

# Curriculum Vitae

Name	J.M. Schuurmans
First Name	Hanneke
Date of Birth	5 March 1977
Nationality	Dutch
Main Disciplines	Hydrology (ground water, unsaturated zone and surface water), Hydro-Meteorology, Simulation models.
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## Key Qualifications

Dr. Ir. J.M. (Hanneke) Schuurmans has seven years experience in hydrology with a special focus on integrating remote sensing techniques and rainfall forecasts in hydrological models. She obtained her MSc at Wageningen University where she studied 'Soil Water and Atmosphere' with a specialization in Hydrology. During her study she did internships at the International Water Management Institute (IWMI) in Sri Lanka, water board De Maaskant in Oss and research company Alterra in Wageningen. After her study she worked for two years as researcher and advisor for the engineering company Grontmij in Houten. She advised several water boards and (local) authorities on both groundwater and surface water quantity and quality aspects. After that she started her PhD research at the department of Physical Geografie at Utrecht University, financed by Deltares (formally TNO). Hanneke successfully defended her PhD thesis titled "Hydrological Now- and Forecasting" in November 2008. Her thesis can be downloaded from <http://igitur-archive.library.uu.nl/dissertations/2008-1217-200408/UUindex.html>

## Educational background

2003 – 2008	PhD physical geography at Utrecht University, the Netherlands. The dissertation is titled "Hydrological now- and forecasting"
1995-2001	MSc. Soil, Water and Atmosphere, Wageningen University, The Netherlands

## Professional Experience

2009 - present	Researcher/Advisor Hydrology, Future Water, Wageningen, The Netherlands
2003 – 2008	PhD student at Utrecht University
2001 - 2003	Advisor Hydrology, Grontmij nv., Houten, The Netherlands

## Overseas Professional Experience

*Resident:*  
Sri Lanka (7 months)

## Selection of Assignments and Projects

- 2006-2008 Investigated as part of the PhD research the value of ECMWF (Numerical Weather Prediction Model) rainfall forecasts for predicting spatially distributed soil moisture.
- 2006-2008 As part of the PhD research studied the value of remotely sensed latent heat fluxes for a spatial distributed hydrological model. For this study a field experiment was set up to investigate the spatial variability of soil moisture.
- 2003-2008 Teaching assistant for the subjects:  
- Surface hydrology  
- SAGIS2: multivariate- and geostatistics using R  
Supervised Msc student: 'modelling spatiotemporal variation of root zone soil moisture content in the Langbroekerwetering area'.
- 2003-2006 Performed a sensitivity analysis of using different rainfall fields within an operational hydrological model as part of the PhD research. Study resulted in a peer-reviewed publication.
- 2003-2006 Developed as part of the PhD research a geostatistical method to predict high-resolution daily rainfall fields using both rainfall radar and raingauges. Set up a high-density network of raingauges within The Netherlands and investigated the small scale variability of daily rainfall. Study resulted in a peer-reviewed publication.
- 2001-2003 Researcher and advisor for the estate Vollenhoven in Zeist that suffered from ground water level declination.
- 2001-2003 Researcher and advisor for calculating the dimensions of surface water channels and weirs in big building projects, the so-called 'VINEX' locations (e.g. Leidsche Rijn, Ypenburg, Houten).
- 2001-2003 Researcher and advisor in a building project where a new district was planned within a big lake (Waterrijk Woerden), that should function as swimming water. Effects on the environment were investigated using a groundwater model. Surface water dimensions were calculated using a surface water model.
- 2001-2003 Researcher and advisor for the local authority Gemeente Giessenlanden on the surface water quality project 'STIWAS'. Based on a surface water quality model for the villages within the municipality decisions were made together with the local authority on sewage depositions on the surface water system.
- 2001 Principle investigator in a project that assimilated remotely sensed latent heat fluxes into a spatially distributed hydrological model. Study resulted in a peer-reviewed publication.

- 2000 Principle investigator in a project that investigated the effects of several irrigation scenarios on water quality and plant growth. For this research several hydrological and soil measurements were taken and a coupled model was build ( Mike She and SWAP).
- 1998 Principle investigator in a project to implement the 'WATERNOOD' method (groundwater controlled surface water management) using the hydrological model Sobek-RR (rainfall runoff model).

### Language Skills

Dutch: mother tongue  
 English: fluent in writing and speech  
 French: moderate  
 German: moderate

### Computer Skills

Hydrological models: MetaSWAP, Simgro, Modflow, Sobek (RR + CF), Duflow, Mike-She  
 GIS: ArcView, ArcGIS.  
 Word processing: MS Office, Latex  
 Standard software: MS Office, Adobe Illustrator  
 Programming: R, MatLab

### Miscellaneous

#### *Additional courses:*

- 2007 Introduction to climate modeling (KNMI)
- 2005 Scientific writing (ICG)  
 Climate and the Hydrological Cycle (summer course Utrecht University)
- 2004 Introductory course to radar precipitation (ERAD)  
 Oral presentation skills(ICG)  
 First Aid (Het Oranje Kruis)  
 Fire control (NBBE)
- 2003 Workshop Concepts, Methods and Challenges in Geo-ecological Research (ICG)
- 2002 Personal efficiency (Vergouwen Overduin bv.)  
 Carry out Audits ISO 9001 and 14001 (Grontmij nv.)
- 2001 Thematic collaboration (Vergouwen Overduin bv.).  
 Costumer oriented thinking and acting (Grontmij nv.)
- 2000 Effective model calibration (Mary C. Hill)

## Publications

### *Peer reviewed publications*

- Schuurmans, J.M.** and M.F.P. Bierkens, 2008: Ability of ECMWF rainfall forecasts to forecast regional soil moisture distribution in a distributed hydrological model, submitted to Journal of Hydrometeorology.
- Schuurmans, J. M.**, M.F.P. Bierkens, E.J. Pebesma and R. Uijlenhoet, 2007: Automatic prediction of high resolution daily rainfall fields for multiple extents: the potential of operational radar, Journal of Hydrometeorology, 8(6), pp. 1204-1224.
- Schuurmans, J.M.** and M.F.P. Bierkens, 2007: Effect of spatial distribution of daily rainfall on interior catchment response of a distributed hydrological model. Hydrology and Earth System Sciences, 11, pp. 677–693.
- Schuurmans, J.M.** and P.A. Troch, A.A. Veldhuizen, W.G.M. Bastiaanssen and M.F.P. Bierkens, 2003: Assimilation of remotely sensed latent heat flux in a distributed hydrological model. Advances in Water Resources, 26, 151-159.

### *Conference proceedings, books, book chapters*

- Schuurmans, J.M.** and M.F.P. Bierkens, 2008: Value of ecmwf ensemble rainfall forecasts for forecasting catchment spatially distributed soil moisture. Catchment-scale Hydrological modelling & Data Assimilation International Workshop III (CAHMDA III). Melbourne, Australia.
- Schuurmans, J. M.**, M.F.P. Bierkens, E.J. Pebesma and R. Uijlenhoet, 2004: Simulating high resolution rainfall fields for operational water management using meteorological radar and rain gauges. In Third European Conference on Radar in Meteorology and Hydrology (ERAD) together with the COST 717 . Visby, Island of Gotland, Sweden.
- Schuurmans, J. M.**, M.F.P. Bierkens, E.J. Pebesma and R. Uijlenhoet, 2004: Estimating high resolution rainfall fields based on meteorological radar and rain gauges for operational water management. In Geophysical Research Abstracts 6 - 1st General Assembly. Nice, France: European Geosciences Union (EGU).
- Schuurmans, J.M.**, M.F.P. Bierkens, P.A. Troch and Geer, F.C. van Geer, 2004: Nowcasting for operational water management using reduced hydrological models and data assimilation. In Geophysical Research Abstracts 6 - 1st General Assembly. Nice, France: European Geosciences Union (EGU).

### *Technical reports and other publications*

- Schuurmans, J.M.**, M.F.P. Bierkens, 2007: Belang van betere neerslaginformatie voor hydrologen (in Dutch). H2O, 40(12), pp. 27-29.