Dr. Ahmed M. Elshenawy
Curriculum Vita (Resume)

Surname	Elshenawy
Other names	Ahmed Mohamed Saad
Position	Researcher.
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EDUCATION

Faculty/University/Other	Degree	Dates
Faculty of Science – Ain Shams University	PhD of Geophysics	2019
APPLICATION OF SPECTRAL INDUCED POLARIZATION TECHNIQUE TO DELINEATE SOME HYDROGEOLOGICAL CHARACTERISTICS OF SATURATED AND UNSATURATED SANDSTONES		
Faculty of Science – Suez Canal University	M.Sc. of Applied Geophysics	2005
GEOPHYSICAL EXPLORATION FOR THE GROUNDWATER OCCURRENCE IN THE AREA BETWEEN THE OUTLETS OF WADI HODEIN AND WADI SHA'B, SOUTH SHALATEIN, EADTERN DESERT, EGYPT		
Faculty of Science – Suez Canal University	B.Sc. of Geophysics	1999

EMPLOYMENT HISTORY

Employer	Position	Dates
Desert Research Center (DRC)	Researcher	2020
Desert Research Center (DRC)	Assistant Researcher	2005
Desert Research Center (DRC)	Researcher Assistant	2000

SELECTED PUBLICATIONS

Gomaa, M. M., Zarif, F., El Shenawy, A., Ramah, M., & Kotb, A. D. M. (2024). Modelling and simulating the geoelectrical attributes of near-surface buried objects to optimize its discovery. *Modeling Earth Systems and Environment, 10,* 5969–5981. https://doi.org/10.1007/s40808-024-02095-z

Gomaa, M. M., El Shenawy, A. M., Basheer, A. A., Moawad, M., & Kotb, A. (2023). Synthetic mixture of sand and shale: How conductor (shale) and saturation influence electrical characteristics. *Applied Water Science, 13,* 190. https://doi.org/10.1007/s13201-023-01981-8

Zarif, F. M., El Shenawy, A. M., Barseem, M. S. M., Al-Abaseiry, A. A., & Sayed, A. N. E. (2022). Evidence of geoelectrical resistivity values on groundwater conditions in Wadi El Natrun and its vicinities, West Delta, Egypt (case studies). *Scientific Reports, 12*(1), 1-16. doi: 10.1038/s41598-022-12644-0

Gomaa, M. M., El Shenawy, A. M., Basheer, A. A., Kotb, A., & Moawad, M. (2021). Electrical properties of a dry mixture of sand and shale. In *Proceedings of the Sixth International Conference on Engineering Geophysics* (pp. 25–28). Virtual Conference

Zarif, F. M., El Shenawy, A. M., & Mabrouk, M. A. (2021). Integrated TEM and 2DERI techniques to delineate groundwater bearing zones in fractured carbonate rocks at the upstream portion of Wadi Halazeen, Northwestern Coast, Egypt. *Journal of African Earth Sciences.* https://doi.org/10.1016/j.jafrearsci.2021.104288

Zarif, F., Isawi, H., El Shenawy, A., & Eissa, M. (2021). Coupled geophysical and geochemical approach to detect the factors affecting groundwater salinity in the coastal aquifer between Ras Sudr and Ras Matarma Area, South Sinai, Egypt. *Groundwater for Sustainable Development, 15,* 100662. https://doi.org/10.1016/j.gsd.2021.100662

El Shenawy, A., Mabrouk, M., Youssef, A., Mousa, S., Farag, K., & Soupios, P. (2020). Relation between spectral induced polarization (SIP) and water saturation of Taref sandstone. *EGS Journal, 18*(1), 69–82

Keery, J., Binley, A., El Shenawy, A., & Clifford, J. (2012). Markov chain Monte Carlo estimation of distributed Debye relaxations in spectral induced polarization. *GEOPHYSICS, 77*(2), E159–E170. https://doi.org/10.1190/geo2011-0244.1

Kruschwitz, S., Binley, A., Lesmes, D., & El Shenawy, A. (2010). Textural controls on low-frequency electrical spectra of porous media. *GEOPHYSICS, 75*(4), WA113–123. https://doi.org/10.1190/1.3479835

Youssef, A. M. A., Mabrouk, M. A., Shendi, A. H., & El Shenawy, A. M. (2005). Geophysical survey to delineate the hydrogeologic setting in the area between Wadi Hodein and Wadi Sha'b, Southeastern Desert. *Journal of Applied Geophysics; Egyptian Society of Applied Petrophysics, 4*(2), September 2005

FIELDS OF INTEREST

I have a strong interest in hydrogeophysics as it relates to Environmental, Sustainable Development, Socioeconomy, and Climate Change. My specific focus is on the application of geoelectrical and electromagnetic methods, including Induced Polarization/Spectral Induced Polarization, to tackle geological, hydrogeological, environmental, socioeconomic, and geotechnical challenges. I am also keen on utilizing these methods for Mineral exploration, particularly emphasizing forward and inverse modeling techniques for near-surface and deep groundwater exploration. Additionally, I am actively involved in the characterization of petrophysical and hydrogeological aquifers and the management of water in arid, semi-arid, and coastal aquifers, as well as the modeling of electrical spectrometry of earth materials. Lastly, I have a keen interest in the use of integrated geophysical tools and joint inversion techniques for hydrogeophysical investigation.

ADDITIONAL INFORMATION

- Since 2000, involved as a research team member of several national, international, and private projects regarding the application of geophysical methods for groundwater exploration, water management, aquifer characterization, desertification process monitoring, Sustainable development, engineering, geotechnical and environmental problems.
- Conducted intensive data acquisition, processing, modeling, and interpretation of geoelectric and electromagnetic (VES, 2D/3D ERT, SP, IP/SIP, VLF, TDEM, and MT), geomagnetic and seismic refraction measurements as well as petrophysical measurements on both field and laboratory scale in Egypt, UK and USA.
- Conducting private hydrogeological, environmental and geotechnical projects as a freelance Geologist/Geophysicist.
- Conducting private High Power 2D ERT/TDIP, geomagnetic as well as radiometric mining (Gold) exploration projects (e.g. Lotus Group project: Um Samra, Eastern Desert, Egypt).

CURRENT PROJECTS

- CEO of the Egyptian team of the project: Sustainable Approaches to Water and Soil Management for Drylands in the Mediterranean Basin (SALM-MED) funded by the European Union's Programme for Research and Innovation in the Mediterranean Area (PRIMA).

- PI of the project "An integrated use of remote sensing, GIS, geophysical, hydrogeochemical methods and soil studies to improve water harvesting in coastal watersheds, southern Marsa Alam, Egypt"
- Team member of the project "Sustainable agricultural development in the new reclamation areas in Phase Sinai - South Sinai – Egypt"

MEMBER OF THE SCIENTIFIC TEAM IN THE PROJECT OF:

- Geophysical Exploration for the groundwater resources at Wadi El Hawashiya delta, Gulf of Suez region (Desert Research Center and Red Sea Governorate, 2000-2001).
- Geological and Geophysical studies for water resources developments, Esh El Mallaha area, Eastern Desert (Scientific project by Desert Research Center, 2001-2002).
- Geological and Geophysical studies of Shalatein - Abu Ramad Area (Scientific project by Desert Research Center, 2003 till now).
- The development of the northern coast, Sedi Barani and Sedi Abd El Rahman, western Desert (Scientific project as scholarship from UN, 2002-till now).
- Bedews settlement in the area from Ras Banas to Mersa Allam, Eastern Desert (FAW, 2003-till now).
- Exploring geothermal active zone sites for generating power and providing sustainable freshwater using an innovative prototype (Innovate USA-Egypt 2017).
- Water resources Atlas of the northern Mediterranean coast of Egypt (2020-2021).

THESES SUPERVISION

- M. M. Mohamed: Applications of Low Frequency Measurements Techniques to Delineate the Hydrogeophysical Characterizations of Sandy Samples. F. of Sci., Helwan Uni., Cairo, 2022
- A. M. Ketkat: Applications of Integrated Electric and Electromagnetic Methods for Mapping Shallow Quaternary Groundwater Aquifer in Zaafarana, Ras Gharib, Red Sea, Egypt. F. of Sci., Benha Uni., Cairo, in progress
- M. M. Mohamed: Laboratory and Field Applications of Electrical Resistivity and Induced Polarization Techniques for Near Surface Investigations. F. of Sci., Helwan Uni., Cairo, in progress
- I. A. Aboelmagd: Hydrogeophysical Approach to delineate Quaternary aquifer vulnerability for Climate change at Delta Wadi Sudr, East Gulf of Suez, Sinai, Egypt. F. of Sci., Benha Uni., Cairo, in progress

REFERENCES

- Dr. Pantelis Scoupios
  - Professor of Geophysics
  - Department of Geosciences,
  - King Fahd University of Petroleum and Minerals-KFUPM,
  - Dhahran, Saudi Arabia
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- Dr. Hesham M. El-Kaliouby
  - Professor of Geophysics,
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- Prof. Mohamed Abbas Mabrouk
  - Emeritus Professor of Geophysics,
  - Geophysics Department,
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