

Personal Data

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Academic grades

PhD in Water Resource Engineering, with *great distinction*, March 2013, Department of Hydrology and Hydraulic Engineering, Vrije Universiteit Brussel, Belgium.

Thesis: *Calibration of Hydraulic Conductivities in Groundwater Flow Models using the Double Constraint Method and the Kalman filter.*

M.Sc. in Water Resource Engineering, with *distinction*, September 2008, Katholieke Universiteit Leuven & Vrije Universiteit Brussel, Belgium.

Thesis: *Development of Analytical and Numerical Solutions for Groundwater-Surface Water Interaction, a FEMME Approach.*

A Diploma of Complementary Studies in Water Resources Engineering (July, 2007), Katholieke Universiteit Leuven, Leuven, Belgium. **IUPWARE** Programme.

Preliminary of Master's Degree (July, 2004), Department of Civil Engineering, Faculty of Engineering, Minia University, Minia, Egypt.

B.Sc. in Civil Engineering, May 2002, Minia University, Minia, Egypt, with *very good with honor* degree.

Professional work

Dec. 2018 - Now	Associate Professor at Dept. of Civil Engineering, College of Engineering, Shaqra University, Dawadmi, Ar Riyadh, Saudi Arabia.
Jun. 2013 – Now	Associate Professor at Department of Civil Engineering, Faculty of Engineering, Minia University, Minia, Egypt.
March 2017 - Dec. 2018	Coordinator of Strategic Planning Standard at Faculty of Engineering, Minia University.
Oct. 2015 – March 2016	Postdoctoral Fellowship at Department of Hydrology and Hydraulic Engineering, Vrije Universiteit Brussel, Brussels, Belgium.

Sept. 2014 – Sept. 2015	Postdoctoral Fellow, Water Research Center and College of : Agriculture and Marine Sciences, Sultan Qaboos University, Muscat, Oman.
Jun. 2013 – Jun 2018	: Assistant Professor at Department of Civil Engineering, Faculty of Engineering, Minia University, Minia, Egypt.
Apr. 2009 – Mar. 2013	: PhD. Researcher at Department of Hydrology and Hydraulic Engineering, Vrije Universiteit Brussel, Brussels, Belgium.
Oct. 2008 – Mar. 2009	: Teaching Assistant at Department of Civil Engineering, Faculty of Engineering, Minia University, Minia, Egypt.
Sept. 2006 – Sept. 2008	: Master student at Katholieke Universiteit Leuven (Leuven) & Vrije Universiteit Brussel (Brussel), Belgium.
Feb. 2004 – Aug. 2006	: Assistant Lecturer Civil Engineering Department, Faculty of Engineering, Minia University, Minia, Egypt.

List of publications

Books and Chapters

1. **El-Rawy M.**, Abdalla F., El Alfy M. (2020) **Water Resources in Egypt**. In: Hamimi Z., El-Barkooky A., Martínez Frías J., Fritz H., Abd El-Rahman Y. (eds) The Geology of Egypt. Regional Geology Reviews. Springer, Cham
2. Wouter Zijl, Florimond De Smedt, **Mustafa El-Rawy**, Okke Batelaan (2018). **The Double Constraint Inversion Methodology: Equations and Applications in Forward and Inverse Modeling of Groundwater Flow**. ISSN 2191-530X ISSN 2191-5318 (electronic). ISBN 978-3-319-71341-0 ISBN 978-3-319-71342-7 (eBook). SpringerBriefs in Applied Sciences and Technology. <https://doi.org/10.1007/978-3-319-71342-7>. 110 Pages. Springer
3. **Mustafa El-Rawy** (2014). *Lecture notes in Irrigation and Drainage Engineering*. In Arabic. 110 Pages.

Chapters:

1. **Introduction: Setting the Scene**
W Zijl, F De Smedt, M El-Rawy, O Batelaan
The Double Constraint Inversion Methodology, 1-14
2. **Foundations of Forward and Inverse Groundwater Flow Models**
W Zijl, F De Smedt, M El-Rawy, O Batelaan
The Double Constraint Inversion Methodology, 15-33
3. **The Pointwise Double Constraint Methodology**
W Zijl, F De Smedt, M El-Rawy, O Batelaan
The Double Constraint Inversion Methodology, 35-55
4. **Time Dependency**
W Zijl, F De Smedt, M El-Rawy, O Batelaan
The Double Constraint Inversion Methodology, 57-74
5. **Case Study Kleine Nete: Observation Error and Uncertainty**
W Zijl, F De Smedt, M El-Rawy, O Batelaan

The Double Constraint Inversion Methodology, 75-86

6. The Zone-Integrated Double Constraint Method

W Zijl, F De Smedt, M El-Rawy, O Batelaan

The Double Constraint Inversion Methodology, 87-98

7. Summary and Conclusions

W Zijl, F De Smedt, M El-Rawy, O Batelaan

The Double Constraint Inversion Methodology, 99-110

Published papers

1. Abdelrady, A., Sharma, S., Sefelnasr, A., **El-Rawy, M.** and Kennedy, M., 2020. Analysis of the Performance of Bank Filtration for Water Supply in Arid Climates: Case Study in Egypt. **Water**, 12(6), p.1816. <https://doi.org/10.3390/w12061816>. (IF= 2.544).
2. **El-Rawy, M.**, Batelaan, O., Buis, K., Anibas, C., Mohammed, G., Zijl, W. and Salem, A., 2020. Analytical and Numerical Groundwater Flow Solutions for the FEMME-Modeling Environment. **Hydrology**, 7(2), p.27. <https://doi.org/10.3390/hydrology7020027>
3. **Mustafa El-Rawy**, Florimond De Smedt (2020). Estimation and Mapping of the Transmissivity of the Nubian Sandstone Aquifer in the Kharga Oasis, Egypt. **Water** 2020, 12(2), 604; <https://doi.org/10.3390/w12020604>. (IF = 2.524).
4. Ali Salem, József Dezső, **Mustafa El-Rawy**, Dénes Lóczy (2020). Hydrological Modeling to Assess the Efficiency of Groundwater Replenishment through Natural Reservoirs in the Hungarian Drava River Floodplain. **Water** 2020, 12(1), 250; <https://doi.org/10.3390/w12010250>. (IF = 2.524).
5. Ali Al-Maktoumi, Slim Zekri, **Mustafa El-Rawy**, Osman A Abdalla, Rashid Al-Abri, Chefi Triki, Mohammad Reza Bazargan Lari (2020). Aquifer storage and recovery, and managed aquifer recharge of reclaimed water for management of coastal aquifers. **Desalination and Water Treatment**, 176: 67-77. IF= 1.234
6. **El-Rawy, M.**, Abdelrahman, M.A. And Ismail, E., 2020. Integrated Use of Pollution Indices and Geomatics to Assess Soil Contamination and Identify Soil Pollution Source in El-Minia Governorate, Upper Egypt. *Journal of Engineering Science and Technology*, 15(4), pp.2223-2238.
7. Abdelmawgoud, A.H., **El-Rawy, M.** and Moussa Abu Bakr, A., 2020. Evaluating the Suitability of Groundwater Quality for Drinking and Irrigation Purposes in El-Minia Governorate, Egypt. *Journal of Advanced Engineering Trends*.
8. Awad, A.; Eldeeb, H.; and **El-Rawy, M (2020)**. Assessment of surface water and groundwater interaction using field measurements: A case study of Dairut City, Assuit, Egypt. **Journal of Engineering Science and Technology**, 2020. 15 (1).
9. **El-Rawy M.**, Fathi H, Abdallah F. (2019). Integration of remote sensing data and in-situ measurements to monitor the water quality of the Ismailia canal, Nile Delta, Egypt. **Environmental Geochemistry and Health** (IF = 3.252). [doi:10.1007/s10653-019-00466-5](https://doi.org/10.1007/s10653-019-00466-5)
10. **Mustafa El-Rawy**, Ismail, E.; and Osman, A. (2019). Assessment of Groundwater Quality Using GIS, Hydrogeochemistry, and Factor Statistical Analysis in Qena governorate, Egypt. **Desalination and Water Treatment**, 162:14–29. DOI: <https://doi.org/10.5004/dwt.2019.24423>. IF= 1.234

11. Wouter Zijl, **Mustafa El-Rawy** (2019). The evolution from an unsteady to a steady mixing zone between two groundwater flow systems with different concentrations. *Alexandria Engineering Journal*. <https://doi.org/10.1016/j.aej.2019.06.003>. (ISI, **IF = 3.696**).
12. **Mustafa EL-RAWY**, Ali AL-MAKTOUMI, Slim ZEKRI, Osman ABDALLA, Rashid AL-ABRI (2019) Hydrological and economic feasibility of mitigating a stressed coastal aquifer using managed aquifer recharge: a case study of Jamma aquifer, Oman. *Journal of Arid Land*, 11, 1, 148–159. <https://doi.org/10.1007/s40333-019-0093-7>. **IF=1.357**
13. Ali Salem, József Dezső, **Mustafa El-Rawy** (2019). Assessment of Groundwater Recharge, Evaporation, and Runoff in the Drava Basin in Hungary with the WetSpa Model. *Hydrology (MDPI)*, 6 (23): 1-11.
14. Ismail, E., and **El-Rawy, M.** (2018). Assessment of groundwater quality in West Sohag, Egypt. *Desalination and Water Treatment*, 123:101-108. DOI: <https://doi.org/10.5004/dwt.2018.22687>. **IF= 1.234**
15. **Mustafa El-Rawy**, Florimond De Smedt; Wouter Zijl (2018). Zone integrated double constraint methodology for calibration of hydraulic conductivities in grid cell clusters of groundwater flow models. *Transport in Porous Media* 122 (3): 633–645. **IF= 2.205** <https://doi.org/10.1007/s11242-018-1018-1>
16. Florimond De Smedt; Wouter Zijl, **Mustafa El-Rawy** (2018). Double constraint method for analysis of a pumping test. *Journal of Hydrologic Engineering*, 23(7): 06018003. **IF = 1.694**.
17. Salem, A., Dezső, J., Lóczy, D., El-Rawy, M., Slowik, M. (2018) Modeling Surface Water-Groundwater Interaction in an Oxbow of the Drava Floodplain: Proceeding of 13th International Conference on Hydroinformatics (HIC 2018), 1 - 6 July, Palermo –Italy.
18. Heba Fathi and **Mustafa El-Rawy** (2018).GIS-Based Evaluation of Water Quality Index for Groundwater Resources nearby Wastewater Treatment Plants, Egypt. *Pollution Research*, 37 (1): 105-116
19. Ali Al-Maktoumi, Slim Zekri, **Mustafa El-Rawy**, Anvar Kacimov, Osman Abdalla, Chafi Triki, Rashid Al-Abri, Mohammad Reza Bazargan--Lari, Yu.V.Obnosov. 2017. Hydrological and Economical Feasibility of Managed Aquifer Recharge Using Treated Wastewater for Managing Stressed Coastal Aquifers, Oman. In Abstracts of the 3rd International Symposium on Flash Floods in Wadi Systems “Disaster Risk Reduction and Water Harvesting in the Arab Region”, Muscat, Oman, Dec. 5-7, 2017, Session 2.2.
20. Al-Maktoumi A, **El-Rawy M**, Zekri S. (2016). Management options for a multipurpose coastal aquifer in Oman. *Arabian Journal of Geosciences* 9 (14), 636. **IF= 1.224**.
21. **El-Rawy M**, Zlotnik VA, Al-Raggad M, Al-Maktoumi A, Kacimov A, Abdalla O. (2016). Conjunctive use of groundwater and surface water resources with aquifer recharge by treated wastewater: evaluation of management scenarios in the Zarqa River Basin, Jordan. *Environmental Earth Sciences* 75 (15), 1146. **IF= 1.765**.
22. **El-Rawy M**, De Smedt F, Batelaan O, Schneidewind U, Huysmans M, Zijl W. (2016). Hydrodynamics of porous formations: Simple indices for calibration and identification of spatio-temporal scales. *Marine and Petroleum Geology*, 78: 690 - 700. **IF= 2.788**.
23. Nagels K, Schneidewind U, **El-Rawy M**, Batelaan O, De Becker P. (2015). Hydrology and ecology: how Natura 2000 and Military use can match. *Ecological Questions Journal* 21: 79-85.

24. Ali Al-Maktoumi, Slim Zekri, **Mustafa El-Rawy**, Osman A Abdalla, Malik Al-Wardy, Ghazi Ali Al-Rawas, Yassine Charabi (2017). Impacts of Climate Change on Coastal Aquifers in Northern Oman. Conference Paper: 12th Gulf Water Conference: Water in the GCC Towards Integrated Strategies. At Crowne Plaza, Manama - Kingdom of Bahrain, 28-30 MAR 2017.
25. Kacimov, A.R., A. Al-Maktoumi, V. Zlotnik, M. Al Raggad, **M. El-Rawy** (2016). Hydraulic and Modeling Aspects of Managed Aquifer Recharge in Arid Regions: Oman and Jordan. The 9th International Symposium in Managed Aquifer Recharge. 20-24 June 2016, Mexico City, Mexico.
26. **El-Rawy M**, Zlotnik VA, Al-Maktoumi A, Al-Raggad M, Kacimov A, Abdalla O. (2016). Evaluation of Managed Aquifer Recharge Scenarios using Treated Wastewater: a Case study of the Zarqa River Basin, Jordan. EGU General Assembly Conference Abstracts 18, 13206.
27. Slim Zekri; Ali Al-Maktoumi; **Mustafa El-Rawy**; Edda Kalbus; Osman Abdalla (2016). Sea Level Rise, Groundwater and the Future of Agriculture in Oman. 43rd IAH Congress Groundwater and society: 60 years of IAH. September 25-29th, 2016. Montpellier, France
28. Ali Al-Maktoumi, Slim Zekri, and **Mustafa El-Rawy** (2016). Managed Aquifer Recharge Using Treated Wastewater: An Option to Manage a Coastal Aquifer In Oman For Better Domestic Water Supply. Geophysical Research Abstracts, Vol. 18, EGU2016-14, 2016, EGU General Assembly 2016.
29. Ali Al-Maktoumi, **M. El-Rawy** and S .Zekri, O. Abdalla (2016). Feasibility of Managed Aquifer Recharge in Managing a Coastal Aquifer for Urban Purposes: Case Study of Samail Lower Catchment Aquifer, Oman. International Water Conference: Water Resources in Arid Zones: the Way Forward”, Sultan Qaboos University, Muscat, Oman, March 2016.
30. Ali Al-Maktoumi, **Mustafa El-Rawy**, Slim Zekri and Osman Abdalla (2015). Managed aquifer recharge using treated wastewater to mitigate seawater intrusion along the Jamma coastal aquifer, Oman. Conference Paper: International Congress of the International Water Association (IWA), 18 – 22 October, Amman, Jordan.
31. Ali Al-Maktoumi, **Mustafa El-Rawy** and Slim Zekri (2015). The Role of Managed Aquifer Recharge in Management of a Coastal Aquifer for Urban Purposes: Case Study of Samail Lower Catchment Aquifer, Oman. Poster presented at Sultan Qaboos University Day, 3-5 May 2015, Muscat, Oman.
32. Hazem ElDeeb, **M. El-Rawy** and E. Habib (2015). Water Resources Management Considering Climate Changes: Case Study of El Minia Governorate, Egypt. Abstract and Oral presentation in American Water Resources Association 2015 SUMMER SPECIALTY CONFERENCE Climate Change Adaptation June 15-17, 2015, New Orleans, Louisiana, USA.
33. ElDeeb H., **El-Rawy M.**, and Habib E. (2015). Water Resources Management: Case Study of El Minia Governorate, Egypt. International Journal of Scientific & Engineering Research, Volume 6, Issue 6: 48 -55.
34. **M.A. El-Rawy**, O. Batelaan, Wouter Zijl (2015). A Simple Method to Apply Measured Flux and Head Data for the Estimation of Regional Hydraulic Conductivities. Conference Paper: First EAGE / TNO Workshop Basin hydrodynamics in Relation to their Contained Resources, 6–8 May 2015, Utrecht, The Netherlands.

35. **M.A. El-Rawy**, O. Batelaan and W. Zijl. 2015. Simple Hydraulic Conductivity Estimation by the Kalman Filtered Double Constraint Method. *Ground Water*, 53(3):401-13. doi: 10.1111/gwat.12217
36. Wouter Zijl, **Mustafa El-Rawy**, Okke Batelaan and Marek Nawalany, 2013. Numerical Flow Systems Analysis Based on Two Water Table Conditions: Tóth's Head Condition and the Conventional Recharge Condition. The 14th SCBA International Symposium, the Third Announcement, July 18-22, 2013, Xi'an, Shaanxi, China, 8 pp.
37. **El-Rawy, A. M.**, Mohammed, G.A., Zijl, W., Batelaan, O., 2012. DETERMINATION OF HYDRAULIC CONDUCTIVITIES: AN EXTENSION OF THE VELOCITY ORIENTED APPROACH. In: The 39th IAH Congress, 16 – 21 September, 2012, Niagara Falls, Canada. 10pp.
38. **El-Rawy, A. M.**, Mohammed, G.A., Zijl, W., Batelaan, O., and De Smedt, F., 2011. Inverse modeling combined with Kalman filtering applied to a groundwater catchment. In: Proceedings of the MODFLOW AND MORE conference, 6-8 June, 2011, Golden, U.S.A. 5pp.
39. **El-Rawy, A. M.**, Zijl, W., Batelaan, O., and Mohammed, G.A., 2010. Application of the Double Constraint Method combined with MODFLOW. In: International Groundwater Symposium. 22-24 September, 2010, Valencia, Spain, 10pp.
40. **El-Rawy, A. M.**, Zijl, W., Batelaan, O. 2014. Calibration of Hydraulic Conductivities by the Kalman Filtered Double Constraint Method. In: Geophysical Research Abstracts, EGU2014-5569. European Geophysical Union, Vienna, 27 April – 02 May 2014.
41. Batelaan, O., **El-Rawy, M.**, Schneidewind, U., and De Becker, P., 2013. Scenario modelling of drainage impact of a groundwater-dependent heath ecosystem, Belgium. Geophysical Research Abstracts, vol. 15, EGU2013-6710-1. European Geophysical Union.
42. Zijl, W., **El-Rawy, M.**, and Batelaan, O., 2013. Modeling Groundwater Flow using both Neumann and Dirichlet Boundary Conditions. Geophysical Research Abstracts, vol. 15, EGU2013-12882. European Geophysical Union.
43. **El-Rawy, M.**, Batelaan, O., Zijl, W., 2013. Upscaling of hydraulic conductivity using the Double Constraint Method. Geophysical Research Abstracts, vol. 15, EGU2013-12953. European Geophysical Union.
44. **El-Rawy, M. A.**, Zijl, W., and Batelaan, O., 2012. Improving the Characterization of Hydraulic Conductivities using the Double Constraint Method and the Kalman Filter. In: The 39th IAH Congress, 16 - 21, September, 2012, Niagara Falls, Canada.
45. Batelaan, O. **El-Rawy, M.**, Schneidewind, U., Dams, J. and De Becker, P., 2012. Role of groundwater flow systems in the ecology of wetlands. In: The 39th IAH Congress, 16 - 21, September, 2012, Niagara Falls, Canada.
46. Schneidewind, U., **El-Rawy, M.**, Bashir, I., Abdollahi, Kh., De Becker, P., Zijl, W., and Batelaan, O., 2012. Groundwater Modeling and Ecosystem Management – The Case of Houthalen-Helchteren Military Domein. In: Meeting of the Hydrogeology Section 2012, Groundwater protection and groundwater use Models, analysis and applications. Meeting of the FH-DGG, 16-20 May 2012, Dresden, Germany.
47. Schneidewind, U., **El-Rawy, M.**, De Becker, P., Batelaan, O., 2012. Analysis and Rehabilitation of a Groundwater-Dependent Ecosystem in Belgium. In: Geophysical Research Abstracts, vol. 14, EGU2012-3721. European Geophysical Union, Vienna.

48. Zijl, W., **El-Rawy, M.**, Mohammed, G.A., De Smedt, F., and Batelaan, O., 2011. An R&D Program to Solve the Flux Paradox: Solving Calderón's Problem combined with Kalman Filtering. In: Geophysical Research Abstracts, vol. 13, EGU2011-4659-2. European Geophysical Union, Vienna.

Undergraduate and Postgraduate Teaching Experience

Groundwater Hydrology, Groundwater modeling, Surface water hydrology, Hydraulics, Irrigation and Drainage, Water resources management, Design of Irrigation Structures, Water supply and Wastewater Engineering, Design of irrigation networks, Civil Engineering drawing.

Research Interests

Managed Aquifer Recharge, Groundwater-surface water interaction, groundwater management, groundwater modeling, climate change impact on water resources, seawater intrusion, Calibration, reuse treated wastewater for irrigation, groundwater recharge, inverse groundwater modeling, sensitivity analysis, Modeling watersheds using hydrological modeling packages, Water quality assessment.

Workshops attended or instructor

*Training course in: **Analytical and Numerical Modelling of Groundwater dynamics under Managed Aquifer Recharge***. As part of the PROJECT: **Managed Aquifer Recharge (MAR) using treated wastewater (TWW) in different geological settings of MENA Countries** (AID-OAA-TO-11-00049: Project code: 1001626 – 104). Project code: EG/DVC/WRC/14/02. May 18 -20, 2015, Sultan Qaboos University. (**Instructor**)

*Training course in the area of “**hydrogeology, well hydraulics, and analytical modeling of MAR**” using the first version of the developed toolbox by the University of Nebraska, Lincoln. August 16 – 19, 2015.* Organized by Al-Raggad in Jordan. For technical staff of the Ministry of Water, Water Authority of Jordan, University of Jordan staff and NGOs. (**Instructor**).

World Water Day 2015. Sultan Qaboos University, Muscat, 18th March 2015

Scientific Research Fields in Water Sector (changes & priorities). Sultan Qaboos University, Muscat, 24th September 2014.

PCRaster training workshop. October 6-7, 2009. VITO Berchem, Antwerpen, Belgium,

Analysing Natural and Anthropogenic Influences on Groundwater Quality. Tuesday, January 19, 2010. The workshop is organized by Leuven Sustainable Earth (LSUE), Research Center, Leuven, Belgium.

Global Sensitivity Analysis Techniques for Probabilistic Groundwater Modeling. The workshop is offered in conjunction with IAHR International Groundwater Symposium in Valencia, Spain, September 22-24, 2010. By Prof. Srikanta Mishra (Battelle Memorial Institute, Columbus, Ohio, USA).

Estimating Rates of Groundwater Recharge. IAHR Congress, September 2012, by Prof. Rick Healy (U.S. Geological Survey, USA) and Bridget Scanlon (Jackson School of Geosciences, Univ. TX at Austin).

Research project

(April – June) 2015 **National Climate Affairs Management Strategy for the Sultanate of Oman**. Code number: **CR/AR/GEOG/14/01**. (Working as researcher with the project)

PI at Sultan Qaboos University, Oman).

2014 -2015: ***Managed Aquifer Recharge using Treated Wastewater in Different Geological Setting of MENA Countries.*** Code number: **EG/DVC/WRC/14-02.** Project: AID-OAA-TO-11-00049: Project code: 1001626 – 104. Funded by USAID. (Working as researcher with the project PI at Sultan Qaboos University, Oman).

2012-2013: ***Simulation of measures for restoration of wet heather vegetation at the 'Schietveld of Houthalen-Helchteren' via groundwater modelling.*** Research project for Administration Nature and Forestry, Belgium. Code number: **LNE/ANB/LIM-2010/10.** (Working as researcher with the project PI at Vrije Universiteit Brussel, Brussels, Belgium).

Awards

Oct. 2015 – March. 2016 : *Postdoctoral Fellowship* at Department of Hydrology and Hydraulic Engineering, Vrije Universiteit Brussel, Brussels, Belgium.

Sept. 2014 – Sept. 2014 : *Postdoctoral Fellow*, Water Research Center and College of Agriculture and Marine Sciences, Sultan Qaboos University, Muscat, Oman.

Sept. 2006 – Sept. 2008 : *Scholarship from VLIR* (The Council of Flemish Universities), Belgium, to obtain M.Sc. degree. *The scholarship funded by the federal government of Belgium.*

Apr. 2009 –Mar. 2013 : *Scholarship* from Erasmus Mundus External Cooperation window (EMECW) Programme and Vrije Universiteit Brussel (VUB), Belgium, to obtain Ph.D. degree. *The scholarship funded by European Union (EU) and VUB.*

Final Report: Batelaan, O., El-Rawy, M., Schneidewind, U., De Becker, P., Herr, C., 2012. Doorrekenen Van Maatregelen Voor Herstel Van Vochtige Heidevegetaties op Het Schietveld Van Houthalen-helchteren via Grondwatermodellering (Scenario Analysis and Groundwater Modeling for the Rehabilitation of Wet Heathlands at Houthalen-helchteren Military Domain). Final Report. Brussels, Belgium, 250 pp.

[https://pureportal.inbo.be/portal/en/publications/doorrekenen-van-maatregelen-voor-herstel-van-vochtige-heidevegetaties-op-het-schietveld-van-houthalenhelchteren-via-grondwatermodellering\(0f35e814-9b75-403d-b3b0-33bb699e2d85\).html](https://pureportal.inbo.be/portal/en/publications/doorrekenen-van-maatregelen-voor-herstel-van-vochtige-heidevegetaties-op-het-schietveld-van-houthalenhelchteren-via-grondwatermodellering(0f35e814-9b75-403d-b3b0-33bb699e2d85).html)

Postgraduate Student Supervision (PhD and MSc)

- Haitham Mohamed Amin (PhD. in progress). **Improvement of Partially Treated Wastewater Quality by Soil Aquifer Treatment.** Civil Engineering Department, Faculty of Engineering, Minia University.
- Heba Fathi (PhD. in progress). **Environmental threats on groundwater due to treated wastewater disposal site at north-east of Cairo, Egypt.** Civil Engineering Department, Faculty of Engineering, Minia University.
- Amany Farag (MSc. in progress). **Analysis and evaluation of water distribution network of El-Minia city.** Civil Engineering Department, Faculty of Engineering, Minia University.
- Aya Hosny (MSc. in progress). **Development of Groundwater Flow Model for the Western Part of the River, El-Minia Governorate.** Civil Engineering Department, Faculty of Engineering, Minia University
- Yohannes Tadesse (2010). **Groundwater-Surface water Interaction Modeling of the Grote Nete Catchment Using GSFLOW.** Master programme: Physical of Land Resources, Vrije Universiteit Brussel (VUB). Brussels, Belgium.
- Paul Kaweesa (2011). **Implication of climate change scenarios on the groundwater system of an urban catchment.** Master programme: Water Resources Engineering (IUPWARE), Vrije Universiteit Brussel (VUB). Brussels, Belgium.
- Ahmed Elwan (2011). **Groundwater Modelling of the Paddenpoel Catchment,** Belgium. Master programme: Physical of Land Resources programme, Vrije Universiteit Brussel (VUB). Brussels, Belgium.

As Jury Member

- Lameck Phiri (2010). **Development of Groundwater-Surface water Model for the Grote Nete Catchment Using WetSpa& MODFLOW.** Master programme: Physical of Land Resources programme, Vrije Universiteit Brussel (VUB). Brussels, Belgium.
- Alvin Rujweka (2011). **Surface -subsurface modelling: Coupling of WetSpa with MODFLOW.** Master programme: Water Resources Engineering (IUPWARE), Vrije Universiteit Brussel (VUB). Brussels, Belgium.
- Marcella Schüler (2012). **Modeling of Groundwater Surface Water Interaction in the Upper Catchment of the Biebrza River Poland.** Master programme: Water Resources Engineering (IUPWARE), Vrije Universiteit Brussel (VUB). Brussels, Belgium.

Memberships

- Coordinator of Strategic Planning Standard at Faculty of Engineering, Minia University (March 2017 - Present).
- Institution of Civil Engineers – ICE Minia University Chapter (March 2017 - present)
- The consulting unit of Faculty of Engineering, Minia University (June 2013 - present)
- The syndicate of Egyptian Engineers (2003 – present).

Courses of Faculty and Leadership Development Project

- Effective communication skills (2005)
- Quality standards (2008)
- Exam systems and evaluation of students (2008)
- Effective presentation (2008)
- Scientific Publishing (2008)
- Professional ethics (2009)
- Strategic Planning (2013)
- Management of Research Team (2013)
- Financial and legal aspects (2013)
- Create personal websites (2016)
- Use of Technology in Teaching and Learning (2016)
- Ethics of scientific research and international publication (2016)

Software Experience

- Groundwater Modeling (MODFLOW 2000, 2005, Visual MODFLOW, ModelMuse (GUI), Possessing MODFLOW,.....)
- Surface Water Modeling (WetSpa and WetSpaSS)
- WETSPRO: **W**ater **E**ngineering **T**ime **S**eries **P**ROcessing tool
- ECO: Hydrological extreme value analysis tool
- River Modelling (MIKE 11)
- GIS Tool (Arc view 3.2 a)
- Arc GIS 9.3;10, 10.2.2
- Remote Sensing (Idrisi32) and RS and GIS (ILWIS)
- Femme model: **F**lexible **E**nvironment for **M**athematically **M**odelling the **E**nvironment
- Matlab2008a
- ETo calculator (Reference evapotranspiration, ETo)
- Upflow (upward water movement from a shallow water table to the root zone).

Documents are available upon request. For more information please feel free to contact on the up-mentioned (contact information)