

# Curriculum vitae – CV

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## Abdulghani Hasan

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### Profile

I am holding a PhD Degree in GIS and hydrological modelling, a Master in groundwater modelling with more than fifteen years of national and international professional experience from working in projects related to hydrology, geographical information, GIS algorithms, and environmental risk analysis. I have long-term experiences with hydrological modelling software (ArcGIS, WMS, GMS, and MODFLOW, IDRISI, MIKE SHE (DHI), WHIST, and HYPE (SMHI)). Moreover, I have an advanced experience in several computer programming languages (MATLAB, R and Python).

Competencies like for example to have experience in modelling catchment hydrology, urban flood management, working with terrain data and digital terrain analysis methods, and disaster management have been always part of my work in numerous projects that I have been involved in.

### Employment record

**Research Scientist in hydrology & GIS**, SMHI, hydrologic research unit (Fouh), Norrköping  
*August 2016 – ongoing*

**Postdoctoral researcher in hydrology**, SMHI, hydrologic research unit (Fouh), Norrköping  
*August 2016 – ongoing*

**Lecturer in GIS & hydrology**, Lund University, GIS Centre  
*October 2014 – August 2016*

**Project leader/Geomatics**, Applied Geomatics Sweden AB  
*October 2012 – September 2014 part time*

**Ph.D.** Lund University, Department of Physical Geography and Ecosystem Science  
*April 2008 - June 2012*

**Researcher in hydrology**, Dams and Water Resources Research Centre, College of Engineering, University of Mosul, Iraq  
*Jan 2001 - March 2008*

### Education

2012 **PhD** in GIS and hydrological modelling, Lund University, Sweden  
2000 **Master** in Groundwater Engineering, Mosul University.  
1990 **BSc.** in Dams and Water Resources Engineering, Mosul University.

### Languages

Swedish (advanced level), English (fluent), Arabic (fluent).

## List of publications

### Peer reviewed articles

- 1 Petter Pilesjö, and Abdulghani Hasan, 'A Triangular Form-Based Multiple Flow Algorithm to Estimate Overland Flow Distribution and Accumulation on a Digital Elevation Model', *Transactions in GIS*, 18 (2014), 108-24.
- 2 Andreas Persson, Abdulghani Hasan, Jing Tang, and Petter Pilesjo, 'Modelling Flow Routing in Permafrost Landscapes with Twi: An Evaluation against Site-Specific Wetness Measurements', *Transactions in GIS*, 16 (2012), 701-13.
- 3 Abdulghani Hasan, Petter Pilesjö, and Andreas Persson, 'On Generating Digital Elevation Models from Lidar Data – Resolution Versus Accuracy and Topographic Wetness Index Indices in Northern Peatlands', *Geodesy and Cartography*, 38 (2012), 57-69.
- 4 Abdulghani Hasan, Petter Pilesjö, and Andreas Persson, 'The Use of Lidar as a Data Source for Digital Elevation Models – a Study of the Relationship between the Accuracy of Digital Elevation Models and Topographical Attributes in Northern Peatlands', *Hydrol. Earth Syst. Sci. Discuss.*, 8 (2011), 5497-522.
- 5 Abdulghani Hasan, and Anass Rasheed, 'Using Computer Systems to Predict the Changes in Groundwater Elevations Due to Recharge from Rainwater Harvesting', in *Sustainability of Groundwater Resources and Its Indicators*, ed. by B. Webb, R. Hirata, E. Kruse and J. Vrba (Wallingford: Int Assoc Hydrological Sciences, 2006), pp. 78-87.
- 6 Abdulghani Hasan, and AlTaiee Thair, 'Simulation and Prediction of Groundwater Paths and Flow Vectors at Mosul City', *AL Rafdain Engineering Journal*, 14 (2006), 73-81.
- 7 Abdulghani Hasan, and Eklemis Yousif, '3D modeling of geological layers at Hamdania Region, North Iraq', *Rafidain journal of science*, 13 (2005), 176-90.
- 8 Abdulghani Hasan, and AlTaiee Thair, 'Conceptual Model for Groundwater Flow Vectors and Quantities Assessment at Al-Silevani Plane', *Damascus University Journal*, 12 (2004), 62-74.
- 9 Abdulghani Hasan, 'Specify Groundwater Pathlines & Seepage for the Region to the Right Abutment of Mosul Dam', *AL Rafdain Engineering Journal*, 12 (2004), 19-31.
- 10 Abdulghani Hasan, 'Theoretical Model to Study the Factors Influence the Groundwater Artificial Recharge', *AL Rafdain Engineering Journal*, 11 (2003), 46-56.
- 11 Abdulghani Hasan, 'Groundwater Evaluation at Bashiqa Plane Region', *AL Rafdain Engineering Journal*, 11 (2003), 69-89.

### Conference papers

- 12 Hasan, Abdulghani, P. Pilesjö & A. Persson. Drainage Area Estimation in Practice, how to tackle artefacts in real world data, *GIS Ostrava (2012) - Surface models for geosciences*, Ostrava, Tjeckien.
- 13 Hasan Abdulghani. Future climate-hydrology interactions in a subarctic wetland - Modeling the effect of soil wetness and air temperature on the active layer thickness. *American geosciences union AGU Dec. (2011). San Francisco, Kalifornien, USA.*

- 14 Hasan Abdulghani, P. Pilesjö & A. Persson. Estimating surface flow over digital elevation models using a new improved form-based algorithm, Published at the conference proceeding of River Basin Managements (2011), Riversides, Kalifornien, USA.
- 15 Hasan, Abdulghani & Altaiee T. Mahmoud. Numerical model to find groundwater pathlines in Mosul city. The international conference iEMSs (2004) “Complexity and Integrated Resources Management”, Osnabruck, Tyskland.
- 16 Hasan, Abdulghani & Anass M. Rasheed. Surface Runoff Simulation Model for Khoser River Basin. Proceeding of the Kick- off Workshop of the (International Association Of hydrological science IAHS) Decade on Prediction in Ungaged Basins (2002). Brasilia, Brasilen.
- 17 Hasan, Abdulghani. Computer Numerical Model Simulation for Groundwater Elevations and Movements at Bashiqa Plane Region (2000). Proceedings of the Fifth Conference of Research Centre for Environment and Water Resources.