

SONIA YOUSSEF EL-SERAFY

Profession : Associate Professor, Ain Shams University, Faculty of Engineering
Coastal Engineer (Ph.D) **20 Years of Experience**
Date of Birth : 24-11-1962 **Nationality** : Egyptian
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Postal address : 83 Ahmed Said Street **Tel. and Fax:** 4829057

Key Qualification

Professional experience in the **sphere of shore protection systems** through the formulation of **mathematical models**, the design and evaluation of various protection measures for many coastal regions in Egypt, under the threat of erosion.

Professional experience in **various research programs**, both in **Egypt and Germany** for private and government sectors. Various topics, such as fluid mechanics, design of irrigation works, coastal engineering, mathematical models for shoreline changes and protection, modeling sediment transport phenomena under oscillatory flows in coastal areas in Egypt.

Professional experience in **organizing seminars and preparing training programs** like coastal engineering and numerical model courses to train the MPWWR (Ministry of Public Works and Water Resources) engineers.

Extensive **published researches** in the field of specialization and supervising master of science and doctoral researchers.

Excellent command of spoken and written **English and German** and good command of **French**.

Education

Ph.D (1993) in Coastal and River Engineering at the TU-Braunschweig, Faculty of Engineering, Hydromechanics and Coastal Protection Works Department, Braunschweig, **Germany**, "Morphological Changes of the Nile Subdelta Rosetta". (**grade: very good**)

M.Sc (1988) in coastal engineering, at the Ain Shams University, Faculty of Engineering, Irrigation and Hydraulics Department, Cairo, **Egypt**, "Energy Dissipation by Rubble Mound Breakwater"

B.Sc. (1985) at the Ain Shams University, Faculty of Engineering, Irrigation and Hydraulics Department, Cairo, **Egypt**. (**grade: Distinction with Honor**)

Exam prescribed by the Ministry of Education (1980), **American College**, Math Section, Cairo, Egypt. (**grade: Distinction 93%**)

Language Capabilities

Excellent command of spoken and written English and German and good command of French

ployment Record and Professional Experience**Germany (1989-1994):**

1. Working as a **Researcher** in the Leichtweiss Insitut Für Wasserbau, Braunschweig, Germany.
2. Contributing in the **research program** of the institute
3. **Translating, editing and processing** reports to the research projects:
 - Tests for the Barichio Intake Kenya, Final report, Rep. No. 77, Braunschweig, Germany, February 1994. (German to English)
 - Hydraulic-Sedimentological Calculation for Nature-Like Water Streams, Lectures, Braunschweig, Germany, March 1994. (German to English)

Germany (2003):

1. Performing a study about sea level changes and temperature rise as an award from the German Academic Exchange Service
2. visiting different institutions and laboratories

Egypt (1994-till now):

1. Responsible for **preparing courses** in coastal engineering, sediment transport and numerical modeling for:
 - IHE, Delft - Holland
 - The German Academic Exchange Service
 - MPWWR
2. Offering **consultancy services** to private and governmental departments. Consultancy services were offered to the:
 - Shore Protection Authority
 - Hydraulic Research Institute
3. Constructing **numerical models** to propose and design shore protection works to many areas in Egypt like:
 - Marina
 - Sixth of October Society
 - Rosetta
 - Baltim
 - Alexandria.
4. Acting as an **Associate Professor** at the Ain Shams University, Faculty of Engineering. teaching:
 - Fluid Mechanics
 - Design of Irrigation Works
 - Coastal Engineering
 - Technical Writing for the under-graduates
5. **Supervising post-graduates** to be awarded the M.Sc. and Ph.D. in the field of:
 - coastal engineering
 - mathematical models for shoreline changes and protection
 - modeling sediment transport phenomena under oscillatory flows in coastal areas in Egypt
6. Working as a **Training Specialist** to train engineers at the:
 - Six of October training centre (Ministry of Public Works and Water Resources)
 - Hydraulics Research Institute (Ministry of Public Works and Water Resources-MPWWR)

PREPARING COURSES

1. in coastal engineering, sediment transport and numerical modeling for:
 - IHE, Delft - Holland
 - The German Academic Exchange Service
 - MPWWR
2. in harbour and coastal engineering for:
 - under graduates
 - MPWWR engineers
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3. in technical writing for:
 - under graduates
 - MPWWR engineers

PREPARING TEACHING BOOKS

"Coastal Sediment Transport" (1999),

A book containing the proceeding of lectures of a yearly Short Course on the for training the engineers of the Ministry of Public Work and Water Resources.

"Harbor Engineering" (2002),

A book containing the proceeding of lectures of a yearly course for under graduate students (fourth year civil, Hydraulics and Irrigation Dept., Ain Shams Uni.)

"Technical Writing" (2002),

A book containing the proceeding of lectures of Technical Writing Course for under graduate students (third year civil, Hydraulics and Irrigation Dept., ain Shams University)

"Series of Experiments Investigating Wave-Structure Interaction" (2004),

A book containing experiments for under graduate students (fourth year civil, Hydraulics and Irrigation Dept., Suez Canal Uni.)

DEVELOPING SKILLS PROJECTS

"Technical Data Analysis and presentation for Engineers (2003-2004)", a project funded by the HEEPF to the Ain Shams University to improve the skills of post- and under-graduates in technical data analysis and presentations for which the following was executed:

1. **"Training courses in the Ain Shams University (2003-2004)"**, for under-graduates
2. **"Training courses in the Ain Shams University (2003-2004)"**, for post-graduates

TRAINING SPECIALIST

1. training course about sediment transport and numerical modeling for:
 - IHE, Delft - Holland
 - The German Academic Exchange Service
 - MPWWR engineers
2. training courses about harbour and coastal engineering for:
 - MPWWR engineers
3. training courses about technical writing for:
 - Environmental Institute

- MPWWR engineers
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PREPARING REPORTS

1. **"Monte Sue Tourist Village protection"**, for the owners of the village
 2. **"Haifa Harbor"**, for Darwish Consultancy Office
 3. **"El-Aquaba Harbor"**, for Ebid Consultancy Office
 4. **"El – Burollos Protection"**, for the Hydraulic Research Institute
 5. **"El – Zohour Tourist Village protection"**, for the Hydraulic Research Institute
 6. **"Miami Islands Tourist Village protection"**, for the owners of the village
 7. **"Sama El-Arish Tourist Village protection"**, for Balah Consultancy Office
 8. **"Alexandria Kournich protection"**, for Khalifa Consultancy Office
 9. **"A system of groins along the Red Sea"**, Niazi Consultant Office
 10. **"A system of submerged groins at Rosetta"**, for the Shore Protection Authority
 11. **"El-Burollos Fishing Port"**, for Khalifa Consultant Office
 12. **"Extension of the protection at Damietta"**, for the Shore Protection Authority
 13. **"A protecting system for Alexandria"**, for the Shore Protection Authority
 14. **"A system of detached breakwaters at Baltim"**, for the Shore Protection Authority
 15. **"A submerged breakwater at Six October Society"**, for the Shore Protection Authority
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TRANSLATION EFFORTS

"Model Tests for the Barichio Intake Kenya", Final report, Rep. No. 77, Braunschweig, Germany, February 1994. (German to English)

"Hydraulic-Sedimentological Calculation for Nature-Like Water Streams", Proceedings of Lectures, Braunschweig, Germany, March 1994. (German to English)

MEMBERSHIP OF PROFESSIONAL SOCIETIES

Egyptian Syndicate for Engineers, Aug. 1985, No.293/12

AWARDED GRANTS

A research grant from the Arab League in the field of **environmental coastal management**, 1998

CONSULTANCY SERVICES AND DESIGN RECORD

- 2001:** Monte Sue Tourist Village protection, for the owners of the village
- 2001:** Haifa Harbor, for Darwish Consultancy Office
- 2002:** El-Aquaba Harbor, for Ebid Consultancy Office
- 2002:** El – Buroillos Protection, for the Hydraulic Research Institute
- 2003:** El – Zohour Tourist Village protection, for the Hydraulic Research Institute
- 2003:** Miami Islands Tourist Village protection, for the owners of the village
- 2004:** Sama El-Arish Tourist Village protection, for Balah Consultancy Office
- 2004:** Alexandria Kournich protection, for Khalifa Consultancy Office
- 1999:** A system of groins along the Red Sea, Niazi Consultant Office
- 1998:** A system of submerged groins at Rosetta, for the Shore Protection Authority
- 1997:** El-Buroillos Fishing Port, for Khalifa Consultant Office
- 1996:** Extension of the protection at Damietta, for the Shore Protection Authority
- 1996:** A protecting system for Alexandria, for the Shore Protection Authority
- 1995:** A system of detached breakwaters at Baltim, for the Shore Protection Authority
- 1995:** A submerged breakwater at Six October Society, for the Shore Protection Authority
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NUMERICAL AND PHYSICAL MODELING RECORD

- "WCFP" (2001)** A Numerical Program to forecast wave climate in Egypt
- "ELNASR" (2003)** A Physical Model (constructed in the Hydraulics Research Institute) to simulate a by pass to El-Nasr Canal
- "PMNC" (2004)** A Physical Model (constructed in the Hydraulics Research Institute) to simulate friendly protection measures applicable in Egypt
- "PORTS" (1998)** A Numerical Model to design ports (El-Burollos)
- "GROIN" (1998)** A Numerical Model to design groins (Marina)
- "BW" (1997)** A Numerical Model to predict shoreline changes at breakwater locations (Baltim)
- "BNCE" (1996)** A Numerical Model to maintain shorelines by nourishment (Marina)
- "CRONOS" (1995)** A Numerical Model to predict shoreline changes at coastal inlets (Burollos)
- "BEACH" (1993)** A Numerical Model to predict the shoreline evolution at river outlets (Rosetta)

ATTENDED CONFERENCES, WORKSHOPS AND SEMINARS

- 2002:** International Conference of the American Society of Civil Engineers, Cairo, Egypt.
- 1998:** Integrated Management for Coastal Zones Conference, Egypt
- 1998:** Seminar held by the Deutscher Akademisch Austausch Dienst (DAAD) in the field of Coastal Engineering
- 1997:** Workshop organized by the Ministry of Tourism and the Ministry of Public Works and Water Resources for Rosetta Protection, Egypt
- 1993:** International Coastal Engineering Conference, Italy
- 1991:** International Coastal Engineering Conference, Holland
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LIST OF PUBLICATION

- El-Serafy et al.** Experimental Study on the Effect of Rubble Mound Slope on the Energy Dissipation, Journal of Ain Shams University, Faculty of Engineering, No. 23\1, Civil Eng., **1988**
- El-Serafy et al.** The Effective Width of a One Layered Type, Journal of Ain Shams University, Faculty of Engineering, No. 23\1, Civil Eng., **1988**
- El-Serafy et al.** Effect of Wave Steepness on the Dissipated Energy due to the Existence of a Rubble Mound Breakwater, Journal of Ain Shams University, Faculty of Engineering, No. 23\1, Civil Eng., **1988**
- El-Serafy et al.** Sediment Transport and Shoreline Changes, Journal of Ain Shams University, Faculty of Engineering, No. 31\2, Civil Eng., **1996**
- El-Serafy et al.** Changes at Coastal Inlets, Journal of Ain Shams University, Faculty of Engineering, No. 31\4, Civil Eng., **1996**
- El-Serafy** A Numerical Model for Shoreline Changes at Breakwater Locations, Journal of Cairo University, Faculty of Engineering, No. 44\2, Civil Eng., **1997**
- El-Serafy** Impacts of a Single Breakwater on Shoreline Evolution, Journal of Cairo University, Faculty of Engineering, No. 44\3, Civil Eng., **1997**
- El-Serafy** Application to a New Methodology for Detached Breakwater Systems Design, Journal of Cairo University, Faculty of Engineering, No. 44\4, Civil Eng., **1997**
- El-Serafy et al.** The Use of Artificial Neural Networks for Forecasting the Natural Nile River Inflows at Aswan, Journal of Ain Shams University, Faculty of Engineering, No. 32\3, Civil Eng., **1997**
- El-Serafy** A New Protection Measure for the Egyptian Coastline, Journal of Ain Shams Uni., Faculty of Engineering, No. 33\1, Civil Eng., **1998**

LIST OF PUBLICATION

- El-Serafy** Coastal Sediment Transport Rate Tables for Engineering Applications, Journal of Ain Shams University, Faculty of Eng., No. 33\2, **1998**
- El-Serafy et al.** The Most Suitable Formula for Predicting Shorelines at Baltim, Journal of Ain Shams University, Faculty of Engineering, No. 33\2, Civil Eng., **1998**
- El-Serafy** A Model for Calculating Shoreline Changes at Groin Locations, Journal of Ain Shams University, Faculty of Engineering, No. 33\3, Civil Eng., **1998**
- El-Serafy** Optimum Design for a Submerged Groin System at Rosetta, Journal of Ain Shams University, Faculty of Engineering, No. 34\1, Civil Eng., **1999**
- El-Serafy et al.** Proposing and Evaluating Fishing Ports Alternatives at Coastal Inlets in Egypt, American Society of Civil Eng., Egypt Section, **1999**
- El-Serafy et al.** "BNCE": A Numerical Model for Beach Nourishment for the Egyptian Condition, A.S.C.E., Egypt Section, **1999**
- El-Serafy** An Article Review about Numerical Modeling of the Coastal Zone Morphology, article review submitted to the supreme council of universities, in partial fulfillment of the requirements for associate professor degree in Civil Engineering, **2000**
- El-Serafy** Protection of Eroding segments along the Red Sea, Journal of Ain Shams Uni, Vol36/1, March **2001**
- El-Serafy** Numerical Simulation to Coastal segments with Inland Lakes (Case Study: Miami Islands, ASCE-EGS, Regional Conference, April **2002**, Cairo

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- El-Serafy** An Approach for Forecasting Wave Climate in Egypt, ASCE-EGS, Regional Conf., April **2002**
- El-Serafy et al.** A Suitable Protection Measure for the Down Drift of Inlets in Egypt (Case Study: El-Borollos), ASCE-EGS, Regional Conference, April **2002**, Cairo
- El-Serafy et al.** A Coastal Zone Study of Damietta Promontory, Journal of El-Azhar Uni, Vol. 24/2, October **2002**
- El-Serafy et al.** Induced Current Patterns in the Vicinity of Protection Measures at Coastal Inlets, Journal of Ain Shams Uni, Vol. 38/2, June **2003**
- El-Serafy et al.** A Comparison between the Summer and Winter Conditions in Naser Lake, Journal of El-Azhar Uni, Vol. 25/3, October **2003**
- El-Serafy et al.** Experimental Work to Design a By-Pass Channel for El-Nasr Canal, Journal of Ain Shams Uni, Vol. 38/4, December **2003**
- El-Serafy et al.** Alternatives to Improve the Swimming Conditions at the Egyptian Northern Coast, Journal of Coastal Research SI39, ICS **2004** Proceedings, Brazil
- El-Serafy et al.** A Physical Model to Test Protection Measures Applicable to Egypt, Journal of Ain Shams Uni, Vol. 39/3, September **2004**
- El-Serafy et al.** Proposing Different Protection Measures to Stabilize Sama El-Arish Village Shoreline, ASCE-EGS, Regional Conference, June **2005**
- El-Serafy et al.** Planning Different Construction Strategies to a Proposed Protection to Reduce the Cost and Improve the Shoreline Shape, ASCE-EGS, Regional Conference, June **2005**
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PLEASE REFER TO

- Prof. Dr-Ing. U. Drewis** : Head of the Leichtwiss Institut
Für Wasserbau, Technical
University of Braunschweig,
Germany
- Prof. Dr-Ing. W. Mertens** : Lehre Stuhle Professor,
Leichtwiss Institut Für
Wasserbau, Technical
University of Braunschweig,
Germany
- Prof. Dr. Eng. Sheira,M.** : Ex-Dean of the Ain Shams
University, Faculty of
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- Prof. Dr. Eng. Saleh,N.** : Ex-Dean of the Ain Shams
University, Faculty of
Engineering, Cairo, Egypt
- Eng. El-Sayed** : Chairman of the Shore
Protection Authority, Cairo,
Egypt
- Eng. Khalifa,A.** : Ex-chairman of the Shore
Protection Authority, Cairo,
Egypt
- Eng. Darwish,R.** : Darwish Consultant Office,
Cairo, Egypt
- Mr. Idris,S.** : Arab League, Cairo, Egypt
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