

Curriculum vitae

Personal details

Title(s), initial(s), first name, surname: Dr.ir. Pieter Richard van Oel
Male/female: Male
Date and place of birth: 15 January 1980, Netherlands
Nationality: Dutch
Birth country of parents: Netherlands

Master's

University/College of Higher Education: University of Twente
Date: 29 November 2002
Study/main subject: integrated water resources management, hydrology, environmental management, international management

Doctorate

University/College of Higher Education: University of Twente
Completion date: 15 May 2009
Supervisor ('Promotor'): prof.dr.ir. Arjen Y. Hoekstra
Title of thesis: Water-scarcity patterns: Spatiotemporal interdependencies between water use and water availability in a semi-arid river basin

Work experience

1 April 2010 – date
PostDoc at ITC - Faculty of Geo-Information Science and Earth Observation of the University of Twente.
[0.8fte, fixed-term]
Project: 'An earth observation- and integrated assessment (EOIA) approach to the governance of Lake Naivasha, Kenya'. This position includes the co-supervision of 5 PhD candidates.

1 April 2010 – 1 February 2012
Assistant professor (UD) at the Water Engineering and Management Group of the University of Twente.
[0.2fte, fixed-term, 50%, research, 50% education].

15 May 2009 – 1 April 2010
Assistant professor (UD) at the Water Engineering and Management Group of the University of Twente.
[1fte, fixed-term, 50% research, 50 % education]
Research activities included studies for World Wildlife Fund (WWF), the Netherlands Environmental Assessment Agency (MNP) and World Waternet.

1 November 2003 – 15 May 2009
PhD candidate at the Water Engineering and Management

Group of the University of Twente.

[**1fte, fixed-term**]

Lecturer (UD responsibilities from 2007)

International activities

28-31 March 2012	Invited speaker at ‘Water Management Issues in Africa’ conference, Port Luis, Mauritius, organized by the Network of African Science Academies (NASAC) in cooperation with the Koninklijke Nederlandse Akademie van Wetenschappen (KNAW)
2010 - date	Coordinator and website manager of the Naivasha Research Consortium. Members include professors and students from Egerton University, Kenya; University of Nairobi, Kenya; Leicester University, UK; Ghent University, Belgium, University of Bonn, Germany; University of Cologne, Germany and the University of Western Ontario, Canada
2006 - date	Supervisor of MSc and BSc students staying in Brazil, Curacao, Kenya and South Africa.
2007 - date	Member of the International Society for Ecological Economics (ISEE)
2011	1-week visit to Kenya for meetings with project members from Egerton University and the University of Nairobi and various stakeholder organizations
2010	6-week visit to Kenya for organizing a stakeholder meeting, supervision of PhD students and other fieldwork activities
2008	Supervisor during a three-week study tour in South Africa with 26 students from the Civil Engineering MSc program of the University of Twente. Research visits included the University of the Witwatersrand, Johannesburg; University of Cape Town, Cape Town; Cape Peninsula University of Technology, Cape Town.
2006	6-month research visit to the Federal University of Ceará, Fortaleza, Brazil, Departments Engenharia Civil and Engenharia Agrícola
2005	3-month research visit to the Federal University of Ceará, Fortaleza, Brazil, Departments Engenharia Civil and Engenharia Agrícola
2005	1-week research visit to the ‘Institute of Agricultural Economics and Social Sciences in the Tropics and Subtropics’ at the Universität Hohenheim, Germany
2004	1-week workshop at the ‘Leibniz Institute of Agricultural Development in Central and Eastern Europe’ (IAMO): ‘Simulation of complex systems, multi-agent systems, and natural resource management’
2002	6-month research visit to University of the Witwatersrand, Johannesburg, South Africa for MSc fieldwork
2001	2-month fieldwork visit to Kenya Agricultural Research Institute, Kenya
2001	2-month fieldwork visit to Agricultural Research Institute, Tanzania

Other academic activities

2011 - date	Researcher in the Dutch Research School for Socio-Economic and Natural Sciences of the Environment (SENSE), Research Clusters VII, VIII, XIII and XIV
2007 - date	Supervisor of MSc and BSc students at the department of Civil Engineering of the University of Twente
2009-2010	Teaching Master’s course ‘Design project water’ at the department of Civil Engineering of the University of Twente

2007-2011	Teaching the Bachelor's course 'Introduction to modelling' at the department of Civil Engineering of the University of Twente
2007- 2010	Lecturer for the Master's course 'Data analysis in water engineering & management' at the department of Civil Engineering of the University of Twente
2008 - date	External examiner for the Master program at the Faculty of Geo-Information Science and Earth Observation of the University of Twente
2009-2010	Mentor for first year students Civil Engineering at the University of Twente
2010	Organizer of PhD alumni network meeting of the Water Engineering and Management Group at the University of Twente
2007-2008	Teaching Bachelor's course 'Employment Based Civil Engineering' at the department of Civil Engineering of the University of Twente

Scholarships, grants and prizes

Best Paper Award for co-authoring the paper: Krol, M.S, van Oel, P.R., de Vries, M J., de Araújo J.C. (2009) Small reservoirs and sustainable water use under global change" presented and published at the 5th Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems held from 30 September to 3 October 2009 in Dubrovnik, Croatia.

Travel grants from the Netherlands Organization for Scientific Research (NWO) for a three-month field visit to Brazil in 2005 (R 76-253, €3500) and a six-month field visit to Brazil in 2006 (R 76-263, €4500)

Publications

International refereed journals

van Oel, P.R., Krol, M.S. and Hoekstra, A.Y. (2012) Application of multi-agent simulation to evaluate the influence of reservoir operation strategies on the distribution of water availability in the semi-arid Jaguaribe basin, Brazil. *Physics and Chemistry of the Earth, Parts A/B/C* 47–48: 173-181.

van Oel, P.R. and Hoekstra, A.Y. (2012) Towards quantification of the water footprint of paper: A first estimate of its consumptive component. *Water Resources Management* 26(3): 733-749.

van Oel, P. R. and A. Van der Veen (2011). Using agent-based modelling to depict basin closure in the Naivasha basin, Kenya: a framework of analysis. *Procedia Environmental Sciences*. 7: 32-37.

van Oel, P.R., Krol, M.S. and Hoekstra, A.Y. (2011) Downstreamness: a concept to analyse basin closure. *Journal of Water Resources Planning and Management* 137 (5): 404-411.

Krol, M.S., de Vries, M.J., **van Oel, P.R.** and de Araújo, J.C. (2011) Sustainability of Small Reservoirs and Large Scale Water Availability Under Current Conditions and Climate Change. *Water Resources Management*. 25(12): 3017-3026.

van Oel, P.R., Krol, M.S., Hoekstra, A.Y. and Taddei, R.R. (2010) Feedback mechanisms between water availability and water use in a semi-arid river basin: a geographically explicit multi-agent simulation approach, *Environmental Modelling & Software* 25 (4): 433-443.

van Oel, P.R., Mekonnen, M.M. and Hoekstra A.Y. (2009) The external water footprint of the Netherlands: geographically-explicit quantification and impact assessment. *Ecological Economics* 69 (1): 82-92.

van Oel, P.R., Krol, M.S. and Hoekstra, A.Y. (2009) A river basin as a common-pool resource: a case study for the Jaguaribe basin in the semi-arid Northeast of Brazil. *International Journal of River Basin Management* 7 (4): 345–353.

van Oel, P.R., Krol, M.S., Hoekstra, A.Y. and de Araújo, J.C. (2008) The impact of upstream water abstractions on

reservoir yield: the case of the Orós Reservoir in Brazil. *Hydrological Sciences Journal* 53 (4): 857-867.

Books

van Oel, P.R. (2009) Water-scarcity patterns: Spatiotemporal interdependencies between water use and water availability in a semi-arid river basin, PhD thesis, University of Twente, The Netherlands (ISBN 978 90 365 2804 7)

Other (conference proceedings, presentations and scientific reports)

van Oel, P.R., Odongo, V.O., Mulatu, D.W., Ndungu, J.N., Muthoni, F.K., Ogada, J., Khroda, G., Mathooko, J.M., Becht, R., Kitaka, N., Onyando, J.O. and van der Veen, A. (2012). An Earth Observation and Integrated Assessment (EOIA) approach for the sustainable governance of a socio-ecological system: the case of the Lake Naivasha basin, Kenya. International Conference on Water Management Issues in Africa, 28-31 March 2012 - Port Louis, Mauritius.

Mulatu, D.W., van der Veen, A. and **van Oel, P.R.** (2012) Willingness to Accept (WTA) Compensation to Provide Water-related Ecosystem Services in the Lake Naivasha Basin, Kenya. African environmental markets and nature conservation workshop: Harnessing the Potential of Environmental Markets for Nature Conservation in Africa, Eastern Africa Kinship Conservation Fellows Network, in collaboration with Kinship Foundation, Egerton University, Njoro, Kenya, 25-28 July 2012.

van der Veen, A., Becht, R. and **van Oel, P.R.** (2011) Using agent - based modelling to depict basin closure in the Naivasha basin, Kenya : a framework of analysis. Tropentag 2011, 5-7 October 2011, Bonn, Germany: book of abstracts / ed. by E. Tielkes. -Witzenhausen ; DITSL : German Institute for Tropical and Subtropical Agriculture, 2011. ISBN 978-3-9801686-7-0.

Mulatu, D.W., van der Veen, A., Becht, R., **van Oel, P.R.** and Bekalo, D.J. (2011) The spatial non-stationarity of population- land use-cover relationships in Lake Naivasha basin: an application of Geographically Weighted Regression, GWR. IGS - SENSE conference Resilient Societies: governing risk and vulnerability for water, energy and climate change, 19-21 October 2011, Enschede, the Netherlands

van Oel, P.R. and van der Veen, A. (2011) Using agent-based modelling to depict the processes leading to basin closure in the Naivasha basin, Kenya. In Stein, A., Pebesma, E., Heuvelink, G.B.M. (eds.) Spatial statistics 2011: mapping global change, abstracts for the conference, 23-25 March, 2011, Enschede, the Netherlands

van Oel, P.R. and Hoekstra, A.Y. (2010) The green and blue water footprint of paper products: methodological considerations and quantification, Value of Water Research Report Series No.46, UNESCO-IHE. Delft, The Netherlands.

van Oel, P.R., Voinov, A.A., Becht, R. and van der Veen, A. (2010) Integrated assessment of the governance of the Naivasha basin, Kenya. Presented at Aquatic Resources of Kenya: ARK II: 2nd international conference on aquatic research for development, 16-19 November 2010, Naivasha, Kenya.

van Oel, P.R. (2009) Application of MAS to depict spatiotemporal interdependencies between water use and water availability in a semi-arid river basin. 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation. Cairns, Australia.

Krol, M.S, **van Oel, P.R.**, de Vries, M.J. and de Araújo J.C. (2009) Small reservoirs and sustainable water use under global change. Proceedings 5th Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems. Dubrovnik, Croatia.

van Oel, P.R., Mekonnen, M.M. and Hoekstra, A.Y. (2008) The external water footprint of the Netherlands: quantification and impact assessment, Value of Water Research Report Series No.33, UNESCO-IHE. Delft, The Netherlands.

van Oel, P.R., Mekonnen, M.M. and Hoekstra, A.Y. (2008) The external water footprint of the Netherlands: geographically-explicit quantification and impact assessment. Proceedings ISEE 2008: Applying ecological economics for social and environmental sustainability, Nairobi, Kenya

van Oel, P.R. (2007) A river basin as a common-pool resource: a case study for the Jaguaribe basin in the semi-arid Northeast of Brazil. Proceedings ESEE 2007: Integrating Natural and Social Sciences for Sustainability. Leipzig,

Germany

van Oel, P.R. (2007) Rainfall variations, agricultural performance and common-pool resource management in the semi-arid Jaguaribe river basin, Brazil. Proceedings Framing Land Use Dynamics II, 2007, Utrecht, the Netherlands

van Oel, P.R., Krol, M.S. and Hoekstra, A.Y. (2007) A river basin as a common-pool resource: a case study for the Jaguaribe basin in Brazil, Value of Water Research Report Series No.24, UNESCO-IHE. Delft, The Netherlands.

Krol, M.S. and **van Oel, P.R.** (2004) Integrated assessment of water stress in Ceará, Brazil, under climate change forcing. Complexity and integrated resources management. In C. Pahl, S. Schmidt & T. Jakeman (eds), iEMSs 2004 International Congress: Complexity and integrated resources management. International Environmental Modelling and Software Society. Manno, Switzerland