

# Rehab El Badawy



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## OBJECTIVE

Provide efforts at fields of teaching and research in Geotechnical Engineering to students and society.

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## PERSONAL DATA

Full Name : Rehab Ahmed El Badawy El Sayed  
Date of Birth : 24/11/1975  
Place of Birth : Zagazig- Egypt  
Nationality : Egyptian  
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## WORK

**03/2014 – (full time)- till now**

## EXPERIENCE

**1- Lecturer at Zagazig High Institute for Engineering and Technology, Department of construction and Building**

### Responsibilities:

A- Teaching the following courses

**1-Engineering Geology** involves the following issues:-

major minerals of the rocks and soil - rock cycle -  
Classification of rocks- the soil formulation and types-  
Erosion in rocks and soil composition - geological maps-  
some physical properties and features of geological  
formations in Egypt- Earthquakes.

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**2-Soil Mechanics 1** involves the following topics:

Soil formulation-Minerals of clay- weight volume relationships- grain size distribution- Concept and calculation of effective, pore and total vertical pressures- Compaction- consolidation

**3- Soil Mechanics 2** involves the following topics:

Shear strength of soil calculated by direct shear box-triaxial, and unconfined compression test. Lateral earth pressure- Design of retaining walls- Design of sheet piles- Slope stability-Bearing Capacity of soil under shallow foundation

**4- Foundations** involves the following topics: Site investigation- Filed tests- Boring types- Design of shallow foundations (isolated- combined- strap- raft)-design of deep foundations (piles).

B- Supervising the establishment of the laboratory of Soil Mechanics

C- Preparation of final exams for courses: Engineering geology- soil mechanics1- soil mechanics 2- foundations.

D- Participating in works of exams as supervising committees-monitoring- control works.

E- Membership of the board of the institute for academic year 2016-2017

F- Quality management for university Education

- Supervising on the evaluation unit at quality management department
- Participating in qualifying the courses of department of construction and building
- Participating in describing the program of department of construction and building
- Participating in preparing the quality management reports

**09/2009 – 12/2009**

**2- Assistant lecturer (part time) at El Obour high Institute for engineering and technology**

**Responsibilities:**

Teaching for courses: theory of Structure 1- Engineering Survey1

**3. 6/2002- 12/20113**

Planning engineer at El Sharqya Governate

## EDUCATION

2007-2014

**Ph.D Doctor of Philosophy In structural Engineering (Geotechnical Engineering)- Faculty of engineering-Zagazig University**

**"NUMERICAL STUDIES OF PILES IN SATURATED EXPANSIVE SOIL"**

Piles are one of the profound foundation solutions in expansive soils. Two case studies of full and small-scale piles: TRACON in Colorado, and ELFAO in Sudan, respectively, are modeled by the finite element software ADINA. Modeling of the two cases is performed by the critical state model; Cam-Clay.

A numerical study of an axi-symmetric single pile in expansive soil exposed to inundation over ground surface is presented to clarify the effect of some pile and soil variables on pile heave. A belled pile of same soil and pile properties is also modeled, where comparison between induced heave of the two techniques is presented.

Also, a pile group of straight and belled piles are also modeled. Results show that pile length is superior over pile diameter in controlling the pile heave. Also, belled piles depict effect on reducing the heave. Pile groups reduces the heave effectively.

1999-2006

**M. Sc. Master degree at structural Engineering (Geotechnical Engineering)- Faculty of engineering-Zagazig University**

**"EVALUATION OF THE EFFICIENCY OF CONE PENETRATION TEST BASED DESIGN METHODS FOR DETERMINATION OF AXIAL BEARING CAPACITY OF PILES"**

One of the applications of static Cone Penetration Test; CPT is the geotechnical design. Four methods based on CPT results are used to determine the axial capacity of piles. The thesis focused on the requirements, advantages, and disadvantages of these methods applied on case studies in clay and sand and layered soils using numerical and statistical methods. Results show That Bustamante and Gianceselli method is preferred for clay, and De Ruitter and Beringen is the most suitable for designing the piles in sand.

1993 - 1998

**Bachelor Degree of Civil Engineering**

Faculty of engineering- Zagazig University

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## SKILLS

### **Technical skills:**

- Software programs proficiency:  
Microsoft Office package: Microsoft Word, Excel, Access  
AutoCAD- ADINA 9.0- DeepXcav2011 (9.0.3.4)-Lpile
- Experimental work:  
Excellent in performing experimental work & Experimental Design and set up

### **Soft Skills:**

Good communication skills- Presentation skills & teaching to large groups and groups by credit hour system).

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## **Languages**

Arabic: Native Language

English: Very good in reading, writing and speaking

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## **TRAININGS**

- International Publication, Training and Continuing Education Unit, Zagazig University, 1<sup>st</sup> April 2020.
  - Public Speaking Level 1- Ahmed Lattif Academy- Cairo- 15 August - 10 November 2018
  - Human Development & Business Administration- Candian Board- Cairo- 10 October 2018
  - The Leaders Preparation Program- The Arab Center for Administrative Development and Strategic Studies (ACADSS) - Alexandria -1 -16 July 2018.
  - Strategic Planning for high educational Institutes- National Authority for Quality Assurance and Accreditation of Education -. 20-21 April 2017
  - Diploma of the Secrets of Success- 2-3 Mars 2012- Zagazig.
  - Persuading and Sales Skills Diploma- Canadian Training Center of Human Resource- Cairo
  - Creativity Code of the Human Mind- Knights of Success-10 May- 2007- Cairo
  - Power of Communication- 14 April 2007- Eshrakat Center- Cairo
  - Number of workshops about Quality Concept,-Zagazig high institute for Engineering and Technology, 2016-2019.
  - Planning, Management, and Development of Informal Areas- Ministry of Housing, Cairo, 22 June-3 July 2003.
  - Encouraging New Graduates to Free Work, Zagazig University in cooperation with the Social fund of Development, Zagazig University, 27 April- 5 August 1999.
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**PUBLICATIONS**

1. El Sakhawy, N. R., Salem, T. N, and El Sayed, R. A. El Badawy "Numerical Studies of Piles in Saturated Expansive Soils", The Egyptian International Journal of Engineering Science and Technology, Faculty of Engineering, Zagazig, University, Egypt, January 2014
2. Salem T. N, El Sakhawy N. R., and El Sayed, El Badawy R. A., "Numerical Modeling of Using Piles to Resist Heave in Expansive Soil", The Egyptian International Journal of Engineering Science and Technology, Faculty of Engineering, Zagazig, University, Egypt, December 2013
3. El Badawy, R. A, Salem, T. N, El Sakhawy, N. R "Pile Behavior in Expansive Soils", Proceedings of the international conference of engineering sciences & applications, Aswan, Egypt, January (2016), 397-402.
4. Soliman H., Ahmed M. K., El Badawy R. A. "Enhanced corrosion Resistance of Plasma Electrolytic Oxidation Coatings prepared on Mg Alloy using Nano  $AL_2O_3$  and Naf Incorporated Electrolyte", Surface engineering, June 2020.
5. A. Diab, El Badawy R. A., " Effect of Geofom under Strip Footing Rested on Swelling Soil", Journal of Applied Engineering, May (2021).

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**CONFERENCES AND WORKSHOPS**

- Scientific writing
- International Publication
- Endnote
- Workshop on Development of Geosynthetics Practice in Egypt-Housing and building Research Center, Dokki, Giza, Egypt, January 28<sup>th</sup> and 29<sup>th</sup>, 2020
- Conference of Engineering sciences & Applications ICESA 2016, Aswan, Egypt, January 28-31, 2016
- the 14th International Conference For Building &Construction (Inter Build)-- Cairo- Egypt -June 21-25, 2007
- Reasons, Methods and Repair of cracks in buildings-Housing and Building National Research Center-Ministry of Housing, Cairo, Egypt, 22 November- 18 December 2007.

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**REFERENCES****Dr. Nagwa El Sakhawy**

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