

# MARKUS STOCKER

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## EDUCATION

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<b>09/2009 – 12/2015</b>	<b>University of Eastern Finland, Kuopio, Finland</b>
QUALIFICATION	PhD in Environmental Sciences
DISSERTATION	Situation awareness in environmental monitoring ( <i>approved with distinction</i> )
<b>09/2009 – present</b>	<b>University of Eastern Finland, Kuopio, Finland</b>
QUALIFICATION	MSc in Environmental Sciences (planned)
DISSERTATION	Semantic management of marine monitoring data (tentative)
<b>10/2000 – 11/2006</b>	<b>University of Zurich, Switzerland</b>
QUALIFICATION	Diploma in Informatics with concentration in Information Systems ( <i>magna cum laude</i> )
DISSERTATION	The fundamentals of iSPARQL ( <i>summa cum laude</i> )

## EMPLOYMENT

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<b>02/2016 – present</b>	<b>University of Bremen, Bremen, Germany</b>
POSITION	Researcher   100%
DUTIES	Research project management for the Horizon 2020 project THOR.
<b>09/2009 – 01/2016</b>	<b>University of Eastern Finland, Kuopio, Finland</b>
POSITION	Researcher   40-100%
DUTIES	Research project implementation in collaboration with Finnish universities and industry in modelling methods for situation awareness; smart grids and energy markets; measurement, monitoring and environmental efficiency assessment; high-quality measurement infrastructure for future resilient control systems; and biomass atlas.
<b>02/2008 – 01/2009</b>	<b>Clark &amp; Parsia LLC, Washington, DC, USA</b>
POSITION	Research Associate   100%
DUTIES	R&D in semantic web technologies with focus on reasoning techniques. Involved in the development of Owlgres, a scalable OWL reasoner implemented on top of PostgreSQL; development of a proof-of-concept application for policy management with XACML-DL; maintenance and development of the Pellet OWL reasoner; design and implementation of a customer project on SPARQL querying over distributed data sources with inference at query time. A paper describing Owlgres was presented at the OWLED 2008 workshop.
<b>05/2007 – 10/2007</b>	<b>HP Laboratories Bristol, UK</b>
POSITION	Research Associate   100%
DUTIES	Design and development of the ARQ-Optimizer, a cost based static SPARQL query optimizer. The optimizer was fully integrated into ARQ, the Jena SPARQL query processor. A paper describing the results was presented at the WWW 2008 conference.

## LANGUAGES

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<b>Italian</b>	Fluent in reading, speaking, and writing (mother tongue)
<b>(Swiss) German</b>	Fluent in reading, speaking, and writing (parental mother tongue)
<b>English</b>	Fluent in reading, speaking, and writing (TOEFL iBT score 110/120)
<b>French</b>	Ten years of French classes from elementary to high school
<b>Finnish</b>	Two semesters of university level classes

## PUBLICATIONS

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- Journals** Markus Stocker, Mauno Rönkkö, and Mikko Kolehmainen (2015). **Knowledge-based environmental research infrastructure: moving beyond data.** *Earth Science Informatics*. DOI:10.1007/s12145-015-0230-6 (In Press)
- Markus Stocker, Elham Baranizadeh, Harri Portin, Mika Komppula, Mauno Rönkkö, Amar Hamed, Annele Virtanen, Kari Lehtinen, Ari Laaksonen, and Mikko Kolehmainen (2014). **Representing Situational Knowledge Acquired from Sensor Data for Atmospheric Phenomena.** *Environmental Modelling & Software*, 58:27-47. DOI:10.1016/j.envsoft.2014.04.006
- Markus Stocker, Mauno Rönkkö, and Mikko Kolehmainen (2014). **Situational Knowledge Representation for Traffic Observed by a Pavement Vibration Sensor Network.** *IEEE Transactions on Intelligent Transportation Systems*, 15(4):1441-1450. DOI:10.1109/TITS.2013.2296697
- Proceedings** Markus Stocker, Mauno Rönkkö, and Mikko Kolehmainen (2015). **Provenance in Systems for Situation Awareness in Environmental Monitoring.** *Environmental Software Systems. Infrastructures, Services and Applications*, IFIP Advances in Information and Communication Technology 448, pp. 169-177. DOI:10.1007/978-3-319-15994-2\_16

## ACTIVITIES

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- Software Projects** Emrooz: A scalable database for SSN and QB observations  
Wavellite: Situation awareness in environmental monitoring  
PelletSpatial: RCC reasoning and query engine  
Owlgres: A scalable OWL reasoner  
ARQ-Optimizer: Selectivity based SPARQL optimization
- Peer-review** Environmental Modeling & Software, Information Systems, Multimedia Tools and Applications, IEEE Transactions on Knowledge and Data Engineering, Earth Science Informatics, ACM Conference on Multimedia Retrieval
- Leadership** Chair of the University of Eastern Finland Doctoral Student Association (2014)  
Vice chair of the University of Eastern Finland Doctoral Student Association (2013)
- Membership** International Environmental Modelling & Software Society  
International Society for Environmental Information Sciences
- Music** Between elementary and high school I earned an education in classical music theory and performance on the clarinet. I have learned various other instruments, including percussions, piano, organ, and guitar. I continue playing on the clarinet and guitar.
- Interests** Swimming, jogging, hiking, photography

## ICT

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- Methods** Data management, processing, analysis and mining  
Knowledge acquisition, representation, and engineering
- Programming** Java (experienced), Perl, Matlab, R, Python
- Semantic Web** OWL, RDF, SPARQL, Pellet, Jena, Sesame, Stardog
- Web** REST, PHP, HTML, JavaScript, XML, Web Services, jQuery, OpenLayers
- Databases** Apache Cassandra, OpenTSDB, MongoDB, Memcached, PostgreSQL, MySQL, MS SQL-Server
- Software** Git, SVN, L<sup>A</sup>T<sub>E</sub>X, L/Unix, OS X, Windows

## NOTES

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- References** References from employers and senior academic staff can be provided upon request.
- Complete CV** This CV only includes the most recent education and employment, as well as selected publications. For a complete CV please refer to <http://markusstocker.com/cv>.