

# RÉSUMÉ

## Dr. Manal Abdelsalam Salem

Associate Professor, Soil Mechanics and Foundations Research Laboratory,  
Department of Civil Engineering,  
Faculty of Engineering, Cairo University  
Giza, 12613, Egypt  
(manalasalem@eng.cu.edu.eg - manalasalem@gmail.com)  
Mobile: (+2010) 015-55454 Home: (+202) 33362-332

## EDUCATION

- The University of Texas at Austin, Austin, TX, Ph.D., Geotechnical Engineering, 2006  
**Dissertation title:** Stiffness of unsaturated compacted clays at small strains
- Cairo University, Egypt, M.Sc., Civil Engineering, 2003  
**Thesis title:** The use of Piezocone in characterization of cohesive soils West of Port Said - Egypt
- Cairo University, Egypt, B.Sc. (Honors), Civil Engineering, 2001

## PROFESSIONAL EXPERIENCE

- Associate Professor: Department of Civil Engineering, Faculty of Engineering, Cairo University, Egypt, 2014 to present
- Assistant Professor: Department of Civil Engineering, Faculty of Engineering, Cairo University, Egypt, 2008 to 2014
- Graduate Research Assistant/Teaching Assistant: The University of Texas at Austin, 2003 - 2006
- Graduate Research Assistant/Teaching Assistant: Soil Mechanics and Foundations Research Laboratory, Faculty of Engineering, Cairo University, 2001 - 2003

## TEACHING, RESEARCH, AND ACADEMIC ACTIVITIES

### Teaching Experience

As an associate professor, Dr. Salem taught undergraduate and graduate courses at the Faculty of Engineering, Cairo University, and contributed to developing new courses, updating existing courses, and developing educational media.

### **Under Graduate**

- Soil mechanics (3<sup>rd</sup> Year Civil Eng. (PBW 302) & Credit Hour System (PBW N302))
- Foundation engineering (4<sup>th</sup> Year Civil Eng. (PBW 402))
- Cellular cofferdams (Project elective course – 4<sup>th</sup> Year Civil Eng.)
- Preparation and evaluation of geotechnical graduation project (4<sup>th</sup> Year Civil Eng.)

### **Graduate**

- Theoretical soil mechanics – 1 (PBW 581)
- Theoretical soil mechanics – 2 (PBW 584)
- Advanced soil mechanics – 1 (PBW 620)
- Advanced soil mechanics – 2 (PBW 624)
- Soil behavior and testing – 1 (PBW 586)

- Soil behavior and testing (PBW 621)
- Soil dynamics (PBW 625)
- Unsaturated soil mechanics (PBW 711)

### **Research Interest**

Dr. Salem has research interest in major areas of geotechnical engineering with emphasize on:

- Dynamic properties and liquefaction potential of soils (siliceous, calcareous, saline)
- Earth retaining structures and side support systems
- Embankments on soft soils
- Waste containment systems
- Mechanically stabilized earth walls
- Soil-nailed walls
- Behavior of piles in soft soils
- Slope stability
- Ground improvement using stone columns

### **Academic Activities**

- Member of the Department Council, Department of Public Works, Faculty of Engineering, Cairo University (2009 - present)
- Member of the Quality Assurance Unit Committee – Faculty of Engineering, Cairo University (2009 - present)
- Member of the Information Technology Committee – Faculty of Engineering, Cairo University (2011 - 2012) and (2018 – present)
- Contributions to the Soil Mechanics and Foundations Research Lab., Cairo University:
  - Conducting laboratory tests for research purposes
  - Preparation of specialized geotechnical studies
  - Upgrading soil dynamics lab
  - Member of technical committees for laboratory and field equipment purchase

### **PROFESSIONAL MEMBERSHIPS AND CODE COMMITTEES**

- Member, American Society of Civil Engineers (ASCE) and ASCE Geo-Institute
- Member, International Society of Soil Mechanics and Geotechnical Engineering
- Member, Egyptian Society of Soil Mechanics and Geotechnical Engineering
- Member, Egyptian Engineering Syndicate
- Member of the Technical Committee No. 7 of the Egyptian Code of Practice for Soil Mechanics and Design of Foundations – Earth Retaining Structures (2010 - present)
- Member of the Egyptian Committee for Dams and Large Barrages (2018 - present)
- Founding member, Egyptian Geosynthetic Society (2018 – present)

### **PROFESSIONAL TRAINING AND REVIEWING COMMITTEES**

- Geosyntec Consultants, Austin, Texas, Senior Staff Engineer, 2007 - 2008
- Reviewer for Global Journal of Researches in Engineering (GJRE), USA/UK/India, 2013 - present
- Reviewer for Soil Dynamics and Earthquake Engineering Journal (2014 - present)
- Reviewer for Geosynthetics International Journal (2018 - present)

## **AWARDS AND COMMENDATIONS**

- The American Association of University Women (AAUW) fellowship, Austin, TX, USA, 2005
- Faculty of engineering, Cairo University, award for best teaching assistant of the year, 2003
- Egyptian Engineering Syndicate's award for academic achievement, Cairo, Egypt, 2001
- Faculty of Engineering, Cairo University, medal of academic achievements, 2001
- National scholarship of distinction, Cairo, Egypt, 1996 - 2001

## **PARTICIPATION IN CONFERENCES**

- Geo-Congress 2019: The 8<sup>th</sup> International Conference on Case Histories in Geotechnical Engineering, Philadelphia, USA, March, 2019 (registered)
- The 2<sup>nd</sup> GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Cairo, Egypt, November, 2018
- DFI 43<sup>rd</sup> Annual Conference on Deep Foundations, California, USA, October, 2018
- The 2<sup>nd</sup> International Conference on Advances in Structural and Geotechnical Engineering, Hurgada, Egypt, March, 2017
- The 18<sup>th</sup> International Conference on Soil Mechanics & Geotechnical Engineering, Paris, France, September, 2013
- The 17<sup>th</sup> International Conference on Soil Mechanics & Geotechnical Engineering, Alexandria, Egypt, October, 2009
- ASCE GeoFrontiers Conference on Enhancing Sustainability Using Geosynthetics, Texas, USA, January, 2005
- The 5<sup>th</sup> International Geotechnical Engineering Conference, Cairo University, Egypt, January, 2005

## **APPLIED RESEARCH AND PROFESSIONAL PROJECTS**

### **Geotechnical Engineering:**

- National Cancer Institute 500500
- Many Residential Compounds in Giza, Cairo, and along the North Coast
- El Mahsama and Sarabiom Shafts, Ismailia, Egypt
- Shaheed Ahmed Hamdy Tunnel Alignment - North Branch - under Suez Canal, Egypt
- Car Tunnel Alignment under Suez Canal, Egypt
- Zohr Development Project, Port Said
- Port Said East Container Terminal – Phase 2, Port Said
- Liquefaction assessment – Zefta Barrage
- Nubaria River Port Container Terminal, Alkabbary, Alexandria
- Expansion of SUMED tank farm, Ain Al-Sukhna
- Petrobel - El-Gamil Plant, Phase 2, Port Said
- Foundations for LPG Storage Tanks, Dakahlia
- Renewal and replacement of 3.5 km long swage pipeline, Salam city, Cairo
- Petrojet headquarters building, Cairo
- Delta Stars commercial building, Cairo
- Pile Design, Al-Dabasin Bridge, Khartoum, Sudan
- Retaining wall design, Al-Sakhr Al-Arabi Plant, Badr City, Cairo
- Areesh Gas Line, Sinai
- Kima Gas Line, Aswan
- Pile Design, South Bridge, King Faisal Road, Al-Madinah Al-Monawara, Saudi Arabia

- Stabilization of Earth Slopes, Mountain View Resort, Cairo
- Design of Dredged Material Containment Areas (DMCAs), Savannah, Georgia, USA

### **Landfill Engineering:**

- Industrial waste landfill siting study, Texas, USA
- Municipal solid waste landfill, Southwest Texas, USA
- Lacy Lakeview landfill, Waco, Texas, USA
- Review of waste control specialist cover system design, Texas, USA
- Design/permitting/cost estimate for an expansion of an industrial waste facility, Gulf Coast Waste Disposal Authority, Texas, USA
- Rio Rancho Landfill, New Mexico, USA
- Sooner Landfill, Oklahoma, USA
- Covell Gardens Landfill, Texas, USA

## **LIST OF PUBLICATIONS**

- Morsy, A.M., Salem, M.A., and Elmamlouk, H.H. (In press). “Evaluation of dynamic properties of calcareous sands in Egypt at small and medium shear strain ranges”. *Journal of Soil Dynamics and Earthquake Engineering*, Elsevier.
- Salem, M., Adel, A., and Amer, M. (2018). “Development of negative skin friction and dragloads on piles and pile groups in soft clay”. *Proceedings of the 2<sup>nd</sup> GeoMEast International Congress and Exhibition, on Sustainable Civil Infrastructures: Structural Integrity*, Springer, Cairo, Egypt, November (Accepted).
- Helwa, A., Salem, M., and Mossaad, M. (2018). “2D and 3D finite element analysis for cantilever slurry walls in cohesionless soil”. *Proceedings of the DFI 43<sup>rd</sup> Annual Conference on Deep Foundations*, Deep Foundations Institute, California, USA, October (accepted).
- Salem, M.A., Hammad, M.A., and Amer, M.I. (2018). “Field monitoring and numerical modeling of 4.4m-high mechanically stabilized earth wall”. *Geosynthetics International*, ICE Publishing, UK, Vol. 25(5), pp. 545-559.
- Salem, M.A., Karim, A.M., and El-Sherbini, E.A. (2018). “Static and dynamic properties of cohesionless soil – new Suez canal area – Ismailia – Egypt”. *International Journal of Geotechnical Engineering*, Taylor & Francis, UK, DOI: 10.1080/19386362.2018.1514756.
- Salem, M.A., Hammad, M.A. & Amer, M.I. (2017). “Field monitoring and performance of 4.4m-high mechanically stabilized earth wall”. *Proceedings of the 2<sup>nd</sup> International Conference on Advances in Structural and Geotechnical Engineering*, Tanta University, Hurgada, Egypt, March, pp. 1-17.
- Salem, M., and El-Sherbiny, R. (2014). “Comparison of Measured and Calculated Consolidation Settlements of Thick Underconsolidated Clay”. *Alexandria Engineering Journal*, Elsevier, Vol. 53, pp. 107-117.
- El-Sherbiny, R., and Salem, M. (2013). “Evaluation of SPT Energy for Donut and Safety Hammers Using CPT Measurements in Egypt”. *Ain Shams Engineering Journal*, Elsevier, Vol. 4(4), pp. 701-708.
- Salem, M., Elmamlouk, H., and Agaiby S.S. (2013). “Static and Cyclic Behavior of North Coast Calcareous Sand in Egypt”. *Journal of Soil Dynamics and Earthquake Engineering*, Elsevier, Vol. 55(C), pp. 83 - 91.

- Elmamlouk, H., Salem, M., and Agaiby, S.S. (2013). “Liquefaction Susceptibility of Loose Calcareous Sand of Northern Coast in Egypt”. Proceedings of the 18<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering, Paris, France, 2-6 September, pp. 1463 - 1466.
- Helwa, A., Salem, M., and Mossaad M. (2013). “Three Dimensional Finite Element Analysis of a Strutted Sheetpile Supporting a Deep Excavation”. Proceedings of 3<sup>rd</sup> International Conference on Computational Methods in Tunneling and Subsurface Engineering, Ruhr University, Bochum, Germany, 17-19 April, pp. 507 - 518.
- de Melo, L., El-Sherbiny, R., Steier, W., and Salem, M. (2012). “Evaluation of Waste Compressibility due to Preloading at the Freshkills Landfill”. Geotcongress 2012: State of the Art and Practice in Geotechnical Engineering, GSP 225, ASCE, Oakland, California, USA, March, pp. 4184 - 4193.
- Saadeldin, R., Salem, M., and Lotfi, H. (2012). “Experimental Investigation and Finite Element Analysis of Highway Embankment on Soft Clay”. Electronic Journal of Geotechnical Engineering, Vol. 17(D), pp. 403 - 417.
- Saadeldin, R., Salem, M., and Lotfi, H. (2011). “Performance of Road Embankment on Cement Stabilized Soft Clay”. Proceedings of 64<sup>th</sup> Canadian Geotechnical Conference & 14<sup>th</sup> Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Toronto, Canada, 2-6 October.
- Salem, M., Christman, M., and Gross, B. (2009). “Industrial Waste Landfill Siting Study”. Geosyntec Consultants Annual Geoenvironmental Engineering Action Group Conference, Austin, Texas, 1-3 April (Poster).
- Salem, M., Christman, M., and Gross, B. (2009). “Hurricane Ike Erosion Assessment at Campbell Bayou Facility”. Geosyntec Consultants Annual Geoenvironmental Engineering Action Group Conference, Austin, Texas, 1-3 April (Poster).
- Salem, M. (2006). “Stiffness of Unsaturated Compacted Clays at Small Strains”. Ph.D. Dissertation, The University of Texas at Austin, USA.
- Abelrahman, M., Ezz El-Din, O., and Salem, M. (2005). “The Use of Piezocone in Characterization of Cohesive soils West of Port Said - Egypt”. Proceedings of 5<sup>th</sup> International Geotechnical Engineering Conference, Giza, Egypt, January, pp. 201 – 219.
- Salem, M. (2003). “The Use of Piezocone in Characterization of Cohesive Soils West of Port Said - Egypt”. M.Sc. Thesis, Cairo University, Egypt.

Attachments: Reference documents