

## HEBA WAELLEHETA

### Board Member of

The Egyptian Transport & Commercial Services Company, S.A.E.

From: March 2016

To: Present



### Education

Ph.D., University of California, Berkeley, CA, U.S.A., Dec. 1988.

Title: "Reliability-Based Structural Optimization of Stiffened Panels"

M.Sc., University of Alexandria, EGYPT, Nov. 1983.

Title: "Pressure Distribution on Controllable-Pitch Marine Propeller Blades"

B.Sc., University of Alexandria, EGYPT, May 1980, with Distinction.

### Professional Experience

- 25/9/2014- 19/1/2015 Acting Dean, Faculty of Engineering, Alexandria University
- 18/12/2011- 16/12/2014 Vice Dean for Graduate Studies and Research, Faculty of Engineering, Alexandria University.
- 6/8/2005- 5/8/2011 Chairman, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.
- 15/1/2003- present Professor, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.
- 29/10/1996- 14/1/2003 Associate professor, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.
- 28/3/1989-28/10/1996 Assistant professor, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.

- 14/2/1984-27/3/1989 Assistant lecturer, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.
- 16/10/1980-13/2/1984 Demonstrator, Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University.

## **Courses Taught**

- Undergraduate level:**
- Drawing of Ships and Marine Machinery,
  - Technical Writing,
  - Naval Architecture,
  - Ship Outfitting,
  - Marine Engineering,
  - Ship Structural Analysis,
  - Ship Structural Design,
  - Application of Probability Theory in the Marine Field,
  - Marine Engineering,
  - Ship Economics.
  - Offshore Engineering.

- Postgraduate level:**
- Advanced Ship Structural Design
  - Marine Structural Reliability
  - Theory of Ship Structures
  - Structural Optimization
  - Behavior of Ocean Platforms
  - Marine Pipelines

## Research Interests

- Structural Design and Optimization,
- Reliability and Risk Analysis,
- Computer-Aided Ship Design,
- Application of Genetic Algorithms to Ship Structural Optimization.
- Decision Making.
- Risk Assessment.
- Renewable Energy

## Previous University Managerial Work

- Development of new curricula for the Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University, 1989-1996.
- Preparation of proposal for renewing the Naval Architecture and Marine Engineering Laboratory.
- Head of the CAD Lab. Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University, 9/1993-9/1994.
- Library supervisor, Dept. of Naval Architecture and Marine Engineering, 9/2002-9/2005.
- Department representative at the Faculty of Engineering responsible for development of new curricula, 9/2002-9/2005.
- Preparation of British Engineering Council course accreditation application for the Department of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University (2004).
- Chair, Department of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University, 8/2005-8/2011.
- Member, Strategic Planning Committee, Faculty of Engineering, Alexandria University, 2006-2007.

- Member, Documentation of Policies and Procedures, Faculty of Engineering, Alexandria University, 2007-2008.
- Development of new curricula for the Dept. of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University, 2008.
- Member, Board of Directors, Engineering Center, Faculty of Engineering, Alexandria University, 1/8/2009-31/7/2011.
- Member, Board of Directors, Specialized Engineering Programs, Faculty of Engineering, Alexandria University.
- Vice Dean for Graduate Studies and Research, Faculty of Engineering, Alexandria University.
- Acting Dean, Faculty of Engineering, Alexandria University.

### **University Awards**

1. University Merit Award, 2014.
2. University Shield for Managerial Excellence, 2015.

### **Professional Activities**

- Fellow, Institute of Marine Engineering, Science and Technology, (IMarEST), UK.
- Member, Royal Institution of Naval Architects, (RINA), UK.
- Member, Society of Naval Architects and Marine Engineers, (SNAME), USA.
- Member, Egyptian Society of Marine Engineers and Shipbuilders.
- Member, Egyptian Engineers' Syndicate.
- Correspondent for Egypt, International Ship and Offshore Structures Congress (ISSC), 2003-2006, 2006-2009, 2009-2012, 2012-2015, 2015-2018.
- Member, Editorial Board, International Journal of Ships and Offshore Structures, 2006, 2009, 2010, 2011, 2012.
- Member, International Scientific Committee, IMAM2005, Lisbon, Portugal.
- Chair, Session on: Ship Design, IMAM2005, Lisbon, Portugal.
- Co-chair, Session on: Design Optimization, IMAM2005, Lisbon, Portugal.
- Member, Editorial Board, Alexandria Engineering Journal, 2005-2012.
- Member, Investigating committee into the sinking of AISalam98 by order of the Prosecutor General of Egypt.
- Member, International Scientific Committee, IMAM2007, Varna, Bulgaria.
- Chair, Session 3D on: Maritime Transportation, IMAM2007, Varna Bulgaria.

- Co-chair, Session 2B on: Systems Design, IMAM2007, Varna, Bulgaria.
- Member, Board of Directors, LATT for Shipping and Trade, EGYPT, July 2007- Dec. 2015.
- Member, Advisory Board, MARSTRUCT2009, Estoril, Portugal.
- Member, International Scientific Committee, IMAM2009, Istanbul, Turkey.
- Member, International Scientific Committee, NAV2009, Messina, Italy.
- Member, Permanent Scientific Committee for Promotion of Associate Professors and Professors, (Mechanical Design, Industrial Engineering, Textile Engineering and Marine Engineering), Supreme Council of Universities, Egypt, 2008-2012.
- Member, International Scientific Committee, IMAM2011, Genoa, Italy.
- Co-Chair, Session on Practical Design, IMAM2011, Genoa, Italy.
- Member, Executive Committee, International Maritime Association of the Mediterranean, IMAM, 2011-present.
- Member, Advisory Committee, MARSTRUCT2011, Hamburg, Germany.
- Editor-in-Chief, Alexandria Engineering Journal, AEJ, Elsevier, December 2011, December 2014.
- Member, Advisory Committee, MARSTRUCT2013, Espoo, Finland.
- Member, International Scientific Committee, IMAM2013, A Coruna, Spain.
- Member, Permanent Scientific Committee for Promotion of Associate Professors and Professors, (Mechanical Design, Industrial Engineering, Textile Engineering and Marine Engineering), Supreme Council of Universities, Egypt, 2012-2015.
- Chair, Role of Engineering towards Better Environment Conference, RETBE2014, Alexandria, Egypt, Dec. 17-19, 2014.
- Member, General Assembly, Holding Company for Maritime and Land Transport, January 2015 – present.

## List of Publications

- Salem, A.M., Dabess, E.M., Banawan, A.A. and Leheta, H.W., "Fire Safety Design of Nile Floating Hotels." Accepted for publication, Journal of Ships and Offshore Structures.
- Leheta, H. W., Elhanafi, A. S. and Badran, S.F., "A Numerical Study of the Ultimate Strength of Y-Deck Panels Under Longitudinal In-Plane Compression." Thin-Walled Structures, Vol 100, 2016, pp. 134-146.
- Leheta, H. W., Badran, S.F. and Elhanafi, A. S., "Ship Structural Integrity Using New Stiffened Plates." Thin-Walled Structures, Vol 94, 2015, pp. 545-561.

- Abdel Naby, M. M. and Leheta, H. W. "A preliminary approach for establishing a new toll calculation method for transiting the Suez Canal - container ships." IMAM2015, Pula, Croatia, September 2015.
- Geba, K. A., Welaya, Y. M. A., Leheta, H. W. and Abdel-Nasser, Y. A., "Motion and Structural Analysis of Floaters Float-over during the Mating Operation." ISOPE2014, Busan, Korea, 15-20 June, 2014.
- Salem, A. M., Dabess, E. M., Banawan, A. A., and Leheta, H. W., "The Use of Consequence Analysis Tools in Fire-safety Design of Nile-floating Hotels," IMAM2013, A Coruna, Spain, October 2013.
- El-Hanafi, A.S., Badran, S.F. and Leheta, H.W., "Design of Y Stiffened Panels in Double Hull Tanker under Axial Compressive Loads," MARSTRUCT2013, Espoo, Finland, March 2013.
- Badran, S. F., Saddek, A.B., and Leheta, H.W., "Comparative Study of Y and T Stiffeners Subjected to Lateral Loads with Different Levels of Initial Imperfection," J. of Ocean Engineering, Vol 61, March 2013, pp.12-25, Elsevier.
- Agwa, A., Leheta, H., Salem, A. and Sadiq, R., "Fate of Drilling Waste Discharges in the Egyptian Red Sea & Associated Ecological Risks: An Equivalence-based Fuzzy Analysis," Stochastic and Environmental Research and Risk Assessment Journal, SERRA, Vol. 27, Issue 1, 2013, pp.169-181.
- Agwa, A., Sadiq, R. and Leheta, H., "Offshore Drilling Waste Discharge: Egyptian Environmental Regulations," Abu Dhabi International Petroleum Conference, Abu Dhabi, UAE, 11-14 Nov., 2012, SPE-161446.
- Hafez, K., Aboul-fadl, W. and Leheta, H., "Comparative dynamic response analysis of a fixed offshore platform using deterministic and spectral wave approaches," OMAE-2012, Rio de Janeiro, Brazil, July 2012.
- ElSayed, T., Leheta, H., and Yehya, A., "Reliability of Subsea Pipelines against Lateral Instability," Journal of Ships and Offshore Structures, Vol.7, No.2, 2012, pp.229-236.
- Salem, A., and Leheta, H., "Sensitivity Analysis of a Fire Model Used in Fire Consequence Analysis," IMAM2011, Genoa, Italy, September 2011.
- ElSayed, T., Leheta, H., and Belhaj, I., "Fire and Explosion Risk of Floating Storage and Offloading Vessels Using Fuzzy Sets," Proc. IMechE, Vol. 225, Part M: J. of Engineering for the Maritime Environment, JEME263, 2011, pp. 171 -180.
- ElSayed, T., Leheta, H., and Gadar, H., "Assessment of Safety Performance Indicators: A Case Study for the Bouri Field," Proc. IMechE, Vol. 225, No.1 Part M: J. of Engineering for the Maritime Environment, JEME251, 2011, pp.60-67.

- Leheta, H. and Almagar, A., "Cogeneration Power-Desalination Mobile Floating Plant Applied on Supply Vessel," JKAU: Mar. Sc., Vol.21, 2010, pp.111-125.
- Shama, M., Leheta, H., and Fawal, A., "Lengthening of a Feeder Container Vessel: Techno-Economical Study ", IMAM2009, Istanbul. Turkey, October 2009.
- ElSayed, T., Leheta, H., and Shehadeh, M., "Multi-Attribute Risk Assessment of LNG Carriers during Loading/Unloading at Terminals," Journal of Ships and Offshore Structures, Vol.4, No.2, 2009, pp.127-131.
- ElSayed, T., Leheta, H., Shehadeh, M., and Sherede, M., "Assessment of Operational Risks to Personnel on Board Fixed Offshore Structures," Proc. IMechE, Vol. 222, No.4, Part M: J. of Engineering for the Maritime Environment, JEME119, 2008, pp.171-177.
- Abdel Naby, M., Leheta, H., Banawan, A. and Elhewy, A., "Investigation of Artificial Neural Networks Techniques for the Prediction of Inland Water Units' Resistance," Journal of Ships and Offshore Structures, Vol.3, No. 3, September 2008, pp.247-254.
- Abdel-Ghany, R., Saad-Eldeen, S. and Leheta, H., "The Effect of Pitting Corrosion on the Strength Capacity of Steel Offshore Structures", OMAE2008-ASME, Estoril, Portugal, June 2008.
- Abdel Naby, M., Leheta, H., Banawan, A. and Elhewy, A., "Application of Artificial Neural Networks for the Prediction of Inland Water Units Resistance," PRADS2007, Houston, TX, USA, October 2007.
- Haiba, M., Leheta, H., Elhewy, A. and Youssef, S., "Towards an applicable efficient multimodal transport system in Egypt," IMAM2007, Varna, Bulgaria, September 2007.
- Leheta, H., Abd El-Ghany, R., Amin, A. and El-Deen, S., "Cathodic protection design procedure for steel offshore structures," IMAM2007, Varna, Bulgaria, September 2007.
- Leheta, H., Morsy, M., Mosleh, M. and El-Said, M., "Environmental and Economical Study for Using Natural Gas Cooling in the Marine Field," 6th International Conference for the Role of Engineering Towards Better Environment, RETBE'o6, Alexandria, Egypt, December 2006.
- Leheta, H. W., "A multi-criteria stern trawler selection model using the analytic hierarchy process," IMAM2005, Lisbon, Portugal, September 2005.
- Leheta, H., "Shipbuilding and Offshore Engineering Activities in Egypt," Correspondent Report, ISSC2003, 15th International Ship and Offshore Structures Congress, Vol.3, San Diego, CA, USA, 2003.
- Leheta, H.W., "A Decision Support Model for Selecting Between Alternative Fishing Vessel Designs," Alexandria Engineering Journal, Vol. 41, No. 4, July 2002.

- Leheta, H.W., "Decision Analysis for Marine Oil Spill Response," Alexandria Engineering Journal, Vol. 41, No. 4, July 2002.
- Shama, M.A., Leheta, H.W., Abdel-Nasser, Y.A. and Zayed, A.S., "Reliability of Double Hull Tanker Plates Subjected to Different Loads with Corrosion Effects," Alexandria Engineering Journal, Vol. 41, No. 4, July 2002.
- Shama, M.A., Leheta, H.W., Abdel-Nasser, Y.A. and Zayed, A.S., "Impact of Recoating and Renewal on Reliability of Corroded Hull Plating of Double Hull Tankers," Alexandria Engineering Journal, Vol. 41, No. 4, July 2002.
- El-Badan, A.A., Leheta, H.W., Abdel-Nasser, Y.A. and Moussa, M.A., "Safety Assessment for Ship Hull Girders Taking Account of Corrosion Effects," Alexandria Engineering Journal, Vol. 41, No.1, January 2002.
- El-Badan, A.A., Leheta, H.W., Abdel-Nasser, Y.A. and Moussa, M.A., "Safety Assessment of Uniaxially Loaded Stiffened Panels," Alexandria Engineering Journal, Vol. 40, No. 2, March 2001.
- Leheta, H.W. and Mansour, A.E., "Reliability- Based Method for Optimal Structural Design of Stiffened Panels," Journal of Marine Structures, (10), 1997, pp.323-352.
- Salem, M.A., Leheta, H.W., Abdel-Nasser, Y.A. and Elhewi, A.H., "New Applications of Shell Theory to Ship Structures," Alexandria Engineering Journal, Vol. 36, No. 4, July 1997.
- El-Badan, A.A. and Leheta, H.W., " Environmental Concerns in Naval Architecture and Marine Engineering Education," Workshop on Introducing Methods for Teaching Environmental Courses in Engineering Education, Faculty of Engineering, Alexandria - University, April 1997.
- El-Kilani, H.E. and Leheta, H.W., "Analysis of Some Structural Details in Double Hull Tankers," RETBE'96, 1st International Conference on the Role of Engineering towards Better Environment, Alexandria, Egypt, Dec. 1996.
- Abdel-Nasser, Y.A. and Leheta, H.W., "Reliability of Initially Imperfect Marine Structure Plates under Biaxial Loading," Alexandria Engineering Journal, Vol. 35, No. 6, November 1996.
- Leheta, H.W., "Ship Hull Girder Reliability: Probabilistic Modelling and Comparison of Common Evaluation Methods," Alexandria Engineering Journal, Vol. 35, No. 1, January 1996.
- Leheta, H.W. and Abdel-Nasser, Y.A., "Reliability of ISUM Modelled Uniaxially Loaded Plates," Alexandria Engineering Journal, Vol. 35, No. 1, January 1996.



- Shama, M.A., Leheta, H.W. and Mahfouz, A.B., "Shear Strength of Damaged Seagoing Oil Tanker under Vertical Shear Loading," Alexandria Engineering Journal, Vol. 35, No. 1, January 1996.
- Shama, M., El-Iraki, A., Leheta, H. and Hafez, K., "On the CASD of Container Ships: State-of-the-Art," Alexandria Engineering Journal, Vol. 34, No. 5, December 1995.
- Shama, M., El-Iraki, A., Leheta, H. and Hafez, K., "CADSUCS, the Creative CASD-Subsystem for the Concept Design of Container Ships," Alexandria Engineering Journal, Vol. 34, No. 5, December 1995.
- Shama, M.A., Leheta, H.W. and Mahfouz, A.B., "Shear Strength of Damaged Coastal Oil Tankers under Vertical Shear Loading," Alexandria Engineering Journal, Vol. 34, No. 2, April 1995.