

Munjed A. Maraqa, PhD

Associate Professor of Environmental Engineering

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1. EDUCATION

- Ph.D. Environmental Engineering, Michigan State University, 1995.
Dissertation: "Transport of volatile organic compounds in the unsaturated zone"
- M.Sc. Environmental Engineering, University of Jordan, 1989.
Thesis: "Efficiency of coagulation in removing coliform bacteria from wastewater"
- B.Sc. Civil Engineering, University of Jordan, 1986.

2. POSITIONS HELD

- Associate Professor, UAE University, 2002-current.
- Assistant Professor, UAE University, 1997-2002.
- Instructor and Visiting Assistant Professor, Michigan State University, 1995-1997.
- Graduate Research Assistant, Michigan State University, 1990-1995.
- Engineer, Maraqa Consultant Engineers and Architects, Jordan, 1986-1989.

3. TEACHING EXPERIENCE

3.1 Courses Taught

- Chemistry and Engineering Applications.
- Calculus and Engineering Applications I.
- Calculus and Engineering Applications II.
- Fundamentals of Engineering 1B.
- Introduction to Environmental Engineering.
- Environmental Engineering Chemistry.
- Environmental Sampling and Analysis.
- Water and Wastewater Technology.
- Groundwater Contamination.
- Vehicular traffic and Air Quality.
- Aquifer Analysis.
- Industrial Pollution Control.
- Water Quality.
- Solid Waste Management.

3.2 Course Development

- Introduction to Environmental Engineering.
- Environmental Sampling and Analysis.
- Water and Wastewater Technology.
- Man and the Environment.
- Vehicular traffic and Air Quality.

3.3 Supervised Graduation Projects

- Design of a wastewater treatment system and a major highway network in a typical city, jointly with Yaser Hawas.
- Management of garnet-blasting waste generated from paint removal at ADMA-OPCO facility.
- Design of a Commercial Water Treatment Plant.
- Removal of selected heavy metals by sorption in batch and packed bed reactors.
- Removal of phenol by activated carbon.
- Design a packed-bed activated carbon system to reduce boron during seawater desalination.
- Design a stormwater drainage system.
- Design an inland cooling-water softening system utilizing a local waste material.
- Greywater use in residential complexes in Al Ain City: System design.
- Design a unit operation for the removal of bromate from municipal water in the UAE.

3.4 Supervision of Students Teams in Environmental Competitions

- Groundwater treatment design for removal of radionuclides, metals, and volatile organic compounds, Waste-Management Education and Research Consortium, Las Cruces, New Mexico, 1997. Second Place Overall.
- Underground sludge treatment design for removal of radionuclides and chlorinated compounds, Waste-Management Education and Research Consortium, Las Cruces, New Mexico, 1998. Best Overall Depth-of-Research.
- Management of garnet-blasting waste generated from paint removal at ADMA-OPCO facility, Environmental Design Contest (EDC2000), Al-Ain, UAE, April 29- May 3, 2000. First Place.
- Removal of excess fluoride from groundwater using bone char. Environmental Design Contest (EDC2006), Al-Ain, UAE, 2006.
- Turbidity removal from intercepted surface runoff at UAE dam sites Environmental Design Contest (EDC2006), Al-Ain, UAE, 2006.
- Reuse of ablution water for landscaping. Environmental Design Contest (EDC2006), Al-Ain, UAE, 2006. Best Bench-scale.

4. RESEARCH EXPERIENCE

4.1 Funded Research Projects

- Discrepancy between sorption coefficients determined by batch and column techniques, Total funding AED 20,000 for 1 year, 1997 (Sole investigator).
- Impact of solids concentration on infiltration rate at UAE dam sites, Total funding AED 20,000 for 1 year, 1997 (Co-investigator).
- Fate of pesticides in the UAE subsurface environment, Total funding AED 200,000 for 2 years, 1998 (Co-investigator).
- Characterization of major allergens of date palm pollen in the UAE, Total funding AED 228,000 for 2 years, 2000 (Co-investigator).
- Leaching metals from fertilizers applied to UAE agricultural land, Total funding AED 30,000 for 1 year, 2002 (Lead investigator).
- Pesticide application in vegetable production and subsequent pesticide resistance and residue problems in Oman and UAE, Total funding AED 120,000 for 2 years, 2002 (Co-investigator).

- Effects of linear sorption assumption on retardation of nonlinearly sorbed solutes in porous media, Total funding AED 18,800 for 1 year, 2003 ([Sole investigator](#)).
- Harbor and groundwater quality at Jebel Ali Free Zone Ports, funded by the Customs and Free Zone Corporation, Total funding AED 500,000 for 18 months, 2003 ([Lead investigator](#)).
- Use of miscible displacement through packed soil columns for the determination of sorption parameters of a nonlinearly sorbed groundwater contaminant in the UAE, Total funding AED 29,800 for 1 year, 2007 ([Sole investigator](#)).
- Development of the service policy for the RTA-Marine Agency, funded by the Road Transport Authority (RTA), Dubai, Total funding AED 320,000 for 1 year, 2008 ([Co-investigator](#)).
- Development of a unified inspection methodology for vehicles in the UAE, funded by the Ministry of Interior, Total funding AED 200,000 for 1 year, 2008 ([Co-investigator](#)).
- Reality and traffic requirements for traffic safety in UAE, funded by the UAE MoI, Total funding AED 270,000 for 1 year, 2008 ([Co-investigator](#)).
- Development of A GIS-based database system for congestion, accident classification and pedestrian accidents, funded by the UAE MoI, Total funding AED 200,000 for 1 year, 2008 ([Co-investigator](#)).
- Use of advanced technology for traffic monitoring and possibility of privatization, funded by the UAE MoI, Total funding AED 190,000 for 1 year, 2008 ([Co-investigator](#)).
- Identification and improvement of negative road user behaviors, funded by the UAE MoI, Total funding AED 240,000 for 1 year, 2008 ([Co-investigator](#)).
- Factors that influence water consumption in Al Ain, Total funding AED 30,000 for 1 year, 2009 ([Co-investigator](#)).
- Groundwater rise in Al-Ain: A threat or blessing? funded by Emirates Foundation, Total funding AED 200,000 for 2 years, 2010 ([Co-investigator](#)).
- Groundwater dating for groundwater security in the UAE, funded by the National Research Foundation, Total funding AED 913,600 for 2 years, 2010 ([Co-investigator](#)).
- Modeling time-dependent sorption kinetics during solute transport using single-rate nonequilibrium approaches, Total funding AED 23,500 for 1 year, 2011 ([Lead investigator](#)).
- Phthalates in PET water bottles produced in the UAE: Identification, quantification, and proposed methods for decontamination, Total funding AED 28,600 for 1 year, 2012 ([Lead investigator](#)).
- Use of iron-modified carbonaceous nano material for effective removal of disinfection byproducts from water, funded by the NRF-UAEU, Total funding AED 333,000 for 2 years, 2013 ([Lead investigator](#)).
- Optimization of fuel consumption for municipal solid waste collection in Al Ain City, UAE, Total funding AED 20,000 for 1 year, 2013 ([Lead investigator](#)).
- Detection and determination of human-derived chemicals as ground water and wastewater contaminants in UAE, Total funding AED 400,000 for 2 years, 2014 ([Co-investigator](#)).
- Ability of the two-site first-order model to predict retardation of solutes undergoing multirate sorption behavior, Total funding AED 20,000 for 1 year, 2014 ([Sole investigator](#)).

4.2 Book Chapters

- Maraqa M.A., Ali A., Imran H.D., Hamza W., and Al Awadi S., Effects of discharge characteristics on pollutant concentration at Jebel Ali Harbor, Dubai-UAE, In: Ecological Water Quality - Water Treatment and Reuse, InTech Open Access Publisher, ISBN: 978-953-51-0508-4, Chapter 18, pp 359-376, 2012.
- Maraqa M.A., Sweedan A.M.I., and Zanelidin E., Inclusion of Construction Safety in Engineering Programs in the MENA Region: Assessment and Potential Enhancement, In: Engineering and Engineering Education in the Middle East: Status, Challenges, Role in Fostering Human and Economic Development, and Futuristic Transformations, Eds. Abdulwahed M., Hasna M.O., and Froyd J.E., Accepted with minor revisions May 2014.
- Mohamed M. Mohamed and Munjed A. Maraqa, Environmental Engineering Education in the UAE, In: Engineering and Engineering Education in the Middle East: Status, Challenges, Role

in Fostering Human and Economic Development, and Futuristic Transformations, Eds. Abdulwahed M., Hasna M.O., and Froyd J.E., Accepted with major revisions May 2014.

4.3 Journal Papers

- Maraqa M.A., Wallace R.B., and Voice T.C., Effects of degree of water saturation on dispersivity and immobile water in sandy soil columns, *J. Contaminant Hydrology*, 25(3-4), 199-218, 1997.
- Maraqa M.A., Zhao X., Wallace R.B., and Voice T.C., Retardation coefficients of nonionic organic compounds determined by batch and column techniques, *Soil Science Society of America Journal*, 62(1), 142-152, 1998.
- Maraqa M.A., Wallace R.B., and Voice T.C., Effect of water saturation on retardation of groundwater contaminants, *J. Environmental Engineering-ASCE*, 125, 697-704, 1999.
- Maraqa M.A., Wallace R.B., and Voice T.C., Effects of residence time and degree of water saturation on sorption nonequilibrium parameters, *J. Contaminant Hydrology*, 36(1-2), 53-72, 1999.
- Zhao X.D., Szafranski M.J., Maraqa M.A., and Voice T.C., Sorption and bioavailability of carbon tetrachloride in a low organic content sandy soil, *J. Environmental Toxicology and Chemistry*, 18(8), 1755-1762, 1999.
- Altfelder S., Streck T., Maraqa M.A., and Voice T.C., Nonequilibrium sorption of dimethylphthalate-Compatibility of batch and column techniques, *Soil Science Society of America Journal*, 65(1), 102-111, 2001.
- Maraqa M.A., Prediction of mass-transfer coefficient for solute transfer in porous media, *J. Contaminant Hydrology*, 50(1-2), 1-19, 2001.
- Maraqa M.A., Effects of fundamental differences between batch and miscible displacement techniques on sorption distribution coefficient, *J. Environmental Geology*, 41 (1-2), 219-228, 2001.
- Maraqa M.A., Al-Dhaheiri M., Saif K., Al-Hosani A., and Al-Mazrouie E., Management of garnet waste generated from blasting metal structures, *Arabian Journal for Science and Engineering*, 26(2C), 89-98, 2001.
- Kaakeh W., Maraqa M., Hasan M., and Al-Marzouqi M., Management of pesticides in the United Arab Emirates, *Emirates Journal of Food and Agriculture Science*, 16(1), 15-31, 2004.
- AlMehdi A.M., Maraqa M., and AbdulKhaled S., Aerobiological studies and low allergenicity of Date-Palm pollen in the UAE, *International Journal of Environmental Health Research*, 15(3), 217-224, 2005.
- Mohamed A.M.O., Maraqa M. and Al Handhaly J., Impact of land disposal of reject brine from desalination plants on soil and groundwater, *J. Desalination*, 182, 413-435, 2005.
- Maraqa M.A., Retardation of nonlinearly sorbed solutes in porous media, *J. Environmental Engineering- ASCE*, 133(6), 587-594, 2007.
- Maraqa M.A., Ali A., and Khan N., Modeling selected water quality parameters at Jebel Ali Harbor, Dubai- UAE, *J. Coastal Research (Special Issue) SI 50*, 794-799, 2007.
- Kaakeh W., Talukder F.A., Aldahmani J.H., Maraqa M., Deadman M.L., Al-Jabri S.A., Al-Saadi A., Al-Raeesi A.A., Al Hasani H., Al-Subhi L., and Bosamrah A.A., Assessment of pest and pesticide trends in vegetable crops in the United Arab Emirates and Sultanate of Oman, *Pak. J. Sci. Ind. Res.*, 50(5), 346-351, 2007.
- Maraqa M.A., Ali A., Imran H.D., Hamza W., and Al Awadi S., Simulation of the hydrodynamic regime of Jebel Ali Harbor, Dubai-UAE, *J. Aquatic Ecosystem Health and Management*, 11(1), 105-115, 2008.
- Hassan M.N., Hawas Y., Ahmed F. and Maraqa M., Water transit services in Dubai: Users and operators surveys development and quantitative analyses, *J. Public Transportation*, 13(2), 71-92, 2010.
- Ahmed F., Hawas Y.E., Hassan M.N., Maraqa M., and Khan M.B., A framework for the assessment and policy development of the water-transit services in Dubai, UAE, *J. Public Transportation*, 14(1), 55-81, 2011.

- Maraqa M.A., Zhao X., Lee J., Allan F., and Voice T.C., Comparison of nonideal sorption formulations in modeling the transport of phthalate esters through packed soil columns, *J. Contaminant Hydrology*, 125(1-4), 57–69, 2011.
- Selim M.Y.E., Maraqa M.A., Hawas Y.E., and Mohamed A.M.O., Assessment of vehicle inspection and emission standards in the United Arab Emirates, *Transportation Research Part D*, 16: 332-334, 2011.
- Hassan M.N., Hawas Y. and Maraqa M.A., A holistic approach for assessing traffic safety in the United Arab Emirates, *Accident Analysis and Prevention*, 45, 554– 564, 2012.
- Hawas Y.E., Khan Md. and Maraqa M.A., Analysis of the effectiveness of the road-crash database in the United Arab Emirates, *Transportation Safety & Security*, 4(3), 225-243, 2012.
- Al Naser N., Hawas Y.E., Maraqa M., A survey-based probabilistic statistical approach for characterizing drivers negative behaviors, *Procedia - Social and Behavioral Sciences* 48, 1108-1117, 2012.
- Maraqa M.A. and Mohamed A.M.O., Key drivers for successful safety management system of construction activities in Abu Dhabi Emirate, *International Journal of Advanced Fire, Explosive, Environment Safety and Disaster Management*, 1(1), 1-17, 2013.
- Al Naser N. Hawas Y. and Maraqa M., Characterizing driver behaviors relevant to traffic safety: A multi-stage approach, *Transportation Safety & Security*, 5(4), 285-313, 2013.
- Al Hashemi W., Maraqa M.A., Rao M.V., and Hossain Md.M., Characterization and removal of phenolic compounds from condensate-oil refinery wastewater, *Desalination and Water Treatment*, DOI: 10.1080/19443994.2014.884472, 2014.
- Maraqa M.A., Khashan S.A., Modeling solute transport affected by heterogeneous sorption kinetics using single-rate nonequilibrium approaches. *J. Contaminant Hydrology*, 157, 73-86, 2014.
- Abu-Eishah SI, Babahar HSA, Maraqa M. Minimization of SO₂ Emissions at ADGAS (Das Island, UAE): I- Current vs. Modified Schemes. *J Pet Environ Biotechnol* 5: 173. doi: 10.4172/2157-7463.1000173, 2014
- Abu-Eishah SI, Babahar HSA, Maraqa M. Minimization of SO₂ Emissions at ADGAS (Das Island, UAE): II- Impact on Air Quality. *J Pet Environ Biotechnol* 5: 172. doi:10.4172/2157-7463.1000172, 2014.
- Ashour I., Altaher H., Sawalha F. and Maraqa M., A comparative study for the treatment of refinery synthetic wastewater containing phenol, *J. Environmental Technology*, submitted May 2014.
- Maraqa M. A., Imran H. D. and Hegazy S., Testing and modeling of changes in hydraulic conductivity due to siltation at dam sites in the UAE, *Environmental Earth Sciences*. Submitted July 2014.

4.4 Conference Papers

- Szfranski M.J., Zhao X., Maraqa M.A., and Voice T.C., Desorption and biodegradation of carbon tetrachloride in Schoolcraft aquifer material, *Environmental Remediation & Environmental Toxicology*, September, 1996, Lansing, Michigan.
- Voice T.C., Szafranski M.J., Maraqa M.A., Zhao X., Elucidation of fundamental mechanisms controlling bioavailability, the 4th Int'l In Situ and On-Site Bioremediation Symposium, Vol. 5, pp 657-662, April 28- May 1, 1997, New Orleans, Louisiana.
- Maraqa M.A., Impact of time scale on mass transfer during transport in porous media, *Sustainability in Desert Regions*, p 201, November 20-22, 1999, Al-Ain, UAE.
- Imran H., Maraqa M.A., Al Hosani K., and Khalifa E., Clogging patterns of solids concentrations at UAE dam sites due to fine particles present in surface water, *Sustainability in Desert Regions*, p 171, November 20-22, 1999, Al-Ain, UAE.
- Altfelder S., Streck T., Maraqa M.A., and Voice T.C., Investigating nonequilibrium sorption of dimethylphthalate by inverse modelling using batch and column techniques, In *Hydrology and Soil Processes*, HSA6/01, European Geophysical Society (EGS) General Assembly 24th , April 19-23, 1999, Hague, The Netherlands.

- Al Nuaimi A., Maraqa M.A., and Abdul Hafiz E., Emissions at gas processing industries: A case study, *Geoenvironment* 2000, p 49, March 4-7, 2000, Muscat, Oman.
- Imran H., Maraqa M.A., Al Hosani K., and Khalifa E., Effects of solids concentration on hydraulic conductivity at dam sites in UAE, *Geoenvironment* 2000 (ICG2000), p 238, March 4-7, 2000, Muscat, Oman.
- Maraqa M.A., Al Nuaimi A., and Abdul Hafiz E., Management of emissions at gas processing industry in UAE, *Environmental Progress in Petroleum and Petrochemical Industries*, Air & Waste Management Association, May 1-3, 2000, Manama, Bahrain.
- Maraqa M.A., Sorption distribution coefficients: Discrepancy between batch and column techniques, *Geotechnical, Geoenvironmental Engineering and Management in Arid Lands*, November 4-7, 2000, Al-Ain, UAE.
- Maraqa M.A., Characterization of hydrodynamic dispersion in porous media, *Geotechnical, Geoenvironmental Engineering and Management in Arid Lands*, November 4-7, 2000, Al-Ain, UAE.
- Mohamed, A.M.O., Maraqa M., and Al Handhaly J., Impact of land disposal of reject brine from desalination plants on soil and groundwater, *Desalination and the Environment*, May 22-25, 2005, Santa Margherita- Portofino-La Spezia, Italy.
- Almeheidi A.M., Maraqa M. and AbdulKhalik S., Characterization of Major Allergens of Date-Palm (*Phoenix dactylifera* L.) Pollen Grown in the United Arab Emirates, The 5th Annual UAE University Research Conference, April 2004, Al Ain, UAE.
- Maraqa M.A., Retardation of nonlinearly sorbed solutes in porous media: Effects of linear sorption assumption, The 6th Annual UAE University Research Conference, April 24-26, 2005, Al-Ain, UAE.
- Al Hashimi W., Maraqa M.A. and Rao M.V., Characterization and removal of phenol from wastewater generated at a condensate crude oil refinery, The 3rd Joint UAE-Japan Symposium, Sustainable GCC Environment and Water Resources (EWR2006), Jan 30- Feb. 1, 2006, Abu Dhabi, UAE.
- Al Hashimi K.M. and Maraqa M.A., Removal of Chromium (VI) using iron and activated carbon, The International Conference on Environment 2006 (ICENV 2006), 13-15 November 2006, Penang, Malaysia.
- Al Hashimi K.M. and Maraqa M.A., Transport of Chromium (VI) in columns packed with Liwa soil, UAE, The International Conference on Environment 2006 (ICENV 2006), 13-15 November 2006, Penang, Malaysia.
- Maraqa M.A., Ali A., and Khan N., Modeling selected water quality parameters at Jebel Ali Harbor, Dubai-UAE, the 9th International Coastal Symposium (ICS2007), 21-24 April 2007, Gold Coast, Australia.
- Maraqa M.A. and Badawi M., Leaching of metals from fertilizers used in the UAE and their interaction with soil material, the 16th International Symposium of the International Scientific Centre for Fertilizers, 16–19 Sep. 2007, Coupure, Belgium.
- Kaakeh W., Talukder F.A., Al-Dahmani J. H., Maraqa M., Deadman M. L., Al-Jabri S. A., Al-Saadi A., Al-Raeesi A. A., Al-Hasani H., and Al-Subhi L. 2005. Assessment of pesticide uses in vegetable farms in the United Arab Emirates and Sultanate of Oman. *Proceedings of Sixth Annual U.A.E. University Research Conference*, Al-Ain. UAE, 2005.
- Kaakeh W., Talukder F.A., Al Dahmani J.H., Maraqa M., Deadman M.L., Al-Jabri S.A., Al-Saadi A., Al-Raeesi A.A., Al Hasani H., Al-Subhi L. Insecticide and fungicide resistances in Omani and UAE insect-pest and plant pathogens. *Proceedings of the 7th Annual UAE University Research Conference* Al Ain, UAE, 2006.
- Kaakeh W., Talukder F.A., Al Dahmani J.H., Maraqa M., Deadman M.L., Al-Jabri S.L., Al-Saadi A., Al-Raeesi A.A., Al Hasani H., Al-Subhi L., Ahmed M., Bosamrah A., and Almatari A., Pesticide analysis in soil, groundwater and vegetable samples from Sultanate of Oman and the United Arab Emirates, the 8th Annual UAE University Research Conference, April 2007, Al Ain, UAE.
- Al-Dahiri M., Maraqa M.A. and Kanbour F., Medical waste management in the UAE, *Kuwait Waste Management Conference*, April 7-9, 2008, Kuwait.

- Al-Dahiri M., Maraqa M.A. and Kanbour F., Metal content and isotopic activity of bottom ash incinerators at hospitals in the UAE, Kuwait Waste Management Conference, April 7-9, 2008, Kuwait.
- Al Balooshi M., Maraqa M. and Hawas Y., Assessment of noise impact of air traffic at Dubai International Airport. 2009 Gulf Conference and Exhibition: Environment and Sustainability, Feb. 16-19, 2009, Kuwait.
- Ashour I., Naser J., Sawalha F., and Maraqa M., Experimental investigation of phenol removal from refinery synthetic wastewater. The 3rd International Conference on Sustainable Energy and Environmental Protection, August 12-15, 2009, Dublin, Ireland.
- Al Naser N.B., Hawas Y.E., and Maraqa M., Assessment of road user behavioral aspects of relevance to traffic safety in the UAE, Road Safety on Four Continents, March 28-30, 2010, Abu Dhabi, UAE.
- Ahmed F., Hawas Y.E., and Maraqa M., Assessment of the traffic monitoring technologies of relevance to traffic safety in the UAE, Road Safety on Four Continents, March 28-30, 2010, Abu Dhabi, UAE.
- Khan M.B., Hawas Y.E., and Maraqa M., Assessment of the crash database system of the United Arab Emirates, Road Safety on Four Continents, March 28-30, 2010, Abu Dhabi, UAE.
- Hassan M.N., Hawas Y.E., and Maraqa M., Status of traffic safety in the UAE, Road Safety on Four Continents, March 28-30, 2010, Abu Dhabi, UAE.
- Mohamed M.M. and Maraqa M., Environmental engineering education (E3) in the UAE: Survey and comparative study, The 5th International Forum on Engineering Education (IFEE2010), 23-25 Nov. 2010, Sharjah, UAE.
- Selim M.Y.E., Maraqa M.A., Hawas Y.E., Mohamed A.M.O., Assessing vehicular inspection centers using multiple decision-making criteria, The World Congress on Engineering 2011, Vol III, pp 2364-2369, 6-8 July, 2011, London, U.K.
- Al Naser N., Hawas Y.E., Maraqa M.A., A survey-based probabilistic statistical approach for characterizing drivers negative behaviors, Transport Research Arena, Europe 2012, 23-26 April, 2012, Athens, Greece.
- Mohamed M.M. and Maraqa M., Assessment of Environmental Engineering Education in the United Arab Emirates" Proceedings of the 13th International Conference on Environmental Science and Technology (CEST2013), September 5-7, 2013, Athens, Greece.
- Zanelidin E., Maraqa M., and Sweedan A., Extent of Construction Safety in the Engineering Curricula from the Perspective of Practitioners in the MENA Region, Paper ID #8623, the 121st ASCE Annual Conference & Exposition, June 15-18, 2014 Indianapolis, Indiana.
- Munjed A. Maraqa and Kilani Ghoudi, Survey of public attitudes towards bottled and tap water quality in the UAE, Energy and Environment Knowledge Week (E2KW 2014), 30-31 October 2014, Toledo, Spain.
- Hossain Md M. and Maraqa M.A., Selective Removal of Boron from Groundwater using Liquid Membrane Technology, CHEMECA 2014: Sept 28– Oct 01 2014, Perth, Western Australia.

4.5 Supervised Master Thesis

- Management of emissions at Abu Dhabi Gas Liquefaction Company.
- Effects of lining cooling tower interior walls on the growth of *Legionella Pneumophila*.
- Transport of pesticides through soil columns from Al-Ain Area, United Arab Emirates.
- Assessment of healthcare waste management in the UAE.
- Biological activated carbon for treatment of petroleum refinery wastewater.
- Remote sensing and GIS techniques for assessment of groundwater quality in Al Ain area.
- Concentrate composition and disposal of inland desalination plants, Abu Dhabi, UAE.
- Laboratory investigation of transport and treatment of Cr in groundwater at Liwa area.
- Assessment of the effectiveness of available pollution control technologies in reducing phenol level at ENOC Refinery Wastewater Treatment Plant.
- Assessment of noise impact of air traffic at Dubai International Airport.
- Investigating the reduction of sulfur dioxide emissions at Abu Dhabi Gas Liquefaction Company Limited and its impact on ambient air quality.

- Impact of traffic on ambient air quality in Al Ain City-UAE.
- Phthalates in PET water bottles produced in the UAE: Identification, quantification, and proposed methods for decontamination.
- Optimization of fuel consumption for municipal solid waste collection in Al Ain City, UAE (on-going).

5. PROFESSIONAL SERVICES

5.1 Affiliated with the Roadway, Transportation and Traffic Safety Research Center (RTTSRC) at the UAE University.

- Head of the Traffic Safety Unit, 2013-2014
- Assistant Manager of the RTTSRC, 2010-2013

5.2 Advisor to Al Ain City Municipality on the Environment, Health and Safety Management System for the Building and Construction Sector in the Emirate of Abu Dhabi, 2008-2011.

5.3 Consultancy Projects

- Evaluating a modern industrial and environmental technology for municipal solid waste management in Abu Dhabi Emirate, Ecobilles International L.L.C Consultancy, 2006.
- Al Ain CBD Building Height, through W. S. Atkins & Partners Overseas, 2007.
- Characterization of UAE coastal sea water for reverse osmosis desalination plants, Doosan Heavy Industries & Construction, 2007.
- Management of calcium hydroxide slurry: Phase I- Characterization and environmental assessment, Emirates Industrial Gases Co., 2006-2007.
- Analysis of wastewater samples collected from Wadi Al Maqam, Al Ain. Al Ain City Municipality, 2007.
- Water quality at Al-Qasis Site, Zakher-Al Ain, Al Ain City Municipality, 2007.
- Assessment of groundwater contamination for Jebel Hafeet Development Project, through Dome Oilfield Engineering & Services LLC., 2007-2008
- Environmental site assessment of the MOT Site in Fujairah, UAE, through Dome Oilfield Engineering & Services LLC., 2008.
- Groundwater assessment of an industrial city in Al Fayah, Abu Dhabi, through Dome Oilfield Engineering & Services LLC., 2008.
- Groundwater and geotechnical assessment of Jumeira Gardens, Dubai, through Dome Oilfield Engineering & Services LLC, 2008.
- Al Sowaify Landfill Area: Diagnostic evaluation and remedial measures, Al Ain City Municipality, 2009.
- Quality of water discharged from the stormwater outlet at Asharej-Al Ain, Al Ain City Municipality, 2010.
- Environmental analysis of the external factors as part of the PESTEL Analysis for Al Ain City Municipality, 2011.
- Development of regulations and specifications for public, tourist and pilgrim bus transport services in the UAE. National Transport Authority. 2013.

5.4 Professional Affiliation

- Member of the Aquatic Ecosystem Health and Management Society
- Member of the Society of Environmental Toxicology and Chemistry
- Member of the Jordan Association of Engineers
- Member of the UAE National Committee on Pesticides
- Member of the Editorial Board of the Emirates Journal of Engineering Research
- Member of the Coordination Committee- UAE University and Waste Management Center- Abu Dhabi
- Guest Editor of the International Journal of Environmental Engineering and Science. 2009.

- Member of the Executive Committee of the Environmental Science Program at the UAE University.
- Member of the UAE National Committee on Pesticides.

5.5 Peer Reviewer

- Journal of Water Resources Research
- Journal of Contaminant Hydrology
- Water International Journal
- Journal of Environmental Monitoring and Assessment
- Journal of Estuarine, Coastal and Shelf Science
- International Journal of Environmental engineering and Science
- Journal of Sustainable Watershed Science and Management
- Journal of Chemosphere
- The European Journal of Engineering Education
- Emirates Journal of Engineering Research
- University of Sharjah Journal of Pure & Applied Sciences
- King Saud University Journal [Engineering Sciences]
- The 9th International Coastal Symposium
- Al Owais Award
- King Abdel Aziz City of Science and Technology
- Rashid bin Humaid Award