

Prof. Dr. Bernd Resch [curriculum Vitae]

[Personal Information]

Bernd Resch

Nationality: Austrian

Date of Birth: 27 March 1981

[Education]

February 2005 –
December 2009

PhD in Natural Sciences – Geoinformatics

Distributed geo-information architectures, location-based services
Thesis: Live Geography – Standardised Geo-sensor Networks for Real-time Monitoring in Urban Environments.

University of Salzburg, Austria and Massachusetts Institute of Technology, US

September 2003 –
January 2005

Master of Science in Computer Systems Engineering

Master's Program for Computer Systems Engineering: wireless communication technologies, signal analysis, discrete mathematics, optical physics

Halmstad University, Halmstad, Sweden

October 2000 – March
2005

Diplomingenieur (FH) [internationally comparable to a Master of Science]

Program „Information technology and systems management“: network technologies, mobile communication, transfer mode systems, technical mathematics, informatics, technical physics, project management, corporate management, business economics

University of Applied Sciences, Salzburg, Austria

[Work experience]

September 2011 to
August 2012

Visiting Professor

GIS Lectures, project acquisition and management, master student supervision, GI research coordination, bridging GIS and remote sensing

University of Osnabrueck, Institute for Geoinformatics and Remote Sensing, Osnabrueck, Germany

Area: higher education

July 2009 to present

Lecturer

Lectures on Software Engineering for GIS

Paris-Lodron University of Salzburg, Department Geography and Geology, Salzburg, Austria

Area: higher education

May 2007 to present

Research Affiliate

Project development and implementation

Conceptual system architecture design, web application engineering, sensor web projects, presentations

Massachusetts Institute of Technology, SENSEable City Lab

Area: research on urban dynamics coupled with social IT applications

- February 2005 to present
Research Scientist
Project conception, management and implementation
Web application engineering, sensor web projects, presentations, fund raising
Austrian Research Centers GmbH, Research Studios Austria – iSPACE, Salzburg, Austria
Area: applied research on geo-referenced media and technologies
- May 2004 - August 2004
Internship
Web application development, address standardisation: web-service with XML over HTTP and dynamic database connection
Austrian Research Centers GmbH, Research Studios Austria – iSPACE, Salzburg, Austria
Area: applied research on geo-referenced media and technologies
- August 2002 - September 2002
Internship
Quality of Service in IP networks
Salzburg Research Forschungs GmbH, Salzburg, Austria
Area: R&D in ICT applied in digital media, eCulture, eTourism and EduMedia
- July 2002 - August 2002
Internship
Reliability assessment of a laser-based data transmission system (155MBit/s)
Deutsche Telekom AG, T-Systems Enterprise Services GmbH, Rosenheim, Germany
Area: information and communication technologies

[Invited Talks]

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- April 2012
Pervasive Sensing to Monitor Urban Dynamics
Geospatial World Forum, Amsterdam, The Netherlands
- September 2011
Mobile In-situ Messdaten und Echtzeit-GII im Naturschutz
Fachtagung GIS in Natur- und Umweltschutz – Technik und Anwendung Mobiler Erfassungs- und Kontrollsysteme, Schneverdingen, Germany
- July 2011
The Pathway to the Real-time City
Panel Discussion at GI Forum and AGIT, Salzburg, Austria
- July 2011
Theory and Practice of Geospatial Database Design
EnviSDI Summer School, University of Salzburg, Austria
- June 2011
Web-based Geo-processing for Real-time Multi-level Decision Support
EnviSDI Summer School, University of Salzburg, Austria
- January 2011
Standardisierte Geo-Sensor Webs für Bereichsübergreifende Echtzeit-Wasserwirtschaft
GIS & GDI in der Wasserwirtschaft. Kassel, Germany
- July 2010
Geospatial Database Design - Concepts ::: Technologies ::: Challenges
EnviSDI Summer School, University of Salzburg, Austria
- March 2010
Pervasive Sensing – A Multi-dimensional Challenge in the Stress Field Technology – Innovation – Society
National Taiwan University, Taipei, Taiwan
- March 2010
Live Geography – Standardised Geo-sensor Networks for Real-time Monitoring
National Cheng Kung University, Tainan Taiwan.

Articles: Journals, Magazines and Book Chapters

- 38 Resch, B., Schulz, B., Mittlboeck, M. and Heistracher, T. (under review) Pervasive Geo-Security – A Lightweight Triple-A Approach to Securing Distributed Geo-infrastructures. *International Journal of Digital Earth*, pp. pending.
- 37 Resch, B., Britter, R. and Ratti, C. (under review) Standardised Geo-sensor Webs for Integrated Urban Air Quality Monitoring. In: Ekundayo, E.O. (Ed.) (2011) *Environmental Monitoring, InTech*, ISBN 978-953-307-661-4. pp. pending.
- 36 Resch, B., Britter, R. and Ratti, C. (in press) Live Urbanism - Towards the Senseable City and Beyond. In: Pardalos, P. and Rasia, S. (Eds.) (2011) *Sustainable Architectural Design: Impacts on Health*, pp. pending.
- 35 Everding, T., Smolders, S., Alegre, C., Gianfranceschi, S., Gilles, M., Resch, B. and Gerbaux, M. (in press) Environmental Management with GENESIS - Exploiting Web Processing and Sensor Web Technologies. In: Foerster, T., Broering, A. and Stasch, C. (2011) *Integrating Sensor Web and Web-based Geoprocessing*, Nova Publishers, 2012.
- 34 Blaschke, T., Hay, G.J., Weng, Q. and Resch, B. (2011) Collective Sensing: Integrating Geospatial Technologies to Understand Urban Systems - An Overview. *Remote Sensing* 2011, 3(8), ISSN 2072-4292, pp. 1743-1776.
- 33 Resch, B., Blaschke, T. and Mittlboeck, M. (2010) Live Geography - Interoperable Geo-Sensor Webs Facilitating the Vision of Digital Earth. *International Journal on Advances in Networks and Services*, 3(3&4), 2010, pp. 323-332.
- 32 Resch, B., Lippautz, M. and Mittlboeck, M. (2010) Pervasive Monitoring - A Standardised Sensor Web Approach for Intelligent Sensing Infrastructures. *Sensors - Special Issue "Intelligent Sensors 2010"*, 10(12), 2010, pp. 11440-11467.
- 31 Resch, B. (2010) Geo-sensor Web - Echtzeitmessungen für Ubiquitäre Monitoring-Systeme. *HMD Journal Praxis der Wirtschaftsinformatik*, vol. 276, pp. 50-58.
- 30 Resch, B., Mittlboeck, M., Girardin, F., Britter, R. and Ratti, C. (2009) Live Geography - Embedded Sensing for Standardised Urban Environmental Monitoring. *International Journal on Advances in Systems and Measurements*, 2(2&3), ISSN 1942-261x, pp. 156-167.
- 29 Mittlboeck, M. and Resch, B. (2009) Live Geography – Real-time Analyse mit GI-Systemen. *GISBusiness*, 5/2009, pp. 36-39.
- 28 Blaschke, T., Zeil, P., Strobl, J., Lang, S., Tiede, D., Moeller, M., Triebnig, G., Schiller, C., Mittlboeck, M. and Resch, B. (2007) GMES: from Research Projects to Operational Environmental Monitoring Services. *International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences*, XXXVI-1/W51.
- 27 Bigun, J., Resch, B. and Romirer-Maierhofer, P. (2005) World Geometry by Direction in N-D. In: Bigun, J. (2006) *Vision with Direction - A Systematic Introduction to Image Processing and Computer Vision*, XVI, 396 p., 146 illus., 130 in colour, Hardcover, ISBN-10: 3-540-27322-0, ISBN-13: 978-3-540-27322-6, Springer, Berlin, Germany, 2006.

Conference Papers and Other Publications

- 26 Resch, B., Zipf, A., Breuss-Schneeweis, P., Beinath, E. and Boher, M. (under review) Live Cities and Urban Services – A Multi-dimensional Stress Field between Technology, Innovation and Society. In: *Proceedings of the 4th International Conference on Advanced Geographic Information Systems, Applications, and Services – GEOProcessing 2012*, Valencia, Spain, January 30 - February 4 2012, pp. pending.
- 25 Sagl, G., Beinath, E., Resch, B. and Blaschke, T. (2011) Integrated Geo-Sensing: a Case Study on the Relationships between Weather Conditions and Mobile Phone Usage in Northern Italy. In: *Proceedings of the 1st IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services (ICSMD) 2011*, Fuzhou, China, 29 June - 1 July 2011, pp. 208-213.
- 24 Sagl, G., Lippautz, M., Resch, B. and Mittlboeck, M. (2011) Near Real-Time Geo-Analyses for Emergency Support: A Radiation Safety Exercise. In: *Proceedings of the 14th AGILE International Conference on Geographic Information Science*, Utrecht, The Netherlands, 18-21 April 2011.
- 23 Smolders, S., Alegre, C., Gianfranceschi, S., Gilles, M., Resch, B. and Everding, T. (2011) GENESIS Employing Web Processing Services and Sensor Web Technology for Environmental Management. In: *Proceedings of the "Integrating Sensor Web and Web-based Geoprocessing" Workshop at the 14th AGILE International Conference on Geographic Information Science*, Utrecht, The Netherlands, 18-21 April 2011.
- 22 Sagl, G., Resch, B., Mittlboeck, M., Lippautz, M. and Blaschke, T. (2011) Web-Based Near Real-Time Geo-Analyses of Environmental Sensor Measurements. In: *Proceedings of the Geoinformatics 2011 Conference*, 15-17 June 2011, Muenster, Germany, pp. 139-142.
- 21 Mittlboeck, M., Resch, B., Blaschke, T. and Franz, H. (2011) Leveraging Standardized Near Real-time in-situ Sensor Measurements in Nature Conservation Areas. In: *Proceedings of the Geoinformatics 2011 Conference*, 15-17 June 2011, Muenster, Germany, pp. 93-99.

- 20 Resch, B., Mittlboeck, M., Kranzer, S., Sagl, G., Heistracher, T. and Blaschke, T. (2011) "People as Sensors" mittels Personalisierten Geo-trackings. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2011) Angewandte Geoinformatik 2011, Wichmann Verlag, Heidelberg, pp. 682-687.
- 19 Mittlboeck, M., Resch, B., Eisl, M., Sagl, G. and Lippautz, M. (2011) Geo-Monitoring - Kernbaustein für räumliche Wissensgenerierung in Geoinformationsinfrastrukturen. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2011) Angewandte Geoinformatik 2011, Wichmann Verlag, Heidelberg, pp. 750-755.
- 18 Resch, B. and Mittlboeck, M. (2011) Standardisierte Geo-Sensor Webs für Bereichsübergreifende Echtzeit-Wasserwirtschaft. GIS & GDI in der Wasserwirtschaft. Kassel, Germany, 19-20 January 2011.
- 17 Resch, B., Sagl, G., Blaschke, T. and Mittlboeck, M. (2010) Distributed Web-processing for Ubiquitous Information Services - OGC WPS Critically Revisited. In: Proceedings of the 6th International Conference on Geographic Information Science (GIScience2010), Zurich, Switzerland, 14-17 September 2010.
- 16 Mittlboeck, M., Resch, B., Lippautz, M. and Sagl, G. (2010) G2Real: Live Geo(mess)information für Mobile Einsatzkräfte. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2010) Angewandte Geoinformatik 2010, Wichmann Verlag, Heidelberg, pp. 905-910.
- 15 Resch, B. (2009) Live Geography - Standardised Geo-sensor Networks for Real-time Monitoring in Urban Environments. PhD Thesis, Salzburg University, Austria and Massachusetts Institute of Technology, Boston MA, USA, December 2009.
- 14 Resch, B. and Mittlboeck, M. (2010) Live Geography - Interoperable Geo-Sensor Webs Enabling Portability in Monitoring Applications. In: Proceedings of the 2nd IEEE International Conference on Advanced Geographic Information Systems, Applications, and Services - GEOProcessing 2010, St. Maarten, Netherlands Antilles, 10-15 February 2010, pp. 74-79. << **winner of the "Best Paper Award" >>**
- 13 Mittlboeck, M., Resch, B., Lippautz, M., Dürr, M. und Kohlmann, M. (2009) Standardisierte Embedded Sensormessnetze zur Integration Lokationsbezogener "Live" Information in GI-Systeme. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2009) Angewandte Geoinformatik 2009, Wichmann Verlag, Heidelberg, pp. 178-183.
- 12 Resch, B., Mittlboeck, M., Lipson, S., Welsh, M., Bers, J., Britter, R. and Ratti, C. (2009) Urban Sensing Revisited - Common Scents: Towards Standardised Geo-sensor Networks for Public Health Monitoring in the City. In: Proceedings of the 11th International Conference on Computers in Urban Planning and Urban Management - CUPUM2009, Hong Kong, 16-18 June 2009.
- 11 Resch, B., Mittlboeck, M., Girardin, F., Britter, R. and Ratti, C. (2009) Real-time Geo-awareness - Sensor Data Integration for Environmental Monitoring in the City. IN: Proceedings of the IEEE International Conference on Advanced Geographic Information Systems & Web Services - GEOWS2009, 1-7 February 2009, Cancun, Mexico, pp. 92-97. << **winner of the "Best Paper Award" >>**
- 10 Mittlboeck, M. and Resch, B. (2008) Federal Pervasive Sensor Networks Serving Geographic Information Services. In: Proceedings of the 5th International Symposium on LBS and Telecartography, 26-28 November 2008, Salzburg, Austria.
- 9 Mittlboeck, M. and Resch, B. (2008) Standardisierte Integration von Real-time Sensormessungen für Zeitnahe GIS-Analyse. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2008) Angewandte Geoinformatik 2008, Wichmann Verlag, Heidelberg, pp. 112-117.
- 8 Resch, B., Calabrese, F., Ratti, C. and Biderman, A. (2008) An Approach Towards a Real-time Data Exchange Platform System Architecture. In: Proceedings of the 6th Annual IEEE International Conference on Pervasive Computing and Communications, Hong Kong, 17-21 March 2008.
- 7 Resch, B. (2007) Standardised Real-time Information Systems for Environmental Monitoring - An Elaborate Challenge. In: Proceedings of the GI Days Conference, Muenster, Germany, 10-12 September 2007.
- 6 Resch, B. und Mittlboeck, M. (2007) Einbindung von Echtzeitmessinformation in Geographische Informationssysteme. In: Strobl, J., Blaschke, T., Griesebner, G. (Eds.) (2007) Angewandte Geoinformatik 2007, Wichmann Verlag, Heidelberg, pp. 615-620.
- 5 Resch, B., Schmidt, D. und Blaschke, T. (2007) Enabling Geographic Situational Awareness in Emergency Management. In: Proceedings of the 2nd Geospatial Integration for Public Safety Conference, New Orleans, Louisiana, US, 15-17 April 2007.
- 4 Mittlboeck M., Resch, B. and Eibl, C. (2006) geOpinion: Interaktives geo-Collaboration Framework - 3D-Visualisierung in Google Earth mit OGC WMS- und WFS- Diensten. In: Strobl, J., Blaschke, T. and Griesebner, G. (Eds.) (2006) Angewandte Geoinformatik 2006, Wichmann Verlag, Heidelberg, pp. 464-469.
- 3 Mittlboeck M., Resch, B. and Eibl, C. (2006) geoCollaboration Framework - Interaktives GIS zur Entscheidungsunterstützung. In: ESRI 12. Deutschsprachige Anwenderkonferenz 2006. Konferenz-CD.
- 2 Resch, B. und Romirer-Maierhofer, P. (2005) Global Positioning in Harsh Environments. Master's Thesis, Halmstad University, Sweden.
- 1 Resch, B. (2005) Adressen Web-Service mit Java Web-Services Developing Framework und SOAP. Diploma Thesis, Salzburg University of Applied Sciences, Austria.