Amer A. Shehata

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(1) Education:

2015 – 2019 **Ph.D. in Petroleum Geology:** Port Said University, Port Said, Egypt.
PhD Dissertation: Cretaceous Depositional Patterns and Sequence Stratigraphic Evolution for The Hydrocarbon Potentialities in Beni Suef Basin, Nile Valley, Egypt

2010 – 2014 **M.Sc. in Petroleum Geology:** Port Said University, Port Said, Egypt.
M.Sc. Dissertation: Sequence Stratigraphy and Depositional History of the Upper Cretaceous Sediments at Gabal Nezzazat and Gabal Ekma, Southwestern Sinai, Egypt

2005 – 2009 **B.Sc. in Geology (*Excellent with Honor*)** Suez Canal University, Ismailia, Egypt.
B.SC. Project: Wellsite Geology: Fundamentals with scope to wellsite geologist duties and responsibilities

(2) Appointments:

10/2022 – Present **Fulbright Research Scholar (Research associate):** Department of Physical and Environmental Sciences, Texas A&M University – Corpus Christi.

05/2019 – Present **Assistant Professor:** Geology Department, Faculty of Science, Port Said University, Port Said, Egypt

12/2018 – 04/2019 **Research and Assistant lecturer:** Geology Department, Faculty of Science, Port Said University, Port Said, Egypt

11/2016 – 11/2018 **Foreigner Researcher:** Department of Earth Sciences, Chiba University, Chiba, Japan

06/2014 – 11/2018 **Research and Assistant lecturer:** Geology Department, Faculty of Science, Port Said University, Port Said, Egypt

02/2010 – 05/2014 **Teaching and Research Assistant:** Geology Department, Faculty of Science, Port Said University, Port Said, Egypt

(3) Research Interests:

I apply integrated (**seismic, sedimentology, sequence stratigraphy, petrophysics, machine learning**) approaches to investigate the subsurface geology, sequence stratigraphy, structural framework and reservoir properties, architecture, quality and characterization and their prediction. Currently, I'm using the sequence stratigraphy, facies analysis and petrophysical studies for reservoir quality and characterization by using the integrated surface and subsurface datasets. Surface datasets include the field study for the sedimentary successions while the subsurface datasets include seismic lines, different well logs as well as the core data. All the conventional interpretations are supported with machine learning techniques (deep neural network, gradient boosting machine, generalized linear model, distributed random forest) to predict the reservoir facies and properties. Also, the unconventional hydrocarbons studies (oil shale, and carbonates) are involved and the integration between GPR and sedimentological data is used to emphasize the subsurface characterization. Below is a summary of my recent research activities:

(4) Teaching Experience:

Teaching the following courses at Geology Department, Faculty of Science, Port Said University for undergraduate and postgraduate students and Faculty of Engineering, Port Said University for undergraduate students during the period from **2010 until now**:

"Petroleum and Gas Geology, Petroleum Provinces, Structural Geology, Subsurface Geology, Marine Geology, Petroleum Geochemistry, Sedimentary petrology, sedimentary basin analysis, Sequence and Seismic Stratigraphy, Seismic and well logging interpretation"

(5) Technical Experience:

- Programming Languages: Python
- Software:
  - Seismic: Petrel
  - Well Logging: Techlog
  - **Others:** Coral Draw, and Adobe Illustrator

(6) Scholarships, Projects Participation & Activities:

- **Fulbright Research Scholar** (2022-now) Texas A&M University-Corpus Christi
- **Joint supervision scholarship** (2016-2018), Chiba University, Japan
- **Vice Manager** of the Student Quality Project "Preparation and design Environmental digital maps for Port Said Governorate (EDML)" Port-Said University, Egypt **(2011-2012).**
- **Associate Editor** at Alfarama Journal of Basic & Applied Sciences (AJBAS) **(**https://ajbas.journals.ekb.eg/) **(2019-Present)**.
- **Vice Manager** of Farouk El-Baz Research Center for remote Sensing and GIS, Faculty of Science, Port Said University, Egypt (**2022-Present**)
- **Reviewer** at the following: Journal of African Earth Sciences, Acta Geologica Sinica-English Edition, Journal of Asian Earth Sciences, Alfarama Journal of Basic & Applied Sciences, Journal of Petroleum exploration and production technology, Energies Journal, Processes Journal, Lithosphere and Iraqi Geological Journal.
- **Co-supervising** the following MSc thesis at Faculty of Science, Port Said University:
  1- Heba Ismail, Title "Subsurface geology and gas potentialities evaluation using geochemical, seismic and petrophysical data integration in the western offshore area, Nile Delta, Egypt"
  2- Raafat Mohamed, Title "The Neogene platform sedimentary history, Cairo – Suez Road, Egypt"
  3- Ethar Galal, Title "Hydrocarbon potential of the Jurassic Succession in the Darag Basin, Gulf of Suez as demonstrated by palynology and organic geochemistry"

(7) Research Grants

Pending Grants

2023 – 2026 **Amer A. Shehata, Co-PI** (Gaber A., PI and Co-PI, Sherif El Shahat): Natural and Anthropogenic Factors Controlling Groundwater Recharge and Discharge Rates and Locations in Western Desert of Egypt: An Automated Machine Learning Approach, **Science, Technology & Innovation Funding Authority (STDF)**, Egypt, Total: **$199,936**.

Funded Grants

09/2011 – 05/2012 **Amer A. Shehata, Co-PI** (Sultan Y., PI): Environmental digital mapping laboratory, **Ministry of Higher Education**, Egypt, Total: **$6000**.

(8) Awards and Honors:

2023: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.
2022: Fulbright Post-doctoral research grant, Fulbright Egypt Commission **($ 27.500)**.
2022: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.
2021: Interdisciplinary Excellence: Education Design (Certificate of completion)
2021: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.
2020: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.
2019: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.

2018: Scientific Research Excellence Award, Port Said University, Port Said, Egypt.

(9) Symposia and conferences:

- Machine learning applications in the engineering and geological sciences, 2022, Port Said University, Port Said Egypt.
- Turbidities workshop, international meeting, 2018, Chiba university, Chiba, Japan
- Egyptian Sedimentology association, 2012, 2013, 2014. Ain Shams University, Egypt
- International conference of geology of Sinai 2007, 2008, 2009, Ismailia, Egypt

(10) Publications:

- **Shehata, A.A.,** Ahmed, M. (In Preparation). Integration of multiscale datasets for reservoir characterization: Implementations for prediction processes and development plans.
- **Shehata, A.A.,** Kassm, A.A. (In Preparation): Sedimentology and lithofacies prediction of the pre-rift Matulla reservoirs at the Central Gulf of Suez, Egypt.
- **Shehata, A.A.,** Ahmed, M. (In Preparation). Machine learning application in the prediction of lithofacies and permeability in the Miocene sandstone reservoirs, Gulf of Suez, Egypt.
- **Shehata, A.A.,** Sarhan, M.A., Abdel-Fattah, M. (In Preparation). Sequence Stratigraphy and Reservoir characterization of the Bahariya Formation at South Umbarka area, North Western Desert, Egypt.
- **Shehata, A.A.,** Ahmed, M. (In Preparation). Structural and Stratigraphic controls on reservoir architecture using 3D seismic and well logging dataset integration: An example from the Lower Oligocene Vicksburg Formation, Brooks County, Texas.
- **Shehata, A.A.,** Tahoun, S.S., Kassem, A.A., Abdelsamea, E.G., Hassan, H.F. (Under Review). Palynostratigraphy and paleoenvironmental inferences of the Jurassic successions, Darag Basin, Gulf of Suez, Egypt. Submitted to Journal of African Earth Sciences, Manuscript no. AES11470.
- Nabawy, B., Abd El Aziz, E.A., Ramadan, M., **Shehata, A.A.,** (Under Review). Micro-lithofacies composition and petrophysical characterization controls on reservoir quality of gas-bearing deltaic sequence: A case study from the Nile Delta, Egypt. Submitted to Natural Resources Resesrch., Manuscript no. NARR-D-22-00768
- Abdelreheem, R., Ahmed, M. **Shehata, A.A.,** (Abstract). Controls of subsurface Geology on the response of Barrier Islands to Flooding and Hurricanes: Constrains from Ground Penetrating Radar and Sedimentological Datasets. Accepted Abstract in The Texas A&M University System (TAMUS) Pathways Student Research Symposium at The Texas A&M University -Galveston, **March 2023**.
- **Shehata, A.A.,** Sarhan, M.A., Abdel-Fattah, M.I., Mansour Sh., **2023**. Geophysical assessment for the potentiality of the Abu Roash "G" reservoir in West Beni Suef Basin,

Western Desert, Egypt. Journal of African Earth Sciences, 104845. https://doi.org/10.1016/j.jafrearsci.2023.104845

- **Shehata, A.A.,** Sarhan, M.A., Abdel-Fattah, M.I., Assal, E.M., **2023**. Sequence stratigraphic controls on the gas-reservoirs distribution and characterization along the Messinian Abu Madi incision, Nile Delta Basin. Marine and Petroleum Geology, 147, 105988. https://doi.org/10.1016/j.marpetgeo.2022.105988
- Radwan, A.E., Husinec, A., Benjumea, B., Kassem, A.A., Abd El Aal, A.K., Hakimi, M.H., Thanh, H.V., Abdel-Fattah, M.I., **Shehata, A.A., 2022**. Diagenetic overprint on porosity and permeability of a combined conventional-unconventional reservoir: Insights from the Eocene pelagic limestones, Gulf of Suez, Egypt. Mar. Pet. Geol., 146, 105967. https://doi.org/10.1016/j.marpetgeo.2022.105967
- **Shehata, A.A.,** Sarhan, M.A., **2022**. Seismic interpretation and hydrocarbon assessment of the post-rift Cenomanian Bahariya reservoir, Beni Suef Basin, Egypt. J. Petrol. Expl. Prod. Tech., 12, 3243-3261.https://doi.org/10.1007/s13202-022-01520-2
- Kassem, A.A., Osman, O., Nabawy, B., Baghdady, A., **Shehata, A.A., 2022**. Microfacies Analysis and Reservoir Discrimination of Channelized Carbonate Platform Systems: An Example from the Turonian Wata Formation, Gulf of Suez, Egypt. J. Petrol. Sci. Eng., 212, 110272. https://doi.org/10.1016/j.petrol.2022.110272
- **Shehata, A.A.,** Kassem, A.A., Brooks, H.L., Zuchuat, V., Radwan, A.E, **2021b**. Facies analysis and sequence-stratigraphic control on reservoir architecture: Example from mixed carbonate/siliciclastic sediments of Raha Formation, Gulf of Suez, Egypt. Mar. Pet. Geol., 131, 105160. doi.org/10.1016/j.marpetgeo.2021.105160
- **Shehata, A.A.**, Osman, O., Nabawy, B. **2021a**. Neural network application to petrophysical and lithofacies analysis based on multi-scale data: An integrated study using conventional well log, core and borehole image data. J. Nat. Gas Sci. Eng., 104015) doi.org/10.1016/j.jngse.2021.104015
- Kassem, A.A., Hussein, W.S., Radwan, A.E., Anani, N., Abioui, M., Jain, S., **Shehata, A.A., 2021**. Petrographic and diagenetic study of siliciclastic Jurassic sediments from the northeastern margin of Africa: Implication for reservoir quality. J. Petrol. Sci. Eng., 200, 108340
- **Shehata, A.A.,** El Fawal, F.M., Ito, M., Aboulmagd, M.A., Brooks, H.L., **2020**. Senonian platform-to-slope evolution in the tectonically-influenced Syrian Arc sedimentary belt: Beni Suef Basin, Egypt. J. Afr. Earth Sci. 170, 103934.
- Sakran, Sh, **Shehata, A.A.,** Osman, O., El Sherbiny, M., **2019**. Superposed tectonic regimes in West Beni Suef basin, Nile Valley, Egypt: implications to source rock maturation and hydrocarbon entrapment. J. Afr. Earth Sci. 154, 1–19.
- **Shehata, A.A.,** El Fawal, F.M., Ito, M., Abdel Aal, M.H., Sarhan, M.A., **2019**. Cenomanian–Turonian depositional history of a post–Gondwana rift succession in the west Beni Suef basin, Egypt. J. Afr. Earth Sci. 150, 783–798.

- **Shehata, A.A.,** El Fawal, F., Abdel Aal, M.H., Aboulmagd, M.A., **2018**: Seismic Facies Interpretations and Depositional Sequences of the Cretaceous Sediments in Beni Suef Basin, Nile Valley, Egypt. IOSR Journal of Applied Geology and Geophysics., Volume 5, Issue 5 Ver. II., PP 57-69.
- **Shehata, A.A.,** El Fawal, F.M., Ito, M., Abdel Aal, M.H., Sarhan, M.A., **2018**. Sequence stratigraphic evolution of the syn-rift early cretaceous sediments, west Beni Suef basin, the Western Desert of Egypt with remarks on its hydrocarbon accumulations. Arab. J. Geosci. 11, 313–331.
- El Fawal, F., Hassan, H. and **Shehata, A., 2014**: Depositional Trends and Sedimentary Environments of the Cenomanian-Turonian Sediments along G. Nezzazat-G. Ekma, South-West Sinai, Egypt. IOSR Journal of Applied Geology and Geophysics., Volume 2, Issue 2 Ver. II. (Mar-Apr. 2014), PP 27-38.