, Derek Karssenberg</i></p> <p>Capturing Human/Environment Feedback Processes in an Agent-based Model <i>David Bennett, Yu Zeng, Wenwu Tang, Keith Evans, Susan Gilbert, David McGinnis, Sheila McGinnis, Paul Robbins</i></p>	<p>Spatial Data Integration with Qualitative Integrity Constraints <i>Jan Oliver Wallgrün, Frank Dylla</i></p> <p>A General Framework for Conflation <i>Benjamin Adams, Linna Li, Martin Raubal, Michael Goodchild</i></p> <p>A Framework for Integrating and Reasoning about Geospatial Data <i>Shubham Gupta, Craig Knoblock</i></p>
	<p>Room HS 55</p>	<p>Room HS 85</p>	<p>Room HS 91</p>	<p>Room HS 95</p>

<b>Day Three</b>				
<b>09.00 - 15.00 Registration open</b>				
<b>Session 5</b>	<b>5A: Conflation and generalisation (Lars Harrie)</b>	<b>5B: Data mining (Gennady Adrienko)</b>	<b>5C: Spatial relations (Andrew Frank)</b>	<b>5D: Geometric Algorithms (Marc van Kreveld)</b>
<b>09.30 - 11.00</b>	<p>Multiscale Representations of Water: Tailoring Generalization Sequences to Specific Physiographic Regimes <i>Barbara P. Buttenfield, Lawrence V. Stanislawski, Cynthia A. Brewer</i></p> <p>A Dynamic Typification Method of 3D City Models using Minimum Spanning Tree <i>Bo Mao, Lars Harrie, Yifang Ban</i></p> <p>Ant Colony Optimization Applied to Network Schematization <i>Mark Ware, Nigel Richards</i></p> <p>Collaborative Generalisation: Formalisation of Generalisation Knowledge to Orchestrate Different Cartographic Generalisation Processes * <i>Guillaume Touya, Cécile Duchêne, Anne Ruas</i></p>	<p>Exploring Volunteered Geographic Information Using Scale-Dependent Frequent Pattern Mining <i>Christian Sengstock, Michael Gertz</i></p> <p>Geospatial Web Mining for Emergency Management <i>Christian Fritz, Christian Kirschner, Daniel Reker, Andre Wisplinghoff, Heiko Paulheim, Florian Probst</i></p> <p>A Study of the Web Coverage for Tourism in Switzerland <i>Ramya Venkateswaran</i></p> <p>Automatic Extraction of Destinations, Origins and Route Parts from Human Generated Route Directions * <i>Xiao Zhang, Prasenjit Mitra, Alex Klippel, Alan MacEachren</i></p>	<p>On Equality of Lines with Positional Uncertainty <i>Gwen Wilke, Andrew Frank</i></p> <p>n-D-Topological Data Structures: Some Theoretical and Pragmatic Considerations for GI-Science <i>Norbert Paul, Martin Breunig, Edgar Butwilowski, Andreas Thomsen</i></p> <p>Qualitative Reasoning with Visibility Information for Environmental Learning <i>Giorgio De Felice, Paolo Fogliaroni, Jan Oliver Wallgrün</i></p> <p>Qualitative change to 3-valued regions * <i>John Stell, Matt Duckham, Maria Vasardani, Michael Worboys</i></p>	<p>Buffer with Arcs on a Round Earth <i>Michael Kallay, Danica Porobic</i></p> <p>Towards Memetic Algorithms in GIScience: An Adaptive Multi-Objective Algorithm for Optimized Delineation of Neighborhood Boundaries <i>Grant Fraley, Marta Jankowska, Piotr Jankowski</i></p> <p>Automatic Sampling of Geographic objects <i>Patrick Taillandier, Julien Gaffuri</i></p> <p>Periodic Multi-Labeling of Public Transit Lines * <i>Valentin Polishchuk, Arto Vihavainen</i></p>
	<b>Room HS 55</b>	<b>Room HS 85</b>	<b>Room HS 91</b>	<b>Room HS 95</b>
<b>11.00 - 11.30 Coffee break</b>				
<b>Panel Discussion</b>				
<b>11.30 - 12.30</b>	<p><b>Interoperability and research" chaired by Steven Ramage, Open Geospatial Consortium</b></p> <p>Panelists to include Professor Nicholas Chrisman, Dr. Femke Reitsma and Professor Werner Kuhn.</p> <p><b>Questions addressed will include:</b></p> <p>In a world where more and more data is available from non-professional sources data will vary enormously in quality, completeness, consistency and availability - how should the OGC respond to this? What tools need to be developed to help end users make sense of it all? How can research contribute to this task?</p> <p>Has the academic community has done its job with OGC - and indeed, what is the academic community's role in standards?</p> <p>Is there sufficient emphasis on the core intellectual values of clarity and simplicity in OGC standards?</p> <p>What happens when we mix semantics, standards and VGI?</p> <p>How can and do "one size fit all" standards relate to legal and cultural issues that vary across the world?</p>			<b>Room HS 45</b>
<b>12.30 - 13.30 Lunch</b>				

Session 6	6A: Conflation and generalisation, Geometric Algorithms (Barbara P. Buttenfield)	6B: Data mining, Spatial relations (André Skupin)
13.30 - 14.40	<p>Optimized Feature Matching in Conflation <i>Linna Li, Michael Goodchild</i></p> <p>Designing Generalisation Evaluation Function through Human-Machine Dialogue <i>Patrick Taillandier, Julien Gaffuri</i></p> <p>Area-Preserving Subdivision Schematization * <i>Wouter Meulemans, Andre van Renssen, Bettina Speckmann</i></p>	<p>Representing Dynamic Phenomena Based on Spatiotemporal Information Extracted from Web Documents <i>Kathleen Stewart Hornsby, Wei Wang</i></p> <p>Clustering data with Heterogeneous Spatiotemporal Reference: Towards Web-Mining of Event-Related Knowledge <i>Bertrand De Longueville, Matthew Hardy</i></p> <p>The Family of Conceptual Neighborhood Graphs for Region-Region Relations * <i>Max Egenhofer</i></p>
	Room HS 55	Room HS 45

Closing	
14.50 - 15.30	<p><b>Capstone talk by Dr. David Mark, State University of New York (SUNY)</b></p>  <p>Distinguished Professor in the Department of Geography of the University at Buffalo (USA) and Director of the SUNY Site of the National Center for Geographic Information and Analysis (NCGIA). Dr. Mark has been a research scientist with NCGIA since its inception and will talk about "The Evolution of Geographic Information Science: Past, Present, and Future". This is followed by an open discussion with the audience.</p>
	Room HS 45

15.30 - 16.00	<b>Farewell Coffee</b>
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