

Walid Elshorbagy, PhD, PE

Research Professor, Civil Engineering and Engineering Mechanics Det., University of Arizona

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PROFESSOR OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING

Professional civil engineer and highly accomplished professor of water resources and environmental engineering offering more than 30 years' experience in the areas of conceptual thinking, scientific research, teaching, curriculum development, student evaluation, academic programs development, and engineering design. Qualified with PhD from University of Arizona and MS from the Utah State University in Civil Engineering. Extensive knowledge and experience in several areas of water resources and environmental engineering that permits him to implement and supervise relevant design projects, develop and lead distinguished academic and research programs in collaboration with renowned international institutes targeted to achieve national priorities of sustainable development. Strong networking and connections in the Gulf region and internationally qualify him to provide an outstanding vision and leadership necessary to build a broad range of partnerships and launch major academic and industrial initiatives. An excellent communicator fluent in Arabic and English with efficient interaction with people of diverse nationalities and comfortable working in a multicultural set-up.

CORE COMPETENCIES

Distinguished academic and industrial experience in the area of water resources and environmental engineering ▪ Outstanding Research/Publication Record ▪ Generate Research Funds ▪ Scientific Divulcation/Knowledge Transfer ▪ Efficient Mentoring of Senior/Graduate Students and junior engineers ▪ *High Quality Teaching *Strategic Program Planning ▪ Administrative/Academic Leadership ▪ Curriculum Design/ Development ▪ Institutional and Professional Service

RESEARCH INTERESTS

Sustainable development-oriented research in several areas including Water Quality and Treatment, Integrated Water Resources Management, Resilient design and management of hydraulic systems, Environmental Impact Assessment, Coastal Environment, Climate change, Hydrology and Groundwater, and Solid Waste Management

KEY SKILLS AND ACHIEVEMENTS

- **Professional Engineer** – Recently registering in Arizona State as a Professional Engineer (Check the verification link: <https://account.ncees.org/rn/1843468-1049531-7ca26f8>)
- **Strategic Project Planning** – At MWH Global – Successfully led and completed a strategic/planning project addressing water resources management, water demand and supply forecast, determination of future water gaps, and identification of needed optimal water resources.
- **Drafting Robust Proposals** – At MWH Global – Instrumental in developing a robust proposal in water security for the United Arab Emirates utilizing excellent knowledge in professional writing of technical industrial proposals including background, methodology, time plan, risks, team members/roles, budgets, etc.
- **Teaching and Academic Instruction** – At United Arab Emirates University (Civil Engineering Department) – Proactive development and teaching of more than twenty undergraduate and graduate courses on different topics of water resources and environmental engineering using a variety of innovative and interactive teaching styles. Current teaching of engineering design courses at Pima Community College in Tucson, Arizona.
- **Research and Analysis** – At United Arab Emirates University, Civil Engineering Department – An expert researcher of international stature processing innovative perspective to the University in carrying out and managing research as well as training researchers. Successfully conducted research on a variety of sustainable development topics related to water resources and environmental engineering and accredited with two consecutive best research awards in the College of Engineering. Moreover, experience with several engineering software such as AutoCad, InfoWater, InfoSWMM, HEC-HMS, GoogleEarth,. etc.

- **Academic Graduate Programs Development and Educational Outcomes Assessment** – At United Arab Emirates University, successfully led the development of several graduate programs including the Civil Engineering Master Program, the Water Resources Master Program, and the Engineering PhD Program. Also, proficiently developed an automated and systematic approach of overall educational outcomes assessment for the Civil Engineering Program based on assessment results of several program constituencies yielding efficient action plans needed to close the assessment and improvement loop which resulted in gaining an accreditation by ABET in 2009.
- **Regional and International Connections** – Strong ties with several academic and industrial entities in the Gulf area and in the US, especially in Arizona. This enabled me to serve as an Associate Editor for the most prestigious international journal in the water resources management area (ASCE J. of Water Resources Planning and Management) over the last four years and till now.

KEY DELIVERABLES ACROSS CAREER SPAN

- Authored and co-authored more than forty scientific papers and book chapters published in prestigious world Journals, ten technical reports, and more than fifty scientific conference papers.
- Success in conducting several numerical and experimental modelling for national problems related to water management, quality, distribution, delivery and environmental impacts.
- Development and revision of several graduate programs while leading new/ongoing graduate programs and affairs.
- Implementing best interactive teaching techniques as per each course while developing individualised instruction and multimedia presentations, where applicable; selecting or approving textbooks and learning materials.
- Leading full accreditation and educational outcome assessment processes.
- Chairing several academic committees and serving in many international advisory panels in addition to acting as an associate editor of the well-known American Society of Civil Engineering Journal of Water Resources Planning and Management.
- Delivering thirteen invited and keynote talks in prestigious national and international specialized conferences

CAREER HISTORY

University of Arizona (Research Professor, Civil Engineering and Engineering Mechanics)	Nov 2016 – Now
Pima Community College, Tucson, Arizona (Faculty Adjunct.)	Jan 2017 - Now
MWH Global, Middle East-Dubai Office (Technical Lead)	Jun 2015 – Jun 2016
United Arab Emirates University	Sep 1996 – Jun 2015
Full Professor, Civil and Environmental Engineering Dept.	Jun 2014 – Jun 2015
Director of the Water Resources Master Program	Aug 2011 – Jun 2015
Director of the Civil Engineering Master Program	Sep 2007 – Feb 2010
Associate Professor, Civil Engineering Department	Jan 2002 – Jun 2014
Assistant Professor, Civil Engineering Department	Sep 1996 – Dec 2001
University of Arizona, Civil Engineering Department, Tucson, AZ, USA	Sep 1993 – Dec 1995
Faculty Adjunct. (Teaching Fluid Mechanics, Water Resources, and Hydrology Courses)	Jul 1995 – Dec 1995
Instructor (Teaching Fluid Mechanics, Water Resources, and Hydrology Courses)	Sep 1993 – May 1995
Watershed Research Center (WRC), ARS, USDA, Tucson, AZ, USA (Research Assistant)	Aug 1992 – Aug 1993
National Water Research Center (WRC), Ministry of Irrigation, Cairo, Egypt (Research Associate)	Jul 1987 – Dec 1988
Private Construction Companies, Cairo, Egypt (Construction Design and Executive Engineer)	Oct 1985 – Jun 1987

EDUCATIONAL QUALIFICATION

Ph. D "Dissertation: Design of Irrigation System of Canals Using Stochastic Optimization Approach"	1995
Civil Engineering, Univ. of Arizona, Tucson, AZ, USA	
M.Sc. "Thesis: Fixed Gate-Crest Dual Control of the Ogee Crest Spillway Operation"	1990
Civil Engineering, Utah State Univ., Logan, Utah, USA	
M.S. in Structural Mechanics and Civil Engineering (Preliminary Year of Graduate Study)	1987
Cairo University, Cairo, Egypt	
B.S. Civil Engineering	1985
College of Engineering, Cairo University, Cairo, Egypt	

FELLOWSHIPS, HONORS' AND SCHOLARSHIP AWARDS

- Honoured for recognising the successful completion of a four-year research project titled "Impact Assessment of Refinery Wastewater on Desalinated Water in the UAE". Sixth UAEU Research Conference, AlAin, UAE (2005).
- The Best Externally Funded Research Award in the College of Engineering, United Arab Emirates University, 4th Annual Research Conference, Apr 2003.
- The Best Externally Funded Research Award in the College of Engineering, United Arab Emirates University, 3rd Annual Research Conference, Apr 2002.
- United States Agency for Int. Development (USAID), Fellowship for M.S Degree, 1989-1990.
- United States Agency for Int. Development (USAID), Fellowship for Ph. D Degree, 1991-1995.
- Graduate Honour Roll, Grade Average Point (GPA) of 4.0, Utah State University, 1989-1990.

Professional Registration/Certifications

* ENGINEER-In-Training, State Board of Technical Registration, State of Arizona, USA, Certificate No 06501, January 10th, 1996

* Registration as a Professional Engineer in the State of Arizona is underway after passing October 2017 PE Exam

(<https://account.ncees.org/rn/1843468-1049531-7ca26f8>)

Academic and Professional Links

Personal Website <http://civil.arizona.edu/walid-elshorbagy>

Google Scholar https://scholar.google.com/citations?hl=en&user=Th7y6VIAAAAJ&view_op=list_works

Research Gate https://www.researchgate.net/profile/Walid_Elshorbagy

Linkedin <https://www.linkedin.com/in/walid-elshorbagy-phd-pe-b95959114/>

PERSONAL DETAILS

Date of Birth: 14th June, 1963

Marital Status: Married

Nationality: Egyptian (Legal Resident of USA)

Driver's Licence: U.S-Arizona, UAE, Egypt

Walid Elshorbagy (CV Appendix)

Address: Civil Engineering and Engineering Mechanics, University of Arizona, 1209 E. 2nd St., Tucson, AZ, 85721

Phone: + (1) 5205850246 **Email:** Walidelshorbagy@email.arizona.edu

PROFESSOR OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING

PUBLICATION AND RESEARCH ARTICLES

Scholarly Achievements

A. Books and Book Chapters

Books Edited

Water Quality Area

1. Walid El-Shorbagy and Rezaul K. Chowdhury (2013). "Water Treatment" ISBN 978-953-51-0928-0, 380 pages, Publisher: InTech, DOI: 10.5772/2883.

Coastal Environment Area

2. Mohamed AlAzab, Walid Elshorbagy, and Seif AlGhais – Editors (2005) "Oil pollution and its impact on the Arabian Gulf Countries", Development in Earth and Environmental Sciences Series, Published by Elsevier.

Water Resources-Related Areas

3. Essam Abdel-Hafeez, Walid Elshorbagy, and Essam Khalifa – Editors (1999) "Sustainability of Water Resources in Arid Regions." Proceedings of the Second International Conference of Sustainability on Desert Regions, College of Engineering, United Arab Emirates University.

Chapters in Books

Water Quality Area

1. Rezaul K. Chowdhury and Walid El-Shorbagy (2013). "Chapter 1: Informatics, Logistics and Governance in Water Treatment Technologies". In Water Treatment Book, edited by Walid El-Shorbagy and Rezaul K. Chowdhury, ISBN 978-953-51-0928-0, 380 pages, Publisher: InTech, DOI: 10.5772/2883.
2. Walid Elshorbagy (2003), "Chapter 5: Fate and transport of haloforms in water distribution systems", The Handbook of Environmental Chemistry, Volume 5, Springer Publisher.

Coastal Environment Area

3. W. Elshorbagy and A. Basoni (2015). "Chapter 16: Impact of the Coastal Intake Environment on the Operating Conditions of Thermal Desalination Plants: A Case Study in the United Arab Emirates". Chapter DOI: 10.1007/978-3-319-19123-2_16. In Recent Progress in Desalination, Environmental and Marine Outfall Systems, edited by Mahad Baawain et al. Published by Springer, ISBN: 978-3-319-19122-5.

Stormwater Drainage

4. Kevin Lansey and Walid Elshorbagy (2002) "Chapter 12: Design of Pumps and Pump Facilities" in AWWA Handbok" Storm-Water Drainage Systems Design Handbook", Larry W. Mays, Editor-in-chief, McGraw Hill Pub. Co., 12-1 to 2-41.

B. Articles Published/Accepted in Refereed Journals

Water Quality Area

1. Al-Issai L., M., Elshorbagy W., Maraa M. A., and Soliman A. M (2017). Use of nanoparticles for disinfection of desalinated water in the United Arab Emirates. *Water Science and Technology*. In review
2. Soliman A. M., Elshorbagy W., Maraa M. S., Al-Issai L. M., Ayesh A. I., and T. Pal. In-situ facile and green preparation of nanoscale silver supported on activated carbon: Disinfection properties and removal of DBPs from drinking water. *Water Science and Technology*. In review
3. W. E. Elshorbagy and M. Shawaqfah (2014). "Development of an ASM1 Dynamic Simulation Model for an Activated Sludge Process in United Arab Emirates". *Taylor and Francis Journal of Desalination and Water Treatment*, DOI: 10.1080/19443994.2014.880375.
4. Abdel Mohsen Mohammed, Walid Elshorbagy, Imad Juma Mohammed, and Esam Abdel Gawad (2013). Treatment of concrete wash water generated from ready-mix concrete trucks, Dubai, U.A.E. *Desalination and Water Treatment Journal*, DOI:10.1080/19443994.2013.852137 (published online).
5. Walid El Shorbagy, Nawras Nabil, and Ronald L. Droste. (2013). "Optimization of A2O BNR Processes Using ASM and EAWAG Bio-P Models: Model Performance". *Journal of Water and Environment Federation Research*, V. 85, issue 12, pp 2237-2250.
6. Naglaa Eid and Walid Elshorbagy (2013). "Remediation of Brackish Ground Water in United Arab Emirates Using Electro-Dialysis Technique". *Taylor and Francis Journal of Desalination and Water Treatment*, Vol. 51, Issue 13-15, pp 2672-2679, DOI:10.1080/19443994.2012.749326.
7. Walid El Shorbagy, Nawras Nabil, and Ronald L. Droste. (2011). "Optimization of A2O BNR Processes Using ASM and EAWAG Bio-P Models: Model Formulation". *Water Quality Research Journal of Canada*, DOI:10.2166/wqrjc.2011.005, Vol. 46 No 1, 13-27.
8. Elshorbagy, W. Arwani, A., and Droste, R. (2011). "Optimal Sizing of Activated Sludge Process Considering ASM3 Model". *International Journal of Civil and Environmental Engineering*, Vol. 11 Issue: 01 ISSN: 2077-1207, pp 19-55.
9. Kevin Lansey, Fayzul Pasha, Sheina Pool, Walid Elshorbagy, and James Uber (2007). Locating Satellite Booster Disinfectant Stations. *ASCE/Water Resources Planning and Management Journal*, Vol. 133, Issue 4, 372-376.
10. Walid Elshorbagy and Mohamed Abdulkarim (2006). Chlorination ByProducts in Drinking Water Produced from Thermal Desalination in United Arab Emirates. *Springer Journal of Environmental Monitoring and Assessment*, 123/1-3, DOI: 10.1007/s10661-006-9199-4.
11. Mohamed Al Zarooni and Walid Elshorbagy (2006). Characterization and Assessment of Al Ruwais Refinery Wastewater. *Elsevier J. of Hazardous Materials*, A136 (2006) 398- 405.
12. Eid, N., Elshorbagy, W., Larson, D., Slack, D. (2000). "Nitrate Electro-migration in Sandy Soil." *J. Hazardous Materials*, Vol. 79 (1-2), 133-149.

13. Elshorbagy, W.A (2000). "Kinetics of THM species in drinking water." *Journal of Water Resources Planning and Management*, ASCE, Vol. 126, No. 1, 21-28.
14. Walid E. Elshorbagy, Hany Abu-Qdais, and Mohammed K. Elsheamy. (2000) "Simulation of THM species in water distribution systems." *Water Research Journal*, Vol. 34, No. 13, 3431-3439.

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15. Abubaker Al Hakeem and Walid Elshorbagy (2015). Hydrodynamic evaluation of long term impacts of climate change and coastal effluents in the Arabian Gulf. *Marine Pollution Bulletin*, Vol. 94, Issues 1-2, 19-36, DOI: 1-.1016/j.marpolbul.2015.03.020.
16. Abubaker Al Hakeem, Walid Elshorbagy, Tobias Bleninger (2015). Long-Term Hydrodynamic Modelling of the Arabian Gulf. *Marine Pollution Bulletin*, Vol. 94, Issues 1-2, 19-36, DOI: 1-.1016/j.marpolbul.2015.03.020.
17. Abubaker Elhakeem and Walid Elshorbagy (2013). Evaluation of the long-term variability of seawater salinity and temperature in response to natural and anthropogenic stressors in the Arabian Gulf. *Marine Pollution Bulletin*, DOI: 10.1016/j.marpolbul.2013.08.036, Vol.76, Issues 1-2, 355-359
18. Walid Elshorbagy, Mir Hammadul Azam, and Abubaker Al Hakeem (2013). Temperature-Salinity Modeling for Ruwais Coast, UAE, *Marine Pollution Bulletin*, 73, 170-182.
19. Walid Elshorbagy and Abu-Bakr Elhakeem (2008). Risk assessment maps of oil spill for major desalination plants in United Arab Emirates. *Elsevier J. of Desalination*, Vol. 228, pp. 200-216.
20. Walid Elshorbagy, Mir Hammadul Azam, Kisaburo Nakata, and Tomohiko Terasawa (2008). Temperature-Salinity field of the shallow shelf of southern Arabian Gulf. *Far East Journal of Ocean Research*, Vol. 1, Issues 2-3, pp 99-126.
21. A.A. Elhakeem, W. Elshorbagy, and R.Chebbi (2007). Oil spill simulation and validation in the Arabian (Persian) Gulf: with special reference to the UAE coast, *Springer J. of Soil, Water, & Air Pollution*, DOI: 10.1007/s11270-007-9413-1, V. 184, No 1-4., 243-254.
22. Walid Elshorbagy, Mir Hammadul Azam, and Koichi Taguchi (2006). Hydrodynamic Characterization and Modeling of the Arabian Gulf. *ASCE/J. Water Way, Port, Coastal and Ocean Engineering*, Vol. 132, No. 1, pp. 47-56.
23. Mir Hammadul Azzam, Walid Elshorbagy, Tetsuya Ichikawa, Tomohiko Terasawa, and Koichi Taguchi (2006). 3D application to study the residual flow in the Arabian Gulf. *ASCE/J. Water Way, Port, Coastal and Ocean Engineering*, Vol.132, No. 5, pp. 388-400.
24. Mir Hammadul Azam, Walid Elshorbagy, Kisaburo Nakata (2006). Three-dimensional modeling of the Ruwais Coastal Area of United Arab Emirates. *ASCE/J. Water Way, Port, Coastal and Ocean Engineering*, Vol.132, No. 6, pp. 487-495.

Water Resources-Related Areas

25. Abubaker Awad Elhakeem, Walid Elsayed Elshorbagy, Hazem Bakri AlNaser, and Francina Dominguez (2015). "Downscaling Global Circulation Model Projections of Climate for the UAE". *ASCE J. Water Resources Planning and Management*, 10.1061/(ASCE)WR. 1943-5452.0000507, 04015007.

26. Chowdhury, R. K., El-Shorbagy, W., Ghanma, M. and El-Ashkar, A. (2014) Quantitative Assessment of Residential Water End Uses and Greywater Generation in the City of Al Ain, *Water Science and Technology: Water Supply*, doi:10.2166/ws.2014.090.
27. Elshorbagy, W.E and Al Maamari, M.S (2011). Integration of Water Transmission and Distribution Systems via Bypassing Storage Reservoirs. *International Journal of Civil & Environmental Engineering IJCEE-IJENS* Vol.11, Issue: 05 ISSN: 2077-1258, pp 63-84.
28. Walid Elshorbagy and Abdulkader Alkamaly (2005). "Solid Waste Generation from Oil and Gas Industries in United Arab Emirates". *Journal of Hazardous Materials*, Vol. 120, Issue 1, No.3, pp. 89-99.
29. K. E. Lansey, I. Ahmed, and W. El-Shorbagy (2002). "Closure to Calibration Assessment and Data Collection for Water Distribution Networks" By K. E. Lansey, W. El-Shorbagy, I. Ahmed, J. Araujo, and C. T. Haan." *Journal of Hydraulic Engineering*, ASCE, Vol. 128, No. 12, 1106-1107.
30. Walid Elshorbagy, Kevin Lansey, and Donald Slack, (2001). "Optimal Sizing of Irrigation Delivery Systems Using a Two-Stage Stochastic Programming Approach". *Journal of Civil Engineering and Environmental Systems*, Vol. 18, No. 4, pp. 331-362.
31. K. E. Lansey, W. El-Shorbagy, I. Ahmed, J. Araujo, and C. T. Haan. (2001). "Calibration Assessment and Data Collection for Water Distribution Networks." *Journal of Hydraulic Engineering*, ASCE, Vol. 127, No. 4, 270-279.
32. Elshorbagy, Walid. (2000), "Impact Assessment of an Irrigation Improvement Project in Egypt." *Journal of Water Resources Management*, Vol. 14 (3), 229-246.
33. Elshorbagy, W.A., and Mohamed, A.M.O. (2000). "Evaluation of the Potential Use of Municipal Solid Waste Compost in Landfill Closure Caps in Arid Lands." *Waste Management Journal*, Vol. 20, No. 7, 499-507.
34. Elshorbagy, W., Yakowitz, D., and Lansey, K. (March 1997) "Design of Engineering Systems Using a Stochastic Decomposition Approach", *Journal of Engineering Optimization*, Vol. 27, No 4, 279-302.

C. Research Technical Reports

Water Quality Area

1. Final Report of Individual Research Project "Remediation of Brackish Ground Water in United Arab Emirates Using Electro-Dialysis Technique". Elshorbagy, W.A. (P.I), Eid, N. M. Supported by Research Council, United Arab Emirates. (2011).
2. Final Report of Individual Research Project "Development of a Novel Electrochemically Controlled Drip Irrigation System for Moisture and Nutrient Management in Arid Lands". Elshorbagy, W.A. (P.I), Galal, A.M. Supported by Research Council, United Arab Emirates. (2002).
3. Final Report of Individual Research Project "Innovative Design and Modeling of Landfill Closure Cap in Arid Areas." Elshorbagy, W.A., Mohamed, A.M.O, Kamaly, A.M. Supported by Research Council, United Arab Emirates, (1999).
4. Final Report of Individual Research Project "Integrated Quality Modeling and Management in Drinking Water Distribution Systems." Elshorbagy, W.A., Radwan, J.M, Qdais, H. A. Research Council, United Arab Emirates. (1998).
5. Final Report "Mahmoudia Canal Improvement Project" Elquosy Daa, Elshorbagy, Walid. Water Distribution and Irrigation Systems Institute", Strategic Research Project, Water Research Center, Egypt. (1996).

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6. Final Annual Report of Externally-Funded Research Project "Impact Assessment of Refinery-Wastes on Desalinated Water in UAE". Elshorbagy, W.A. and Abd-elkareem, M. Supported by Japan Cooperation Center, Petroleum (JCCP). (2005).
7. Fourth Annual Report of Externally-Funded Research Project "Impact Assessment of Refinery-Wastes on Desalinated Water in UAE". Elshorbagy, W.A. and Abd-elkareem, M. Supported by Japan Cooperation Center, Petroleum (JCCP). (2005).
8. Third Annual Report of Externally-Funded Research Project "Impact Assessment of Refinery-Wastes on Desalinated Water in UAE". Elshorbagy, W.A. and Abd-elkareem, M. Supported by Japan Cooperation Center, Petroleum (JCCP). (2004).
9. Second Annual Report of Externally-Funded Research Project "Impact Assessment of Refinery-Wastes on Desalinated Water in UAE". Elshorbagy, W.A. and Abd-elkareem, M. Supported by Japan Cooperation Center, Petroleum (JCCP). (2003).
10. First Annual Report of Externally-Funded Research Project "Impact Assessment of Refinery-Wastes on Desalinated Water in UAE". Elshorbagy, W.A. and Abd-elkareem, M. Supported by Japan Cooperation Center, Petroleum (JCCP). (2002).

D. Professional Papers and Talks, Abstracts, Presented at Conferences

Refereed Conference Proceedings

Water Quality Area

1. Soliman A. M., Elshorbagy W., Maraqa M. S., El-Shaer M. Photo catalytic degradation of malachite green dye using activated carbon decorated with nano silver under UV-irradiation, the 8th Annual International Workshop on Advanced Materials (IWAM 2016), Feb. 21-23, 2-16, Ras Al Khaima, UAE.
2. Walid Elshorbagy and Moayyad Shawaqfa (June 2011). Development of an ASM1 Dynamic Simulation Model for an Activated Sludge Process in United Arab Emirates. Eighth IWA Leading-Edge Conference on Water and Wastewater Technologies. Amsterdam, Netherland.
3. Naglaa Eid and Walid Elshorbagy. (May 2008). "Moisture and Nitrate Variation in Electrochemically-Controlled Drip Irrigation System in Sandy Soil". World Environmental & Water Resources Congress 2008, Hawaii, USA.
4. Mohamed Abdulkareem and Walid Elshorbagy (April 2007). "Efficiency of Coastal Thermal Desalination in removing Chlorination byproducts and their organic precursors". Conference on Desalination and the Environment, organized by European Desalination Society 'EDS', Greece.
5. Walid Elshorbagy (December 2006). "Contribution of Selected Oil Refinery Wastewater to the Formation of Chlorination Hazardous Byproducts". Offshore Arabia 2006 Conference organized by the Regional Clean Sea Organization (RECSO), Dubai, United Arab Emirates.
6. Walid Elshorbagy and Mohamed Abdulkareem (December 2006). "Oil Refinery Wastewater and Its Potential Impact on Drinking Water Produced from Nearby Desalination Plants". Offshore Arabia 2006 Conference organized by the Regional Clean Sea Organization (RECSO), Dubai, and United Arab Emirates.
7. Mohamed Abdulkareem and Walid Elshorbagy (December 2006). "Characterization of Oil Refinery Wastewater". Offshore Arabia 2006 Conference organized by the Regional Clean Sea Organization (RECSO), Dubai, United Arab Emirates.
8. Walid Elshorbagy and AlJabry Awbath (August 2006). "Transport Kinetics of Bromoform Formed in Desalinated Water". Proceedings of the 8th Annual International Symposium on Water Distribution Systems Analysis, Cincinnati, Ohio, USA.

9. Elshorbagy, W. and Arwani, A (June 2004) "Usage of advanced biological models in sizing wastewater biological treatment reactors", Presented in the Tenth International Conference on Development and Application of Computer Techniques to Environmental Studies, Organized by WESSEX Institute of Technology, Ancona, Italy.
10. Elshorbagy, Walid. (April 2000) "Propagation of THM Species in Water Distribution System." 2000 Information Management & Technology Conference, AWWA, Seattle, Washington, USA.
11. Elshorbagy, W.A (February 1998) "Specifications and Regulations to Control Drinking Water Quality in Gulf Countries (In Arabic)". Environmental Cooperation Conference of the Gulf Countries in Kuwait, Kuwait Environment Protection Society.
12. Elshorbagy, W., and Lansey, K. (April 1994). "Dynamic Modeling of Water Quality in Water Distribution Systems" AWWA Computer Conference, Los Angeles, California, 457-465.

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13. Gianfausto Salvadori, Giuseppe R. Tomasicchio, Felice D'Alessandro, Walid Elshorbagy, and Abubaker El-Hakeem (September 2015). Coastal Structures & Solutions to Coastal Disaster Joint Conference, Boston, Massachusetts, USA.
14. Walid Elshorbagy and Abu Bakr Elhakeem (March 2015) Future of desalination technologies in the Arabian Gulf countries considering their impacts and the climate change on the marine environment. IX Workshop in Planning and Evaluation: Strategies for the Environment. Evaluation and Planning for Extreme Events to be held in Valenzano (Bari, Italy) on the 16th and 17th of March 2015 at the Mediterranean Agronomic Institute of Bari.
15. Walid Elshorbagy, Modeling of Transport of Organic Pollutants in the Coastal Water of United Arab Emirates (August 2014), 11th International Conference on Hydroinformatics, New York, USA.
16. Walid Elshorbagy and Abu Bakr Elhakeem (April 2014) Impact of the Coastal Intake Environment on the Operating Conditions of Thermal Desalination Plants: A Case Study in United Arab Emirates. International Conference on Desalination, Environment, and Marine Outfall Systems-ICDEMOS2014. Muscat, Oman.
17. Abu Bakr Elhakeem and Walid Elshorbagy (April 2014). Overview of Different Approaches Simulating the Long Term Response to Climate Change and Coastal Effluents in the Arabian Gulf. International Conference on Desalination, Environment, and Marine Outfall Systems-ICDEMOS2014. Muscat, Oman.
18. Gianfausto Salvadori, Giuseppe Roberto Tomasicchio, Felice D'Alessandro, Walid Elshorbagy, and Abu Baker El-Hakeem (June 2014). Multivariate Coastal and off Shore Design VIA Copulas at the Arabian Gulf". Accepted for presentation and inclusion in the proceedings of the 34th International Conference on Coastal Engineering - ICCE2014, Seoul, Korea.
19. Walid Elshorbagy and Abu Bakr Elhakeem (July 2012). "Forecasting the Oil Spill Impacts on Coastal Desalination Plants in United Arab Emirates". 11th International Conference on Modeling, Monitoring and Management of Water Pollution, New Forest, UK.
20. Walid Elshorbagy and Abu Bakr Elhakeem (June 2009). "Use of Reverse Numerical Modeling in Forecasting the Contamination Hazard of Oil Spill against Coastal Facilities". 4th SCACR International Short Conference on APPLIED COASTAL RESEARCH in Barcelona, Spain.

21. Walid Elshorbagy and Ahmed Basoni (February 2009). "Locating the intakes and outlets of coastal thermal desalination plants considering the coastal physical conditions". Third International Conference in Ocean Engineering (ICOE-2009), Madras, India.
22. Walid Elshorbagy. (May 2008). "Fate Transport of Organic Pollutants in the Coastal Water of United Arab Emirates". World Environmental & Water Resources Congress 2008, Hawaii, USA.
23. Walid Elshorbagy. (February 2008). "Overview of Arabian Gulf Hydrodynamics and Its Circulation Conditions". 7th International Conference on Coastal and Port Engineering in Developing Countries "COPEDC", Dubai, UAE.
24. Ahmed Bassioni and Walid Elshorbagy (December 2006). "Impact of Coastal Physical Conditions on Selecting the Inlet-Outlet Structures of Coastal Desalination Plants". Offshore Arabia 2006 Conference organized by the Regional Clean Sea Organization (RECSO), Dubai, United Arab Emirates.
25. AbuBakr Elhakeem and Walid Elshorbagy (December 2006). "Mapping the Impact of Oil Spill Events on Desalination Plants in United Arab Emirates". Accepted for publication and presentation in the Offshore Arabia 2006 Conference organized by the Regional Clean Sea Organization (RECSO), Dubai, United Arab Emirates.
26. Walid Elshorbagy, Mir Hammadul Azzam, and Koichi Taguchi, Tetsuya Ichikawa and Tomohiko Terasawa (June 2006). "Recent Hydrodynamic and Recirculation Findings of the Arabian (Persian) Gulf". 113th Annual ASEE Conference, Ocean, Marine, and Coastal Engineering Division. Chicago, USA.
27. W. Elshorbagy, M. Azam, and S. Mustafa (April 2005) "Ecological characterization and simulation of a coastal industrial area in United Arab Emirates". Invited paper presented and published in the proceedings of the 7th Int. Conference on Modelling, Measurements, Engineering and Management of Seas and Coastal Regions (Coastal Engineering VII, 2005), Organized by WESSEX Institute of Technology, Portugal.
28. Elshorbagy, W., Azam, M., Abdulkareem, M. (June 2003) "Three dimensional modeling of an industrial coastal area in United Arab Emirates", Invited paper presented and published in the proceedings of the 6th Int. Conf. on Comp. Modeling and Experimental. Measurements of Seas and Coastal Regions (Coastal Engineering 2003), WESSEX Institute of Techn., Cadiz, Spain.
29. Elshorbagy, W., Azam, M., Abdulkareem, M. (May 2002) "Hydrodynamic Modeling of the Southern Arabian Gulf", Proceedings of the Ninth International Conference on Hydraulic Information Management "HYDROSOFT 2002", Organized by WESSEX Institute of Technology, Montreal, Canada.

Water Resources-Related Areas

30. Walid Elshorbagy and Mohamed Al Maamary (September 2010), Pressure Utilization in Water Transmission Pipelines Considering Transient Conditions, Water Distribution Systems Analysis 2010, Tucson, Arizona, USA.
31. Walid Elshorbagy (May 2010), "Integrated Urban Water Management in a New Coastal Developed Area in United Arab Emirates", ASCE 2010 World Environmental & Water Resources Congress, Providence, Rhode Island, USA
32. Walid Elshorbagy, Mohsen Sherif, Amr Sweedan, and Khaled Elsayy (July 2009). "Evolution of the Assessment of Educational Objectives of the Civil Engineering Program, United Arab Emirates University". 2nd International Multi-Conference on Engineering and Technological Innovation: IMETI 2009, Orlando, Florida, USA.

33. Elshorbagy, Walid. (March 2001) "Sustainable Planning of Water Resources Using Two-Stage Stochastic Programming Approach." Proceedings of WSTA Fifth Gulf Water Conf., Water Science and Technology Assoc., Doha, Qatar, VI, 59-74.
34. Elshorbagy, W.A., and Mohamed, A.M.O. (April 2000). "Innovative Design and Modeling of Landfill Closure Cap in Arid Areas." First UAEU Research Conference, AlAin, United Arab Emirates
35. Elshorbagy, W.A., and Mohamed, A.M.O. (March 2000). "An alternative Design of Landfill Closure Cap in Arid Areas." Proceedings of the International Conference on Geoenvironment 2000 (ICG2000), Muscat, Oman, March 2000.
36. Elshorbagy, W., (September 1998). "Water Balance of Areas with Water Deficit: Case Study". Irrigation Improved Area in Egypt", Environmental Engineering and Management, Computational Mechanics Publications, Vol.3, 269-278.
37. Elshorbagy, W., Lansey, K., and Yakowitz, D (August 1996). "Design and Operation of Engineering Systems Using Regularized Stochastic Decomposition" International Association for Hydraulic Research, Seventh International Symposium on Stochastic Hydraulics, Queensland, Australia.
38. Yakowitz, D., Elshorbagy, W., and Lansey, K. (September 1995). "Modeling and Solving Water Resources Engineering Design Problems as Stochastic Programs to Account for an Uncertain Future." Proceedings of ASCS, Risk-Based Decision Making in Water Resources VII, Santa Barbara, California, Oct., 1995.

Non-refereed Conference Proceedings

Water Quality Area

1. Mohamed Abdulkareem and Walid Elshorbagy (April 2004) "Characterization of Oil Refinery Wastewater in Ruwais Area", Fourth UAEU Research Conference, AlAin, United Arab Emirates.
2. Abdul-Hameed Arwani and Walid Elshorbagy (April 2003) "Overview of Advanced Modeling Techniques of the Activated Sludge Process", Fourth UAEU Research Conference, AlAin, United Arab Emirates.
3. Elshorbagy, W. and Eid, N. (November 2000). "Electrochemical remediation of nitrate-contaminated sandy soil." Proceedings of the First International Conference of GEO2000 held on November 2000, College of Engineering, UAE University, ALAIN, United Arab Emirates, 625-631.
4. Elshorbagy, W.A, Abu-Qdais, H. (November 1999). "Speciation of Chlorination By-Products in Pipe Networks of Drinking Water." Proceedings of the Second International Conference of Sustainability on Desert Regions, College of Engineering, United Arab Emirates University, ALAIN, 103-114.
5. Elshorbagy, Walid (October 1996). "Water Quality Dynamic Modeling in Distribution systems Using Different Approaches", The First Scientific Conference, Faculty of Science, Zagazig University, Egypt.
6. Walid Elshorbagy and Mohamed Abdul-Karim (January 2006). Impact Assessment of Refinery Wastewater on Desalinated Water. Third Joint UAE-JCCP Symposium on Sustainable GCC Environment and Water Resources (EWR2006), Abu Dhabi, UAE.

Coastal Environment Area

7. Walid Elshorbagy (November 2005). Overview of Marine Pollution in the Arabian Gulf with Emphasis on Pollutant Transport Modeling (Invited Keynote). ArabianCoast2005 Conference "1st International Conference and Exhibition on Coastal Zone Management and Engineering in the Middle East". Dubai, UAE.
8. Walid Elshorbagy and Mohamed AbdulKareem, (April 2005) "Pollutant transport modeling in Ruwais coastal industrial area in integration with the prevailing physical and ecological conditions", Sixth UAEU Research Conference, AlAin, United Arab Emirates.
9. Walid Elshorbagy, Mohamed AbdulKareem, Mir Hammadul Azam, (April 2004) "Impact assessment of refinery wastes on desalinated water in the UAE: Third-Year Progress", Fourth UAEU Research Conference, AlAin, United Arab Emirates.
10. Walid Elshorbagy, Mohamed AbdulKareem, Mir Hammadul Azam, (April 2003) "Impact assessment of refinery wastes on desalinated water in the UAE: Second-Year Progress", Fourth UAEU Research Conference, AlAin, United Arab Emirates.
11. Walid Elshorbagy, Mohamed AbdulKareem, Mir Hammadul Azam, (January 2003) "Impact assessment of refinery wastes on desalinated water in the UAE", Proceedings of the Joint State of Kuwait-Japan Symposium, Kuwait.
12. Walid Elshorbagy, Mohamed AbdulKareem, Mir Hammadul Azam, (April 2002) "Impact assessment of refinery wastes on desalinated water in the UAE: First-Year Progress", Third UAEU Research Conference, AlAin, United Arab Emirates.

Water Resources-Related Research Areas

13. Elshorbagy, W. A., Abu-Qdais, H., and Hamoda, F. M. (November 2000) "Modeling the Temporal Degradation of Municipal Solid Waste Compost." Proceedings of the First International Conference of GEO2000 held on November 2000, College of Engineering, UAE University, ALAIN, United Arab Emirates, 577-583.
14. Elshorbagy, W and Eid, N. (November 1999). "Sustainability of Water Resources: A World Perspective." Proceedings of the 2nd Int. Conference of Sustainability on Desert Regions, College of Engineering, United Arab Emirates University, AlAIN, United Arab Emirates,13-24.

Presentations with Abstracts (no full-length papers)

1. Walid Elshorbagy (Invited Speaker). Impact of refinery wastewater on drinking water produced from nearby desalination plants in UAE and potential relevant applications. Water Management Technology for Petroleum Industry Seminar organized by ADNOC and JCCP, Abu Dhabi, UAE (June 2013).
2. Abubaker Awad ElHakeem and Walid Elshorbagy (Speaker), Long-term Estimates of Temperature and Precipitation for Sustainable Planning in UAE, 2nd International Conference on "Global Warming: Sustainable Cities", Ras Al Khaima, UAE, May 2013.
3. Abubaker Awad ElHakeem and Walid Elshorbagy (Speaker), Future of desalination industry in the Arabian Gulf given the long term environmental and ongoing anthropogenic impacts, 2nd International Conference on "Global Warming: Sustainable Cities", Ras Al Khaima, UAE, May 2013.
4. Walid Elshorbagy (May 2010). Improving the Performance of Thermal Desalination Plants While Considering the Impact on Coastal Environments. WaterTech 2010 Conference sponsored by the International Quality and Productivity Center "IQPC", Abu Dhabi, UAE (Invited).

5. Plenary Speaker in the 2nd International Cooling Seawater Operators and Specialist Conference organized by Qatar Gas. "Contribution of coastal industrial discharges to chlorination by-products and their migration in seawater", Qatar, February, 2009.
6. Elshorbagy, W., Sweedan, A., Elsayy, K., and Sherif M.M. "Assessment of the Civil Engineering Program in UAE University Using Two Sets of Objectives". XI Best Assessment Practices Symposium, Indiana, USA, 2009.
7. Key Speaker in the Water Summit 2007 "Desalination Prospective and Implications With The Coastal Environment, Sponsored by Schlumberger and Graduate Studies Deanship of UAEU, 2007
8. Walid Elshorbagy, Cooling seawater impacts on desalination plants (Invited), International Cooling Seawater Specialists and Operators Conference, Doha, Qatar. June, 2006.
9. Walid Elshorbagy (September 2005). Future of Desalinated Water Resources in United Arab Emirates and its Implications with the Coastal Environment (Invited Panel Speaker). Water Forum 2005, Abu Dhabi, UAE.
10. Elshorbagy, Walid. (April 2005) "Hydrodynamic Processes of the Arabian Gulf: A Recent Overview". IOMEC conference "Indian Ocean Marine Environmental Conference: Linking Science, Engineering and Management, February 2005, Perth, Western Australia.
11. Elshorbagy, Walid. (April 2005) "A Comprehensive Environmental Study of an Industrial Coastal Basin in United Arab Emirates". IOMEC conference "Indian Ocean Marine Environmental Conference: Linking Science, Engineering and Management, February 2005, Perth, Western Australia.
12. Invited speaker in the Workshop of Environmental Cooperation of Arabian Countries in the Gulf Cooperation Council 'GCC' held on February 1998 and organized by Kuwaiti Environmental Protection Agency 'KEPA'.
13. Elshorbagy, W. A., (November 1997) "Optimizing the Degradation of Municipal Solid Waste Composts", Gulf Envirotech97 Conference, Abu Dhabi, United Arab Emirates.

Other Scholarship Achievements

1. Establishment of "Water and Environment Research Center- WECE", M. Sherif (PI), Abdel Mohsen Onsy (Co-PI), Walid El-Shorbagy (Co-PI) and others to the National Research Foundation. The total approved fund is (Thirty seven million and five hundred thousand Dirhams over duration of five years). Contribution in writing the first-draft and in developing the final detailed proposal with other PIs.
2. Pre-Proposal to be submitted for joint funding by UAEU and Sultan Qaboos University. The project is titled "Connectivity among fish and invertebrate populations in the Arabian Gulf through Lagrangian larval dispersal modeling", Michel Claereboutdt (PI), Department of Marine Science and Fisheries, College of Agricultural and Marine Sciences, Sultan Qaboos University, Walid Elshorbagy (PI), CEE Dept., UAE University (44,600 OR).
3. Individual Research Grant Proposal for the Academic Year 2007/2008 Presented to UAEU Research Affairs (November 2007). "Development of a Numerical Evaluation Tool for the Activated Sludge Process in Zakher Wastewater Treatment Plant Using ASM Modeling Techniques", Walid Elshorbagy (PI), 30,000 AED. Accepted but not funded.
4. Contributed to a Regional Research Grant Proposal titled "Wave Atlas for the ROPME Sea" with a Section titled "Wind and Wave Conditions of United Arab Emirates". The proposal is administered by Kuwait Institute for Scientific Research "KISR" and is currently under review.

5. Hydrographic Measurements and Hydrographic Modeling (230,000 Dhs). This proposal was written to be included in the proposal titled "Characterization of UAE Coastal Sea Water for RO Desalination Plants" submitted to Doosan Heavy Industries & Construction. Later, it was presented separate, March 2007.
6. Wrote a Chapter in a UNESCO Handbook of Integrated Urban Water Management in Arid and Semi-arid Regions (ASA), Edited by Larry Mays. The Chapter was titled a Case Study about United Arab Emirates developed in collaboration with Metcalf & Eddie Consultant in Dubai. However, it was not published due to failure of the consultant in furnishing the owner release for publication as was originally planned.
7. Long-Term Impacts of the Arabian Gulf Environment upon the Performance of Coastal Desalination Plants in the Gulf Countries (42,913 AED). A proposal written for the Arab Science and Technology Foundation. March 2007.
8. Ibrahim E H Belal (College of Food and Agriculture) & Walid Elshorbagy. Selecting potential sites for cage culture in United Arab Emirates on the Arabian Gulf and Sultanate of Oman Coast. Two-year research project jointly with Sultan Qaboos University, 300,000 Dhs, January 2006.
9. Walid Elshorbagy, Munjed Maraqa, Hasan Garamoon, AbdelAzeem Ibraheem, and Mahmoud Bakr (April 2006). Monitoring and Modeling of Ground Water in Dubai Emirate as a Part of the Thematic Maps Project. Five-year project proposal submitted to Dubai Municipality upon invitation from Chuden_CTI Company with a total budget of 1,544,700 Dhs in addition to external laboratory cost and drilling cost of new bore wells.
10. Co-authored (with Prof. Diaa Elquosy) the Final Report "Strategic Research Project: "Mahmoudia Canal Improvement Project", Water Distribution and Irrigation Systems Institute, Water Research Center, Egypt, August 1996.

Conference and Seminars

1. Invited to give a keynote talk titled "Quantifying the Future Impacts of Potential Desalination Technologies in the Arabian Gulf upon the Gulf Environment" in the International Conference on Pollution Control & Sustainable Environment, OMICS International, April 2016, <http://pollutioncontrol.conferenceseries.com>
2. Invited in the International Water Summit (IWS 2016), Abu Dhabi, January 18-21, 2016 as a key speaker in a panel session titled "Towards Sustainable Water Resources Management in Abu Dhabi Emirate".
3. Invited to give a talk titled "Impact of refinery wastewater on coastal water and drinking water produced from nearby thermal desalination plants" in the Water Management in Oil and Gas Conference organized by IQPC, Abu Dhabi, UAE (June 2013).
4. Chairing a session in the second International Conference on "Global Warming: Sustainable Cities", Ras Al Khaima, UAE, May 2013.
5. Invited to visit Meijo University, Nagoya, Japan to give a talk on coastal environment and discuss collaboration in joint research, March 2012.
6. Walid Elshorbagy (May 2010). Improving the Performance of Thermal Desalination Plants While Considering the Impact on Coastal Environments. WaterTech 2010 Conference sponsored by the International Quality and Productivity Center "IQPC", Abu Dhabi, UAE.
7. Walid Elshorbagy (February 2009). Plenary Speaker in the 2nd International Cooling Seawater organized by Qatar Gas. "Contribution of coastal industrial discharges to chlorination by-products and their migration in seawater". Doha, Qatar.

8. Walid Elshorbagy. (February 2008). "Overview of Arabian Gulf Hydrodynamics and Its Circulation Conditions". 7th International Conference on Coastal and Port Engineering in Developing Countries "COPEDC", Dubai, UAE.
9. Key Speaker in the Water Summit 2007 "Desalination Prospective and Implications with the Coastal Environment, Sponsored by Schlumberger and Graduate Studies Deanship of UAEU.
10. Walid Elshorbagy. (June, 2006). Cooling seawater impacts on desalination plants (Invited), International Cooling Seawater Specialists and Operators Conference, Doha, Qatar.
11. Walid Elshorbagy (November 2005). Overview of Marine Pollution in the Arabian Gulf with Emphasis on Pollutant Transport Modeling (Invited). ArabianCoast2005 Conference "1st International Conference and Exhibition on Coastal Zone Management and Engineering in the Middle East". Dubai, UAE.
12. Walid Elshorbagy (September 2005). Future of Desalinated Water Resources in United Arab Emirates and its Implications with the Coastal Environment (Invited). Water Forum 2005, Abu Dhabi, UAE.
13. W. Elshorbagy, M. Azam, and S. Mustafa (April 2005) "Ecological characterization and simulation of a coastal industrial area in United Arab Emirates". Invited paper presented and published in the proceedings of the 7th Int. Conference on Modeling, Measurements, Engineering and Management of Seas and Coastal Regions (Coastal Engineering VII, 2005), Organized by WESSEX Institute of Technology, Portugal.
14. Elshorbagy, W., Azam, M., Abdulkareem, M. (June 2003) "Three dimensional modeling of an industrial coastal area in United Arab Emirates", Invited paper presented and published in the proceedings of the 6th Int. Conf. on Comp. Modeling and Experimental. Measurements of Seas and Coastal Regions (Coastal Engineering 2003), WESSEX Institute of Techn., Cadiz, Spain.

Teaching and Graduate Advising

A. Taught Courses

Undergraduate Courses

1. Water Resources
2. Special Topics of Water Resources & Environmental Engineering
3. Introduction to Environmental. Engineering
4. Chemistry & Eng. Applications (Application Part)
5. Environmental Engineering I
6. Math & Eng. App. IV (Application Part)
7. Graduation Project I & Graduation Project II

Graduate Courses

1. Water Resources
2. Hydraulics of Closed Conduits
3. Simulation of Hydraulics Systems
4. Operation Researches in Water Resources
5. Selected Topics in Water Resources
6. Water Quality
7. Water & Wastewater Treatment
8. Environmental Engineering
9. Selected Topics in Treatment & Desalination

B. Course or Curriculum Development

Laptop-Developed Courses

1. Water Resources

Courses Offered and Developed for the First Time

1. Environmental Engineering II
2. Adv. Environmental Engineering
3. Water & Wastewater Treatment (Graduate)
4. Hydraulics of Closed Conduits (Graduate)
5. Simulation of Hydraulics Systems (Graduate)
6. Operation Researches in WR (Graduate)
7. Environmental Engineering (Graduate)
8. Solid Waste Management (Graduate)

Courses and/or Course Modules in Coastal Hydrodynamic Area

1. Independent Studies in WR (2003) "Modeling of Coastal Hydrodynamics"
2. Special Topics in WR (2003-Co-teaching)"Coastal Hydrodynamics"
3. One Module out of 3 on Coastal Engineering and Wave Theory (2005, 2007, 2008)

Contribution to Curriculum Development in UAE University

1. Curriculum of the Civil Engineering Master Program
2. Curriculum of the Water Resources Master Program
3. Curriculum of the Environmental Engineering Track in the CE Undergraduate Program (in review)
4. Curriculum of the Undergraduate Civil Engineering Program

Contribution to New Academic Programs in UAE University

1. College of Engineering PhD Program
2. Civil Engineering Master Program
3. Water Resources Master Program
4. Environmental Engineering Track in the CE Undergraduate Program (in review)

C. Manuals, Notes, Software, Webpages, and Other Contributions to Teaching.

1. Personal Academic Website of Dr. Walid Elshorbagy: <http://www.engg.uaeu.ac.ae/walid.shorbagy/>
2. Experimental Development in Water Resources, CD, Website, Educational Recorded Films, <http://www.engg.uaeu.ac.ae/walid.shorbagy/hydrolab/index1.htm>

D. Supervision of Capstone Courses

1. Osama Ahmad Nu'man, Kharouf, Abdulaziz Y. Kharouf, Ali Z. Silan, and Ahmed Soliman Hassan. Graduation Project titled "Optimal selection and design of water supply system for an urbanized region in UAE"
2. Mohammed Abdulla Alaidarous, Mohamed Khaled Basuwaid, and Hamad Saeed Alketbi. Graduation Project Titled: Comprehensive Design of Landfill Disposal Facility for Domestic Solid Wastes of UAE (Fall 2013, Spring 2014)
3. Abdul Rahman Alnuaimi, Sultan Al Aryani, Ahmed Al Mansouri, and Jumaa Al Dhaheri. "Graduation Project Titled: Upgrade of Zakher Wastewater Treatment Plant in AlAin to Meet Future Loadings". (Fall 2007, Spring 2008).
4. Mosaed Almuhaideb, Saeid Alamry, and Ahmed Almansuri, "Graduation Project Titled: Design and Analysis of Stormwater Drainage System in a New Dubai Urban Development". (Spring 2006, Fall 2007).
5. Nawras Nabeel, Ismail Mohammed, Ahmad Sallam, "Graduation Project Titled: Design and analysis of irrigation distribution system of Abu Dhabi Island". (Spring 2001, Fall 2002).
6. Amro Farouk, Firas Beidas, Mayar Abbas, Mohd Shemayyel, and Mostafa Hashad, "Graduation Project Titled: Design of Wastewater Utilizes for a New Urbanized Area". (Fall 1999, Spring 2000).

7. Mohammad Darwish, Mohammad Iqbal, Nabil Saleh, Osama Abdulrahman, and Zakareya AlKamali, "Graduation Project Titled: Innovative Closure Cap Design" (Co- supervision with Dr. A.M.O Mohammad). (Fall 1998, Spring 1999).
8. Ahmed Helmi, Hani Zaki, and Mahmoud Al-Helo, "Graduation Project Titled: Modeling & Management of Al-Ain Water Distribution System". (Fall 1997, Spring 1998).

E. Advising: Research Direction

Undergraduate

1. Supervising four undergraduate female students: Vasila AL-Khaldi, Afra Al Dhaheri, Muna Al-Azizi, and Haima AlAnsari in their research paper titled. "Global Challenges – Local Actions". "10th Inter College Environmental Public Speaking Competition". Organized by Emirates Environmental Group, Abu Dhabi, UAE (Nov. 2010).
2. Supervising four undergraduate students: Manar Ayyad, Rula kamal abuBaker, Amer Ayyad, and Hazem Walid in their research paper titled. "Methods of Utilizing and Managing Wave Energy in UAE". "9th Inter College Environmental Public Speaking Competition". Organized by Emirates Environmental Group, Abu Dhabi, UAE (Nov. 2009).
3. Supervised an international exchange senior-undergraduate student from Waterloo University-Canada in four-month research study related to wastewater treatment (May-October 2008).
4. Supervised two students for their participation in the WERC International Environmental Design Contest in Las Cruces, New Mexico, USA (April, 1998). The students accomplished an outstanding achievement by winning an award of the best bench scale design out of eight participating teams, mostly from American universities. This team also won another joined award; that is the outstanding international team award.

Masters

Water Quality Area

1. Laila Masoud Allssai, "Evaluating the Usage of Nanoparticles in Disinfection of Desalinated Water in United Arab Emirates", January 2014.
2. Imad Jumaa, " Removal of Selected Heavy Metals from wash-waters generated from ready-mix concrete trucks, Dubai, United Arab Emirates" Co-Advised by Dr Essam AbdelGawad, January 2009.
3. Nawras Radif, "Comprehensive analysis of the Activated Sludge Wastewater Treatment Processes Considering Optimization and Advanced Kinetic Modeling Techniques", June 2006.
4. Awbath Al-Jaberi, "Quantity and Quality Simulation of AlAin Water Distribution System", June 2006.
5. Abdulhameed Arwani, "Uncertainty/Reliability-Based Optimal Design of Conventional Activated Sludge Wastewater Treatment Processes", May 2003.

Coastal Environment Area

6. Abu Bakr Awad AlHakeem, "Modeling the Oil Spill in the Arabian Gulf Marine Environment and its Impact on the UAE Coastal Desalination Plants", Co-advised by Dr Rachid Chebbi, Jan. 2005.
7. Samer AlNahal, "Impact Assessment of Brine Disposal on Ruwais Coastal Marine Ecosystem: A Numerical Modeling Application", Co-advised by Dr. Waleed Hamza, January 2005.

8. Ahmed Helmi, "Optimal selection of the desalination plant intakes and outlets considering the environmental and hydrodynamic conditions prevailing in the UAE coastal water", Co-advised by Dr Mohamed Abdul Kareem, January 2005.

Other Areas (Hydraulics and Solid Waste Management)

9. Hazem Bakry AlNaser, Maunsel Co., Evaluation and Upgrading the Existing Fujairah Transmission Pipeline Using a Detailed Transient Analysis, January 2009.
10. Mohammed Sultan, "Pressure Utilization in Water Transmission Pipelines in AL AIN Region Considering Transient Conditions", Co-advised by Prof Mohsin Sherif, June 2007.
11. Abd-Elkadir AlKamali, "Solid Waste Management in Oil and Gas Industries: Application to ASAB Oil Field", Co-advised by Prof Essam AbdulHafiz, May 2001.

Doctoral

1. Abu Baker Awad Elhakeem, PhD Dissertation in the Water Resources Graduate Program titled "Evaluation of climate change and coastal effluents effects on the long-term Gulf circulation and its impacts on the future of coastal desalination with special reference to the UAE using hydrodynamic and GIS modeling", (August 2014).
2. Khalid AlZahid, Dubai Municipality, Co-advisor of Ph.D thesis titled "Coastal Zone Management of Dubai Coast in Association with Ecological Conditions" (2007). Co-advising with Prof David Paterson, St Andrew University.

F. Advising: Other than Research Direction

Undergraduate

1. Academic advisor of several Student Batches since 1996 till 2015

Graduate

1. Academic Advisor of new students and Plan-B students in the CE Master Program from 2007 to 2009
2. Academic Advisor of new students and Plan-B students in the Water Resources Master Program from 2012 to 2015\

G. Pedagogical Publications and Presentations

1. Elshorbagy, W., Sherif M.M, Sweedan, A., and Elsayy, K., Evolution of Educational Objectives Assessment of the Civil Engineering Program, United Arab Emirates University" (Refereed Paper), International Symposium on Engineering Education and Educational Technologies, EEET 09, 10-13 July, Orlando Florida (Attachment T11).
<http://www.iies.org/CDs2008/CD2009SCI/EEET2009/PapersPdf/Q581QX.pdf>.
2. Elshorbagy, W., Sweedan, A., Elsayy, K., and Sherif M.M. "Assessment of the Civil Engineering Program in UAE University Using Two Sets of Objectives". XI Best Assessment Practices Symposium, Indiana, USA, April 2009.
3. Khaled M. El-Sawy and Walid Elshorbagy. "Efficient Development and Administration of Exit Exams for the Engineering Programs". Symposium on Engineering Education, UAE University, Al Ain, 16-18 May 2009.
4. Elshorbagy, W., Sweedan, A., Elsayy, K., and Sherif M.M, "Development of the Assessment Process for the Civil Engineering Program of the United Arab Emirates University". Symposium on Engineering Education, UAE University, Al Ain, 16-18 May 2009.

H. Teaching Awards and Other Special Recognition

1. Excellence in Engineering Education Award (July 2004), Software Grant worth of \$96,100 offered by MW Soft, Inc., California, USA.
2. Winning an educational software grant of multi-user Windows-Based Computational Suite "CENESIS" – for simulating the Coastal Environments (Presented to the graduate study deanship). The software is presented by Chuden CTI Co., LTD in Dec. 2005 as a fruit of efficient research cooperation with the company during an earlier four-year externally funded project. The software consists of three modules and worth of \$150,000. The software can also be used in graduation projects and in new graduate courses in the Water Resources Master Program (Coastal Hydrodynamics).
3. Selected for inclusion in the Marquize Who's Who in Science and Engineering, 7th edition, 2003-2004, 9th edition 2006-2007.
4. Faculty Advisor of the UAE team in the Waste Management Education and Research Contest (WERC) held in New Mexico State Univ., Las Cruces, New Mexico, USA, April 1999, Awarded the following two prizes: [1] The Most Innovative Bench-Scale Design Award and [2] The Outstanding Participating Univ. Award.
5. Educational Grant Award (February 2000), Free Software (worth of \$49,600) offered by MW Soft, Inc., California, USA.

Consultancy Projects

While Working in MWH Global (June 2015-June 2016)

Completed Projects

Water Scarcity Study in UAE till 2050 (July-September 2015). The study investigated the potential of importing available water resources that could be utilized to augment the UAE's water supply in the future. This is done by utilizing readily available data and considering business and economic risks into perspective. MWH studied and identified the most relevant initiatives/opportunities to reduce the gap between future demand and supply with practical recommendations of importing water from selected water-reach countries.

Non-Completed Consultancy Projects

1. Key Research Member of a 2-yr project in Qatar titled "Preparing Water Resources Policy and Updating/Developing the National Strategy for the Water Resources in the State of Qatar (2015-2017). Client: Qatar General Electricity and Water Commission – KAHRAMAA.
2. Technical Lead for Drainage, Sewerage, and Irrigation DS197 Project in Jebel Ali, Dubai, Client: Dubai Municipality, April 2016, May 2016.

Contribution to Proposal Development

1. Water Security and Inter-Emirate Integration of Water Transmission Pipe Networks, Ministry of Energy, October 2016.
2. Outlook of Water Resources Management, Ministry of Energy, December 2016
3. Development of Framework and Guidelines of Outfall Design and Disposal in Marine Water, Sharjah Municipality, March 2016
4. Mega Stormwater and Retention Ponds Design Project, Abu Dhabi Municipality, April 2016
5. Drainage Water Quality Improvement and Outfall Design, Ashghal, Qatar, April 2016.

Consultancy Works While in UAEU (Sept. 1996 – June 2015)

During my work over the past 19 years in the United Arab Emirates University (UAEU); which is ABET-Accredited, I used to have continuous links with the industry where I conducted a number of paid consultancies for different industrial entities. These consultancies are included in my enclosed detailed CV and listed below too for reference:

1. Developing a Dynamic Approach to Water Budgeting for the Emirate of Abu Dhabi. Sponsored by Environment Agency of Abu Dhabi (2015 & 2016).

This consultancy study (still ongoing) has been conducted for the Environmental Agency of Abu Dhabi aimed at developing a water budget for the Emirate of Abu Dhabi for the sake of better management of its future resources given the future demands. The first stage is completed on May 2016 and the second stage started right after that. The investigators team include one team from UAEU and another team from Leed University of UK. The team, led by Dr. Elshorbagy, won this consultancy after competing with seven other local and international universities.

2. Collaboration in Developing Environmental Guidelines for Brine Discharges from Desalination Plants. The International Center for Biosaline Agriculture, ICBA, UAE (June 2012).

This study involved participation in a team of five international consultants to develop federal environmental guidelines and standards to monitor the desalinated water industry in UAE. The produced guidelines have been under evaluation by a number of governmental agencies and expected to be approved and mandated as legal enforced guidelines by the council of ministries at any moment.

3. Characterizing tides in Abu Dhabi to Identify Suitable Location for WL Locations. YSI Nanotech Co. Ltd., February, 2011.

This study was conducted for a private company (YSI Nanotech Consultancy) assigned to install 10 tidal stations distributed along the Abu Dhabi Coastline at a number of identified possible locations to use for: [1] Obtain a continuous time series of water level reducers that can be applied to hydrographic soundings so that they can be corrected to chart datum, and [2] establish tidal datum relative to local bench marks at each station that can be used for local developments and survey works. The selection process was undertaken via: [1] Gathering information of tidal properties in the Southern Arabian Gulf particularly along the Coast of Abu Dhabi, [2] Performing the harmonic analysis of the water level data provided by the client, [3] Characterizing the spatial variation of the tidal properties along the coast line, [4] Selecting the preliminary locations for the tidal stations.

4. Environmental Health Strategy for the UAE, Consulting Services to the University of North Carolina at Chapel Hill, Jan 2009.

1. Given my experience of UAE environmental conditions, the University of North Carolina at Chapel Hill contracted me to evaluate the Environmental Health Strategy it developed for the UAE.

5. Bathymetric Survey of Nurai Island, Zaya Ltd., Abu Dhabi, October 2008.

2. This consultancy, conducted jointly with Dr. Ahmed El-Mowafi, involved intensive campaign of hydrographic measurements (using boats, eco-sounder, and GPS) upon which 3D bathymetry maps were developed for the coastal surrounding area of Nuri Island in Abu Dhabi.

6. Evaluation of Ecobilles Zero-Waste Technology for Abu Dhabi Solid Waste Management. Ecobilles International Inc., June 2006.

This consultancy, conducted jointly with Dr. Maraqa, Munjed, involved evaluation of a new technology for solid waste management for a private company (Ecobilles International Inc.) seeking the approval of ministry of environment to introduce and promote its technology in the UAE. The technology involved techniques of managing all phases of solid waste handling starting with its collection passing by processing and transformation and ending with ultimate disposal. This has been done with consideration of local and international standards.

7. Purification of a Coastal Marina in Dubai Creek- United Arab Emirates Using NANO1 System. NANOS-Gulf Holding Company, October 2005.

8. Evaluation of NANO1 PUBBLE Diffuser System to Purify a Coastal Marina in Dubai Creek- United Arab Emirates Using NANO1 System. NANOS-Gulf Holding Company, September 2005.

These two consultancies involved the evaluation of a new aeration technology used in purifying polluted water bodies. The work involved water quality measurements of a polluted marina (base levels or before treatment), installing the equipment under evaluation in this marina, operate it for different time periods then have another set of quality measurements (after treatment).

Industry-Related Research

Much of the research I conducted either alone and/or in collaboration with other colleagues and graduate students, has applied flavor and relevant in many case to design issues. While much of such research has been done through supported research grants I have been awarded, some was implemented during graduation projects (capstone courses of graduating senior undergraduate students), some was done through Master thesis and/or PhD dissertations of graduate students, and some was done as independent research. The research grants I have been awarded so far are included in my detailed CV and listed here for reference as well.

Research Grants

1. Walid Elshorbahgy (P.I), Tibor Pal (C.I), Yousef Hayek (C.I). (January 2014 – July 16). Using nano-particles in disinfecting desalinated water. Supported by UAEU, 431,000 AED.
2. Rezaul Chowdhury (P.I), Walid Elshorbahgy (C.I), Mwafaq Ghanama (C.I). (2013-2014). Project titled “Assessment of Decentralized Greywater Harvesting and Reuse Opportunity in Al Ain”, 258,400 AED.
3. Elshorbahgy, W. A (P.I), Mohamed AlZarouni (C.I), and Susan Richardson (C.I). (2012-2013). “Identification of the most suitable disinfection technologies applied on desalinated water in UAE”. NRF Supported by UAEU, 2nd-yr budget of 340,000 AED
4. Elshorbahgy, W. A (P.I), Mohamed AlZarouni (C.I), and Susan Richardson (C.I). (2011). “Identification of the most suitable disinfection technologies applied on desalinated water in UAE”. NRF Supported by UAEU, 1st-yr budget of 340,000 AED.
5. Elshorbahgy, W.A, Eid, N.M (C.I). (2010-2011). “Remediation of Brackish Groundwater Using Electro-dialysis Techniques”. Supported by UAEU, 20,000 AED.
6. Elshorbahgy, W.A. (P.I). (2008-2009). Optimizing Performance of Wastewater Treatment Plants in Abu Dhabi Emirate using Respirometry and ASM Modeling Techniques, Emirates Foundation, 200,000 AED.
7. Elshorbahgy, W.A. (P.I), Abd-elkareem, M., (May 2001-March 2005). “Impact Assessment of Refinery-Wastes on Desalinated Water in UAE”, Supported by Japan Cooperation Center, Petroleum (JCCP), 2,200,000 UAE Dirhams (\$582,000).
8. Elshorbahgy, W.A. (P.I), Galal, A.M. (February 2001-February 2002). “Development of a Novel Electrochemically Controlled Drip Irrigation System for Moisture and Nutrient Management in Arid Lands”, Supported by UAEU, 15,500 AED.
9. Elshorbahgy, W.A. (P.I), Mohamed, A.M.O, Kamaly, A.M. (February 1998- February 1999) “Innovative Design and Modeling of Landfill Closure Cap in Arid Areas”, Supported by UAEU, 14,500 AED.
10. Elshorbahgy, W.A. (P.I), Radwan, J.M, Qdais, H. A. (February 1997 – February 1998) “Integrated Quality Modeling and Management in Drinking Water Distribution Systems.”, Supported by UAEU, 15,000 AED.

The industrial aspects involved in the research I have been involved in are described below over five research areas described as follows:

Water Resources Management

A number of conference papers presented in local and regional conferences addressed the issues of water resources, management, and sustainability in general and in UAE in particular. A journal paper summarizing these aspects has been lately developed and is currently finalized and will be submitted soon for review and possible publication. Also, the first two consultancies discussed before, are related to the same topic. At least three journal papers and up to five conference papers will be produced from this work once the consultancy is completed on February 2016. My intention is to convert the developed water budget model into a mathematical optimization model considering stochastic future aspects from which optimal plans and decisions can be made now. Other than the research, I taught many graduate courses addressing integrated water resources management issues and use of operation research (optimization in particular) in management.

Water Distribution Systems

As will be mentioned later, my experience with water distribution systems started as early as I was working in my PhD research work during which I developed a computer program module to simulate the chlorine decay and propagation in pipe networks. Following this work and after joining UAE University, I was awarded research grant (grant #10 in the above list) addressing chlorine and THM simulations in part of Abu Dhabi distribution system. This of course required hydraulic calibration of the considered system using field measurement of pressure and internal flows. Two important publications were produced out of this work and received high citations /impacts (exceeded 50) from different researchers all over the world. Other six research papers were also produced addressing calibration techniques (all highlighted in yellow color)

In addition, I supervised three graduate students on their Master theses related to water distribution systems as follows:

1. Awbath Al-Jaberi, "Quantity and Quality Simulation of AlAin Water Distribution System", June 2006.
2. Hazem Bakry AlNaser, Maunsel Co., Evaluation and Upgrading the Existing Fujairah Transmission Pipeline Using a Detailed Transient Analysis, January 2009.
3. Mohammed Sultan, "Pressure Utilization in Water Transmission Pipelines in AL AIN Region Considering Transient Conditions", Co-advised by Prof Mohsin Sherif, June 2007.

The first one involved intensive hydraulic and quality simulation/calibration using WaterCAD software while the second and third theses involved intensive surge analysis using Infowater and InfoSurge software. I also supervised five groups of senior undergraduate students listed below in their capstone courses involving hydraulic calibration of drinking/stormwater networks using different software:

1. Mosaed Almuhaideb, Saeid Alamry, and Ahmed Almansuri, "Graduation Project Titled: Design and Analysis of Stormwater Drainage System in a New Dubai Urban Development". (Spring 2006, Fall 2007).
2. Nawras Nabeel, Ismail Mohammed, Ahmad Sallam, "Graduation Project Titled: Design and analysis of irrigation distribution system of Abu Dhabi Island". (Spring 2001, Fall 2002).
3. Amro Farouk, Firas Beidas, Mayar Abbas, Mohd Shemayyel, and Mostafa Hashad, "Graduation Project Titled: Design of Wastewater Utilizes for a New Urbanized Area". (Fall, Spring 2000).
4. Mohammad Darwish, Mohammad Iqbal, Nabil Saleh, Osama Abdulrahman, and Zakareya AlKamali, "Graduation Project Titled: Innovative Closure Cap Design" (Co- supervision with Dr. A.M.O Mohammad). (Fall 1998, Spring 1999).
5. Ahmed Helmi, Hani Zaki, and Mahmoud Al-Helo, "Graduation Project Titled: Modelling & Management of Al-Ain Water Distribution System" (Fall 1997, Spring 1998).

Environmental Impact Assessment of Desalination on Coastal Environment

My experience in this area started with the four-year research grant #7 which was supported by a Japanese governmental agency. The work involved evaluating the drinking water quality produced from coastal desalination plants located along the coast line where nearby refineries and other industrial facilities are located as well. This included hydrodynamic modelling (HD) of the Arabian Gulf so that a local model for the local area near the target site (Ruwais Industrial Compound) is nested to obtain its HD conditions. Water Quality and ecological modelling of the local area so that all marine species (phytoplankton and zooplankton) in the coastal area are characterized and quantified. Information on these species was important since they, along with other inert suspended solids, represent the media which transport the organic contaminants generated from the refinery effluents till they reach the inlets of desalination plants. Fate transport of selected organic pollutants was then conducted to assess the marine quality of desalination plant's intake water. Such modelled quality along with the monitored quality of desalinated water were considered to assess the impact of refinery and other industrial pollutants on drinking water quality produced from the desalination plants in UAE. The intensive HD and coastal modelling work involved in this project allowed to extend its applications to other several applied circulation studies form of Master theses and PhD dissertations by graduate students. This included the following:

PhD Dissertations

1. Abu Baker Awad Elhakeem, PhD Dissertation in the Water Resources Graduate Program titled "Evaluation of climate change and coastal effluents effects on the long-term Gulf circulation and its impacts on the future of coastal desalination with special reference to the UAE using hydrodynamic and GIS modelling", August 2014.
2. Khalid AlZahid, Dubai Municipality, Co-advisor of Ph.D thesis titled "Coastal Zone Management of Dubai Coast in Association with Ecological Conditions". Co-advising with Prof David Paterson, St Andrew University. June 2007.

Master Theses

1. Abu Bakr Awad AlHakeem, "Modelling the Oil Spill in the Arabian Gulf Marine Environment and its Impact on the UAE Coastal Desalination Plants", Co-advised by Dr Rachid Chebbi, Jan. 2005.
2. Samer AlNahal, "Impact Assessment of Brine Disposal on Ruwais Coastal Marine Ecosystem: A Numerical Modelling Application", Co-advised by Dr. Waleed Hamza, January 2005.
3. Ahmed Helmi, "Optimal selection of the desalination plant intakes and outlets considering the environmental and hydrodynamic conditions prevailing in the UAE coastal water", Co-advised by Dr. Mohamed Abdul Kareem, January 2005.

Several research articles related to this work were produced and published in first-class international journals (kindly revise the detailed CV). The above type of works utilized different type of software including Delf3D, Mike II and Mike III, and a Japanese Software called CENESIS which has HD modelling, Water Quality, ecological, and fate transport modelling.

Water Quality and Treatment

Grants #1, 3, 4 have been addressing the disinfection of desalinated water and all byproducts formed with different disinfection methods. The first grant (still ongoing) seeks the use of nanoparticles for this purpose while byproducts are either not formed or formed but ultimately removed. Also, this research has been extended to a number of Master Theses as follows:

1. Laila Masoud Allssai, "Evaluating the Usage of Nanoparticles in Disinfection of Desalinated Water in United Arab Emirates", January 2014.
2. Awbath Al-Jaberi, "Quantity and Quality Simulation of AlAin Water Distribution System", June 2006.

Research Grant #6 involved evaluation and simulation of the activated sludge process of two main wastewater treatment plants (Zakher in AlAin and Mafraq in Abu Dhabi). The work also involved intensive field measurements to calibrate and validate the

developed models. The validated model was used in optimizing the performance and operation of the treatment plants. This work was made following two related excellent Master Theses:

1. Nawras Radif, "Comprehensive analysis of the Activated Sludge Wastewater Treatment Processes Considering Optimization and Advanced Kinetic Modeling Techniques", June 2006.
2. Abdulhameed Arwani, "Uncertainty/Reliability-Based Optimal Design of Conventional Activated Sludge Wastewater Treatment Processes", May 2003.

The work also allowed a group of four senior students to conduct an upgrade of Zakher treatment plant as follows: Abdul Rahman Alnuaimi, Sultan Al Aryani, Ahmed Al Mansouri, and Jumaa Al Dhaheri. "Graduation Project Titled: Upgrade of Zakher Wastewater Treatment Plant in AlAin to Meet Future Loadings". (Fall 2007, Spring 2008).

Finally, the following thesis involved a full design process to remove heavy metals from the wash-water generated from ready mix concrete trucks as per the local enforced standards:

1. Imad Jumaa, "Removal of Selected Heavy Metals from wash-waters generated from ready-mix concrete trucks, Dubai, United Arab Emirates" Co-Advised by Dr Essam AbdelGawad, January 2009.

Solid Waste Management

Grant #9 involved the design of landfill closure cap using different materials to compare with the new material proposed in this research; that is compost. The work was extended and adapted by a group of undergraduate students who won the first award in an international environmental design contest in New Mexico. I also advised a Master student who did a comprehensive inventory and management of solid wastes generated from oil and gas industries. This study is:

Abd-Elkadir AlKamali, "Solid Waste Management in Oil and Gas Industries: Application to ASAB Oil Field", Co-advised by Prof Essam AbdulHafiz, May 2001.

Finally, I lately supervised a group of senior undergraduate students who undertook a full design of landfill in AlAin City. This project is:

Mohammed Abdulla Alaidarous, Mohamed Khaled Basuwaid, Hamad Saeed Alketbi. Graduation Project Titled: Comprehensive Design of Landfill Disposal Facility for Domestic Solid Wastes of UAE (Fall 2013, Spring 2014).

Project Management Experience

My experience with leading and managing several research projects mimics to major extent the experience of project management practiced in the industry in terms of developing proposals based on the available Terms of References (TRF), budgets, defending the proposals in writing and in oral before the sponsoring and administrative boards, supervising all project tasks against the set time plan (Gnat Chart), delivering the results and reports at the scheduled deadlines, and at the end producing publications for submission and possible inclusion in international journals. My detailed resume has a list of ten research grants I carried out successfully during my work in UAEU. These projects are in the area of disinfection of desalinated water considering disinfection by products, impact assessment of coastal environment upon the drinking water produced from coastal desalination plants, modelling and optimizing activated sludge processes adapted in wastewater treatment, grey water management, remediation of brackish groundwater using electro-dialysis techniques, and innovative design approach to design a landfill closure cap.

Due to my familiarity with water problems in areas of arid environment such as UAE, I can initiate and develop several proposals that can be of interest to several utilities and governmental entities in UAE. I also have several thoughts that can be adapted to manage the demand and reduce the per capita consumption rate in UAE. As a matter of fact, I will be testing soon a number of these thoughts (interventions) within a national strategic research project for the Emirate of Abu Dhabi (the first consultancy listed above) where I am currently leading a team of six researchers; three faculty members from UAEU, two faculty members from University of LEEDS, and one industrial water expert from Waterwise Company of UK.

Software Technology

Carrying out modelling of water distribution systems was my first early experience (1993) I have gained during my PhD study in University of Arizona where I developed a computer module to simulate the chlorine decay and propagation in water distribution systems interfaced with the famous KYPIPE model. After that and during my work in UAEU, I have used several commercial packages in teaching and in supervising Master students undertaking theses in topics related to design and analysis of water systems. The software I have used includes AUTOCAD, HEC-HMS, EPANET, WaterCAD, StormCad, SewerCad, Infowork-CS, InfoWater, InfoSurge, SuperPro Designer, etc. This is in addition to coastal environment packages already discussed above

Networking and Connection

During the past nineteen years I stayed in UAE and via teaching hundreds of students and supervising tens of graduate students, I have developed strong connections with large number of engineers; many are now having leading and top management positions in several water-related entities. This includes Environment Agency of Abu Dhabi, Dubai and Abu Dhabi Municipalities, International Biosaline Center, Environment Protection and Development of Ras AlKhaima, Urban Planning Council of Abu Dhabi, Regulatory Services Bureau of Abu Dhabi, Ministry of Environment and Water, Abu Dhabi Water and Electricity Agency, AlAin Water Distribution Company, Water Research Center of ADWEA, .etc. This is in addition to universities and academic institutes in UAE such as Masdar, Water Research Centers, Universities, etc. My participation in more than 70 local, regional, and international events, 12 out of which were as invited or keynote speaker, provided me with rich networking resources and connections. As mentioned earlier, I have solid ties with a group of experts from Italy experienced in coastal engineering who are willing to conduct/design any major coastal engineering project whenever available at very reasonable rates.

Affiliated Membership and University Services

A. Departmental Committees

1. Chair of the CE Dept. Outcome Assessment Committee (2005-2012).
2. Active contribution to the ABET Accreditation in 2004, 2010, and 2015. Participating in preparation for ABET Visit in October 2004 (Assessment Sheets, Course Files, Meetings, Laboratories Preparation). For ABET preparation in 2010, my contribution is reflected in writing two major chapters in the self-study report (II. Objectives and IV. Continuous Improvement), major revision of Chapter III: Outcomes (originally written and developed based on the Annual Assessment Reports developed by the Outcome Assessment Committee I am chairing), in addition to supervising the course files and outcomes folders.
3. Member of the Performance Evaluation Committee, 2011-2015.
4. Director of the Civil Engineering Master Program, 2007-2010.
5. Chair and member of screening committees to evaluate new applicants to CEED faculty positions in WR and Env. Engng. Areas (2003, 2008, 2011).
6. Chairing a committee to develop the Department Strategic Plan (Fall 2011).
7. A member of the CE Dept. Preparation Committee for the Engineer Day during the years 1997, 1998, and 2000.
8. Member of the CE Dept. Laboratory Committee (1998-2002).
9. Chair of the CE Dept. Laboratory Committee (2005-2008).
10. Member of the Department Lab Committee (2006-2009), presenting several quotations for new equipment in the Hydraulics and Environmental Engineering Labs, preparing for needed new equipment in Maqam Campus, arranging for needed equipment to be moved to the new labs in the new campus.

11. Member of the CE Dept. Scientific research and GS Committee (97-2002).
12. Chair of the CE Dept. Graduate Studies Committee (2003-2010).
13. Member of the CE Dept. Outcome Assessment Committee (1999-2004).
14. Chair of the CE Dept. Seminars and Activities (1999-2000).

B. College Committees

1. Member of the Peer Teaching Evaluation "PET" Faculty Committee, 2010-2015.
2. Member of the College Board (Associate Professors' Representative), 2007-2009.
3. Chairing a college committee in developing a PhD program for the college of Engineering, October 2005-2008.
4. Chairing a college Ad-Hoc Committee to update and follow up the Proposal of the PhD Program.
5. Chairing the College Outcome Assessment Committee, 2010-2013.
6. Member of the College Outcome Assessment Committee, 2006-2010.
7. A member of the college committee of developing and evaluating the skills of teaching methods during the year 2000/2001.
8. A member of the college committee of graduate studies during the year 2000/2001.
9. Member of the College Educational researches and int. activities (1999-2002).
10. College academic coordinator for the Math and Engineering Applications Courses during the period of Sept. 1996 to July 1999.

C. University Committees

1. Chair of Water Resources Master Program, 2011 - 2105. Chaired and developed a self-study report required for external review by international committee and coordinated the review visit in April 2015.
2. Member of the review committee for the GIS Master Program, April 2015.
3. Member of the executive committee of the National Water Centre (NWC), 2013-2015. Contributed to the development of its operational plan including target research project.
4. Member of the executive committee for the Water Resources Master Program. 1999 to 2011.
5. A member in the University Committee "Personnel Appointment in the College of Medicine" (2004-2005, 2005-2006) in which several meetings have been held to evaluate the new appointments.
6. A member in the Personnel Committee of the College of Medicine of United Arab emirates University, 2002-2006.
7. Member of the University Educational Outcomes Assessment during the period of September 1999 to July 2000.

D. Faculty Professional Development

1. Attend "CurricUNET' Workshop COE, April 21st to 21rd, Monday April 22, 2013 from 14:00-15:30.
2. Organizing and presenting a one-day workshop to the new faculty joining the CEE Dept. on Course Outcome Assessment and other ABET-Related Activities (March 2006, April 2008, and September 2009).
3. Member in the Organizing Committee of the Symposium on Engineering Education, UAE University, Al Ain, 16-18 May 2009.
4. Attended the Entrepreneurial Leadership Workshop organized by Research Affairs, UAEU, December 12 to December 17, 2007.
5. Member in the Organizing Committee of the Oil Pollution and Its Environmental Impact in the Arabian Gulf Region Conference organized by the Faculty of Science, UAEU, October 2003.
6. Member in the Organizing Committee of the Second International Conference of Sustainability on Desert Regions, College of Engineering, United Arab Emirates University, AlAIN, United Arab Emirates (November 1999).
7. Organizing several scientific seminars presented by speakers from outside the university and inviting faculty as well as students to attend. Samples of these seminars are given below:
 - a. Impacts of the Last Tsunami on the Indian Ocean by Prof. Charitha Pattriachi, University of Western Australia, January 17th, 2005.
 - b. Ocean and Coastal Wave Modeling by Prof. Vijay Panchang, Chair of the Maritime Systems Engineering Dept., Texas A&M University, January 17th, 2005.
 - c. Tsunami Effects on coastal structures & Post Tsunami field surveys. Presented by Prof. V.Sundar, Prof. R. Sundaravadivelu, Dr. S.A. Sannasiraj, Dr. K. Murlai, Department of Ocean Engineering, Indian Institute of Technology, MADRAS, Nov. 26th, 2006.
 - d. Developing Regional Strategies for Water Resource Management. Presented by Prof. Gregory W. Characklis, Dept. of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, February 9th, 2009.
 - e. Emerging Environmental and Water Contaminants: Current Issues. Presented by Dr. Susan Richardson, Senior Research Chemist, Ecosystems Research Division, U.S. EPA, Athens, GA, USA, March 2011.
 - f. Introduction to Hydrodynamic Modeling at Deltares and Selected Research Examples. Presented by Eng. Daniel Rudolph; Head of Department, Industrial Hydrodynamics, Hydraulic Engineering Unit, Deltares Inst., Netherland. April 2011.

E. Students' Advising and Extracurricular Services

1. Academic advisor of several Student Batches since 1996 to 2015.
2. Academic Advisor of new students and Plan-B students in the CE Master Program.
3. Supervising four undergraduate female students: Vasila AL-Khaldi, Afra Al Dhaheri, Muna Al-Azizi, and Haima AlAnsari in their research paper titled. "Global Challenges – Local Actions". "10th Inter College Environmental Public Speaking Competition". Organized by Emirates Environmental Group, Abu Dhabi, UAE (Nov. 2010).
4. Supervising four undergraduate students: Manar Ayyad, Rula kamal abuBaker, Amer Ayyad, and Hazem Walid in their research paper titled. "Methods of Utilizing and Managing Wave Energy in UAE". "9th Inter College Environmental Public Speaking Competition". Organized by Emirates Env. Group, Abu Dhabi, UAE (Nov. 2009).
5. A member in the organizing committee of the Environmental Design Competition (EDC2000, EDC2002, EDC2004, and EDC2006). Active participation in all organizing meetings in addition to formulating several contest problems posted in the competitions.

6. Presented a Scientific Documentary Movie during the Department Female Student Association Workshop about Mega Civil Engineering Projects; May 2008.
7. Nominated and accompanied six students from the Dept. to attend 7th International Conference on Coastal and Port Engineering in Developing Countries "COPEDEC", Dubai, UAE (2008).
8. Supervised a trip to the 5-K Exhibition in Dubai (November 2007).
9. Organized a number of scientific seminars attended by the faculty and students as well (see section S4).
10. Attending all student celebrations and graduation gatherings like ASCE chapter and Dept. CE Association.
11. Regularly organizing field visits to the students enrolled in different undergraduate Water Resources and Environmental Engineering courses.
12. Supervised an international exchange senior-undergraduate student from Waterloo University-Canada in four-month research study related to wastewater treatment (May-October 2008).
13. Supervised two students for their participation in the WERC International Environmental Design Contest in Las Cruces, New Mexico, USA (April, 1998). The students accomplished an outstanding achievement by winning an award of the best bench scale design out of eight participating teams, most of which were from American universities. This team also won (with another team from UAEU) another award; that is the outstanding international team award.
14. Participation in the Industrial Training Programs (in regular basis) including the site visits, grading reports, and attending the final presentations.
15. Member of several examination committees for the college graduation projects.

F. Orientation and Supportive Services for New Students

1. Giving presentations in the graduate seminar of the Civil Engineering Master Program to the new admitted students about potential research topics (Sept. 2007, 2008, and 2009).
2. Giving presentations in the graduate seminar of the Water Resources Master Program to the new admitted students about potential research topics (1998 till 2006).
3. Giving presentations about the Civil Engineering Discipline for the new engineering students seeking specialization (2004, 2006).
4. Academic advisor of several Student Batches since 1996 to 2015.
5. Academic advisor of new students and Plan-B students in the CE and WR Master Programs.

G. Other Administrative and Service Assignments

1. Chairing a department committee to develop the CEE Dept. Strategic plan (October, 2011).
2. Chair of the Ad-hoc college committee to update and follow up on the PhD proposal (2008-2009).
3. Member of the College Board (2007-2009) representing the Associate Professors. Acting Secretary of the Board for the Academic Year 2007-2008 responsible for documenting the minutes of bi-weekly meeting. Also contributed to scoring the Former College Strategic Plan (2001-2007) based on six annual college reports, contributing to forming Goal 9 of the new College Strategic Plan, contributing to the SWOT analysis conducted in 2008-2009 as a starting effort to develop the new college strategic plan for 2009-2014.
4. A member in the screening and interviewing committees for new applicants to the Env. Science, Water Resources, and Civil Engineering Master Programs.
5. Participating in organizing the Environment Conference & Exhibition 2005 held in Abu Dhabi, February 2005 and being recognized for that effort during the Sixth UAEU Research Conference.
6. Contributing to developing a Training Program proposal for ADWEA technicians (led by Prof. Reyadh AlMehaidab) by proposing outlines of several course components (2004-2005).
7. Carrying out a thorough evaluation of the University Draft Policy for new academic programs, research centres, graduate scholarships, .etc. (2004-2005).
8. Participation in the Industrial Training Programs (since 2000) including the site visits, grading reports, and attending the final presentations.
9. A member in the organizing committee of the Water Summit organized by the Water Resources Master Program, United Arab Emirates University, AlAin, March 2007.
10. Posting an Arabic Article in AlBayan Newspaper related to Completed Graduate Studies (03-2005).
11. Chair and moderator of several sessions in international, regional, and local conferences.

Community and Voluntary Services

A. Editorships, Editorial Boards, and Reviewing Activities for Journals and Other Learned Publications

1. Associate Editor of the ASCE Journal of Water Resources Planning and Management:
<http://ascelibrary.org/page/jwrmd5/editorialboard>
2. Member of the International Scientific Advisory Committee of the 12th International conference on Modelling, Monitoring and Management of Water Pollution (Water Pollution 2014). Algarve, Portugal, May 2014. <http://www.wessex.ac.uk/14-conferences/water-pollution-2014.html>
3. Member of the Review Board of the Scientific Journal International, Civil Engineering, Architectural, and Environmental Engineering; http://www.scientificjournals.org/editorial_board.htm
4. Member of the Organizing/Scientific Committee of International Conference on Water in Arid Areas to be held in October 2012 and organized by Faculty of Science of UAEU (Ongoing).

5. Member of the International Advisory Committee Water Distribution Systems Analysis International Specialty Conference, WDSA2010, Tucson, Arizona, USA, September 2010. <http://wdsa2010.org/home.html>
6. Member of the International Program Committee of the IASTED Third and Fourth International Conferences on Environmental Modelling and Simulation, Organized by IASTED 2008 and 2009; <http://www.iasted.org/conferences/ipc-638.html>.
7. Member of the International Advisory Committee of the 10th International Water Distribution System Analysis Conference, Organized by EWRI/ASCE, Kruger National Park, South Africa, August, 2008; <http://www.uj.ac.za/wdsa2008/Committees/tabid/6310/Default.aspx>.
8. Member of the organizing committee of the 2009 Engineering Education Symposium organized by the College of Engineering, UAEU, AlAin, UAE, May 2009.
9. A member in the International Scientific Advisory Committee of the Water Pollution Conference organized by WESSEX Institute of technology in Sept. 2006.
10. A member in the Scientific Committee in the Arabian Coast 2005 "1st International Conference and Exhibition on Coastal Zone Management and Engineering in the Middle East", Dubai, November 2005.
11. A member in the International Scientific Advisory Committee of Int. Conference on Computer Modelling and Experimental Measurements of Seas and Coastal Regions (Coastal Engineering 2005), Organized by WESSEX Institute of Technology, Portugal.
12. A member of the seventh international scientific advisory committee of the Coastal Engineering Conference, Cadiz, Portugal, 2005.
13. A member of the fifth international scientific advisory committee of the Coastal Engineering Conference, Cadiz, Spain, 23- 25 June 2003.
14. A member in the organizing and scientific Committees of the Oil Pollution and its Environmental Impact on the Arabian Gulf Region, October 4th – 7th, 2003, United Arab Emirates University, AlAin, UAE.

Professional Services

A. Offices and committee memberships held in professional organizations

1. Member of the Advisory Panel of the Arab Health Water Association 'AHWA' <http://www.mgwater.com/advisory3.shtml#uae> (2006-now).
2. Member in the Magnesium Committee of the Arab Health Water Association 'AHWA'. <http://www.mgwater.com/arabhwa.shtml#mgcomm> (2007-Now).
3. Invited and participated in the EIA Panel Experts for the review of Environmental Impact Assessments (EIA) by the regulated community, Environment Agency – Abu Dhabi (EAD), formerly, the Environmental Research and Wildlife Development Agency (ERWDA), April 2006.
4. Member of the International Association for Hydro-Environment Engineering and Research (IAHR).
5. Member in the Association of Environment Friends – UAE.
6. Member in the Society of Engineers, UAE

7. Member in the Egyptian Society of Engineers.

B. Reviewing activities for agencies

1. Reviewer of Research Grants in Qatar National Research Foundation, 2013-Now.
2. Member of the CEE Department Committee for Faculty Performance Evaluation (conducted faculty evaluations for Ac. Yr 2009-2011 and Ac. Yr 2011-2013).
3. Evaluation of promotion cases in American University of Sharjah and in King AbdulAziz University
4. Peer reviewer for the Kuwait National Foundation (attached).
5. A member in the referee list of King Saud Univ. Field of Hydraulics & water resources
6. Peer reviewer for Sultan Qaboos University.
7. Refereed a research study for the Crown Prince Prize for Scientific Research, Bahrain Centre for Studies & Research, March 2006.
8. Refereeing a research study for the Cultural& Scientific Association, March 2005.
9. Evaluated several individual research proposals (requested by the CEE Department Research Committee).
10. Evaluated several papers for the possible Award of the UAEU Annual Research Conferences (requested by the CEE Dept. Research Committee).
11. Reference for several graduates applying for jobs inside and outside UAE

C. Refereeing Research Papers Submitted for Publication

Water Quality and Waste Management Area

1. 4 papers in Elsevier Journal of Hazardous Materials (2008, 2009).
2. 3 papers in Elsevier Waste Management Journal (2007).
3. 5 papers in the Univ. of Sharjah J. of Pure Science and Technology (2006-2007).
4. One paper in the ASCE Environmental Engineering Journal (2006).
5. One paper for the ASCE/Environmental Engineering Journal (January 2006).
6. One paper for the Int. J. of Computers and Applications, (September 2004).

Coastal Environment Area

7. 5 papers in the Journal of Environmental Management (2007, 2009, 2010).
8. 2 papers in Emirates Journal (2009).
9. 2 papers for the Iranian Journal of Science and Technology (2006, 2007).
10. 3 papers in the Journal of Desalination (2008).

D. Professional Programs off-Campus

1. Participation in one-day workshop on the water security and connecting water supply systems in the Gulf Area. Abu Dhabi, September 2013.
2. Participation in a Three-Day Professional Regional Workshop "Usage of WEAP Program on Water Assessment and Planning Systems", Organized by General Protection Agency of Marine Resources, Environment, and Wild Life in Bahrain, Arabian Gulf University, Bahrain, September 2009.
3. Teaching a 3-CrHr Course "Engng Hydrology", Civil Engineering Department, Al-Hosn University, Abu Dhabi, United Arab Emirates, Summer 2008.
4. Attended the Water Security Workshop organized by Dubai Police Academy, Dubai, UAE, February 2008.
5. Delivered an eight-week training course titled "Operation Research in Water Resources" to the Water Research Center of ADWEA in Abu Dhabi during February and March of 2007 under the supervision of the University Continued Education Center.
6. Attended a workshop on "Localization of Desalination Technologies: A Foundation for Sustainable Development" organized by Alexandria University Desalination Studies and Technology Center (ADST) and Abu Dhabi Water and Electricity Authority (ADWEA) on March 2006.
7. Writing articles in the Engineering World Magazine issued by the Society of Engineers-UAE, 2004.

E. Other non-University committees, commissions, panels, etc.

1. Invited and participated in the EIA Panel Experts for the review of Environmental Impact Assessments (EIA) by the regulated community, Environment Agency – Abu Dhabi (EAD), formerly, the Environmental Research and Wildlife Development Agency (ERWDA), April 2006.
2. Invited Speaker in a panel session titled "Zoning for Industrial and Urban Development" during the Environment 2001 Conference and Exhibition, Abu Dhabi, UAE, Feb. 2001

F. Community, Local, and National Meetings

1. Attend a workshop on Revised GSS Water Grid Study on Sept. 8th, 2013 in Abu Dhabi.
2. Contributing to articles published in The National newspaper about water quality and treatment in UAE.
3. Participation in a Three-Day Professional Regional Workshop "Usage of WEAP Program on Water Assessment and Planning Systems", Organized by General Protection Agency of Marine Resources, Environment, and Wild Life in Bahrain, Arabian Gulf University, Bahrain, September 2009.
4. Teaching a 3-CrHr Course "Engineering Hydrology", Civil Engineering Department, Al-Hosn University, Abu Dhabi, United Arab Emirates, Summer I Term, 2008.
5. Delivered an eight-week training course titled "Operation Research in Water Resources" to the Water Research Centre of ADWEA in Abu Dhabi during February and March of 2007 under the supervision of the University Continued Education Centre.

6. Attended a workshop on "Localization of Desalination Technologies: A Foundation for Sustainable Development" organized by Alexandria University Desalination Studies and Technology Center (ADST) and Abu Dhabi Water and Electricity Authority (ADWEA) on March 2006.
7. Chair and Member in several CE Dept. Screening Committees to inspect the applications of new faculty applications (1997, 1998, 2000, 2003, 2011).

G. Service Awards and Honours

1. Recognition for the contribution in organizing the Symposium on Engineering Education, UAE University, Al Ain, May 2009.
2. Recognition for the contribution in organizing the Environmental Design Contest, College of Engineering, UAE University, 2002, 2004, 2006.
3. Recognition for the contribution in organizing the Second International Conference of Sustainability on Desert Regions, College of Engineering, United Arab Emirates University, AlAin, United Arab Emirates, November 1999.