



Curriculum Vita

Name: Essam Abdel Rahman Mohamed Hassaan

Date of Birth: 1/1/1969

Sex: Male

Nationality: Egyptian

Passport No. : A07859281

Martial state: Married

Address: Villa 23, the area between west Sumed and supreme sector, 6th
October City, Egypt

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Education:

- B Sc. In geology, Cairo University, Beni-Suef Branch, Egypt, 1991.
- M Sc. Hydrogeology, Cairo University, Egypt, 1998
- Ph D. Environmental Hydrogeology, Liverpool University, UK, 2007.

Current Job: Prof. Department of Hydrogeology and Environment, Faculty of Earth sciences, Beni-Suef University.

Current Title: Vice Dean for Postgraduate and Research.

Main interest: Geology, Environmental Hydrogeology assessment studies. Water resources management, hydrogeological and hydrogeochemical evaluation of groundwater and surface water, surface and groundwater relationship, seawater intrusion problems in mixed zones, pollution detection and long term monitoring programs of water

mains, environmental impact assessment of flash flooding, rising of water table in urban areas and water pollution. Water and Wastewater treatment using natural and synthetic materials.

Scientific and social contributions

Member of a research group that has achieved many research projects

a) Funded projects

Title	Finance Authority	year
Water treatment by flakey graphite and active carbon synthesized from El Maghara coal deposits.	Beni-Suef University	2015
Synthetic Organosilicas, Rice Husk Composites and Organoclays Nanocomposites for Watertreatment.	Beni-Suef University	2015
Multidisciplinary approach for modified Egyptian bentonite clays: Preparation, characterization and preliminary evaluation for different potential applications (Italy-Egypt Project)	Beni-Suef University	2016
Nanocomposites and porous materials: Synthesis, characterization and their suitability for different applications (Finland-Egypt project).	Beni-Suef University	2017
Post treatment of Desalinated water using a low cost of local natural materials	STDF	2018
Organic-inorganic hybrid nanocomposites: Synthesis, characterization, and potential applications. (STDF Project).	STDF	2018
preparation of new sorbent materials from agricultural waste and natural materials through	Higher Education Ministry	2018
the re-use of cans bottles in purification and treatment of contaminated water	Higher Education Ministry	2018
Pharmaceutical uptake from wastewater by metal-bearing natural materials: Case study, (Hospital of Beni-Suef University).	Beni-Suef University	2019
Effective removal of wastewater contaminants using magnetic nanoparticles impregnated onto CTAB/H ₂ O ₂ -clays: Statistical physics modeling (Bayad Al-Arab, East Beni-Suef)	Beni-Suef University	2019

b) Contributions in some community and social services

- Treatment of the pigment loaded industrial wastewater, (El Farana Pack company, El Fayoum industrial zone, 2017)
- Post treatment of Desalinated water using a low cost of local natural materials, (STDF funded, FFF 2018 NO. 31324).
- Rehabilitation and wastewater recycle of the Horous Factory for paper industry, (Beni-Suef industrial zone)
- Evaluation and Rehabilitation of the current active Sewage Water Treatment plants in Beni-Seuf Governorate.
- EIA studies of many projects in Beni-Suef industrial zones.

Some of the academic published work:

- **Mohamed, E.A., and Worden, R.H., 2006.** Groundwater compartmentalisation: a water table height and geochemical analysis of the structural controls on the subdivision of a major aquifer, the Sherwood Sandstone, Merseyside, UK. *Hydrology and Earth System Sciences*. 10, 49-64.
- **Mohamed, E.A., Worden, R.H., 2008:**Groundwater geochemistry and aquifer characteristics in a hot arid basin, WadiFeiran, Southwest Sinai, Egypt "New Approach". *Geology of the Arab World, the 9th Conference*, Cairo University.
- **A. E. Edet, R. H. Worden, E. A. Mohammed & M. R. Preston, 2011.**Hydrogeochemical processes in a shallow coastal plain sand aquifer and tidal river systems Calabar, Southeastern Nigeria): tracking wastewater and seawater pollution in ground and river waters. *Environ Earth Sci.*, 2011.
- **E. B. Makashev, B. K. Kumar and E. A. Mohamed, 2013:** Recommended guidelines for improvement of operating reliability and work efficiency of a borehole at an underground gas storage facility. *Int. J. Chem. Sci.*: 11(1), 2013, 223-230. ISSN 0972-768X
- **E. B. Makashev, B. K. Kumar and E. A. Mohamed and D. B. Kumar, 2013:** Recommendations on installation of Chock Flanges on wellhead of the underground gas storage., *Int. J. Chem. Sci.*: 11(2), 2013, 721-727, ISSN 0972-768X.
- **M.S.M., Abdelwahed, E.A. Mohamed, M.I. Elsayed, A. Mnif and M. Sillapaa (2014):**Geochemical modeling of evaporation process in Lake Qarun, Egypt. *J. African Earth Sciences*, 97, 322-330.

- **Ramadan H. S, Omirserikov M. Sh., Isaev L. D., Mohammed E. A., 2014.** Evaluation of the Presence of Rare Metals in Katpar and Akshatau Deposits, Central Kazakhstan Using Geological and Geophysical Tools and Development of Geophysical Criteria for Forecasting Rare Metal Deposits. International Journal of Innovative Research in Science, Engineering and Technology, 3(10): 16896-16902.
- **Ramadan H. S, Omirserikov M. Sh., Isaev L. D., Mohammed E. A., 2014:** Scientific Basis of Prospecting Rare Metals and Construction of Petrophysical, Geological and Geophysical Model in Akshatau Field, Central Kazakhstan. Research Journal of Pharmaceutical, Biological and Chemical Sciences, 5 (6): 1003- 1009.
- **M.S.M., Abdelwahed, E.A. Mohamed, M.I. Elsayed, A. M`nif and M. Sillapaa (2015):**Mineral crystallization sequence during evaporation of a brine involving Na, K, Mg,/Cl, SO4//H2O system collected from EMISAL site, Fayoum, Egypt. Desalination, 355, 11-21.
- **M.S.M., Abdelwahed, E.A. Mohamed, C. Wolkersdorfer, M.I. Elsayed, A. M`nif and M. Sillapaa (2015):** Water Quality of Fayoum surface water, Fayoum province, Egypt. Deltas in Time of Climate Change II, Rotterdam, the Netherlands, 24-26 Sept.
- **Essam A. Mohamed, Ahmed M. El-Kammar, Mohamed M. Yehia,Hend S. Abu Salem, 2015.**Hydrogeochemical evolution of inland lakes' water: A study of major element geochemistry in the Wadi El Raiyan depression, Egypt. JAR.
- **M.S.M., Abdelwahed, E.A. Mohamed, , M.I. Elsayed, A. M`nif and M. Sillapaa (2015):** Hydrogeochemical Processes Controlling the Water Chemistry of a Closed Saline Lake Located in Sahara Desert: Lake Qarun, Egypt. AquatGeochem.
- **Mahmoud S.M. Abdel Wahed, Essam A. Mohamed, Christian Wolkersdorfer, Mohamed I. El-Sayed, Adel M`nif, Mika Sillanpää. 2015.** Assessment of Water Quality in Surface Waters of the Fayoum Watershed, Egypt Environmental Earth Sciences.
- **Mostafa Ragab Abukhadra, Moaaz Korany Seliem, Essam Abdel Rahaman Mohamed, Ali Quarny Selim, Mahmoud Helmy Mahmoud. 2015:** Application of Quadratic Polynomial Model for the Uptake of Iron from Aqueous Solutions by Natural and Modified Egyptian Bentonite. American Journal of Applied Chemistry, 2015; 3(6): 179-187
- **Moaaz K. Seliem, E.A. Mohamed, A.Q. Selim, M. G. Shahien and Mostafa R. Abukhadra. 2015:** SYNTHESIS OF NA-A ZEOLITES FROM NATURAL AND THERMALLY ACTIVATED EGYPTIAN KAOLINITE: CHARACTERIZATION AND COMPETITIVE

ADSORPTION OF COPPER IONS FROM AQUEOUS SOLUTIONS.
International Journal of Bioassays 4.10 (2015): 4423-4430.

- **E. A. Mohamed, A. Q. Selim, M. K. Seliem, Mostafa R. Abukhadra. 2015:** Modeling and Optimizations of Phosphate Removal from Aqueous Solutions Using Synthetic Zeolite Na-A. **Journal of Materials Science and Chemical Engineering, 3, 15-29.**
- **Essam A. Mohamed, Ahmed M. Zayed, Ali Q. Selim, Suzan S. Ibrahim, Moaaz K. Seliem,** 2016: Response surface modeling and optimization of lead uptake from aqueous solution by porous graphitic carbon synthesized from Egyptian bituminous coal. **INTERNATIONAL JOURNAL OF BIOASSAYS.**
- **Hamada M. Mahmouda,b, Essam A Mohamedc, Mohamed H Khalild, Marwa S Mahgoub.** 2016: Comprehensive performance assessment of the potable water treatment plants in El Fayoum governorate, Egypt. **RJPBCS 7(5), 2189.**
- **Hend S. Abu Salem & Atef Abu Khatita & Mamdouh M. Abdeen & Essam A. Mohamed & Ahmed M. El Kammar 2017:** Geo-environmental evaluation of Wadi El Raiyan Lakes, Egypt, using remote sensing and trace element techniques. *Arab J Geosci.*, 10:224.
- **Ahmed M. Zayed, Ali Q. Selim , Essam A. Mohamed , Mahmoud S.M. Abdel Wahed, Moaaz K. Seliem, Mika Sillanpää. 2017:** Adsorption characteristics of Na-A zeolites synthesized from Egyptian kaolinite for manganese in aqueous solutions: Response surface modeling and optimization. *Applied Clay Science*, 140: 17–24.
- **Ali Q. Selima, Essam A. Mohameda, Mohamed Mobarakb, Ahmed M. Zayed, Moaaz K. Seliema, Sridhar Komarneni. 2018,** Cr(VI): uptake by a composite of processed diatomite with MCM-41: Isotherm, kinetic and thermodynamic studies. *Microporous and Mesoporous Materials*, 260: 84-92.
- **Mohamed Mobarak, Ali Q. Selim, Essam A. Mohamed, Moaaz K. Seliem, 2018:** A superior adsorbent of CTAB/H₂O₂ solution–modified organic carbon rich-clay for hexavalent chromium and methyl orange uptake from solutions. *Journal of Molecular Liquids*, 259: 384-397.
- **Ali Q. Selim, Essam A. Mohamed, Moaaz K. Seliem, Ahmed M. Zayed,** Synthesis of sole cancrinite phase from raw muscovite: Characterization and optimization. *Journal of Alloys and Compounds*, 762, 2018, 653-667.
- **Ahmed M. Zayed, Mahmoud S.M. Abdel Wahed, Essam A. Mohamed, Mika Sillanpää,** Insights on the role of organic matters of some Egyptian clays in methyl orange adsorption: Isotherm and kinetic studies. *Applied Clay Science*, 166 (2018) 49-60.
- **Mohamed Mobarak, Ali Q. Selim, Essam A. Mohamed, Moaaz K. Seliem,** Modification of organic matter-rich clay by a solution of cationic surfactant/H₂O₂: A new product for fluoride adsorption from solutions. *Journal of Cleaner Production*, 192 (2018) 712-721.
- **Essam A. Mohamed, Ali Q. Selim, Ahmed M. Zayed, Sridhar Komarneni, Mohamed Mobarak, Moaaz K. Seliem,** Enhancing adsorption capacity of Egyptian diatomaceous earth by thermo-chemical purification: Methylene blue uptake. *Journal of Colloid and Interface Science*, 534 (2019) 408-419.

- **Mohamed Mobarak, Essam A. Mohamed, Ali Q. Selimb, M.F. Eissa, Moaaz K. Seliem**, Experimental results and theoretical statistical modeling of malachite green adsorption onto MCM-41 silica/rice husk composite modified by beta radiation. *Journal of Molecular Liquids*, 273 (2019) 68-82.
- **Mohamed Mobarak, Essam A. Mohamed, Ali Q. Selim, F.M. Mohamed, Lotfi Sellaoui, Adrián Bonilla-Petriciolet, Moaaz K. Seliem**, Statistical physics modeling and interpretation of methyl orange adsorption on high-order mesoporous composite of MCM-48 silica with treated rice husk. *Journal of Molecular Liquids*, 285 (2019), 678-687.
- **Mohamed Mobaraka, Essam A. Mohamedb, Ali Q. Selimb, Lotfi Sellaouic, Abdelmottaleb Ben Lamine, Alessandro Erto, Adrián Bonilla-Petriciolete, Moaaz K. Seliem**, Surfactant-modified serpentine for fluoride and Cr(VI) adsorption in single and binary systems: Experimental studies and theoretical modeling. *Chemical Engineering Journal*, 369 (2019) 333-343.
- **Essam A. Mohamed, Ali Q. Selim, Sayed A. Ahmed, Lotfi Sellaoui, Adrian Bonilla-Petriciolet, Alessandro Erto, Zichao Lif, Yanhui Li, Moaaz K. Seliem**, H₂O₂-activated anthracite impregnated with chitosan as a novel composite for Cr(VI) and methyl orange adsorption in single-compound and binary systems: Modeling and mechanism interpretation. *Chemical Engineering Journal* 380 (2020) 122445
- **Essam A. Mohamed, Mohamed Mobarak, Rajeev Kumar, M.A. Barakat, Adrián Bonilla-Petriciolet, Moaaz K. Seliem, Ali Q. Selima**, Novel hybrid multifunctional composite of chitosan and altered basalt for barium adsorption: Experimental and theoretical studies, *Colloids and Surfaces A* 593 (2020) 124613.
- **M.K. Seliem, M. Mobarak, A.Q. Selim, E.A. Mohamed, Radwa A. Halfaya, Hager K. Gomaa, I. Anastopoulos, A. D. Giannakoudakis, E.C. Lima, A. Bonilla-Petriciolet, G. L. Dotto**: A novel multifunctional adsorbent of pomegranate peel extract and activated anthracite for Mn(VII) and Cr(VI) uptake from solutions: Experiments and theoretical treatment. *J Molecular Liquids* 311 (2020) 113169.
- **M. Barakat, R. Kumar, M.K. Seliem, A.Q. Selim, M. Mobarak, I. Anstopoulos, D. Giannakoudakis, M. Barczak, A.B. Petriciolet, E.A. Mohamed**: Exfoliated Clay Decorated with Magnetic Iron Nanoparticles for Crystal Violet Adsorption: Modeling and Physicochemical Interpretation. *Nanomaterials*, 2020, 10, 1454.
- **M. Barakat, A.Q. Selim, M. Mobarak, R. Kumar, M.K. Seliem, A.Q. Selim, , I. Anstopoulos, D. Giannakoudakis, A.B. Petriciolet, E.A. Mohamed, M.K. seleim, S. Komarnini**: Experimental and Theoretical Studies of Methyl Orange Uptake by Mn-Rich Synthetic Mica: Insights into Manganese Role in Adsorption and Selectivity. *Nanomaterials*, 2020, 10, 1464.
- **Ahmed S. A. A. Abu Sharib, Adrián Bonilla-Petriciolet, Ali Q. Selim, Essam A. Mohamed, Moaaz K. Seliem**, Utilizing modified weathered basalt as a novel approach in the preparation of Fe₃O₄ nanoparticles: Experimental and theoretical studies for crystal violet adsorption. *Environmental Chemical Engineering Journal* 2021.

- **H.S. Ramadan, Rabea A.M. Ali, Mohamed Mobarak, Michael Badawi, Ali Q. Selim, Essam A. Mohamed, Adrián Bonilla-Petriciolet, Moaaz K. Seliem.** One-step fabrication of a new outstanding rutile TiO₂ nanoparticles/anthracite adsorbent: Modeling and physicochemical interpretations for malachite green removal. *Chemical Engineering Journal*, 2021

Technical reports:

1. Geological and hydrogeological studies and evaluation of the groundwater aquifer at the eastern side of Nile River East of Biba and Elfashin cities to the benefit of Konoz company of land reclamation and cultivation in the year 2007.
2. Geological and hydrogeological studies and evaluation of the groundwater aquifer at the eastern side of Nile River North of Elminea governorate to the benefit of Savola company of land reclamation and cultivation in the year 2008.
3. Geological and hydrogeological studies and evaluation of the groundwater aquifer at the eastern side of Nile River East of BeniSuef city (South of WadiSannor) to the benefit of Kuwait company of land reclamation and cultivation in the year 2008.
4. Environmental study (EIA, Form B) of the location of the South Valley cement company (North of beniSuef governorate) in the year 2009.
5. Environmental study (EIA, Form B) of the location of Scimitar power station located in Asraan oil field on the western side of Gulf of Suez in the year 2009.
6. Flooding studies and risk assessment of the surface flow for the MersaAlam Beach resort to the benefit of Elseri tourist Development Company, Quser-MersaAlam touristic sector, in the year 2010.

7. Geological and hydrogeological studies of the location of tourist project south of Taba city, Gulf of Aqaba, South Sinai, to the benefit of Travcocompany in the year 2010.
8. Flood risk assessment of the area of Wadi El Nabee El Sagheer for the El Salam Beach resort to the benefit of El Salam Tourist Company, Quser-MersaAlam touristic sector, in the year 2010.
9. Geological and geophysical investigation of subsurface faults and dissolution features, Soma Bay, Hurghada city, red Sea, in the year 2011.
10. Environmental study of the location of tourist at the north beach (Almaza Bay), Mediterranean Sea, to the benefit of Travcocompany in the year 2011.
11. Environmental, geological and hydrogeological studies of El Fostat area (as a base line of a big project concerning redesign and planning of the city), in the year of 2011.
12. Geological and hydrogeological studies of the area of New Burg El Arab city, in year 2011.
13. Environmental, geological and hydrogeological studies of RasMatarma area, South of RasSuder city, Gulf of Sues, Sinai (as a base line of a big tourist project “Daghash Land”), in the year of 2011.
14. Environmental, geological and hydrogeological studies of the location of Mkady resort, south Hurghada, Red Sea , in the year of 2011.
15. Environmental, social and health impact assessment (ESHIA)of onshore seismic acquisition in Shell Egypt exploration blocks Northeast Obaiyed and North Matrouh, 2014.
16. Environmental, impact assessment (EIA)of the Egypt - Saudi Arabia Interconnection line, 2014.

17. Summarize the geology of the Dairutpower station area. Briefly discuss the potential for seismicity and any history of soil liquefaction, 2014.
18. Flood risk assessment of the location recommended to construct waste water treatment plant East of Assuit governorate, 2014.
19. Environmental, social and health impact assessment (ESHIA) of the industrial area (31) east of Beni-Suef Governorate, 2014.
20. Geological and Environmental assessment of Gebel Ataga as a base line study for the construction of power battery station.
21. EIA of the Solar Power station at El Zafarana Area. 2016.
22. Hydrogeology and flood risk assessment of Benban Solar Park, Aswan governorates, 2017.
23. Development of Decommissioning and Rehabilitation plane of Beit-Lahia Wastewater Treatment Plant, Gaza Sector, Palestine, 2018.
24. Hydrogeology and flood risk assessment of Faris Solar Park, Aswan governorates, 2017.
25. EIA of the new power station that will be built at El Hamrawein area Red Sea 2019.
26. EIA of the Wind Farm (Power station) that will be built at Ras Ghareb, Gulf of Suez Egypt 2020.
27. Groundwater monitoring plan of the ANOPC site Assuit.

Experience: - Demonstrator at the geology department, Faculty of science, Cairo University, Beni Suef Branch (1992 – 1998).

- Part time Assistant Lecturer at the Science department, American University in Cairo (1997 – 2002).
- Assistant Lecturer at Geology department, Faculty of science, Cairo University, Beni Suef branch (1998-2003).
- Assistant lecturer in School of earth and ocean sciences, Liverpool University, UK (2003 – 2007).

- Lecturer at geology department, Faculty of science, Beni Suef University since March 2007.
- Ass. Prof., at geology department, Faculty of science, Beni Suef University since Oct. 2015- Jun. 2017.
- Ass. Prof., at Hydrogeology and Environment Department, Faculty of Earth Sciences, Beni-Suef University since Jun. 2017- 2020.
- Professor at Hydrogeology and Environment Department, Faculty of Earth Sciences, Beni-Suef University since Feb. 2020.

Activities:

- Assessment of flash flood hazards and flood control in many remote areas in Egypt.
- Hydrogeological assessment of the locations that could be used as landfill sites.
- Assessment of Hammam Faroun hot water (chemical composition, ultimate abstraction rate, geological setting) to be used as a healthy resort to the benefit of Misr-Sinai tourist company.
- Environmental Impact Assessment (EIA) studies of many tourist projects in Egypt (Sinai, Red Sea coasts and North coast).
- Detection of the main source of pollution in the groundwater at St Katherine village in Sinai.
- Detection of the main source of nitrate pollution in Liverpool, UK drinking water.
- Set a relevant new strategy to manage the groundwater aquifer in Liverpool and monitor the spreading out of pollutants.

- Study the problems released from seawater intrusion in Liverpool city, UK and Calabar city, Nigeria.
- Study the relation between the surface and groundwater in Liverpool city, UK and Calabar city, Nigeria.
- Member in a research team evaluating the potential of the groundwater resource at east Beni-suef new reclaimed areas.
- Geological and geophysical investigation of subsurface faults and dissolution features.

Faculty responsibilities:

- **Teaching:** *) hydrogeology course, 4th year special geology and geochemistry students, *) petroleum geology course, 4th year student; *) structural geology, 3rd year special geology and geochemistry students, *) Geomorphology, 3rd year special geology and geochemistry students, *) Survey, 2nd year general geology students, *) Introduction of the structural geology, 1st year general geology students, *) geochemistry of natural water, 3rd., hydrogeology and environment, *) rain water harvesting techniques, 3rd., hydrogeology and environment, *) hydrogeology of coastal aquifers, 4th., hydrogeology and environment, *) Environmental Impact assessment, 4th., hydrogeology and environment,
- **Supervision:**
 - supervise a PhD project, to study the environmental impact assessment and economic beneficiation of the high saline lake water, case study Lake Qaroun, Fayoum, Egypt. (Awarded).

- supervise a PhD project, to study the environmental hydrogeology of Wadi El Rayan depression ,Fayoum, Egypt. (Awarded).
 - *supervise a PhD project, to reliability and efficiency of operation of underground gas storage facilities located in the southern regions of Kazakhstan, (Awarded).
 - supervised a PhD project, improving the scientific basis for exploration and prospecting in the area within rare metal deposits and fields of industrial ores, central region of Kazakhstan, (awarded).
 - supervise a MSc project, “Drinking water quality evaluation in Fayoum Governorate using GIS, Fayoum, Egypt” (Awarded).
 - supervised a PhD project, improving the scientific basis for exploration and prospecting in the area within rare metal deposits and fields of industrial ores, central region of Kazakhstan, (awarded).
 - supervised a PhD project, Modeling of the Impact of Socio-Economic and Environmental alterations on Surface Water Quality. (Active)
 - supervise a MSc project, “Hydrogeology of groundwater aquifer in Beni-Suef flood plain (Active).
 - supervised a PhD project, Hydrogeologic studies on the groundwater aquifer in the area Beni-Suef – Al Minea (Active)
- **Environment:** member of the environmental and social affairs committee.

- **Faculty member** of the group managing the chemical analysis unit "special unit".
- **Faculty member in the team of the "program of continuous improvement and qualification for accreditation in higher education (PCIQA)",** leading the group responsible for the sector of "students and graduate students".

University responsibilities:

- University of Beni-Suef Member in the national committee of the (Information and Communication Technology Projects). The projects sponsored by the ministry of higher education to enhance the higher education in Egyptian Universities.
- The manager of the Information and Communication technology training project.
- The manager of the University ICDL training and testing centre.
- Professional trainer as I have got TOT1 and TOT2.
- Trainer at the "Pathways to Higher Education Project" and "FLDC project".

Acquired skills: - Lab work; mainly operating chemical analysis applications like IC, AA, flame photometer, spectrophotometer, titration, and DO, Ph, C°, Eh meters.

- Prefer team working missions.
- Likely welcome of any volunteer work.

Computer Skills: - Highly acquainted with Microsoft office package.

- Good user of CorelDraw and internet explorer
- Using some specific software's in the field like; Geochemist workbench, Phreeqc, surfer 9, microdem.

- Holding the ICDL certificate with the Skill Card No:
EGY000366371

References: Prof. M. Elaref, Geology department, Cairo University;
Prof. A. abukhadrah, Geology department, Cairo University,
Prof. G. Abdelgawad, Geology department, Beni-Suef
University, Prof. Richard Worden School of Earth and
Ocean Sciences, Liverpool University, UK and Prof. A. Edit,
Geology department, Calabar University, Nigeria.

Signature

Essam A. Mohamed