



Sohag University



Curriculum Vitae

Name : Ashraf Ismail Embaby Ahmed.
Date of birth : December, 1, 1981.
Place of birth : Sohag, Egypt
Marital status : Single.
Citizenship : Egyptian.
Military status : Not applicable.
Local address : Faculty of Science, Geology Dept., Sohag, Egypt.
E-mail : ashraf_2004e@yahoo.co.uk
Current Job : Assistant professor of Hydrogeology
Work address : Geology Department, Faculty of Science, Sohag University, Sohag, Egypt.
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Postal code : 82524 Egypt
Degree : Ph.D and M. Sc. in Geology
Language skills: Arabic (native language)
: English (very good) International Toefol IPT (520).
: German "Deutsch" (good), study 400 hours, Grundstuf III.
: French (good)

Certificates

2012- 2015: Ph.D. of Science in Geology (Poitiers University, France)- Faculté des Sciences Fondamentales et Appliquées -Ecole Doctorale : Sciences pour l'Environnement Gay Lussac
Secteur de Recherche : Terres Solides et Enveloppe Superficielle
The title of the thesis:
«Groundwater properties and potentialities in the Precambrian rocks, Hafafit area, Southeastern Desert, Egypt »

2004-2009: Master of Science in Geology, Sohag University, Egypt
The title of the thesis:

"Geology of Wadi EL-Atrash Area, North Eastern Desert, Egypt."

2004: Preliminary of Master of Science in Geology, South Valley University, Egypt (Environmental Geochemistry, Very Good).

2002: Bachelor of Science in Geology, South Valley University, Egypt, 2002 (Very Good).

Affiliations:

- 1- **May 2003 to Jan. 2009:** Demonstrator, Geology Department. Faculty of Science, Sohag, South Valley University, Sohag, Egypt.
- 2- **Jan. 2009 – May 2012:** Assistant lecturer, Geology Department. Faculty of Science, Sohag University, Sohag, Egypt.
- 3- **May 2012 – December 2015:** PhD student, studying for the Ph.D., UMR CNRS 6269 HYDRASA (Hydrogeology, Clay, Soil and Alterations) Laboratory, UFR Basic and applied sciences, SFA - UMR 7285 - Institute of Chemistry of the Environment and Materials of Poitiers (IC2MP), University of Poitiers, France.
- 4- **December 2015 - May 2016:** Post-Doc in hydrogeology, UMR CNRS 6269 HYDRASA (Hydrogeology, Clay, Soil and Alterations) Laboratory, UFR Basic and applied sciences, SFA - UMR 7285 - Institute of Chemistry of the Environment and Materials of Poitiers (IC2MP), University of Poitiers, France.
- 5- **July 2016– till now:** Assistant professor of hydrogeology at Geology Department, Faculty of Science, Sohag University, Sohag, Egypt.
- 6- **Mining expert (+20 years) in Geological exploration, Mapping of economic ores and minerals, geological relations, and mining operation.**
- 7- **Mining Consultants in Abydos Mining Company (<https://www.abydos-mining.com/>) from January 2018-till now February 2024.**
7. **GIS and Remote Sensing Trainer in GIS and Remote Sensing Center, Faculty of Science, Sohag University.**

Computer skills and Experiences

ICDL (International Computer Drive License).

Mapping Software: ArcMap 10, Grass GIS 6.4.3 Global Mapper 15 and Quantum GIS 2.4.

Hydrochemical software: AquaChem 2014 5.1 Diagrams, Phreeq C

Remote sensing software: ENVI 5.1 and 4.2, 9.3 Erdase, Geomatica 10, Ilwis 3.3 and works 16 Rock.

Statistical software: Surfer 12, R Commander 3.0.2, Minitab 15, XLStat 10 and Statistica.

Groundwater Modeling Software: Groundwater Vistas 5 and ModFlow.

Geochemical Software: MINPET 2010.

Other software: Microsoft Office 2007 and 2010, Grapher 5, Inkscape and Corel Draw5 and 11.

Working Experiences

- **July, 2016**, Teaching Hydrogeology, structure and structure analysis courses for undergraduate students- Geology department- Faculty of science- Sohag University. Moreover, teaching of GIS and Cartography courses for undergraduate students in faculty of literature – Geography department-Sohag University.
- **May 2016 until now**, I have been working as lecturer of hydrogeology in Geology Department, Faculty of Science, Sohag University, Egypt.
- **December 2015 until May 2016**, I have been working as post doc. Position in Hydrasa, IC2MP, Faculty of Science and applications, University of Poitiers, Poitiers, France.
- **May 2012 until December 2015**, I have been working as Ph.D student in Hydrasa, IC2MP, Faculty of Science and applications, University of Poitiers, Poitiers, France.
- **May 2003 until May, 2012**, I have been working as a teacher and research assistant in Geology Department, Faculty of Science, South Valley University (Now Sohag University), Egypt.
- **2003-2012**, working as researcher in geology and geochemistry and practical teacher for all scientific students in geology for almost 10 years ago (for 30 hours per week) and mining geologist.
- Sharing the supervision of the Research Projects workers by the final year B.Sc. students from 2004 to 2012.
- Very good in computer skills and internet communications.
- Have a grade certificate from the Academy of the local Teacher Preparation in Faculty of Education, Sohag, South Valley University (having a grade certificate for that).
- Teaching practical Mineralogy, Petrology of igneous and metamorphic rocks, Basement rocks, Remote Sensing, geochemistry, structure, structure analysis, hydrochemistry, hydrogeology, photo geology and Economic Geology 2003-2012.
- Good experience in field and lab. work during M.Sc and Ph.D.
- Very good experience in writing the international articles in English.
- Very good in writing, reading and listening in English and good in reading, writing and listening French language.

Activities

Now, I am a chief member in GIS and Remote Sensing Center in Faculty of Science, Sohag University and responsible for the GIS and Remote sensing Trainer Courses.

Now, I am a chief member in Environmental & applied geochemistry lab in Sohag University and responsible for the groundwater & surface water sampling and analysis.

Training Programms 2014-2015 (France)

1. Financial and legal aspects of university business. Date from the 2nd to the 3rd of May 2023, through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

2. Strategic management and strategic planning in higher education institutions. Date the 30th of November, 2022; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

3. Fighting corruption and introducing it. Date from the 2nd to the 3rd of November, 2022; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

4. Communication skills in different education styles. Date from the 23th to the 24th of May 2022; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

5. Fundamentals of Digital Transformation Certificate, Modules (IT – Web Editing – Mobile App), 20 May 2021 in Center of Knowledge and e-services, Sohag University.

6. Description of programs and courses. Date from the 5th to 7th of July 2021; through Quality Assurance and Accreditation Center, Sohag University, Sohag, Egypt.

7. Description and reports of programmes, courses and course files. Date Monday, the 25th September 2017; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

Training Programms 2014-2015 (France)

1. Mangement of difficult situations, 15 hours, University of Poitiers, Poitiers, France.

2. Supervision of team work, 15 hours, University of Poitiers, Poitiers, France.

3. Societal aspects of information and communication technologies (ICTs) and sustainable development, 15 hours, University of Poitiers, Poitiers, France.

4. Ethics of Scientific research, 15 hours, University of Poitiers, Poitiers, France.

5. Nanotechnologies and their applications, 15 hours, La Rochelle, Université de La Rochelle, France.

6. End Note, 5 hours, University of Poitiers, Poitiers, France.
7. Electron microscopy, 5 hours, University of Poitiers, Poitiers, France.
8. Organic chemistry, 5 hours, University of Poitiers, Poitiers, France.
9. Laser Crack Measurement System (LCMS) Coupling, 5 hours, University of Poitiers, Poitiers, France.
10. X-ray Diffraction (XRD), 5 hours, University of Poitiers, Poitiers, France.
11. What is a digital image? Thursday, 28 May, 2015 in the auditorium of the Biology Health department, University of Poitiers, Poitiers, France.
12. What is a digital image? Tuesday, 30 June, 2015 in the auditorium of the Biology Health department, University of Poitiers, Poitiers, France.

Training Programms 2007-2011 (Egypte)

- 1."Introduction to Geographic Information Systems Applications": Date from the 11th of December to the 15th of December, 2010. In Faculty of Science according to Technology management & integrated modeling in Natural Resources: A university-Enterprise Win Partnerships (Tempus Project) in Sohag University at Faculty of Science incorporation with National Authority for Remote Sensing and Space Science (NARSS-Egypt), Sohag, Egypt.
2. "Different techniques of water and waste water treatment": Date from of 31th October to 4th of November, 2010, Sohag University at Faculty of Science, incorporation between Faculty of Science and Potable water and Sanitation Company in Sohag, Sohag, Egypt.
3. "Proposal Writing Workshop": Date in June 2010; Organized by Deutscher Akademischer Austausch Dienst (DAAD) at the DAAD Premises, Sohag, Egypt.
4. "Remote sensing, Fundamentals and Applications": Date from the 14th of November to the 18th of November, 2009. In Faculty of Science according to Technology management & integrated modeling in Natural Resources: A university-Enterprise Win Partnerships (Tempus Project) in Sohag University at Faculty of Science incorporation with National Authority for Remote Sensing and Space Science (NARSS-Egypt), Sohag, Egypt.

5. Production of Geological and morphological maps by using Remote Sensing and GIS techniques: Date from the 23rd of March to the 27th of March 2008; through Arab council of Post-Graduate Studies and Science Research of Union Arab Universities, Cairo, Egypt.

6. "3D Geological and Hydrogeological Modeling with Groundwater Mangement Aspects": Date from the 26nd - 29nd of March, 2011. In Faculty of Science according to Technology management & integrated modeling in Natural Resources: A university-Enterprise Win Partnerships (Tempus Project) in Assuit University at Faculty of Science incorporation with National Authority for Remote Sensing and Space Science (NARSS-Egypt), Assuit, Egypt.

7. "Introduction to Geographic Information Systems Applications": Date from the 16th - 19th of April, 2011. In Faculty of Arts, Sohag University, Sohag, Egypt.

8. "Application of Remote Sensing in Mineral Exploration": Date from the 8th-11th of May to the, 2010. In Faculty of Science according to Technology management & integrated modeling in Natural Resources: A university-Enterprise Win Partnerships (Tempus Project) in Assuit University at Faculty of Science incorporation with National Authority for Remote Sensing and Space Science (NARSS-Egypt), Assuit, Egypt.

9. Session of Universal Teacher Preparing: Date from the 17th September to the 3rd October 2007. Faculty of Education, Sohag University, Sohag, Egypt.

10. Enhancement Skills of thinking Skills: Date on December 2004; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

11. Skills of effective Teaching Program: Date from the 17th to the 20th of September; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

12. Recent approaches of Teaching Program: Date from the 8th to the 10th of May 2007; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

13. Enhancement Skills of the Effective Showing: Date from the 15th of May to the 17th of May 2007; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

14. Styles of the Scientific Research Program: Date from the 19th of May to 22nd of May 2007; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

15. Administration of Research Team: Date from the 24th of November to 30th of November, 2007; through the Faculty and Leadership Development Project (FLDP), Sohag University, Sohag, Egypt.

Personal Skills

- *Very active, self motivated and very good at critical thinking tasks, like to take responsibility and to work as apart of team.*
- *Eager to learn and gain new knowledge and experiences*
- *Ability to solve Problems and hrad worker and ability to work under stress.*
- *Good communication skills.*

International Conferences Committee

- *The International Conference on the Geology of Africa, Assuit University 2005.*
- *The International Conference on the Geology of Africa, Assuit University 2007.*
- *The the Eighty international conference on Geochemistry (Geochem 8) Alexandria (2008)*
- *The International Conference on the Geology of Africa, Assuit University 2009.*
- *The third international conference on New Horizons in Basic & Applied Sciences. ICNHBAS 3rd2017.5-7 August, 2017, Hurghada, Egypt.*
- *The Tenth International Conference on the Geology of Africa, 19-21 November, 2019, Assuit, Egypt.*
- *13thInternational Geological Conference SSG 2020, 03-05 March, Jeddah, Saudi Arabia.*
- *The fifth international conference on New Horizons in Basic & Applied Sciences. ICNHBAS 5th2021, 26-29 September, 2021, Hurghada, Egypt.*

Conderence Publications

1. Embaby A.I., Razack M. and Porel G. (2015): Geophysical investigations to highlight hard rocks aquifers structure in the South Eastern Desert, Egypt. International Symposium on Water resources and Sustainable Development CIRED 2015 - Ecole Nationale Supérieure d'Hydraulique, Algérie, pp.1-4.

2. Oral Entitled: Applications of Remote Sensing and Petrography in rock type discrimination of Hafafit area, South Eastern Desert, Egypt. The Third

INTERNATIONAL CONFERENCE ON NEW HORIZONS IN BASIC AND APPLIED SCIENCES (. ICNHBAS 3rd 2017). 5-7 August, 2017, Hurghada, Egypt.

3. Poster Entitled: Evaluation of Groundwater quality in Sohag Governorate, Upper Egypt. 13thInternational Geological Conference SSG 2020, 03-05 March, Jeddah, Saudi Arabia.

4.Oral Entitled: Evaluation of hydrogeochemical processes and groundwater quality in El-Dir area, West Sohag, Egypt. The FIFTH INTERNATIONAL CONFERENCE ON NEW HORIZONS IN BASIC AND APPLIED SCIENCES (. ICNHBAS 5th 2021). 26-29 September, 2021, Hurghada, Egypt.

Publications

1. **Embaby, A.I. (2012):**” Geology of Wadi El-Atrash area, North Eastern Desert, Egypt”. LAP LABBERT Academic Publishing GmbH&Co.KG, ISBN. 978-3-8484-4549-3. Saarbrücken, Germany.

2. Asran, A.M.H., Hassan, M.A., Ali, B., **Embaby, A.I. (2008):** Geological and Geochemical investigations of the Pan-African rocks along Wadi El-Atrash Area, North Eastern Desert, Egypt. 8thIntern. Conf. on Geochemistry, Alex. Univ., Egypt, V.I, pp.89-113.

3. **Embaby A.I., Razack M. and Porel G. (2015):** Geophysical investigations to highlight hard rocks aquifers structure in the South Eastern Desert, Egypt. International Symposium on Water resources and Sustainable Development CIREDD 2015 - Ecole Nationale Supérieure d’Hydraulique, Algérie, pp.1-4.

4. **Embaby A.I., Razack M., Le Coz, M. and Porel G. (2015):** Hydrogeochemical assessment of groundwater in the Precambrian rocks, South Eastern Desert, Egypt. Journal of Water Resource and Protection, 2016, 8, 293-310. <https://doi.org/10.4236/jwarp.2016.83025>

5. **Embaby, A. and Redwan, M. (2019):** Sources and behavior of trace elements in groundwater in the South Eastern Desert, Egypt. Environ Monit Assess (2019) 191:686 (pp.1-21). <https://doi.org/10.1007/s10661-019-7868-3>.

6. Abu El-Magda., Sh. A, Amer,R.A., **Embaby, A.** (2020): Multi-criteria decision-making for the analysis of flash floods: A case study of Awlad Toq-Sherq, Southeast Sohag, Egypt. Journal of African Earth Sciences 162 , 103709 (pp.1-9). <https://doi.org/10.1016/j.jafrearsci.2019.103709>.
7. **Embaby, A.** and Ali, M. (2021): Hydrogeochemical processes controlling groundwater in Western Sohag Governorate, Upper Egypt. Arabian Journal of Geosciences, 14:789, pp.1-18. <https://doi.org/10.1007/s12517-021-07097-0>
8. Abu El Magd, Sh. and **Embaby, A.** (2021): To investigate groundwater potentiality, a GIS-based model was integrated with remote sensing data in the Northwest Gulf of Suez (Egypt). Arabian Journal of Geosciences, 14:2737, pp.1-12. <https://doi.org/10.1007/s12517-021-08396-2>
9. **Embaby, A.**, Ahmed, A., , Mahran, T., El-Sayed, A., Masoud, A. (2023): Effects of groundwater abstraction and desalination brine injection on a Middle Miocene aquifer of El-Dabaa area, Northern Coast of Egypt. Sohag J. Sci.. 7, No. 3, 103-110 (2022) . <https://doi.org/10.21608/sjsc.2022.171452.1042>.
10. **Embaby, A.**, Youssef, M., and Abu El-Magd, Sherif (2023): Delineation of lineaments for groundwater prospecting in hard rocks: Inferences from Remote Sensing and Geophysical data. Environmental Earth Sciences (2024) 83:62 <https://doi.org/10.1007/s12665-023-11389-x>
11. Multi-Criteria and AI Approaches for evaluation of Flash Flood risk at Wadi Thamurah, western Saudi Arabia. **Under Preparation**

Research interests

My current researches focus on the following items:

- Flood hazard assessment in Egypt and Saudia Arabia.
- Groundwater potentiality zones in Egypt.
- Hydrogeology and hydrochemistry of fractured Precambrian, cretaceous ad quaternary aquifers in Egypt and Karst aquifers (Dogger Poitiers aquifer) in France.

- Qualitative and Quantitative evaluation of groundwater in fractured Precambrian aquifer and other aquifers in Egypt.
- Groundwater monitoring and management of groundwater using Numerical groundwater modeling (Groundwater Vistas 5 or Mod Flow) in semi-arid environments.
- Applications of Remote Sensing techniques in hydrogeology, hydrology and geology.
- Catchment management and assessment of floods and soil erosion hazards using DEM.
- Groundwater quality and their pollution
- Fe&Mn problem in associated Heavy metals in Quaternary aquifer of Egypt, particularly in Upper Egypt areas.
- Contamination of Nile aquifer by N compounds (NO₃, NH₄,) resulted from improper wastewater disposal along the valley.

Experience

During my Ph.D. work in France (Poitiers University) under title: Groundwater properties and potentialities in the Precambrian rocks, Hafafit area, Southeastern Desert, Egypt. In addition, during my Master work in Egypt (Sohag University) under title: Geology of Wadi El-Atrash Area, North Eastern Desert, Egypt. I practice the following techniques:

- Hydrogeology of fractured Precambrian, coastal aquifers in Egypt and Karst aquifers (Dogger Poitiers aquifer) in France.
- Groundwater quality in fractured Precambrian, coastal aquifer, Nubian sandstone and Nile river aquifers in Egypt.
- Properties ad characteristics of groundwater using Hydro-chemical processes.
- Interpretation of well logs and drawing of subsurface sections and correlations.

- Determination of groundwater potentiality zones.
- Flood hazards and soil erosion assessment with drainage basin analysis technique using DEM.
- Hydrodynamics and quality of groundwater in different uses.
- Processing of satellite images (geometric corrections and atmospheric correction)
- Use of radiometric, spatial and spectral improvements in satellite images.
- Landsat image processing techniques using (Landsat ETM-7 and Landsat ETM-8) under ENVI 4.7 & 5.1 and Erdase Imagine 9.3 & 10.
- Classification of Landsat images to differentiate the different petrographic zones of the terrain and the major geodynamic structures that appear on the surface (faults, fracture zones, folds, shears ...)
- Lithological mapping and discrimination of Precambrian rocks (Identification and characterization of suprastructures and infrastructures, South East Desert, Egypt) using Remote sensing, field and petrology of igneous and metamorphic rocks.
- Lineaments extraction automatic using Geomatica 10 and Rock Work 15 program and Manual using Arc GIS 10.
- Statistical analysis of the lineaments map (Geomatica 10 and Rockworks 15).
- Data treatment and analysis using different techniques.

Thanks for giving me such previous time of yours