

Biographical Sketch

Michael Lutz is currently working at the Research Associate at the Institute for Geoinformatics, University of Münster, Germany. He graduated in December 2001 from the University of Münster with an MSc (German "Diplom") in Landscape Ecology with a strong focus on GIS and GIScience. His MSc thesis was on "Ontologies for Environmental Planning". Since then, his research interests have been in the area of semantic modeling of geospatial processes. In 2002, he investigated possibilities to represent user and system tasks and how to map them to each other in a research project in the domain of transportation planning (<http://vugis.uni-muenster.de>). Since October 2002 he has been working on a research project on semantic interoperability by means of geo-services (<http://www.meanings.de>), whose goal is to develop concepts and applications for intelligent geoservices within spatial data infrastructures, leading to schematic and semantic interoperability in the area of geodata processing. In September/October 2004, Michael spent a month as a visiting scientist at the *Digital Enterprise Research Institute (DERI)* at Innsbruck, Austria, one of the leading institutions in the area of Semantic Web and Web Services research. He is currently working on his PhD dissertation on methods for improving the discovery of geoprocessing services using operation ontologies. For more information, see <http://ifgi.uni-muenster.de/~lutzm/>

Motivation for Participating in the Specialist Meeting on Spatial Webs

The Specialist Meeting on Spatial Webs addresses a combination of two topics that have been key interests in my research in the past years and are also at the heart of my PhD dissertation: Web-based geospatial information systems (or Spatial Data Infrastructures) and methods for overcoming semantic heterogeneity in descriptions of data sources and processing services. From a participation in the meeting I expect to learn about state-of-the art approaches developed in other research labs. Also, I would like to discuss the issue why "Semantic Web technologies" like ontologies and logical reasoning, while being promoted by a number of research groups world-wide, have not yet been widely adopted outside academia and how to address the challenges outlined in the position paper in order to make these technologies more usable and successful. In my opinion, finding answers to these questions will be a key aspect of the research agenda for Spatial Webs and also for my own after completing my PhD. Last but not least, I would like to share my experiences from the stay at the DERI research group, which gave me a perspective on how people from *outside* the geospatial domain approach semantic heterogeneity problems and could be a valuable contribution to the meeting.

Selected Publications

- Bernard, L., Einspanier, U., Haubrock, S., Hübner, S., Kuhn, W., Lessing, R., Lutz, M. & Visser, U. (2003): *Ontologies for Intelligent Search and Semantic Translation in Spatial Data Infrastructures*, Photogrammetrie - Fernerkundung - Geoinformation 2003 (6): 451-462.
- Lutz, M. (2004): *Non-taxonomic Relations in Semantic Service Discovery and Composition*, 1st "Ontology in Action" Workshop, in conjunction with 16th Conference on Software Engineering and Knowledge Engineering (SEKE 2004): 482-485.
- Lutz, M., Einspanier, U., Klien, E. & Hübner, S. (2004): *An Architecture for Ontology-Based Discovery and Retrieval of Geographic Information*, in: Dadam, P. & M. Reichert (ed.): Informatik 2004 - Informatik verbindet, Beiträge der 34. Jahrestagung der Gesellschaft für Informatik e.V. (GI), Band 2: 574-578.
- Lutz, M., Riedemann, C. & Probst, F. (2003): *A Classification Framework for Approaches to Achieving Semantic Interoperability Between GI Web Services*, in: Kuhn, W., M. F. Worboys & S. Timpf (ed.): Conference on Spatial Information Theory: Foundations of Geographic Information Science (COSIT 2003). LNCS 2825: 200-217.
- Probst, F. & Lutz, M. (2004): *Giving Meaning to GI Web Service Descriptions*, 2nd International Workshop on Web Services: Modeling, Architecture and Infrastructure (WSMAI-2004).
- Schade, S., Sahlmann, A., Lutz, M., Probst, F. & Kuhn, W. (2004): *Comparing Approaches for Semantic Service Description and Matchmaking*, 3rd International Conference on Ontologies, DataBases, and Applications of Semantics for Large Scale Information Systems (ODBASE 2004).