

CURRICULUM VITAE

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Education

1973-1979 Secondary school 'Marianum' (Groenlo, The Netherlands)
 1979-1987 Applied Mathematics at Twente University (Enschede, The Netherlands), specialisation in Stochastic Systems Theory. Title of MSc-thesis: 'Application of Impulse Control Theory to Air Traffic Control'
 1988-1993 PhD-research at the University of Utrecht (The Netherlands), under supervision of prof.dr. P.A. Burrough. Title of PhD-thesis: 'Error Propagation in Quantitative Spatial Modelling. Applications in Geographical Information Systems'

Work

1986 Trainee at the National Aerospace Laboratory, Amsterdam
 1988 – 1991 Researcher at the Faculty of Environmental Sciences, University of Utrecht (1.0 fte)
 1991 – 1993 Researcher at the Faculty of Environmental Sciences, University of Utrecht (0.5 fte)
 1991 – 1993 Assistant professor in geostatistics and stochastic simulation, University of Amsterdam (0.5 fte)
 1993 – 2003 Assistant professor in geostatistics and stochastic simulation, University of Amsterdam (1.0 fte)
 2003 – 2009 Senior scientific researcher in pedometrics, Alterra, Wageningen University and Research Centre (0.6 fte)
 2003 – 2009 Associate professor in geostatistics, chairgroup Land Dynamics, Wageningen University (0.4 fte)
 2010 – 2011 Associate professor in geostatistics, chairgroup Land Dynamics, Wageningen University (0.6 fte)
 2010 – 2011 Senior scientific researcher in pedometrics, Alterra, Wageningen University and Research Centre (0.4 fte)
 2011 – present Associate professor in geostatistics, chairgroup Soil Geography and Landscape, Wageningen University (0.6 fte)
 2011 – present Senior scientific researcher in pedometrics and digital soil mapping, ISRIC World Soil Information (0.4 fte)

2011 – 2015 Visiting professor State Key Laboratory of Resources and Environmental Information Systems, Institute of Geographical Sciences and Natural Resources Research, University of Chinese Academy of Sciences, Beijing, China

Teaching

Dr. Heuvelink teaches geostatistics, spatial uncertainty analysis and pedometrics to students of Wageningen University. The teaching is embedded in the 'Environmental Data Collection and Analysis' course of the 'Earth and Environment' MSc programme and the 'Spatial Modelling and Statistics' course of the 'Geo-information Science' MSc programme. Gerard also teaches post-graduate courses of the Production Ecology and Resource Conservation graduate school, each year alternating between the 'Geostatistics' and 'Uncertainty Propagation in Spatial Environmental Modelling' courses. He is often invited to teach abroad (see heading 'Workshops and Courses' below) and teaches two modules of the annual ISRIC Spring School.

BSc theses supervised by Gerard:

- 4 *Sven Verweij*, 'Quantifying fine-scale spatial variability of soil penetration resistance', planned thesis defense July 2015
- 3 *Lisanne van Beek*, 'Statistical validation of soil type maps for Africa', thesis defense July 2014
- 2 *Gerrit Karssenbergh*, 'Geomorphological characterization and comparison of Dutch drift sands', thesis defense July 2012
- 1 *Corné Vreugdenhil*, 'Geostatistische interpolatie van het vegetatietype en analyse van de vegetatieverandering op Ameland-Oost', thesis defense July 2011

MSc theses supervised by Gerard:

- 26 *Damiano Luzzi*, 'Development of a spatial uncertainty propagation package in R', planned thesis defense February 2016 (co-supervision with Sytze de Bruin)
- 25 *Stefan van Dam*, 'Development of a spatial uncertainty propagation package in R', planned thesis defense February 2016 (co-supervision with Sytze de Bruin)
- 24 *Raphael Hürlimann*, 'Geostatistical modelling of soil pH based on LIDAR measurements', planned thesis defense October 2015
- 23 *Bouke Pieter Ottow*, 'A model to identify micro hydropower sites with high potential based on freely available datasets in Southern Mindanao, Philippines', thesis defense April 2015 (co-supervision with Sytze de Bruin)
- 22 *Marijn van der Meij*, 'Development and distribution of soil properties on marine terraces on central Spitsbergen', thesis defense February 2015 (co-supervision with Arnaud Temme)
- 21 *Cor de Jong*, 'Regression kriging of nitrate levels in upper groundwater in Dutch sandy soils. An analysis at national and regional extents', thesis defense December 2014
- 20 *Thanos Strantzalis*, 'Criterion-based generalization of raster categorical maps', thesis defense November 2014 (co-supervision with Sytze de Bruin)
- 19 *Charl Wong*, 'Digital soil mapping using legacy soil maps for predicting soil properties in Sanmatenga, Burkina Faso', thesis defense April 2014 (co-supervision with Sytze de Bruin and Johan Leenaars)
- 18 *Israel Ikoyi*, 'Spatial distribution of nematodes in a heavy metal-contaminated nature reserve', thesis defense August 2013 (co-supervision with Ron de Goede)
- 17 *Siyu Zhang*, 'Comparison of statistical methods for digital soil mapping of sub-Saharan Africa', thesis defense May 2013 (co-supervision with Sytze de Bruin)
- 16 *Yahya Darmawan*, 'Regression kriging for spatial interpolation of monthly rainfall in Medan and Deli Serdang, Indonesia', thesis defense August 2012 (co-supervision with Sytze de Bruin)

- 15 *Anne-Ruth Sneep*, 'Uncertainty about mapped vegetation changes. A case study on the eastern part of Ameland', thesis defense May 2012 (co-supervision with Sytze de Bruin)
- 14 *Vicky Ioannidi*, 'Uncertainty propagation analysis of nitrogen fluxes and methane emissions from agricultural areas in Europe', thesis defense September 2011 (co-supervision with Hans Kros and Wim de Vries)
- 13 *Prisca Masango*, 'Testing three kriging methods for spatial interpolation of soil properties in Malawi', thesis defense July 2011 (co-supervision with Sytze de Bruin)
- 12 *Jan Bakermans*, 'Pedestrian route planning in a hybrid data environment', thesis defense May 2010 (co-supervision with Sytze de Bruin)
- 11 *Ivan Alvaro Crespo*, 'Modeling space-time variability of Gamma-dose rates in the Netherlands', thesis defense March 2010 (co-supervision with Sytze de Bruin)
- 10 *Hans Roelofsen*, 'Accuracy assessment of global annual temperature and temperature changes from statistical samples', thesis defense October 2009 (co-supervision with Sytze de Bruin)
- 9 *Truong Ngoc Phuong*, 'Uncertainty analysis of predicting terrestrial nitrous-oxide emissions in Europe with INTEGRATOR, thesis defense April 2009 (co-supervision with Sytze de Bruin). Phuong's thesis won the 'Scriptieprijs van de Nederlandse Bodemkundige Vereniging'
- 8 *Haolu Shang*, 'Estimation of terrestrial greenhouse gas emissions in Europe', thesis defense April 2009 (co-supervision with Sytze de Bruin)
- 7 *Johan Beekhuizen*, 'Dealing with uncertainty in determining the optimal locations of mobile measuring devices', thesis defense March 2008 (co-supervision with Sytze de Bruin and Stephanie Melles)
- 6 *Aurelien Letourneau*, 'Calibration of Markovian land use change models', thesis defense April 2007 (co-supervision with Arnold Bregt)
- 5 *Zhengkun Jiang*, 'Optimization of mobile radioactivity sampling designs', thesis defense April 2007 (co-supervision with Sytze de Bruin)
- 4 *Arie Duindam*, 'Fuzziness in spatial planning data', thesis defense April 2006 (co-supervision with Sytze de Bruin)
- 3 *Wieke Heldens*, 'Spatio-temporal modelling of land cover using Markov theory', thesis defense March 2006 (co-supervision with Sytze de Bruin)
- 2 *Bas Kempen*, 'Digital soil mapping in the Nioro du Rip area in Senegal', thesis defense June 2005 (co-supervision with Sytze De Bruin and Jetse Stoorvogel). Bas' thesis won the 'Scriptieprijs Studiekring Land- en Watergebruik van de Koninklijke Landbouwkundige Vereniging' and the 'Scriptieprijs van de Nederlandse Bodemkundige Vereniging'
- 1 *Jie Li*, 'Uncertainty propagation in predictive modeling of land use change in the Kuala Lumpur region', thesis defense March 2005 (co-supervision with Sytze de Bruin)

Research Interests

Deterministic modelling of spatially distributed environmental variables and processes has its limitations. Stochastic and statistical approaches recognise the uncertainty with which we know the real world and as such they are extremely useful to the earth and environmental sciences. It is the advancement and application of these stochastic and statistical approaches, particularly when applied in the soil domain, that define Gerard's research interests. Within this definition, and apart from a general interest in geostatistics, pedometrics and spatial accuracy assessment, the following topics are of particular interest:

- Space-time monitoring and sampling, space-time kriging and space-time Kalman filtering
- Uncertainty propagation in spatial environmental modelling with GIS
- Accuracy assessment of soil information systems
- Merging process-driven and data-driven approaches in soil-landscape modelling

- Change of support ('up- and downscaling') issues in environmental modelling
- Geostatistical approaches to digital soil mapping

Regular Memberships

Netherlands Society for Statistics and Operations Research
 Netherlands Soil Science Society
 International Union of Soil Sciences (IUSS)
 IUSS Commission on Pedometrics
 IUSS Working Group on Digital Soil Mapping
 International Association for Mathematical Geosciences
 The International Environmetrics Society

Membership Editorial Boards, Guest Editorship

Associate Editor of the *European Journal of Soil Science*
 Associate Editor of *Spatial Statistics*
 Member of the Editorial Board of *Geoderma*
 Member of the Editorial Group of *Environmental and Ecological Statistics*
 Member of the Editorial Board of *International Journal of Applied Earth Observation and Geoinformation*
 Member of the Editorial Board of *Geographical Analysis*
 Guest Editor (with Edzer Pebesma and Alfred Stein) of the special issue "Spatial Statistics for Mapping the Environment", *International Journal of Applied Earth Observation and Geoinformation* (2012)
 Guest Editor (with Peter Burrough) of the themed issue "Developments in Statistical Approaches to Spatial Uncertainty and its Propagation", *International Journal of GIS* 16, Number 2 (2002)

Co-promotor

- 14 A. Wadoux (planned defense 2018, Wageningen University)
- 13 J.A. Torres Matallana (planned defense 2018, Wageningen University)
- 12 Y. Chen (planned defense 2018, University of the Chinese Academy of Sciences)
- 11 L. Steinbuch (planned defense 2018, Wageningen University)
- 10 M.E. Angelini (planned defense 2017, Wageningen University)
- 9 A. Samuel Rosa (planned defense 2015, Universidade Federal Rural do Rio de Janeiro, Brazil)
- 8 J. Wang, 'Space-time geostatistical model-based monitoring network optimization and space-time interpolation' (December 2014, University of the Chinese Academy of Sciences)
- 7 P.N. Truong, 'Expert knowledge in geostatistical inference and prediction' (30 June 2014, Wageningen University)
- 6 P.A. Bostan, 'Analysis and modeling of spatially and temporally varying meteorological parameter: precipitation over Turkey' (11 February 2013, Middle East Technical University, Ankara, Turkey)
- 5 B. Kempen, 'Updating soil information with digital soil mapping' (13 December 2011, Wageningen University)
- 4 P.H. Hiemstra, 'Ensemble modeling and statistical mapping of airborne radioactivity' (13 May 2011, University of Utrecht)
- 3 L. Nol, 'Upscaling and uncertainty analysis of N₂O emissions in the Dutch fen meadow landscape' (29 June 2010, Wageningen University)
- 2 J.A. Huisman, 'Measuring soil water content with time domain reflectometry and ground-penetrating radar' (4 October 2002, University of Amsterdam)
- 1 J.C.J.H. Aerts, 'Spatial decision support for resource allocation' (22 January 2002, University of Amsterdam)

Membership PhD Committee

- 22 *Z. Liang* (defense 21 January 2014, Twente University)
- 21 *I. Wheeler* (Examiners Report returned November 2013, The University of Sydney, Sydney, Australia)
- 20 *E. Meerschman* (defense 4 July 2013, Ghent University, Ghent, Belgium)
- 19 *M. Marinelli* (defense September 2011, Curtin University, Perth Australia)
- 18 *C. Hofer* (defense 24 November 2010, ETH Zürich, Switzerland)
- 17 *D. Assendorp* (defense 19 November 2010, University of Amsterdam)
- 16 *H. van de Kwast* (defense 27 February 2009, University of Utrecht)
- 15 *P. Debba* (defense 20 June 2006, Wageningen University – ITC Enschede)
- 14 *M. Yemefack* (defense 24 May 2005, University of Utrecht)
- 13 *B. Mwasi* (defense 31 March 2004, University of Amsterdam)
- 12 *T. Hengl* (defense 17 September 2003, Wageningen University – ITC Enschede)
- 11 *M.A. Blaauw* (defense 20 March 2003, University of Amsterdam)
- 10 *D. Karssenbergh* (defense 8 November 2002, University of Utrecht)
- 9 *J. Kros* (defense 13 February 2002, Wageningen University)
- 8 *T. Windholz* (defense May 2001, University of Maine, USA)
- 7 *A. van Rompaey* (defense 30 May 2001, Catholic University Leuven, Belgium)
- 6 *J.A.M. Janssen* (defense 9 February 2001, University of Amsterdam)
- 5 *S.C. Dekker* (defense 24 October 2000, University of Amsterdam)
- 4 *A. Smit* (defense 23 June 2000, University of Amsterdam)
- 3 *A. Tiktak* (defense 26 February 1999, University of Amsterdam)
- 2 *P.A.D. Musters* (defense 29 September 1998, University of Amsterdam)
- 1 *A. Coerts* (defense 10 October 1996, University of Utrecht)

Conference Organisation

Chair of the Organising Committee of the “Pedometrics 2017” conference, 26 June – 2 July 2017, Wageningen, The Netherlands.

Member of the Organising Committee of “2nd Conference on Spatial Statistics”, 2013, Dallas, Texas, USA.

Co-chair of the Organising Committee of “Mapping Global Change. 1st Conference on Spatial Statistics”, 23-25 March 2011, Enschede, The Netherlands.

Chair of the Organising Committee of the “Fourth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences”, 7-9 June 2000, Amsterdam, The Netherlands.

Refereeing

Over the years, Gerard Heuvelink has refereed over 400 manuscripts for various journals, in particular for *Geoderma*; *Spatial Statistics*; *International Journal of GIS*; *Geographical Analysis*; *Mathematical Geology*; *European Journal of Soil Science*; *Transactions in GIS*; *International Journal of Applied Earth Observation and Geoinformation*; *Soil Science Society of America Journal*; *Environmental Modelling and Software*; *Catena*; *Geoderma Regional*; *Journal of Hydrology*; *Computers, Environment and Urban Systems* and *Computers & Geosciences*. He has also refereed about 60 project and 10 book proposals.

EU projects

Partner and/or work package leader in: UNCERSDSS (1996-1998), HarmoniRiB (2003-2006), INTAMAP (2006-2009), ISOIL (2008-2011), eSOTER (2008-2012), EUFAR (2009-2011), UncertWeb (2010-2013), QUICS (2014-2018).

Management Tasks and Committee Memberships

Member of the Steering Committee of the International Spatial Accuracy Research Association (2014-present)

Chair of the Medal Committee of the International Spatial Accuracy Research Association (2014-present)

Member of the Pedometrics Award Committee (June 2014 – present)

Member of the Scientific Committee of 'GlobalSoilMap Conference' (Orleans, October 2013)

Member of the Panel of Judges for the ISARA 'Peter Burrough' and 'James Smith' Medals (2011-2014)

Member of the Scientific Committee of 'GI Zeitgeist 2012' (Muenster, March 2012)

Member of the Scientific Committee of the 'Geostatistical Conference on Environmental Applications, geoENV' (Valencia, September 2012; Paris, July 2014; Lisbon 2016)

Co-convenor of EGU General Assembly session 'Communication of Uncertainty about Information in Earth Sciences' (Vienna, 2014)

Co-convenor of EGU General Assembly session 'Uncertainty in Environmental Data and Models' (Vienna, 2011-2014)

Member of the Program Committee of GEOINFORMATIK (Münster, June 2011; Braunschweig, March 2012; Heidelberg, March 2013)

Member of the Program Committee of GEOProcessing conference series (Guadeloupe, February 2011; Valencia, 2012; Nice, February-March 2013; Barcelona, March 2014)

Member of the Scientific Committee of the FOSS4G Conference for Open Source Geospatial Software (Barcelona, September 2010)

Member of the Scientific Committee of the International Conference on Quality of Disaster Response (Tehran Iran, April 2010)

Member of the Scientific Committee of StatGIS 09 - GeoInformatics for Environmental Surveillance (Milos Greece, June 2009)

Member of the Program Committee for The International Conference on Advanced Geographic Information Systems & Web Services (Cancun Mexico, February 2009; Sint Maarten, February 2010)

Member of the Program Committee for the Workshop on Soft Methods in Statistical and Fuzzy Spatial Information Processing (Toulouse, September 2008).

Member of the Program Committee for the 'GI Days 2008' Conference (Münster, June 2008).

Member of the Programme Committee for the International Conference on Computational Science and Its Applications (Perugia Italy, June-July 2008; Yongin Korea June-July 2009).

Member of the Scientific Advisory Committee for the 1st International Conference on Hydropedology (Penn. State University, University Park 2008)

Member of the Organising Committee for the IUSS Commission on Pedometrics Global Workshop on 'Development and Application of Soil Mapping and Monitoring Methodologies to Support Crop Production Studies in the Developing World' (Rio de Janeiro, July 2006)

Member of the Organising Committee for the IUSS Commission on Pedometrics Global Workshop on Digital Soil Mapping (Montpellier, September 2004; Nanjing November 2014)

Member of the Scientific Committee for the biennial international 'Pedometrics' conferences (Madison 1997; Sydney 1999; Ghent 2001; Reading 2003; Naples FL 2005; Tübingen 2007; Beijing 2009; Trest 2011; Nairobi 2013)

Member of the Scientific Programme Committee for the AGILE Conference (Aalborg 2007; Girona 2008; Hannover 2009, Guimarães 2010, Utrecht 2011, Avignon 2012, Leuven 2013, Castellón 2014, Lisbon 2015)

Member of the Program Committee for the 'International Symposium on Spatial Data Quality' (Hong Kong 1999 & 2003; Vienna 2004; Beijing 2005; Enschede 2007; St. John's 2009, Coimbra 2011, Hong Kong 2013)

Member of the Science Advisory Board for the biennial international symposia 'Spatial Accuracy Assessment in Natural Resources and Environmental Sciences' (Fort Collins 1996; Quebec City 1998; Melbourne 2002; Portland ME 2004; Lisbon 2006; Shanghai 2008; Leicester 2010; Florianópolis 2012)

Member of the Scientific Committee for the Spatial Data Methods for Environmental and Ecological Processes workshop (<http://www.unifg.it/spatial>), 2005-2006

Member of the Program Committee for the biennial series of the 'International Conference on Geographic Information Science' (<http://www.giscience.org/>), (Baltimore 2004, Münster 2006, Park City Utah 2008, Zurich 2010, Columbus Ohio 2012, Vienna 2014)

International Member of the Board for Earth and Space Sciences for the Fund for Scientific Research – Flanders (FWO), 2005-2012

Member of the Scientific Advisory Board for the Dutch BSIK Programme 'Space for Geo-information', 2004-2009

Member of the Digital Soil Mapping Working Group for the European Soil Bureau, 2004-2005

Member of the Editorial Board for 'Spatial Interpolation Comparison 2004' (www.ai-geostats.org/events/sic2004/index.htm), 2004

Member of the Steering Committee for the International Research Group on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences (www.spatial-accuracy.org), 2004-2009

President of the Dutch Soil Science Society, 2004-2007

Chair of the Pedometrics Commission for the International Union of Soil Sciences (www.pedometrics.org), 2004-2006

Chair of the Pedometrics Working Group for the International Union of Soil Sciences (www.pedometrics.org), 2002-2004

Vice-president of the Dutch Soil Science Society (www.bodems.nl), 2001-2004

Member of VENI Committee ALW-NWO (Dutch National Science Foundation, Earth and Life Sciences division), 2001-2003

Chair of the Research Committee for the Research School 'Centre for Geo-ecological Research', 2001-2003

Member of numerous research, teaching and management committees within the University of Amsterdam, 1991-2003

Keynote presentations

'Pedometrics 2015' (Cordoba, September 2015): 'The uncertain soil in an uncertain future'

'GeoENV 2014' (Paris, July 2014): 'Much ado about spatial uncertainty'

'DailyMeteo.org 2014' (Belgrade, June 2014): 'Statistical modelling of space-time variability'

'GlobalSoilMap conference 2013' (Orleans, October 2013): 'Uncertainty quantification of GlobalSoilMap products'

'GIZeitgeist 2012' (Münster, March 2012): 'Coping with uncertainty in spatial environmental modelling'

'19th World Congress of Soil Science' (Brisbane, 2 August 2010): 'Realistic quantification of input, parameter and structural errors of soil process models'

'International Symposium for Spatial Data Quality' (Enschede, June 2007): 'Error-aware GIS at work: real-world applications of the Data Uncertainty Engine'

'Spatial Data Methods for Environmental and Ecological Processes' (Foggia, September 2006): 'A statistical framework for representing and simulating uncertain environmental variables'

'Spatial Accuracy Assessment in Natural Resources and Environmental Sciences' (Lisbon, July 2006): 'Incorporating process knowledge in spatial interpolation of environmental variables'

'GIS Planet' (Estoril Portugal, May 2005): 'Handling spatial uncertainty in GIS: development of the Data Uncertainty Engine'

'Global Workshop on Digital Soil Mapping' (Montpellier France, September 2004): 'Optimization of sample configurations for digital soil mapping with universal kriging'

'ESIG 2004' (Lisbon, June 2004): 'Uncertainty propagation in environmental modelling with GIS'

- 'European Conference on Precision Agriculture' (Berlin Germany, June 2003): "Analysing uncertainty propagation in environmental modelling with GIS"
- 'Geostats UK' Conference (Reading, 26 March 2002): "Incorporating process knowledge in spatio-temporal interpolation of environmental variables"
- 'Uncertainty in Remote Sensing and GIS Conference' (Southampton, 4 July 2001): "Analysing uncertainty propagation in GIS: why is it not that simple?"
- 'Pedometrics '99' (Sydney Australia, September 1999): "Opportunities for spatiotemporal Kalman filtering in soil science"

Presentations at conferences, seminars (since 2006, before 2006 upon request)

- Invited lecture 'Uncertainty propagation in spatial environmental modelling', Faculty of Civil Engineering, University of Belgrade (22 April 2015)
- Seminar 'Geostatistics for modelling and interpolation of environmental variables in space and time', Chang'an University (Xi'an, 26 May 2014)
- Seminar 'Statistical framework for simultaneous handling of input, parameter, model and observational error in spatial uncertainty analysis', Chinese Academy of Sciences (Beijing, 23 May 2014)
- Seminar 'Geostatistics for upscaling crop yield estimates in West-Africa', Chinese Academy of Agricultural Sciences (Beijing, 22 May 2014)
- Invited presentation 'Geostatistical methods for up- and downscaling of soil properties and crop responses in space and time', ASA-CSSA-SSSA Annual Meeting (Tampa, November 2013)
- Invited presentation 'Statistical framework for simultaneous handling of input, parameter, model and observational error in spatial uncertainty analysis', Pedometrics conference (Nairobi, 26-30 August 2013)
- Oral presentation 'Bayesian area-to-point kriging with expert elicitation of a prior for the point support variogram', Spatial Statistics conference (Columbus Ohio, 4-7 June 2013)
- Seminar 'Spatial uncertainty propagation', Middle East Technical University (Ankara, 11 February 2013)
- Oral presentation 'Statistical framework for simultaneous handling of input, parameter, model and observational error in spatial uncertainty analysis', Spatial Accuracy conference (Florianapolis, August 2012)
- Oral presentation 'Validation and uncertainty propagation of e-SOTER products', 'Towards Global Soil Information: Activities within the Geo Task Global Soil Data' workshop (Rome, March 2012)
- Lecture 'Spatial uncertainty propagation', Chinese Academy of Sciences (Beijing, 23 November 2011)
- Oral presentation 'Expert elicitation of the variogram', Pedometrics conference (Trest, August 2011)
- Oral presentation 'Spatial uncertainty propagation, XVth Brazilian Remote Sensing symposium (Curitiba, 3 May 2011)
- Seminar 'Realistic quantification of input, parameter and structural errors of soil process models', ETH, (Zürich, 24 November 2010)
- Lecture 'Autocorrelation', PE&RC Spatial Methods discussion group (Wageningen, 4 November 2010)
- Oral presentation 'Accounting for spatial sampling effects in regional uncertainty propagation analysis', Spatial Accuracy conference (Leicester, 21 July 2010)
- Oral presentation 'Implications of Digital Soil Mapping for Soil Information Systems', 4th International Workshop on Digital Soil Mapping (Rome, 25 May 2010)
- Lecture and practical 'Spatial Uncertainty Analysis', Uncertainty Analysis course SENSE Resesearch School (Wageningen, 12 February 2010)
- Oral presentation 'Geostatistical modelling of soil property maps for Europe', NitroEurope Open Science Conference (Solothurn, 4 February 2010)
- Oral presentation 'Incorporating process knowledge in spatial interpolation of environmental variables', ICG Closing Symposium (Wageningen, November 2009)
- Oral presentation 'Uncertainty analysis of the GeoPEARL pesticide leaching model', HYACINTS conference

(Copenhagen, September 2009)

Oral presentation 'Geostatistical simulation of European soil property maps', Pedometrics conference (Beijing, August 2009)

Oral presentation 'Modeling soil type spatial distribution using Markov random fields', Joint Statistical Meetings (Washington DC, August 2009)

Oral presentation 'Monte Carlo and spatial sampling effects in regional uncertainty propagation analyses', StatGIS conference (Milos, June 2009)

Oral presentation 'A statistical framework for representing and simulating uncertain environmental variables', GIForum, Institute for GeoInformatics, University of Muenster (Muenster, May 2009)

Seminar 'Incorporating process knowledge in spatial interpolation of environmental variables', University of Texas at Dallas (Dallas, April 2009)

Oral presentation 'Statistical upscaling of terrestrial greenhouse gas emissions', Workshop on Statistical Aspects of National Scale Soil Monitoring' (Rothamsted, December 2008)

Oral presentation 'Nauwkeurigheid van Bodemkaarten', Symposium Bodem Informatie Systemen (Wageningen, October 2008)

Lecture and practical 'Space-time geostatistics', GEOSTAT Summer School (Amsterdam, August 2008)

Lecture and practical 'Uncertainty propagation in environmental modelling with GIS', Summer School Uncertainty in Ecosystem Modelling (Aberdeen, July 2008)

Oral presentation 'Uncertainty analysis of the GeoPEARL pesticide leaching model', Spatial Accuracy conference (Shanghai, July 2008)

Oral presentation 'Statistical upscaling of terrestrial greenhouse gas emissions', Reactive Nitrogen and the European Greenhouse Gas Balance conference (Ghent, February 2008)

Lecture and practical 'Spatial Uncertainty Analysis', Uncertainty Analysis course SENSE Resesearch School (Wageningen, February 2008)

Poster presentation 'Space-time Kalman filtering of soil redistribution', Pedometrics conference (Tübingen, August 2007)

Oral presentation 'Uncertainty analysis of the GeoPEARL pesticide leaching model', Pedometrics conference (Tübingen, August 2007)

Oral presentation 'Error-aware GIS at work: real-world applications of the Data Uncertainty Engine', International Workshop on Uncertainty in Environmental Modelling (Uppsala, March 2007)

Poster presentation 'Space-time Kalman Filtering of Soil Redistribution', 18th World Congress of Soil Science (Philadelphia, July 2006)

Oral presentation 'The Data Uncertainty Engine (DUE): a software tool for assessing and simulating uncertain environmental variables', Spatial Accuracy conference (Lisbon, July 2006)

Lecture 'Uncertainty propagation analysis', NitroEurope – COST Modelling workshop (Garmisch Partenkirchen, April 2006)

Lecture 'Spatial uncertainty analysis', Spatial Modelling PhD discussion group of PE&RC graduate school (Wageningen, April 2006)

Workshops and Courses (since 2006, before 2006 upon request)

Training sessions 'Methods for sampling design optimization, automated data validation' and 'geostatistical interpolation and methods for up- and downscaling, spatial uncertainty propagation analysis', QUICS Training event (Lultzhausen, 16-17 June 2015)

Modules 'Geostatistical methods for soil mapping' and 'Handling uncertainty in soil data', ISRIC Spring School 'Hands-on Global Soil Information Facilities' (Wageningen, 18-22 May 2015)

Workshop 'Analysing uncertainty propagation in a vegetation index using Taylor series and Monte Carlo methods', Faculty of Civil Engineering, University of Belgrade (23 April 2015)

Course 'Uncertainty propagation in spatial environmental modelling', PE&RC Wageningen Graduate School (Wageningen, 8-12 December 2014)

Course 'Spatial Statistics', Mediterranean Agronomic Institute (Zaragoza, June 2014)

Modules 'Geostatistical methods for soil mapping' and 'Handling uncertainty in soil data', ISRIC Spring School 'Hands-on Global Soil Information Facilities' (Wageningen, 12-16 May 2014)

Course 'Geostatistics', PE&RC Wageningen Graduate School (Wageningen, 16-20 December 2013)

Workshop 'Basic geostatistics with R', Pedometrics conference (Nairobi, 26 August 2013)

Workshop 'Geostatistical methods for Spatial Aggregation and Disaggregation', Spatial Statistics conference (Columbus Ohio, 4 June 2013)

Modules 'Geostatistical methods for soil mapping' and 'Handling uncertainty in soil data', ISRIC Spring School 'Hands-on Global Soil Information Facilities' (Wageningen, 22-26 April 2013)

Workshop 'Geostatistical methods for Spatial Aggregation and Disaggregation', Summer School Geostats (Muenster, August 2012)

Course 'GlobalSoilMap and Soil Survey Uncertainty', National Resource Conservation Service (Lincoln Nebraska, August 2012)

Course 'Spatial Statistics', Mediterranean Agronomic Institute (Zaragoza, 11-15 June 2012)

Course 'Geostatistics', PE&RC Graduate School (Wageningen, 12-16 December 2011)

Workshops 'Spatial uncertainty propagation' and 'Incorporating process knowledge in spatial interpolation of environmental variables', Chinese Academy of Agricultural Sciences (Beijing, 21 and 24 November 2011)

Workshop 'Spatial sampling design optimisation', GEOSTAT Summer School (Landau, 28 July 2011)

Course 'Spatial uncertainty propagation analysis', XVth Brazilian Remote Sensing symposium (Curitiba, 1 May 2011)

Course 'Uncertainty propagation in spatial and environmental modelling', PE&RC Graduate School (Wageningen, 13-16 December 2010)

Course 'Geostatistics', PE&RC Graduate School (Wageningen, 25-29 October 2010)

Oral presentation 'Accounting for spatial sampling effects in regional uncertainty propagation analysis', Spatial Accuracy conference (Leicester, 21 July 2010)

Workshop 'Geostatistical optimization of spatial sampling designs', Spatial Accuracy conference (Leicester, 20 July 2010)

Workshop 'Spatial uncertainty propagation', GEOSTAT Summer School (Plasencia, 1 July 2010)

PhD course 'Assessment and propagation of uncertainty in spatially distributed environmental modelling', FIVA Graduate School (Copenhagen, September 2009)

Workshop 'Optimization of Sampling Designs', StatGIS conference (Milos, June 2009)

Workshop 'Spatial Uncertainty Propagation', University of Texas at Dallas (Dallas, April 2009)

Workshop 'Spatial Uncertainty Propagation', Ghent University (October 2008)

Workshop 'Spatial Uncertainty Propagation', Spatial Accuracy conference (Shanghai, July 2008)

Workshop 'Spatial Uncertainty Propagation', Pedometrics conference (Tübingen, August 2007)

Course 'Spatial Statistics', Netherlands Institute for Fisheries Research (IJmuiden, March 2006)

Prizes and awards

Winner of the Richard Webster medal of the Pedometrics Commission of the International Union of Soil Sciences (2014)

Winner of the Peter Burrough Award for most innovative idea in Digital Soil Mapping:

Heuvelink, G.B.M., D.J. Brus, F. De Vries, B. Kempen, M. Kotters, R. Vašát and D.J.J. Walvoort (2010). Implications of digital soil mapping for soil information systems. In: *Proceedings 4th International Workshop on Digital Soil Mapping*.

Winner of the Computers & Geosciences Best Paper Award:

Melles, S.J., G.B.M. Heuvelink, C.J.W. Twenhöfel, A. Van Dijk, P.H. Hiemstra, O. Baume and U. Stöhlker (2011), Optimizing the spatial pattern of networks for monitoring radioactive releases. *Computers & Geosciences* 37, 280-288.

Brown, J.D. and G.B.M. Heuvelink (2007), The Data Uncertainty Engine (DUE): a software tool for assessing and simulating uncertain environmental variables. *Computers & Geosciences* 33, 172-190.

Winner of the Pedometrics Best Paper Award:

Heuvelink, G.B.M., J.M. Schoorl, A. Veldkamp and D.J. Pennock (2006), Space time Kalman filtering of soil redistribution. *Geoderma* 133, 124-137.

Nominated for the Pedometrics Best Paper Award:

Brus, D.J. and G.B.M. Heuvelink (2007), Optimization of sample patterns for universal kriging of environmental variables. *Geoderma* 138, 86-95.

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Jost G., G.B.M. Heuvelink and A. Papritz (2005), Analysing the space-time distribution of soil water storage of a forest ecosystem using spatio-temporal kriging. *Geoderma* 128, 258-273.

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Heuvelink, G.B.M. (1996), Identification of field attribute error under different models of spatial variation. *International Journal of GIS* 10, 921-935.

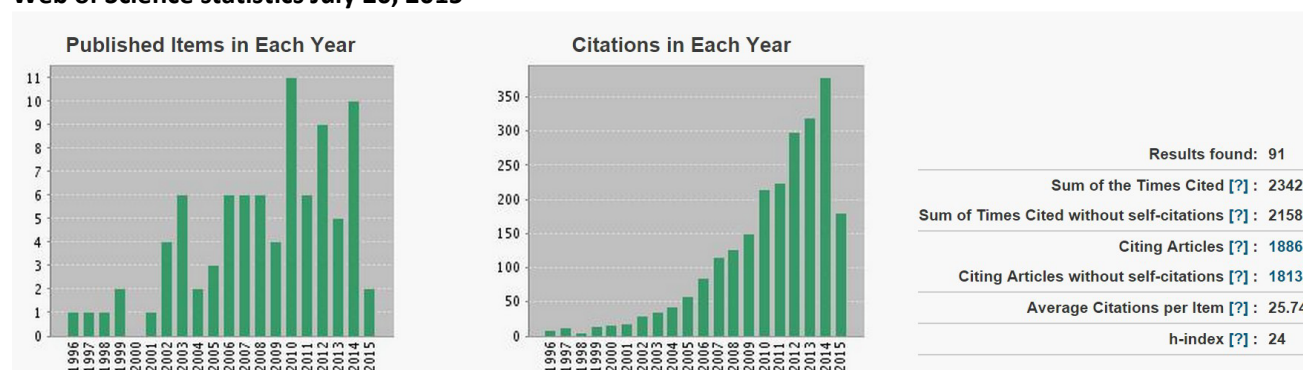
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Heuvelink, G.B.M. (2007), *Prenos Grešaka kod GIS Modeliranja Životne Sredine*. Beograd: Dosije. 132 pp.

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- 92 Chen, Y., Y. Ge, G.B.M. Heuvelink, J. Hu and Y. Jiang (2015), Hybrid constraints of pure and mixed pixels for soft-then-hard super-resolution mapping with multiple shifted images. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, doi: 10.1109/JSTARS.2015.2417191.
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