



CV

Prof. Dr. Maged Mostafa El Osta

Professor of hydrogeology

(1) Water Research Center, King Abdulaziz University, Jeddah, Saudi Arabia

(2) Earth Science Department, Faculty of Science, Damanhour University, Egypt

H - Index 13

E-mails: melosta@kau.edu.sa & melosta@sci.dmu.edu.eg

Tell: +966543151642 & +201005657976

PERSONAL DATA

Nationality: Egyptian

Marital status: Married

Sex: Male

Birth date: 11/9/1972

Religion: Moslem

Language: Arabic & English

ACADEMIC DEGREES

- **B.Sc. (1994)**, Chemistry and geology – Minufiya University- Egypt
- **M.Sc. (2000)**, Water and Petroleum- Minufiya University- Egypt
- **Ph.D. (2006)**, Hydrogeology- Minufiya University- Egypt

DEGREES THESIS

- **Title of Master Thesis:** "Hydrological studies on the area between El Qantara and Bir El Abd, North Sinai, Egypt".
- **Title of PhD Thesis:** "Evaluation and management of groundwater in East El Oweinat area, Western Desert, Egypt"

CURRENT RESEARCH INTERESTS

- All of my research interests are in the field of Water resources; evaluation, modeling, movement and management, water quality evaluation and evolution, and groundwater vulnerability.

EMPLOMEN RECORD

- **6/3/1996 – 20/1/2001:** Researcher Assistant, Hydrology Department, Desert Research Center, Egypt.
- **21/1/2001 – 26/3/2006:** Assistant Researcher, Hydrology Department, Desert Research Center, Egypt.
- **27/3/2006 – 30/1/2010:** Researcher, Hydrology Department, Desert Research Center.
- **31/1/2010:** Assistant Professor, Geology Department, Faculty of Science, Damanhour University, Damanhour Branch, Egypt.
- **26/10/2010:** Assistant Professor, Geology Department, Faculty of Science, Damanhour University, Egypt.

- **26/6/2013:** Associate Professor of hydrogeology, Geology Department, Faculty of Science, Damanhour University, Egypt.
- **28/4/2019:** Professor of hydrogeology, Geology Department, Faculty of Science, Damanhour University, Egypt.
- **24/3/2015:** Head of Geology Department, Faculty of Science, Damanhour University, Egypt.
- **5/5/2015:** Vice-Dean of the Faculty of Science for Education and Student Affairs, Damanhour University, Egypt.
- **15/1/2018:** Associate Professor of hydrogeology, Water Research Center, King Abdulaziz University, Jeddah, Saudi Arabia.
- **28/04/2019 until now:** Professor of hydrogeology, Water Research Center, King Abdulaziz University, Jeddah, Saudi Arabia.

TEACHING ACTIVITIES

- **Lecturer in fields of geology and hydrogeology as follows:-**
 - ❖ General Geology
 - ❖ Groundwater Hydrogeology
 - ❖ Environmental Geology
 - ❖ Hydrochemistry of Groundwater
 - ❖ Modeling and Management of Water Resources

ATTENDING CONFERENCES

- The Seventh International Conference on Geochemistry, Alexandria University, Egypt, 6 – 7 September 2006.
- The Second International Conference on Geo-Resources in the Middle East and North Africa, 24 – 28 February 2007, Cairo University, Egypt.
- The 18th Symposium on Quaternary Geology and Development in Egypt, 4th April, 2009, Geology Department, Faculty of Science, Mansoura University.
- The First International Meeting of Water, Alexandria University, Damanhour, Bahira, Egypt. Branch, 24 – 25 May 2010.
- The 4th International Conference on Aquatic Resources “Preservation, Protection and Development” ICAR – 10, 7 – 9 December, 2010, Alexandria, Egypt.

REVISION ACTIVITIES

- Journal of Water Resources Management
- Journal of Applied Water Science.
- Arabian Journal of Geosciences.
- Journal of Environmental Earth Sciences.
- International Journal of Geosciences.
- Journal of African Earth Sciences
- Journal of Groundwater for Sustainable Development.

AWARDS

- Awards of Outstanding International Publishing, Damanhour University, Damanhour, Egypt (2013, 2015, 2017).

PROJECTS

- Co-investigator of the following projects (in Egypt) before coming to KAU in 17/01/2018: Participating in many scientific projects in the Egyptian Desert such as Wadi El Natrun, West Nubariya, Sidi Barani, Matruh, Siwa Oasis, Farafra Oasis, Wadi El Gidied, Toshka, Shalateen & Halieb, East El Oweinat and North Sinai covering the activities of the Desert Research Center and the Geology Department, Faculty of Science Damanhour University, Finished.
- Pi-investigator of the project No. D-012-123-1440: "Hydrochemical Modeling and Origin of Groundwater Resource in the Area South El Kharga Oasis, Western Desert, Egypt" Funded by Deanship of Scientific Research of King AbdulAziz University as Distinct Research Study, Finished.
- Pi-investigator of the project D – 114 – 123 – 1441: "Groundwater exploration based on the hydrogeophysical methods in West Nile Delta, Egypt" Funded by Deanship of Scientific Research of King AbdulAziz University as Distinct Research Study, Finished.
- Pi-investigator of the project No.G-46-123-1441:"Groundwater evolution and vulnerability in semi-arid regions using Modelling and GIS tools for sustainable development: Case study of Wadi Fatimah, Saudi Arabia" Funded by Deanship of Scientific Research of King AbdulAziz University as Distinct Research Study, Finished.
- Pi-investigator of the project IFPRC – 082 – 123 – 2020: Integration of water quality indices and ground-based remote sensing data using machine learning to assess groundwater quality for drinking and irrigation in Makkah Al-Mukarramah Province, KSA. Funded by Deputyship for Research & Innovation, Ministry of Education in Saudi Arabia, and King Abdulaziz University, DSR, Jeddah, Saudi Arabia. Finished.
- Co-investigator of the project G: 121-123-1443: Sustainable Development of Groundwater Resources in Wadi Qanunah Basin, Saudi Arabia. Funded by Deputyship for Research & Innovation, Ministry of Education in Saudi Arabia, and King Abdulaziz University, DSR, Jeddah, Saudi Arabia. In progress.
- Pi-investigator of the project IFPIP: 670-123-1443: Utilizing of aquifer hydraulic parameters and hydrothermal potential to assess the groundwater sustainability in the new reclamation area of Moghra Oasis - Western Desert – Egypt. Funded by Deputyship for Research & Innovation, Ministry of Education in Saudi Arabia, and King Abdulaziz University, DSR, Jeddah, Saudi Arabia. In progress.
- Co-investigator of the project IFPIP: 1698-155-1443: Characterization of groundwater in Quaternary aquifer of the Yanbu Al-Nakhl Basin, Al-Madinah Al-Munawarah Province using pumping tests and hydrochemical techniques. Funded by Deputyship for Research & Innovation, Ministry of Education in Saudi Arabia, and King Abdulaziz University, DSR, Jeddah, Saudi Arabia. In progress.
- Co-investigator of the project IFPIP: 682-123-1443: Optimal management of the groundwater coastal aquifer based on the hydraulic characteristics in Wadi Al Marawani

basin – KSA. Funded by Deputyship for Research & Innovation, Ministry of Education in Saudi Arabia, and King Abdulaziz University, DSR, Jeddah, Saudi Arabia. In progress.

بيان بالإشراف على الرسائل العلمية الخاص بالدكتور/ ماجد مصطفى سليمان الأوسطي

م	عنوان الرسالة	نوع الرسالة	تاريخ الإيجاز
1	تقييم وإدارة المياه الجوفية لخزان الحجر الرملي النوبي بمنطقة الواحات البحرية – الصحراء الغربية – مصر	دكتوراه	قيد التنفيذ
2	تأثير تداخل مياه البحر على خزان دلتا النيل الجوفي، شمال غرب دلتا النيل، مصر	ماجستير	قيد التنفيذ
3	دراسات جيوكهربية وهيدرولوجية لدراسة مصادر تلوث المياه في النطاق الساحلي لدلتا نهر النيل	ماجستير	2022
4	استخدام نظم المعلومات الجغرافية ونموذج DRASTIC لتقييم قابلية المياه الجوفية للتدهور بمنطقة وادي النطرون-غرب دلتا النيل-مصر	دكتوراه	2017
5	جيولوجية وجيوكيميائية ومعالجة رواسب الفوسفات بمنطقة السباعية شرق، أسوان، جنوب مصر	دكتوراه	2017
6	تقييم جيوتقني وجيوميئي لمنطقة درب الأربعين، مصر، باستعمال طرق الجيولوجيا السطحية وطرق الجيوفيزياء تحت السطحية	دكتوراه	2016

PUBLICATIONS IN INTERNATIONAL REVIEWED JOURNALS AND CONFERENCES

1. Milad Masoud, Jalal Basahi, Abdulaziz Alqarawy, Michael Schneider, **Maged El Osta**, Burhan Niyazi, Brindha Karthikeya. Assessment of groundwater renewability of the coastal aquifer in southwest Saudi Arabia based on environmental isotopes and hydrochemical analytical approaches, Journal of African Earth Sciences, Volume 240, 2026, 106164, ISSN 1464-343X, <https://doi.org/10.1016/j.jafrearsci.2026.106164>.
2. **El Osta, M.**; Masoud, M.; Al-Amri, N.; Alqarawy, A.; Halawani, R.; Rashed, M.; El-baki, M.S.A.; Elsayed, S. Integrated Assessment of Coastal Groundwater Vulnerability in Western Kingdom of Saudi Arabia Using the DRASTIC Model and Machine Learning Algorithms. *Earth* 2026, 7, 97. <https://doi.org/10.3390/earth7030097>.
3. Rashed, M.; Al-Amri, N.; Halawani, R.; Niyazi, B.; El-Sawy, E.-S.K.; Masoud, M.; **El Osta, M.** Multidisciplinary Assessment of the Subsurface Contamination of Al-Musk Lake Wastewater Dumpsite in Jeddah City, KSA. *Earth* 2026, 7, 21. <https://doi.org/10.3390/earth7010021>.
4. **Maged EL Osta**, Milad Masoud, Burhan Niyazi, Nassir Al-Amri, Abdulaziz Alqarawy, Mohamed S. Abd El-baki, Salah Elsayed. Utilizing machine learning algorithms to improve predictions of groundwater quality indices for irrigation in an arid environment of Saudi Arabia. *Environmental Earth Sciences* (2025) 84:389, <https://doi.org/10.1007/s12665-025-12388-w> (Q2).
5. **El Osta, M.**, Masoud, M., Al-Amri, N. et al. Estimation of groundwater recharge by chloride mass balance (CMB) method in some selected wadis, Western Saudi Arabia in (1966–2018). *Environ Earth Sci* 84, 321 (2025). <https://doi.org/10.1007/s12665-025-12334-w> (Q2).

6. **Rashed, M.; Alqarawy, A.; Al-Amri, N.; Halawani, R.; Masoud, M.; El Osta, M.** Triple Filtering of Terrain Conductivity Data for Precise Tracing of Underground Utilities. *Geosciences* 2025, 15, 179. <https://doi.org/10.3390/geosciences15050179> (Q2).
7. **Masoud, M.; El Osta, M.; Al-Amri, N.; Niyazi, B.; Alqarawy, A.; Halawani, R.; Rashed, M.** Groundwater Recharge Evaluation Using Stable Isotopes and the NETPATH Model in Al-Madinah Al-Munawarah Province, Saudi Arabia. *Water* 2025, 17, 211. <https://doi.org/10.3390/w17020211> (Q2).
8. **Masoud, M.; El Osta, M.; Al-Amri, N.; Niyazi, B.; Alqarawy, A.; Rashed, M.** Groundwater Characteristics' Assessment for Productivity Planning in Al-Madinah Al-Munawarah Province, KSA. *Hydrology* 2024, 11, 99. <https://doi.org/10.3390/hydrology11070099> (Q2).
9. **El Osta, M., Masoud, M., Alqarawy, A. et al.** Utilizing of aquifer hydraulic parameters to assess the groundwater sustainability in the new reclamation area of Moghra Oasis: Western Desert—Egypt. *Appl Water Sci* 13, 238 (2023). <https://doi.org/10.1007/s13201-023-02042-w> (Q1)
10. **Masoud, M., El Osta, M., Alqarawy, A. et al.** Optimal management of the groundwater coastal aquifer based on the hydraulic characteristics in Wadi Al Marwani basin: KSA. *Environ Earth Sci* 82, 308 (2023). <https://doi.org/10.1007/s12665-023-11003-0> (Q2).
11. **Masoud, M.; El Osta, M.; Alqarawy, A.; Ezzeldin, H.** Application of Environmental Isotopes and Hydrochemistry to Identify the Groundwater Recharge in Wadi Qanunah Basin, Saudi Arabia. *Sustainability* 2023, 15, 2648. <https://doi.org/10.3390/su15032648> (Q2).
12. **Alqarawy, A.; El Osta, M.; Masoud, M.; Elsayed, S.; Gad, M.** Use of Hyperspectral Reflectance and Water Quality Indices to Assess Groundwater Quality for Drinking in Arid Regions, Saudi Arabia. *Water* 2022, 14, 2311. <https://doi.org/10.3390/w14152311> (Q2).
13. **Mohamed K. Salah, Ibrahim M. Salama, Zenhom E. Salem, A. M. Al Temamy, M. M. El Osta.** Petrophysical Characterization of the Bahariya Oasis Nubian Sandstone Aquifer Using Geophysical Well Logging. *Bulletin of Engineering Geology and the Environment* (2022), 81:296 (Q2).
14. **Masoud, M.; El Osta, M.; Alqarawy, A.; Elsayed, S.; Gad, M., 2022.** Evaluation of groundwater quality for agricultural under different conditions using water quality indices, partial least squares regression models, and GIS approaches., *Applied Water Science*, Volume 12, issue 10, 2022 (Q1).
15. **El Osta, M., Niyazi, B. & Masoud, M.** Groundwater evolution and vulnerability in semi-arid regions using modeling and GIS tools for sustainable development: case study of Wadi Fatimah, Saudi Arabia. *Environ Earth Sci* 81, 248 (2022). <https://doi.org/10.1007/s12665-022-10374-0> (Q2).
16. **El Osta, M.; Masoud, M.; Alqarawy, A.; Elsayed, S.; Gad, M., 2022.** Groundwater Suitability for Drinking and Irrigation Using Water Quality Indices and Multivariate Modeling in Makkah Al-Mukarramah Province, Saudi Arabia. *Water*, 14, 483. <https://doi.org/10.3390/w14030483> (Q2).
17. **Maged El Osta, Mohamed El Sabri and Milad Masoud, 2021.** Environmental sensitivity of flash flood hazard based on surface water model and GIS techniques in Wadi El Azariq, Sinai, Egypt. *Environmental Technology & Innovation* Volume 22, May 2021, 101522 (Q1).
18. **El Osta, M., Masoud, M., Badran, O., 2021.** Aquifer hydraulic parameters estimation based on hydrogeophysical methods in West Nile Delta, Egypt. *ENVIRONMENTAL EARTH SCIENCES* Volume: 80 Issue: 9.
19. **Osman Badran, Rasha Mansi, Elhamy Tarabees, Maged El Osta, Hend Hussein, 2021.** Seawater intrusion characterization based on electrical resistivity and hydrogeochemical methods; surrounding Rosetta branch area, Egypt. *Frontiers in Scientific Research and Technology* 2 (2021) 66-81(Q3).

20. **Gad, M. and El Osta, M., 2020.** Geochemical controlling mechanisms and quality of the groundwater resources in El Fayoum Depression, Egypt" *Arabian Journal of Geosciences*, DOI: 10.1007/s12517-020-05882-x (**Q3**).
21. **El Osta M., Masoud M. and Ezzeldin, H., 2020.** Assessment of the geochemical evolution of groundwater quality near the El Kharga Oasis, Egypt using NETPATH and water quality indices. *ENVIRONMENTAL EARTH SCIENCES*, Volume: 79 Issue: 2 DOI: 10.1007/s12665-019-8793-z (**Q2**).
22. **El Osta M.,2018.**Maximizing the management of groundwater resources in the Paris–Abu Bayan reclaimed area, Western Desert, Egypt,*Arabian Journal of Geosciences* (2018) 11:642,<https://doi.org/10.1007/s12517-018-3945-0> (**Q3**).
23. **El Osta M., Hussein, H. and Tomas, K., 2018.** Numerical Simulation of Groundwater Flow and Vulnerability in Wadi El-Natron Depression and Vicinities, West Nile Delta, Egypt, *JOURNAL GEOLOGICAL SOCIETY OF INDIA*, Vol.92, August 2018, pp.235-247 (**Q3**).
24. **El-Assar, M., Abdel-Monem, T., Zahran, E. and El Osta, M., 2017.** Proposed upgrading techniques for East Sibaiyaphosphorites, Aswan area, southern Egypt. *Arab J Geosci* (2017) 10:491 <https://doi.org/10.1007/s12517-017-3262-z>.
25. **Hussein, H., Ricka, A., Kuchovsky, T and El Osta, M., 2017.** Groundwater hydrochemistry and origin in the southeastern part of Wadi El Natrun, Egypt. *Arab J Geosci* (2017) 10:170 DOI 10.1007/s12517-017-2960-x.
26. **Masoud, M.H. and El Osta, M.M., 2016.** Evaluation of groundwater vulnerability by using modeling and GIS techniques in El-Bahariya Oasis - Western Desert – Egypt. *Journal of Earth System Science*, 125(6), pp 1139–1155.
27. **El Osta, M.M. and Masoud, M.H., 2015.** Implementation of a hydrologic model and GIS for estimating Wadi runoff in Dernah area, Al Jabal Al Akhadar, NE Libya, *Journal of African Earth Sciences* 107 (2015) 36–56.
28. **El Abd E.A. and El Osta, M.M., 2014.** Water logging, in the new reclaimed areas Northeast El Fayoum, Western Desert, Egypt, reasons and solutions, *Journal of Water Resource and Protection*, 2014, 6, 1631-1645.
29. **El Sheikh A.E., El Osta, M.M. and El Sabri M.A., 2013.** Study of the phenomenon of groundwater level rise in South El Qantara Shark area, Ismailia, Egypt, *J HydrogeolHydrolEng* 2013, 2:2.
30. **Masoud, M., Schneider, M. and El Osta, M., 2013.** Recharge flux to the Nubian Sandstone aquifer and its impact on the present development in southwest Egypt, *Journal of African Earth Sciences – ELSEVIER – J. Afr. Earth Sci.* (2013), <http://dx.doi.org/10.1016/j.jafrearsci.2013.03.009>.
31. **El Bastawesy, M., Ramadan A., Faid, A. and El Osta, M., 2013.** Assessment of waterlogging in agricultural megaprojects In the closed drainage basins of the Western Desert of Egypt, *Hydrology and Earth System Sciences - Hydrol. Earth Syst. Sci.*, 17, 1493–1501, 2013, www.hydrol-earth-syst-sci.net/17/1493/2013/doi: 10.5194/hess-17-1493-2013.
32. **El Osta, M.M., 2012.** Relationships between Hydraulic Parameters of the Nubian Aquifer and Wells in El Shab Area, South Western Desert, Egypt (A Case Study), *International Journal of Geosciences*, 2012, 3, 1107-1119 doi:10.4236/ijg.2012.35112 Published Online November 2012 (<http://www.SciRP.org/journal/ijg>).
33. **Gad M., El Sheikh, A. and El Osta M., 2011.** Optimal management for groundwater of Nubian aquifer in El Dakhla depression, Western Desert, Egypt, *International Journal of Water Resources and Environmental Engineering* Vol. 3(14), pp. 393-409, 21 December, 2011 DOI: 10.5897/IJWREE11.103.
34. **El Osta1, M., El Sheikh, A. and Barseem, M., 2010.** Comparative hydrological and

geoelectrical study on the Quaternary aquifer in the deltas of WadiBadaa and Ghweiba, El Ain El Sukhna area, Northwest Suez Gulf, Egypt, International Journal of Geophysics (Volume 2010, Article ID 585243, 15 pages doi:10.1155/2010/585243).

35. **El Sabri, M.A., El Sheikh, A.E. and EL Osta, M.M., 2010.**The hydrogeologic connection between Lake Nasser and the Nubian Sandstone aquifer in Toshka area, South Western Desert, Egypt,Egyptian Journal of Aquatic Research, 2010, 36(2), p. 245 – 262.
36. **Barseem, M. and El Osta, M., 2008.** Empirical relationship between borehole resistivity and hydraulic parameters in El Awkaf area, East El Oweinat, South Western Desert, Journal of AsuitUni, in Geology, 2008.
37. **El Osta, M. and El Sheikh, A., 2008.** Evaluation of groundwater potential in the Nubian Sandstone Aquifer System in Abu Bayan – G. Sharshar area, South Kharga Depression, Western Desert, Egypt, Egyptian J. Desert Res., 58, No.2, 000-000 (2008).
38. **El Osta, M.M. and El Sabri, M.A. 2008.** Water resources management for the subbasins North El Sheikh Attia area, WadiWatir Basin, South Sinai, Egypt, Journal of Geology and Geophysics, Mansoura University, Vol. 35, p-p. 79-105, December (2008).
39. **Himida, I.H., Abdel Baki, A.A., Gad, M.I. and El Osta, M.M., 2007.** New strategy for groundwater resources management in the reclaimed areas of East El-Oweinat -Western Desert – Egypt, GRMENA II, 2007, p. 309 -328.
40. **Dahab, K.A., El Abd, E.A., Fattah, M.K. and El Osta, M.M., 2007.**Assessment of groundwater problems of the Quaternary aquifer in the area between El Salhia El Gidida- Abu Sweir, East Nile Delta, Egypt, GRMENA II, 2007, p. 329 -353.
41. **Dahab, K., Abdel Baki, A. and El Osta M., 2006.** The Impact of land reclamation activities on groundwater occurrence and quality in East El Oweinat area, Western Desert, Egypt, 7th International Conference on Geochemistry, Alexandria University, Egypt, 6 – 7 September 2006, V.III, P. 47-71.