

## A. M. KHALIFA CURRICULUM VITAE

### Ahmed M. Khalifa

PhD Candidate, River-Coastal Science & Engineering Department,  
School of Science and Engineering, Tulane University.

Address: 6205 Waldo Dr. New Orleans, LA, USA

Email: [akhalifa1@tulane.edu](mailto:akhalifa1@tulane.edu) & [ahmed.khalifa.7575@gmail.com](mailto:ahmed.khalifa.7575@gmail.com)

Phone: (+1) 504-408-5824

### Education

B.S. Civil Engineering, Alexandria University, Egypt (2014)

Total Graduation Grade "Very Good", 78.92%

Thesis: Flash Floods Risks in Watier Valley, South Sinai, Egypt

M.S. Irrigation Engineering and Hydraulics, Alexandria University, Egypt (2017)

CGPA (3.5/4.0)

Thesis: Controlling Sedimentation problems at Damietta Harbor Navigation Channel Using Numerical Modelling (DOI: 10.13140/RG.2.2.12434.12487)

PhD pre-courses Irrigation Engineering and Hydraulics, Alexandria University, Egypt (2019)

CGPA (3.7/4.0)

PhD (Current) River-Coastal Science & Engineering, Tulane University (2023)

GPA (3.834)

Thesis: Development and Applications of Morphodynamic Model to Study Deltaic and Coastal Ecosystems

### Peer-Reviewed Publications

**Khalifa, A. M.**; (2017). Controlling sedimentation problems at Damietta Harbor navigation channel using numerical modeling. Alexandria University, Egypt.

<https://doi.org/10.13140/RG.2.2.12434.12487>

**Khalifa, A. M.**, Soliman, M. R., Yassin, A. A.; (2017). Assessment of a combination between hard structures and sand nourishment eastern of Damietta harbor using numerical modeling. Alexandria Engineering Journal, 56(4), 545–555. <https://doi.org/10.1016/j.aej.2017.04.009>

Meselhe, E., **Khalifa, A. M.**, Hu, K., Lewis, J., Tavakoly, A. A.; (2022). Influence of key environmental drivers on the performance of sediment diversions. Water (Switzerland), 14(1). <https://doi.org/10.3390/w14010024>

## Articles Submitted and in Preparation

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Day, J. W., Allison, M.; The Great Mississippi River Flood of 1927: Morphodynamic Analysis of The Caernarvon Crevasse Event. (in review by Communications-Earth and Environment Journal).

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Reed, D. J., Rhode, R., Snider, N. P.; Optimization of The Proposed Mid-Barataria Sediment Diversion Operation Strategies to Maximize Land-Building Potential and Minimize Negative Ecological Impacts. (in preparation for Journal of Geophysical Research: Earth Surface).

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Reed, D. J., Beg, M. N. A.; Development and Application of A Simplified Biophysical Model to Study Deltaic and Coastal Ecosystems. (in preparation for Environmental Modelling & Software Journal).

## Conference Proceedings and Presentations

### Peer-reviewed proceedings with presentations:

El-Tahan, M. K., **Khalifa, A. M.**, Moghazy, H. M., Kher El Din, K.; (2019). Environmental Impact of Egyptian Anthropogenic Coastal Mega Structures in Eastern Nile Delta-Case Study (El-Mansoura New City). In 38th IAHR World Congress - "Water: Connecting the World" (Vol. 38, pp. 2251–2260). Panama City, Panama. <https://doi.org/10.3850/38wc092019-0790>

**Khalifa, A. M.**, El-Tahan, M. K., Moghazy, H. M., Kher El-Din, K.; (2020). ASSESSMENT of MORPHODYNAMICS and WATER QUALITY of AL MANSOURA NEW MEDITERRANEAN SEA ISLAND, In The 9th International Maritime and Logistics Conference, (Marlog 9). (pp. 1–19). Alexandria, Egypt.

El Sayed, W. R., **Khalifa, A. M.**; (2017). NILE Delta shoreline protection between past and future. In Twentieth International Water Technology Conference, (IWTC20). (pp. 18–20). Hurghada, Egypt.

### Conference presentations and posters:

**Khalifa, A. M.**, Soliman, M. R., Yassin, A. A.; (2017). Investigation of Using Coastal Sediment Trap to Reduce Navigation Channel Siltation. In RETBE 17. Alexandria, Egypt.

**Khalifa, A. M.**, Meselhe, E. A., Hu, K.; (2021). Morphodynamic Analysis of Proposed Mississippi River Sediment Diversions (Poster). In Young Coastal Scientists and Engineers Conference – Americas, (YCSECA). Myrtle Beach, SC, USA.

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Day, J. W., Allison, M.; (2022). Morphodynamic Analysis of the 1927 Caernarvon Crevasse Event. In Environmental & Water Resources Institute | ASCE (EWRI). Atlanta, GA, USA.

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Day, J. W., Allison, M.; (2022). Morphodynamic Analysis of the 1927 Caernarvon Crevasse Event (Poster). In Young Coastal Scientists and Engineers Conference – Americas, (YCSECA). Pensacola, FL, USA.

## A. M. KHALIFA CIRRICULUM VITAE

Meselhe, E. A., **Khalifa, A. M.**, Hu, K., Day, J. W., Allison, M.; (2023). The Great Flood of 1927: Comparative Analysis of Historical and Current Sediment Trends. In The State of The Coast. New Orleans, LA, USA.

**Khalifa, A. M.**, Meselhe, E. A., Hu, K., Reed, D. J., Beg, M. N. A., Rhode, R., Snider, N. P.; (2023). Development and Application of a Simplified Biophysical Model to Evaluate the Effects of Sediment Diversion Operations. In The State of The Coast. New Orleans, LA, USA.

Meselhe, E. A., **Khalifa, A. M.**, Hu, K., Day, J. W., Allison, M.; (2023). The Great Flood of 1927: Comparative Analysis of Historical and Current Sediment Trends (Poster). In Third Lower MS River Science Symposium. New Orleans, LA, USA.

### Academic Honors and Awards

Prime Minister Award for Excellence: Trophy of excellence awarded by the Prime Minister for the best Irrigation and hydraulics engineering project in Egypt. (2014)

Undergraduate Excellence: Annual certificate of appreciation from the Faculty of Engineering, Alexandria University. (2011/2012 – 2012/2013 – 2013/2014)

Undergraduate Appreciation: Certificate of appreciation awarded by the Department of Civil Engineering, School of Engineering, Alexandria University for the best graduation project of the 2014 batch. (2014)

### Experience

#### Professional experience:

##### **August 2014 to August 2015 – 2 years:**

Teaching assistant in the Irrigation Engineering and Hydraulics Department, Faculty of Engineering, Alexandria University:

- Hydraulics II (Open Channels Hydraulics, Dimensional Analysis - Modeling). (2014)
- Hydraulics Laboratory Instructor. (2014)
- Design of Irrigation Structures I (Crossing structures – Weirs - Spillways). (2014)
- Water Resources Engineering (Descriptive & Quantitative Hydrology – Ground Water – Reservoirs – Flood Damage Mitigation). (2015)
- Design of Irrigation Structures II (Dams – Regulators – Navigable Locks). (2015)

##### **January 2015 to January 2018 – 3 years:**

Research Assistant, Coastal Research Institute (CoRI), National Water Research Center (NWRC), Alexandria, Egypt

##### **January 2018 to January 2020 – 2 years:**

Assistant Researcher, Coastal Research Institute (CoRI), National Water Research Center (NWRC), Alexandria, Egypt

## A. M. KHALIFA CIRRICULUM VITAE

### **January 2019 to January 2020 – 1 year:**

Intern (Coastal Engineer – part time), Civil, Marine, and Coastal (CMC) Engineering Office, Alexandria, Egypt

### **January 2020 to Present:**

Research Assistant (PhD Student), River-Coastal Science & Engineering Department, School of Science and Engineering, Tulane University.

### **Training received**

Attended a 3 days “Climate Change Adaptation for water, food and environment security” held as a cooperation between CIHEAM-Mediterranean Agronomic Institute of Bari and Regional Training Sector for Water Resources and Irrigation of Egypt, Cairo, Egypt. 13 to 15 June 2015.

Attended two 4 days “Numerical Modeling in Coastal Engineering” & “Basics of Coastal Engineering” held by GEF project in National Water Research Center (NWRC), Cairo, Egypt. 26 to 30 July 2015 and 9 to 13 August 2015.

Attended two four days “Delft3D FLOW-WAVE-SED-MOR-WAQ courses & on the job training” held by Deltares in National Water Research Center (NWRC), Cairo, Egypt. 10 to 14 May and 16 to 20 August 2015.

Attended a 3 days “Integrate Coastal Zone Management course and workshop” held by IH-Cantabria in National Water Research Center (NWRC), Cairo, Egypt. 19 to 22 December 2017.

Attended a 2 days “Delft3D FM – Coastal Hydrodynamic Modelling Course” held by Deltares (online). 16 to 17 June 2021.

### **Technical skills**

**Hydrodynamic and morphodynamic modeling packages for river and coast:** Delft 3D, Delft-FM, XBEACH, HEC-RAS, MIKE21FM, LITPACK

**Programming language:** MATLAB, R, Python, Fortran

**Office tools:** Word, Excel, PowerPoint, Photoshop

**Operating systems:** Windows, Linux (Ubuntu)

**GIS and remote sensing:** ARCGIS 10.1, ARC Pro, Global Mapper

**Drawing tools:** Surfer, AutoCAD

## A. M. KHALIFA CIRRICULUM VITAE

### **Membership and affiliations**

Member of the Egyptian Syndicate of Engineers, Egypt – certified engineer – active August 2014.

Member of the National Water Research Center, Egypt – assistant researcher – active January 2015.

### **Languages**

Arabic – Native language

International English Language Testing System (IELTS) with score (6.5).

### **Research Profiles**

Google Scholar: <https://scholar.google.com/citations?hl=en&user=QgXUNFcAAAAJ>

Research Gate: <https://www.researchgate.net/profile/Ahmed-Khalifa-41>

LinkedIn: <https://www.linkedin.com/in/ahmed-khalifa-387910b4/>

ORCID: <https://orcid.org/0000-0002-0502-8980>

### **References**

**Dr. Ehab A. Meselhe**, Nicolas Altiero Distinguished Professor

Department of River Coastal Science and Engineering, School of Science and Engineering, Tulane University, New Orleans, Louisiana, USA. [emeselhe@tulane.edu](mailto:emeselhe@tulane.edu)

**Dr. Denise J. Reed**, Professor of Research GRATIS

University of New Orleans, New Orleans, Louisiana, USA. [djreed@uno.edu](mailto:djreed@uno.edu)

**Dr. Mead Allison**, Professor, and chair

Department of River Coastal Science and Engineering, School of Science and Engineering, Tulane University, New Orleans, Louisiana, USA. [meadallison@tulane.edu](mailto:meadallison@tulane.edu)

**Dr. John Day**, Distinguished Professor Emeritus

Department of Oceanography and Coastal Sciences, School of the Coast & Environment, Louisiana State University, Baton Rouge, Louisiana, USA. [johnday@lsu.edu](mailto:johnday@lsu.edu)

**Dr. Kelin Hu**, Research Assistant Professor

Department of River Coastal Science and Engineering, School of Science and Engineering, Tulane University, New Orleans, Louisiana, USA. [khu1@tulane.edu](mailto:khu1@tulane.edu)

**Dr. Hossam Moghazy**, Former Minister of Water Resources and Irrigation, Professor, and Head

Department of Irrigation Engineering and Hydraulics, Faculty of Engineering, Alexandria University, Alexandria, Egypt. [Hossam\\_moghazy@yahoo.com](mailto:Hossam_moghazy@yahoo.com)