

# CURRICULUM VITAE

## Ahmed M. Sefelnasr, DSc.

Associate Professor of Hydrogeology, Water Resources Management, Groundwater Flow/Transport Modeling and GIS applications  
Geology Department, Assiut University, Egypt

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### Personal Data

First Name:	Ahmed
Family Name:	Sefelnasr
Born:	4.11.1974
Family Status:	married, two children
Citizenship:	Egypt

### University Education

2007	Martin-Luther-University Halle Wittenberg, Germany DSc. Institute for Geosciences
2002	Assiut University Assiut, Egypt MSc. Geology Department, Faculty of Science
1996	Assiut University Assiut, Egypt BSc. Geology Department, Faculty of Science

### Academic Degree

2007	DSc. in Hydrogeology, Martin-Luther-University, Institute for Geosciences  Thesis: "Development of Groundwater flow model for water resources management in the development areas in the Western Desert, Egypt"
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2002	MSc in Hydrogeology, Assiut University, Geology Department, Faculty of Science
	Thesis: “Hydrogeological studies on some areas in the New Valley Governorate, Western Desert, Egypt.”
1996	BSc in Geology, Assiut University, Geology Department, Faculty of Science

## **Professional Appointments**

2008-Present	Assistant Professor of Hydrogeology, Groundwater Resources Management, Groundwater Flow/Transport Modeling, and GIS, Geology Department, Faculty of Science, Assiut University, Egypt
2012	Intern at Eastern Nile Technical Regional Office (ENTRO) in Addis Ababa, Ethiopia (Hotspot delineation and watershed management)
2011	Post Doctoral fellowship award from DAAD at the Martin Luther University, Germany
2004-2007	DAAD-doctorate. scholarship holder at the Martin-Luther-University, Halle Wittenberg, Germany
2002-2003	Training Fellowship, Integrated management and planning of water resources and wastewater, Saarbruecken, Mannheim, Cologne, Germany
2002-2008	Assistant lecturer of hydrogeology, Geology Department, Assiut University, Assiut, Egypt
1996-2002	Demonstrator of Geology, Geology Department, Assiut University, Assiut, Egypt

## **Academic Training**

Summer 2008	Institute for Geosciences, Halle Wittenberg, Germany Advanced GIS applications and groundwater flow/transport modeling in hydrogeology and environmental geology, modeling of complex aquifers, using programming scripts, 3D- modeling techniques, Geodatabase construction
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	and connection, Geo-Objects, one month course. An International course: As instructor
Summer 2006	Institute for Geosciences, Halle Wittenberg, Germany Advanced GIS applications in hydrogeology and environmental geology, integration of Visual Basic programming, application of different ArcGIS-extensions (Spatial Analyst, Geostatistical Analyst, 3D-Analyst), one month course. An international course: As instructor
Spring 2006	Institute for Geosciences, Halle Wittenberg, Germany Field training for hydrogeological and hydrogeochemical methods in Eschwege, Germany (Aquifer Test, water-groundwater sampling and analysis, runoff calculation, modeling, cartography): As instructor
Summer 2005	Institute for Geosciences, Halle Wittenberg, Germany International GIS training course for hydro- & Environmental geologists: As instructor
Autumn 2005	Institute for Geosciences, Halle Wittenberg, Germany Groundwater flow and transport modeling course for hydrogeologists, advanced course using MODFLOW and Feflow in modeling different cases: As instructor
Spring 2005	Institute for Geosciences, Halle Wittenberg, Germany Field training for hydrogeological and hydrogeochemical methods in Eschwege, Germany
Autumn 2004	Institute for Geosciences, Halle Wittenberg, Germany Groundwater flow modeling course for hydrogeologists, introductory course using MODFLOW
Summer 2004	Institute for Geosciences, Halle Wittenberg, Germany ArcGIS 8.x training course for hydro- & Environmental geologists An introduction to GIS and ArcGIS 8 and its applications in hydrogeology: As instructor
Summer 2003	InWent Ltd., Cologne, Germany

2002-2003	Environmental Impact Assessment and Projects Assessment, Project planning and management
	InWent (CDG) Ltd., Saarbruecken and Mannheim, Germany Integrated management and planning of water resources and wastewater: Treatment methods for groundwater and surface water and adapted technologies, Planning and construction of water treatment plants, Development of Environment Monitoring Programs, Adapted Technologies in Water and Waste Water Treatment- Low Cost Solutions, Water catchment utilities, Disinfection methods in water treatment, Planning and construction of water mains, Water Network Design, Irrigation techniques, SWOT analysis, water and sustainable management
Summer 1995	GPC. The Egyptian General Petroleum Company, Ras Ghareb, Egypt Geophysical interpretations

## Language Skills

Arabic:	Mother tongue
English:	Excellent
German:	Fluent
French:	pour

## Computer Skills and Software

GIS	GIS (ArcView, ArcInfo, GRASS, SAGA, Quantum GIS, TatukGIS, MapWindow GIS, WGeo)
Modeling Systems	Both finite element and finite difference groundwater flow/transport modeling systems like (Modflow, Visual Modflow and Feflow)
Aquifer & Well	Aquifer test, AquaChem, GeoDin, HydroGeoAnalyst
Database Management	SQL, HydroGeoAnalyst, GeoDin, GeoDatabase Structure and compilation
DEM & Gridding	Surfer, GlobalMapper, MicroDEM, 3D-DEM, VarioWin

Vector, Raster & Drawing	CorelDraw, CorelPhotoPaint, PhotoShop, PaintShop, GIMP
Word & Sheet processing	Microsoft Office, WordPerfect, OpenOffice, TextPad
Operating Systems	Windows and Linux
Codes	Visual Basic, Fortran, and C++ (basic knowledge)

## **Fields of Interest**

Groundwater Flow/Transport Modeling, Water Resources Management, planning & Protection, Saltwater Intrusion, Vulnerability assessment, Transboundary Aquifer Systems, Groundwater–Surface Water interaction, Water Resources in Arid regions, Surface Water Hydrology Modeling, Drainage Systems and Basin analysis, GIS applications for water resources and watershed management.

## **Activities and Membership**

Award of the Marquis “Who is Who” 31<sup>st</sup> Edition, 2014  
 Member in the Egyptian Geological Society  
 Member in the International Association of Hydrogeologists (IAH)  
 Member in the Geological Society of America (GSA)  
 Member in the American Water Resources Association (AWRA)  
 Reviewer for the several scientific journals

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## Publications

- Sherif, M, **Sefelnasr, A**, Ebraheem, AM, Javadi, A (2014). Possible Impacts of Climate Changes on Freshwater in Coastal Aquifers. The 2014 International conference on Marine and Freshwater Environments, Newfoundland and Labrador, Canada.
- Sefelnasr, A**, Abdel Moneim, A, Abu El-Magd, Sh (2014). 3D-Groundwater flow modeling for water level-rise detection and recharge determination at an old archaeological site: Abydos, Sohag, Egypt. 11<sup>th</sup> International Conference on the Geology of the Arab World (GAW11), Cairo, Egypt.
- Sefelnasr, A**, Abdel Moneim, A, Abu El-Magd, Sh (2014). Groundwater level-rise monitoring and recharge determination at an old archaeological site: Abydos, Sohag Egypt. 2<sup>nd</sup> International Conference on Advanced basic and Applied sciences (ABAS2), Ain Sokhna, Egypt.
- Sefelnasr, A**, Gossel, W, Wycisk, P (2013). Groundwater management options in an arid environment: the Nubian Sandstone Aquifer System, Eastern Sahara. Journal of Arid Environments, (in press).
- Sefelnasr, A**, Gossel, W, Wycisk, P (2013). Three dimensional groundwater flow modeling approach for the groundwater management options for the Dakhla oasis, Western Desert, Egypt. Environmental Earth Sciences, DOI: 10.1007/s12665-013-3041-4.
- Sefelnasr, A**, Abdelrady, A (2013). GIS-based groundwater modeling for assessment and predicting of groundwater vulnerability at El-Shallal Village, Aswan, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Sefelnasr, A**, Soltan, N, Gameh, M, Bakheit, A (2013). Chemical and physical evaluation of the Nubian Aquifer System in Kharga Oasis, Western Desert, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Sefelnasr, A**, Shobak, R, Omran, A, Keheila, E (2013). Flash Flood Analysis and Risk Assessment of Wadi El-Ibrahimi using GIS, Eastern of Assiut City, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Sefelnasr, A**, Atwiya, M, Khalil, SS (2013). GIS-based groundwater resources management of the Pliocene Aquifer using numerical modeling, Wadi El-Natron, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Sefelnasr, A**, Senosy, M, Abd El-Latif, R (2013). Temporal Depth-Based Groundwater Quality Evaluation for the Quaternary Aquifer, Dairut District, Assiut, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Sefelnasr, A**, Omran, A, Hassan A, El Tahawy, W (2013). Parameter estimation and aquifer evaluation approach: the Quaternary Aquifer, Assiut Governorate, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.
- Shaaban, M, Saber, M, **Sefelnasr, A**, Bakheit, A (2013). Groundwater potential mapping of hard rock aquifers using several integrated techniques along Qift-El-Quseir Road,

Eastern Desert, Egypt. 7<sup>th</sup> International Conference on the Geology of Africa, November, 24-26. Geology Dept., Fac. Sci., Assiut University, Assiut, Egypt.

- Omran, A, **Sefelnasr**, A, Hassan A, El Tahawy, W (2013). Integrated Formation Evaluation of Quaternary Aquifer in Assiut Governorate, Nile Valley, Egypt, based on vertical resistivity soundings and well logging analysis. 10<sup>th</sup> Meeting of the Saudi Society for Geosciences „Geosciences for Sustainable Development”, April, 15-17. KFUPM Campus, Dhahran, Saudi Arabia.
- Sefelnasr**, A (2013). Aquifer vulnerability assessment using GIS and DRASTIC approach: the Nile Valley Aquifer, Assiut Governorate, Egypt. Geological Society of America (GSA) abstracts with programs, Vol. 45 (7), p 696.
- Sefelnasr**, A (2013). Hotspot Delineation in the Eastern Nile, Abbay/Blue Nile Basin, as a criterion for the optimal risk assessment and watershed management of the basin. 1<sup>st</sup> international conference on New Horizons in Basic and Applied Science (ICNHBAS 2013), Hurghada, Egypt.
- Sherif, M, **Sefelnasr**, A, Ebraheem, AM, Javadi, A (2013). Quantitative and Qualitative Assessment of Seawater Intrusion in Wadi Ham under Different Pumping Scenarios. Journal of Hydrologic Engineering, DOI: 10.1061/(ASCE)HE.1943-5584.0000907.
- Sefelnasr**, A, Sherif, M (2013). Impacts of seawater rise on seawater intrusion in the Nile Delta Aquifer, Egypt. Groundwater, DOI: 10.1111/gwat.12058.
- Gossel, W, **Sefelnasr**, A, Wycisk, P (2012). Saltwater Intrusion Balances in the Nubian Aquifer System. In: Rausch, R., Schüth, C. & T. Himmesbach (eds.). Hydrogeology of Arid Environments, 43-48.
- Sherif, M, **Sefelnasr**, A, Javadi, A (2012). Areal Simulation of Seawater Intrusion Problems using FEFLOW. ASCE/EWRI World Environment and Water Resources Congress, Albuquerque, New Mexico, 20-24 May 2012.
- Sefelnasr**, A (2012). Estimation of groundwater recharge from Lake Nasser using numerical modeling. Geology of Nile Basin Conference (GNBCC): Alexandria University, Alexandria, Egypt, 20-22. March, 2012.
- Shobak, R, **Sefelnasr**, A, Omran, A, Keheila, E (2012). Flash Flood Analysis and Risk Assessment of Wadi El-Ibrahimi using GIS, Eastern of Assiut City, Egypt. The second JE-HydeoNet symposium on the Nile River System and the Nile Delta of Egypt, March 20-21, German University in Cairo, Egypt.
- Abd El-Latif, R, Senosy, M, **Sefelnasr**, A (2012). Evaluation of groundwater for drinking and domestic uses in Dairut district, Egypt. The second JE-HydeoNet symposium on the Nile River System and the Nile Delta of Egypt, March 20-21, German University in Cairo, Egypt.
- Soltan, N, **Sefelnasr**, A, Bakheit, A, Gameh, M, (2012). Chemical and physical evaluation of the Nubain Aquifer System in Kharga Oasis, Western Desert, Egypt. The second JE-HydeoNet symposium on the Nile River System and the Nile Delta of Egypt, March 20-21, German University in Cairo, Egypt.
- El Dakar, M, **Sefelnasr**, A, Senosy, M, Doas, N (2012). Surface water – Groundwater interaction and its impact on the groundwater quality of the Nile Valley Aquifer, Assiut, Egypt. The second JE-HydeoNet symposium on the Nile River System and the Nile Delta of Egypt, March 20-21, German University in Cairo, Egypt.

- Saber, M, Shaaban, M, **Sefelnasr, A**, Bakheit, A, Senosy, M (2012). An integrated study of hard rock aquifers in the Eastern Desert, Egypt. International Conference on Hydrology & Ground Water Expo, San Antonio, USA.
- Sherif, M, **Sefelnasr, A**, Javadi, A (2012). Incorporating the concept of equivalent freshwater head in successive horizontal simulations of seawater intrusion in the Nile Delta aquifer, Egypt. *Journal of Hydrology*: 464–465 (2012) 186–198.
- Kantoush, SA, Sumi, T, Kojiri, T, Saber, M, Elshennawy, I, Awad, H, **Sefelnasr, A** (2011). JE-HydroNet: Modern Methodologies for the Management, Monitoring and Planning of Integrated Water Resources in the Nile Delta of Egypt. The 34th World Congress of the International Association for Hydro-Environment Engineering and Research (IAHR). Brisbane, Australia, 26<sup>th</sup> June to 1<sup>st</sup> July, 2011.
- Sherif M, **Sefelnasr, A**, Javadi, A (2011). Two-Dimensional Horizontal Simulation of Variable Density Flow in Coastal aquifers. Symposium on Water Security, Organized by Oman Research Council and the British Council Muscat, 19-21 March 2011.
- Sefelnasr, A** (2010). Impact of saltwater intrusion on the groundwater availability in the Nile Delta Aquifer. 1<sup>st</sup> Symposium of Japan Egypt Hydro Network (JE-HydroNet): Modern Methodologies for the Management, and Planning of Integrated Water Resources in Nile Delta. DPRI, Kyoto University, Japan, 24.-26. October, 2010.
- Sefelnasr, A** (2010). Flash flood control and utilization using Hydrologic Information System. 1<sup>st</sup> Symposium of Japan Egypt Hydro Network (JE-HydroNet): Modern Methodologies for the Management, and Planning of Integrated Water Resources in Nile Delta. DPRI, Kyoto University, Japan, 24.-26. October, 2010.
- Gossel, W, **Sefelnasr, A**, Weise, SM, Friese, K, Stefanova, A, Wycisk, P (2010). Hydrochemical and isotope analysis of deep groundwater from the Nubian Aquifer system in the Egyptian Oases. XXXVIII IAH Congress, Abstract Book (Groundwater Quality Sustainability), Vol. 1&2 (ID: 158): 519, Krakow 12-17 September 2010.
- Gossel, W, **Sefelnasr, A**, Wycisk, P (2010). Modelling of paleo-saltwater intrusion in the northern part of the Nubian Aquifer System, Northeast Africa. *Hydrogeology Journal*, 18 (6): 1447-1463.
- Gossel, W, **Sefelnasr, A**, Ebraheem, A, Wycisk, P (2008). A GIS-based flow model for groundwater resources management in the development areas in the eastern Sahara, Africa. In: Adelana SMA & MacDonald AM (eds): *Applied Groundwater Studies in Africa*. IAH Selected Papers on Hydrogeology. Volume 13: 43-64, CRC Press/Balkema, Leiden, The Netherlands.
- Gossel, W, **Sefelnasr, A** (2008). Retrospective and predictive modeling of the saltwater intrusion in the northern Nubian Aquifer System (eastern Sahara). International Interdisciplinary Conference on Predictions for Hydrology, Ecology, and Water Resources Management: Using Data and Models to Benefit Society, 15–18 September 2008, Prague.
- Sefelnasr, A** (2008). GIS-Based Groundwater Flow Modeling. VDM Verlag Dr. Mueller, Saarbruecken, 171p.
- Wycisk, P, Al Assam, M, Akram, S, Al Mulla, M, Schlesier, D, **Sefelnasr, A**, Al Suwaidi, N B, Al Mehrizi, M S, Ebraheem, A (2008). Three-dimensional geological and groundwater flow modeling of drought impact and recharge potentiality in Khatt springs area, Ras al Khaimah Emirate, UAE. Proceedings of the WSTA 8<sup>th</sup> Gulf Water Conference 3-6 March 2008, Kingdom of Bahrain, 238-251.

- Sefelnasr, A** (2007). Development of groundwater flow model for water resources management in the development areas of the Western Desert, Egypt. DSc. thesis, Martin Luther University.
- Gossel, W, **Sefelnasr, A**, Ebraheem, A, Wycisk, P (2006). Large scale recharge modeling in the arid area of the eastern Sahara. In: Recharge systems for protecting and enhancing groundwater resources - Proceedings of the 5th International Symposium on Management of Aquifer Recharge, ISMAR5, Berlin, Germany, 11–16 June 2005, IHP-VI, Series on Groundwater No. 13: 877-882.
- Sefelnasr, A**, Gossel, W, Wycisk, P (2006). GIS-basierte Grundwasserströmungsmodellierung des Nubischen Aquifersystems, Westliche Wüste, Ägypten. SDGG – Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften, Heft 43, Kurzfassungen der Vorträge und Poster Tagung der Fachsektion Hydrogeologie in der DGG, 24.-28.05.06 in Cottbus, pp 161.
- Sefelnasr, A**, Gossel, W, Wycisk, P (2006). GIS-based groundwater flow modeling of the Eastern Sahara. 8th International Conference on the Geology of the Arab World, 13.-16. February 2006. Cairo, Egypt, 194-195.
- Ebraheem, A, Riad, S, Wycisk, P, **Sefelnasr, A** (2004). A local-scale groundwater flow model for modeling ground-water resources management options in Dakhla Oasis, SW Egypt. Hydrogeology Journal, 12 (6): 714-722.
- Ebraheem, A, Garamoon, H, Riad, S, Wycisk, P, **Seif El-Nasr, A** (2003). Numerical modeling of groundwater resource management options in the East Oweinat area, SW Egypt. Environmental Geology, 44 (4): 433-447.
- Ebraheem, A, Riad, S, Wycisk, P, **Seif El-Nasr, A** (2002). Simulation of impact of present and future groundwater extraction from the non-replenished Nubian Sandstone Aquifer in southwest Egypt. Environmental Geology, 43 (1-2): 188-196.
- Sefelnasr, A** (2002). Hydrogeological studies on some areas in the New Valley governorate, Egypt. MSc thesis, Assiut University.