Name:	Mohamed M. El Alfy
Position:	Associate Professor of Hydrogeology
Year of Birth:	1968
Nationality:	Egyptian
Present Position:	King Saud University
	melalfy@ksu.edu.sa alfy@mans.edu.eg Tel. +966 01 4699812 Fax: 01 4670388 Mobile: +966 542162264
Key Qualifications:	Hydrogeology, Hydrology, GIS and Remote Sensing, Aqueous Geochemistry, Hydrochemical Modelling, Groundwater Pollution, Soil Contamination, Groundwater Modelling.
Education:	
	Technical and Mining University Freiberg, Germany &
1999-2003	Mansoura University, Geology Department, Egypt
	Ph.D. (Doctor of philosophy of Science: Hydrogeology).
	Mansoura University, Geology Department, Egypt
1995-1998	M. Sc. (Master of Science; Hydrogeology).
	Mansoura University, Geology Department, Egypt
1993-1994	Postgraduate ; Hydrogeology and Petroleum Geology (Grade: Excellent, First in the class).
4007 4004	Mansoura University, Geology Department, Egypt
1987-1991	Bachelor of Sciences; Special Geology (Grade: Excellent, First in the class).
record	
2014 – present	Associate Professor of Hydrogeology, Prince Sultan Institute For Environment, Water and Desert Research, King Saud University
2011-2014	Assistant Professor of Hydrogeology , Geology and Geophysics Department, King Saud University
2008 - 2011	Hydrogelogic Consultant, Technology Experts, Riyadh, Saudi Arabia.
2007- 2008	Post-doctoral researcher , Technical and Mining University Freiberg, Germany.
2003 –2007	Assistant Professor, Mansoura University, Geology Department.
1998- 2003	Lecturer, Mansoura University, Geology Department.
1991- 1998	Demonstrator, Mansoura University, Geology Department.

Language Skills:		
Arabic:	Native speaker	
English:	Fluent	
German:	Very good	
Country Experienc	e: Egypt, Germany, Czech Republic, Sa	udi Arabia
Computer Skills	GIS and remote sensing (ARCGIS, ENVI, ER Watershed modeling System (WMS, ARCH) Groundwater modelling (MODFLOW, FEFLO Geochemical modelling (PHREEQC) Processing hydrochemical data (AQUACHE) Pumping data analyses (AQUIFERWIN & AC Integrated geological data management (RC Statistical programs (SPSS, STATISTICA, V 3D contouring and surface plotting program	RDAS, TNTmips) YDRO, HEC-HMS) DW, GMS,) M, HYDROCHEM) QTISOLV, AQUIFER TEST) DCKWARE) VARIOWIN) (SURFER)
Training courses		
2016	Teaching and supervision a professional application in groundwater LEVEL I, Prince Water and Desert Research, King Saud Univ	I training course: GIS and its Sultan Institute For Environment, versity Riyadh, Saudi Arabia.
2015	Teaching and supervision a professional application in groundwater LEVEL II, Prince Water and Desert Research, King Saud Univ	I training course: GIS and its Sultan Institute For Environment, versity Riyadh, Saudi Arabia.
2012	Teaching and supervision a professiona Modeling LEVEL II, Ministry of water and Riyadh, Saudi Arabia.	I training course: Groundwater Electricity. Technology Experts,
2010	Teaching and supervision a professiona Modeling LEVEL I, Ministry of water and Riyadh, Saudi Arabia.	I training course: Groundwater Electricity. Technology Experts,
2009	Teaching and supervision a professional application in groundwater LEVEL I, Mi Technology Experts, Riyadh, Saudi Arabia.	I training course: GIS and its nistry of water and Electricity.
2008	Teaching and supervision a professiona contamination with Radionuclides, Saudi Experts, Riyadh, Saudi Arabia.	l training course: Groundwater Geological Survey., Technology
Teaching	Hydrogeology	Arid zone Hydrology
Mansoura university	GIS and Remote Sensing	Environmental Geology
1991-2007	Geostatistics	Geomorphology
King Saud university	Hydrology	Hydrochemistry
2011-2013	Water Resources Management	
	Introduction to Soil and Water	Engineering Geology

Conferences, Invited Seminars 2016	Assessment of Artificial recharge, Prince Sultan Institute For Environment,
	Water and Desert Research, Riyadh, King Saud University, KSA
2015	Detailed study for the assessment of artificial injection of retained water behind dams, Ministry of environment, agriculture and water, Riyadh, KSA
2103	Participate on "Knowledge for the Future" Assembly in Gothenburg. IAHS - IAPSO – IASPEI, Gothenburg Sweden 22-26 July 2013. Presenting a paper entitled "Integration of remote sensing, GIS and runoff modeling for estimating flash flood of ungauged catchments: case study Wadi Al-Burdi, Jizan, Saudi Arabia".
2013	Attendant the 5 th International conference of water resources and arid environment, Prince Sultan Bin Abdulaziz Al Saud, Riyadh, Saudi Arabia.
2010	Attendant the 4 th International conference of water resources and arid environment, Prince Sultan Bin Abdulaziz Al Saud, Riyadh, Saudi Arabia.
2009	Presenting a seminar entitled "Assessing groundwater contamination with Radionuclides in Al-Qassim area, Saudi Arabia. Ministry of Electricity and water, Al-Qassim Directorate, Buriydah, Saudi Arabia.
2008	Presenting a seminar entitled "Assessing groundwater contamination with Radionuclides in Hail area, Saudi Arabia. Ministry of Electricity and water, Hail Directorate. Hail, Saudi Arabia
2008	Presenting a seminar entitled "Assessing groundwater contamination with Radionuclides in Hail area, Saudi Arabia. Institute of Geology, TU Freiberg, Germany .
2007	Presenting a seminar entitled "Integrated Geostatistics and GIS techniques for assessing groundwater contamination in AL Arish area, Sinai. Institute of Geology, TU Freiberg, Germany .
2007	Presenting a seminar entitled "Integrate the hydrogeological and hydrochemical investigations with GIS technique for assessing and remediation of groundwater contamination of Saq aquifer in Hail area, Saudi Arabia." Saudi Geological Survey, Geddah, Saudi Arabia .
2007	Participate on 2007 U.S. EPA/ NGWA Fractured Rock Conference: State of the Science and Measuring Success in Remediation. Portland, Maine, USA . "Integrated Geostatistics and GIS techniques for assessing groundwater contamination in AL Arish area, Sinai. (Accepted).
2006	Attendant and participate the 6 th International Conference on the Geology of the Middle East (ICGM), AI Ain University, UAE . "Assessment of human impact on the Quaternary aquifers of Rafah area, Northeast Sinai, Egypt."
2005	Attendant and participate the 4 th International Conference on the Geology of Africa. Assuit University, Egypt. "Hydrochemical relationships and geochemical modeling of groundwater in Al Arish area, North Sinai, Egypt"
2005	Attendant and participate the 16 th Symp. Quatern. Develop. Mans. Univ., Egypt. "Assessment of human impact on the Quaternary aquifers of Rafah area, Northeast Sinai, Egypt ."

2004	Attendant and participate at the 6 th International Geochemistry Conference at Alexandria University. "Geochemical characteristics and pollution assessment of the groundwater of the Quaternary aquifer, Qatia area, North Sinai, Egypt ."
2003	Presenting a seminar entitled "Environmental impact of the geomorphological and hydrogeological aspects of Rafah- El Sheikh Zeweid area, North Sinai, Egypt.", at the Geology Department- Mansoura university, Egypt .
2002	Attendant at International Conference Uranium Mining and Hydrogeology III. TU Freiberg Germany . Presenting a seminar entitled "Uranium in groundwater of flooded mine." in an international intensive course about the environmental geology at the Masaryk University, Berno, Czech Republic .

Executed	
projects 2013	Hydrologic Reports; HYDROLOGICAL ANALYSIS OF different 8 sites, Submitted To: MINISTRY OF HOUSING.
2012-2013	Hydrologic Reports in different areas in Saudi Arabia: Flash floods quantification behind dams. Dam project, Ministry of water and Electricity.
2011-2012	Hydrologic reports in different areas In Saudi Arabia: flash flood assessment and mitigation, Ministry of Interior (KAP1 and 2).
2009	Assessment of groundwater pollution with Radionuclides of the Saq aquifer in Al-Qassim area, Saudi Arabia.
2008	Assessment of groundwater pollution with Radionuclides of the Saq aquifer in Hail area, Saudi Arabia.
Running projects 2013-2015	Assessment of spatial and temporal submarine groundwater discharge in western coast of Arabian Gulf, Saudi Arabia, National Plan for Science and Technology.
2010-2016	Study of groundwater radioactive contamination problem in Saudi Arabia, as a consortium With BRGM (French company).
Writing projects 2010	Writing the proposal for: Detailed water resources studies of Khuff, Jilh, Minjur and overlying aquifers, Saudi Arabia, as a consortium With GSI (American Company).
2010	Writing the proposal for: Detailed Water Resources Studies of Western Coastal Plain, Kingdom of Saudi Arabia, as a consortium With GTZ and Dornier (German companies).
Memberships in Brofessional	- International Association of Hydrogeologists (IAH)
Societies:	- Egyptian Geological Society (EGS).
	- Quaternary Egyptian Society (QES).
Faculty and	(1) Teaching, Learning and Researching Competency Courses
Development	A) Use of Technology in Teaching
Courses Experience	B) Credit Hour System

(2) Management and Leadership Competency Courses
A) Legal and Financial Aspects in University Environment
B) Training of Trainers (TOT)
(3) Group Communication and Interaction Competency Courses
A) Effective Presentation Skills
B) Communication Skills
(4) Personal Competency Courses
A) Thinking Skills
B) Code of Ethics

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Supervision of Theses	Abdelfattah M. (2016- NOW): Assessment of Flash Flood Hazards and Rainwater Harvesting Using Integration of Geographic Information Systems, Remote Sensing and Rainfall - Runoff Modeling in Wadi Nisah, Central Saudi Arabia. King Saud University, College of Food and Agriculture Sciences, Department of Agriculture Engineering.
	Alghafaili A. (2015-NOW): Assessment of environment impacts of the hydrogeological aspects using GIS and remote sensing techniques in Jazan Area, Saudi Arabia. Master degree, King Saud University, Department of Geology and Geophysics.
	Al Gharbi W. (2012-2014): Evaluation of groundwater resources of Wadi Yiba, south Asir area, Saudi Arabia. Master degree, King Saud University, Department of Geology and Geophysics.
	Habib M. (2008-2012): Integration of hydrogelogical, hydrochemical and geophysical investigations to assess groundwater contamination in central Nile Delta, Egypt. Ph.D. degree, Geology Department, Tanta University, Egypt.
	Abu Elabbass. H (2007-2009): Use GIS and satellite image analyses foror detection land cover and landuse changes in northern Nile Delta, Egypt. Master degree Geology Department, Mansoura University, Egypt.

Community services 2013	Flash flood assessment and mitigation, 8 reports submitted to Ministry of Housing. Flash flood assessment and mitigation, 10 reports submitted to Ministry of Interior. Assessing and remediation of groundwater contamination of Saq aquifer in Al
2011- 2012	Qassim area, Saudi Arabia.
	Assessing and remediation of groundwater contamination of Saq aquifer in Hail
2008-2009	area, Saudi Arabia.
	Improvement and monitoring of drinking water quality in Dakahlia province.
2007- 2008	(Project, Mansoura Univ.).
	Mapping natural resources and environmental hazards for the purpose of
2005-2007	sustainable development of the Nile Delta coastal zone. (Project, Mansoura
2004- 2005	Univ.). Groundwater evaluation of east Owinat area, Western Desert, Egypt. Cooperation with Nuclear Materials Authority.

Publications	 El Alfy M., Lashin A., Abdalla F., Al-Bassam A. (2017): Assessing the hydrogeochemical processes affecting groundwater pollution in arid areas using an integration of geochemical equilibrium and multivariate statistical techniques. Environmental Pollution, 229: 760-770. <u>https://doi.org/10.1016/j.envpol.2017.05.052</u> Impact Factor (IF) =5.01 (Q1)
	 Gemail K., El Alfy M., Ghoneim M., Shishtawy A., Abd El-Bary M. (2017): Comparison of DRASTIC and DC resistivity modeling for assessing aquifer vulnerability in the central Nile Delta, Egypt. Environmental Earth Sciences, 76 (9):350. DOI: <u>https://doi.org/10.1007/s12665-017-6688-4</u>. Impact Factor (IF) =1.57 (Q2)
	Tarawneh Q and El Alfy M. (2017): Seasonal variation of solar irradiance and sunshine duration in Saudi Arabia. International Journal of Environmental Science and Technology, 14 (6), 1267–1276. https://doi.org/10.1007/s13762-016-1230-x Impact Factor (IF) =2.11 (Q1)
	El Alfy M., ElSebaie I., Aguib A., Mohamed A. Tarawneh Q. (2016) Assessing Groundwater Geospatial Variation Using Microgravity Investigation in the Arid Riyadh Metropolitan Area, Saudi Arabia: a Case Study. Water Resources Management, 30: 3845-3860. https://doi.org/10.1007/s11269-016-1392-9 Impact Factor (IF) =2.85 (Q1)
	 El Alfy M. and Faraj (2016): Spatial distribution and health risk assessment for groundwater contamination from intensive pesticide use in arid areas. Environmental geochemistry and health, 39 (1), 231–253. DOI 10.1007/s10653-016-9825-1. https://doi.org/10.1007/s10653-016-9825-1
	Impact Factor (IF) =2.62 (Q1)
	El Alfy M. (2016): Assessing the impact of arid area urbanization on flash floods using GIS, remote sensing and HEC-HMS rainfall-runoff modeling. Hydrology Research, DOI: 10.2166/nh.2016.133. Impact Factor (IF) =1.78 (Q2)
	El Alfy M., Lashin A., Al-Arifi N., Al-Bassam A. (2015): Groundwater Characteristics and Pollution Assessment Using Integrated Hydrochemical Investigations GIS and Multivariate Geostatistical Techniques in Arid Areas. Water Resources Management, 29: 5593-5612. https://doi.org/10.1007/s11269-015-1136-2 Impact Factor (IF) =2.85 (Q1)
	Chandrasekharam D., Lashin A., Al Arifi N., Al Bassam A., El Alfy M., Ranjith PG., Varun C., Singh HK. (2015): The potential of high heat generating granites as EGS source to generate power and reduce CO2 emissions, western Arabian shield, Saudi Arabia. Journal of African Earth Sciences ,11 : 213-233. <u>https://doi.org/10.1016/j.jafrearsci.2015.09.021</u> Impact Factor (IF) =1.4 (Q2)
	El Alfy, M. (2014): Numerical groundwater modelling as an effective tool for management of water resources in arid areas. Hydrological Science Journal. 59 (6), 1259-1274. <u>http://dx.doi.org/10.1080/02626667.2013.836278</u> Impact Factor (IF) = 2.22 (Q1).
	Metwaly, M, Elawadi E, Moustafa S, Al Arifi N, El Alfy, M and EKab Al Zaharani (2014) :Groundwater contamination assessment in the Al-Quwy'yia area of central Saudi Arabia using transient electromagnetic and 2D electrical resistivity tomography. Environmental Earth Sciences. 71:827–835.

https://doi.org/10.1007/s12665-013-2485-x Impact Factor (IF) =1.77 (Q1).

El Alfy, M. (2013): Hydrochemical modeling and assessment of groundwater contamination in Northwest Sinai, Egypt. Water Environment Research, 2013 Mar; Vol.85, No. 3, pp. 211-223. https://doi.org/10.2175/106143012X13560205145055

Impact Factor (IF) = 1.13. (Q2)

- El Alfy, M. (2012): Integrated Geostatistics and GIS techniques for assessing groundwater contamination in Al-Arish area, Sinai, Egypt. Arabian Journal of Geosciences. Vol. 5, No. 2, pp 197-215. <u>https://doi.org/10.1007/s12517-010-0153-y</u> Impact Factor (IF) =1.22 (Q2).
- Gemail Kh, El-Shishtawy A, El Alfy M, Ghoneim M, Abd El-Bary M (2011): Assessment of aquifer vulnerability to industrial waste water using resistivity measurements. A case study, along El-Gharbyia main drain, Nile Delta, Egypt. Journal of Applied Geophysics, Vol. 75, No. 1, pp. 140-150. https://doi.org/10.1016/j.jappgeo.2011.06.026 Impact Factor (IF) =1.36 (Q2).
- El Alfy, M. and Merkel, B. (2011): Assessment of human impacts on Quaternary aquifers of Rafah area, NE Sinai, Egypt. Int. J. Econ. & Environ. Geol. Vol. 1, No. 2, pp. 1-9.
- El Alfy, M. and Merkel B. (2007): Integrated Geostatistics and GIS Techniques for Assessing Groundwater Contamination in Al Arish Area, Sinai, Egypt. 2007 U.S. EPA/ NGWA Fractured Rock Conference: State of the Science and Measuring Success in Remediation. Portland, Maine, USA. pp. 256-270.
- **El Alfy, M.**, and Merkel, B. **(2006)**: Hydrochemical relationships and geochemical modeling of ground water in Al Arish area, North Sinai, Egypt. American Institute of Hydrology (AIH), Hydrological Science and Technology Journal, Vol. 22, No. 1-4. pp. 47-62.
- El Alfy, M., and Merkel, B. (2006): Assessment of human impact on the Quaternary aquifers of Rafah area, Northeast Sinai, Egypt. SEGMIT Vol. 6. pp. 63-81.
- **EI** Alfy, M., and Merkel, B. (2006): Assessment of human impact on the Quaternary aquifers of Rafah area, Northeast Sinai, Egypt. 6th International Conference on the Geology of the Middle East (ICGM), AI Ain University, UAE (Abstract).
- **El Alfy, M. (2005)**: Hydrochemical relationships and geochemical modeling of groundwater in Al Arish area, North Sinai, Egypt. 4th International Conference of Africa in Assuit. pp. 123-144.
- **El Alfy, M. (2005)**: Groundwater vulnerability using an integrated GIS-based technique in Al Arish area, North Sinai, Egypt. 4th International Conference of Africa in Assuit. p. 23.
- **El Alfy, M.**, Shreif R., Abdel Daiem A. and Merkel, B. **(2005)**: Assessment of human impact on the Quaternary aquifers of Rafah area, Northeast Sinai, Egypt. Abstract, 16th Symp. Quatern. Develop. Mans. Univ., Egypt. P. 8-9
- **El Alfy, M. (2004)**: Geochemical characteristics and pollution assessment of the groundwater of the Quaternary aquifer, Qatia area, North Sinai, Egypt. 6th Intern. Conf. on Geochemistry. Alex. Univ. Egypt. pp. 271-292.
- El Alfy, M. (2003): Environmental impact of the geomorphological and hydrogeological aspects of Rafah area, North Sinai, Egypt. Ph. D. Thesis,

Mansoura Univ., Fac. Sci., 216 p.

	El Alfy, M. (1998): Applications of engineering geology on the geomorphological and hydrogeological situations of the area between Rafah and Ras El- Naqab. M. Sc. Thesis, Mansoura Univ., Fac. Sci., 301 p.
Reports	El Alfy (2016) Detailed study for the assessment of artificial injection of retained water behind dams. Prince Sultan Institute for Environmental, Water, and Desert Research, King Saud University, Riyadh, Kingdom of Saudi Arabia
	El Alfy, M. and Tiro H. (2013): Hydrologic Reports; HYdrological analysis of different 8 sites, Submitted To: Ministry of Housing. Riyadh, Kingdom of Saudi Arabia
	El Alfy, M. (2012-2013): Hydrologic Reports in different areas in Saudi Arabia: Flash floods quantification behind dams. Dam project, Ministry of water and Electricity.
	El Alfy, M. (2011-2012): Hydrologic reports in different areas In Saudi Arabia: flash flood assessment and mitigation, Ministry of Interior (KAP1 and 2).
	El Alfy, M. (2009): Hydrogeological studies of the Saq aquifer in Al-Qassim area, Saudi Arabia. Internal report, Ministry of Electricity and water, Al-Qassim Directorate.
	El Alfy, M. (2009): Groundwater hydrochemical studies of the Saq aquifer in Al- Qassim area, Saudi Arabia. Internal report, Ministry of Electricity and water, Al-Qassim Directorate.
	El Alfy, M. (2009): Assessment of groundwater pollution with Radionuclides of the Saq aquifer in Al-Qassim area, Saudi Arabia. Internal report, Ministry of Electricity and water, Al-Qassim Directorate.
	El Alfy, M. (2008): Hydrogeological studies of the Saq aquifer in Hail area, Saudi Arabia. Internal report, Ministry of Defense& Ministry of Electricity and water, Hail Directorate.
	El Alfy, M. (2008): Groundwater hydrochemical studies of the Saq aquifer in Hail area, Saudi Arabia. Internal report, Ministry of Defense& Ministry of Electricity and water, Hail Directorate.
	El Alfy, M. (2008): Assessment of groundwater pollution with Radionuclides of the Saq aquifer in Hail area, Saudi Arabia. Internal report, Ministry of Defense& Ministry of Electricity and water, Hail Directorate.
Reviewing	2016: Hydrogeochemistry and evolution of the subsurface K-rich brines in the
research	Sichuan Basin of China, GROUNDWATER
papers	2015: An improved SMA based SCS-CN method incorporating storm duration for runoff prediction on the Loess Plateau, China. Water Resources Management.
	2014: Using of ASTER Data to Preparation of Alteration Mapping and Lineaments Identification in the Zaker Area, North East of Zanjan, Iran. Arabian Journal of Geosciences
	2011: Reviewing a paper "Environmental impact assessment inside and around Mahd Adh Dhahab gold mine, Saudi Arabia", Arabian Journal of Geosciences, Manuscript Number: AJGS-D-10-00042.
	2011: Reviewing an application submitted for rating from Dr A Thomas, (Council for Geoscience), National Research Foundation of South Africa.
	2009: Assessment of transmissivity variations from surface geophysical

	measurements: a case study at the area north of Nekhl, central Sinai, Egypt, Massoud, Usama; Santos, Fernando; Khalil, Mohamed.
	Prof. Dr. Broder J. Merkel
	Freiberg University of Mines and Technology, Freiberg, Germany.
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	Prof. Dr. Omar A. Hegab Geology Department, Mansoura University, Egypt. P.O. Box 35516, Phone: (+2) 050 2242388, (+2) 050 2243734, FAX: (+2) 050 2246781 E-mail: <u>hegab@mans.edu.eg</u>