

Ahmed Abdel-Wahab, Ph.D.

Professor of Chemical Engineering

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1. EDUCATION

Texas A&M University, USA	Ph.D.	2003	Civil Engineering (Environmental Engineering Division)
Al-Minia University, Egypt	M.S.	1995	Civil Engineering (Environmental Engineering focus)
Al-Minia University, Egypt	B.S.	1990	Civil Engineering

2. WORK EXPERIENCE

2014-present	Professor, Chemical Engineering Program, Texas A&M University at Qatar, Doha, Qatar
2015-present	Professor, Zachry Department of Civil Engineering (on joint appointment), Texas A&M University, College Station, Texas
2009- present	Technical Director, Qatar Sustainable Water & Energy Utilization Initiative (QWE), Texas A&M University at Qatar, Doha, Qatar
2009-2014	Associate Professor, Chemical Engineering Program, Texas A&M University at Qatar, Doha, Qatar
2013-2015	Itochu Professor of Engineering, Texas A&M University at Qatar, Doha, Qatar
2007-2009	Program Coordinator, Chemical Engineering Program, Texas A&M University at Qatar, Doha, Qatar
2006-2009	Assistant Professor, Chemical Engineering Program, Texas A&M University at Qatar, Doha, Qatar
2003-2006	Lecturer, Chemical Engineering Program, Texas A&M University at Qatar, Doha, Qatar
June – Sept. 2003	Post Doctoral Research Associate, Environmental Engineering, Texas A&M University, USA.
2001-May 2003	Research Assistant, Environmental Engineering, Texas A&M University, USA.
2000-2001	Teaching Assistant, Environmental Engineering, Texas A&M University, USA
1995-2000	Lecturer, Environmental Engineering, Al-Minia University, Egypt.
1991-1995	Assistant Lecturer, Environmental Engineering, Al-Minia University, Egypt.

3. AWARDS and HONORS

- Association of Former Students University-Level Distinguished Achievement Award in Teaching, Texas A&M University, 2015.
- Best Chemical Engineering Professor, Students Engineering Council, Texas A&M University at Qatar, 2015.
- Itochu Professorship, Texas A&M University at Qatar, 2013-2015.
- Outstanding Chemical Engineering Professor Award, Students Engineering Council, Texas A&M University at Qatar, 2014.
- Faculty Research Excellence Award, Texas A&M University at Qatar, 2013.

- Research Team Excellence Award, Texas A&M University at Qatar, 2012.
- Research Fellow Excellence Award (Research team member: Dr. Dong Suk Han), Texas A&M University at Qatar, 2012.
- Outstanding Chemical Engineering Instructor Award, Texas A&M University at Qatar, Students Engineering Council, Texas A&M University at Qatar, 2012.
- Sustainable Innovation of the Year Award, Construction Week Qatar, 2012.
- Faculty Excellence Award. Texas A&M University at Qatar, 2010.
- Students Led Distinguished Teaching (SLATE) Award, Texas A&M University, 2009.
- TAMUQ recognition award for contribution in ABET accreditation process, Texas A&M University at Qatar, 2009.
- Association of Former Students College-Level Distinguished Achievement Award in Teaching, Texas A&M University, 2008.
- AIChE Student Poster award, Second Place, 2011 Annual AIChE meeting (Student: Karim Ibrik, Supervisor: Ahmed Abdel-Wahab), 2011.
- Best undergraduate Research Project, Second Place, Undergraduate Research Experience Program (UREP), Qatar National Research Fund (QNRF), (Student: Hazem AbdelMoati, Supervisor: Ahmed Abdel-Wahab), March 2009.
- Richard Ewing Undergraduate Research Award, Texas A&M University at Qatar (students: Hazem AbdelMoati and Karim Farhat), 2009.
- The AIChE Chapter Appreciation Award, TAMUQ, 2008.
- Postdoctoral fellowship, Texas A&M University, 2003.
- Research assistantship, Texas A&M University, 2001-2003.

4. SOCIETY MEMBERSHIPS

- American Society of Civil Engineers (ASCE)
- American Institute of Chemical Engineers (AIChE)
- American Chemical Society (ACS)
- American Water Works Association (AWWA)

5. RESEARCH EXPERIENCE

5.1. Research Interests

- Advanced reduction and oxidation processes
- Utilization of solar energy for CO₂ conversion and for water/wastewater treatment
- Reactive adsorption using iron-containing nanoparticles
- Electrocoagulation and electrochemical processes
- Solid-solution applications for water and wastewater treatment
- Extensions of lime softening for removal of scale-forming chemicals from water and wastewater
- Reactive transport of contaminants in water streams and environmental impact assessment
- Zero liquid discharge systems and brine treatment
- Engineered osmosis for water treatment and green energy production

5.2. Refereed Journal Publications

(* indicates student or research staff for whom Ahmed Abdel-Wahab was/is the major advisor or co-advisor)

1. Kumaravel, V.; Imam, D. M.; Badreldin, A.; Chava, K. R.; Do, Y. J.; Kang, M.; **Abdel-Wahab, A.**, Photocatalytic Hydrogen Production: Role of Sacrificial Reagents on the Activity of Oxide, Carbon, and Sulfide Catalysts. *Catalysts*, 9 (3) DOI 10.3390/catal9030276 (2019).
2. Gonzales, R.R., Park, M.J., Bae, T-H., Yang, Y., **Abdel-Wahab, A.**, Phuntsho, S., Shon, H.K., Melamine-based covalent organic framework-incorporated thin film nanocomposite membrane for enhanced osmotic power generation, *Desalination*, 459, 10-19, 2019

3. Wei Deng, Fuping Pan, Bill Batchelor, Bahngmi Jung, Peng Zhang, Ahmed Abdel-Wahab, Hongcai Zhou, Ying Li, Mesoporous TiO₂-BiOBr microspheres with tailorable adsorption capacities for photodegradation of organic water pollutants: probing adsorption-photocatalysis synergy by combining experiments and kinetic modeling, *Environmental Science: Water Research & Technology*, In Press, DOI 10.1039/C8EW00922H.
4. Sun Hee Yoon, Unseock Kang, Hyunwoong Park, Ahmed Abdel-Wahab, Dong Suk Han, Computational density functional theory study on the selective conversion of CO₂ to formate on homogeneously and heterogeneously mixed CuFeO₂ and CuO surfaces, *Catalysis Today*, 2019, <https://doi.org/10.1016/j.cattod.2018.12.043>.
5. Kumaravel*, V., **Abdel-Wahab, A.**, A Short Review on Hydrogen, Biofuel, and Electricity Production Using Seawater as a Medium, *Energy & fuels*, 32(6), 6423-6437, 2018.
6. Park, M.J., Gonzales, R.R., **Abdel-Wahab, A.**, Phuntsho, S., Shon, H.K., Hydrophilic polyvinyl alcohol coating on hydrophobic electrospun nanofiber membrane for high performance thin film composite forward osmosis membrane, *Desalination*, 426, 50-59, 2018.
7. Rajamohan, S., Kumaravel*, V., **Abdel-Wahab, A.**, Ayyadurai, S., Muthuramalingam, R., Exploration of Ag decoration and Bi doping on the photocatalytic activity α -Fe₂O₃ under simulated solar light irradiation, *The Canadian Journal of Chemical Engineering*, 96(8), 1713-1722, 2018.
8. Jung*, B., Safan*, A., Duan*, Y., Kaushik, V., Batchelor, B., **Abdel-Wahab, A.**, Removal of arsenite by reductive precipitation in dithionite solution activated by UV light, *Journal of Environmental Sciences*, 74, 168-176, 2018.
9. Jung*, B., Safan*, A., Duan*, Y., Kaushik, V., Batchelor, B., **Abdel-Wahab, A.**, Removal of Se (IV) by the Dithionite/Ultraviolet Advanced Reduction Process: Effects of Process Variables, *Environmental Engineering Science*, 35, 927-936, 2018.
10. Deng, W., Zhao, H., Pan, F., Feng, X, Jung*, B., **Abdel-Wahab, A.**, Batchelor, B., Li, Y., Response to Comment on "Visible-Light-Driven Photocatalytic Degradation of Organic Water Pollutants Promoted by Sulfite Addition", *Environmental science & technology*, 52(3), 1677-1678, 2018.
11. Kaushik, V., Duan*, Y., Jung*, B., Batchelor, B., **Abdel-Wahab, A.**, Arsenic removal using advanced reduction process with dithionite/UV—A kinetic study, *Journal of Water Process Engineering*, 23, 314-319, 2018.
12. Park, M.J., Gonzales, R.R., **Abdel-Wahab, A.**, Phuntsho, S., Shon, H.K., Hydrophilic polyvinyl alcohol coating on hydrophobic electrospun nanofiber membrane for high performance thin film composite forward osmosis membrane, *Desalination*, 426, 50-59, 2018.
13. Han*, D.S., Elshorafa*, R., Yoon*, S.H., Kim, S., Park, H., **Abdel-Wahab, A.**, Sunlight-charged heterojunction TiO₂ and WO₃ particle-embedded inorganic membranes for night-time environmental applications, *Photochemical & Photobiological Sciences*, 17(4), 491-498, 2018.
14. Liu, Y., Tan, J., Choi, W., Hsu, J-H., Han*, D.S., Han, A., **Abdel-Wahab, A.**, Yu, C., Influence of nanoparticle inclusions on the performance of reverse osmosis membranes, *Environmental Science: Water Research & Technology*, 4(3), 411-420, 2018.
15. Yoon*, S.H., Han*, D.S., Kang, U., Choi, S.U., Yiming, W., **Abdel-Wahab, A.**, Park, H., Effects of electrochemical synthetic conditions on surface property and photocatalytic performance of copper and iron-mixed p-type oxide electrodes, *Journal of Materials Science and Technology*, 34(9), 1503-1510, 2018.
16. Deng, W., Zhao, H., Pan, F., Feng, X, Jung*, B., **Abdel-Wahab, A.**, Batchelor, B., Li, Y., Visible-light-driven photocatalytic degradation of organic water pollutants promoted by sulfite addition, *Environmental science & technology*, 51(22), 13372-13379, 2017.
17. Yoon*, S.H., ElShorafa*, R., Katbeh*, M, Han*, D.S, Jeong, H.W., Park, H., **Abdel-Wahab, A.**, Effect of shape-driven intrinsic surface defects on photocatalytic activities of titanium dioxide in environmental application, *Applied Surface Science*, 423, 71-77, 2017.
18. Duan*, Y., Luo, G., Jung*, B., Kaushik, V., Batchelor, B., **Abdel-Wahab, A.** Photochemical degradation of arsenic and selenium with advanced reduction processes - effects of reagents, *Environmental Engineering Science*, 34(7), 481-488, 2017.

19. Sahebi, S., Phuntsho, S., Tijing, L., Han, G., Han*, D.S., **Abdel-Wahab, A.**, Shon, H.K., Thin-film composite membrane on a compacted woven backing fabric for pressure assisted osmosis, *Desalination*, 406, 98-108, 2017.
20. Rajamohan, S., Kumaravel*, V., Muthuramalingam, R., Ayyadurai, S., **Abdel-Wahab, A.**, Kwak, B.S., Kang, M., Sreekantan, S., Fe₃O₄-Ag₂WO₄: Facile synthesis, characterization and visible light assisted photocatalytic activity, *New Journal of Chemistry*, In Press, DOI: 10.1039/C7NJ03004E, 2017.
21. Jeon, T.H., Bokare, A.D., Han*, D.S., **Abdel-Wahab, A.**, Park, H., Choi, W., Dual modification of hematite photoanode by Sn-doping and Nb 2 O 5 layer for water oxidation, *Applied Catalysis B: Environmental*, 201, 591-599, 2017.
22. Jung*, B., Sivasubramanian*, R., Batchelor, B., **Abdel-Wahab, A.**, Chlorate reduction by dithionite/UV advanced reduction process, *International Journal of Environmental Science and Technology*, 14(1), 123-134, 2017.
23. Rao, G., Zhao, H., Chen, J., Deng, W., Jung*, B., **Abdel-Wahab, A.**, Batchelor, B., Li, Y., FeOOH and Fe 2 O 3 co-grafted TiO 2 photocatalysts for bisphenol A degradation in water, *Catalysis Communications*, 97, 125-129, 2017.
24. Jung*, B., Safan*, A., Botlaguduru, V.S.V., Batchelor, B., **Abdel-Wahab, A.**, Impact of natural organic matter on bromate removal in the sulfite/UV-L advanced reduction process, *Water Science and Technology: Water Supply*, 17 (2), 461-471, 2017.
25. Wang, K., Han, D.S., Yiming, W., Ahzi, S., **Abdel-Wahab, A.**, Liu, Z., A windable and stretchable three-dimensional all-inorganic membrane for efficient oil/water separation, *Scientific Reports*, 7(1): p. 16081.
26. Chauhan, V.M., Alnouri, S.Y., Linke, L., **Abdel-Wahab, A.**, Synthesis of integrated membrane desalination and salt production networks, *Desalination*, 400, 25-37, 2016.
27. Jung*, B., Safan*, A., Batchelor, B., **Abdel-Wahab, A.**, Spectroscopic study of Se (IV) removal from water by reductive precipitation using sulfide, *Chemosphere*, 163, 351-358, 2016.
28. Duan*, Y., Han*, D.S., Batchelor, B., **Abdel-Wahab, A.**, Application of a reactive adsorbent-coated support system for removal of mercury (II), *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 509, 623-630, 2016.
29. Das, G., Prakasam, T., Nuryyeva, S., Han*, D.S., **Abdel-Wahab, A.**, Olsen, J-C., Polychronopoulou, K., Platas-Iglesias, C., Ravaux, F., Jouiad, M., Trabolsi, A., Multifunctional redox-tuned viologen-based covalent organic polymers, *Journal of Materials Chemistry A*, 4, 15361-15369, 2016.
30. Duan*, Y., Han*, D.S., Batchelor, B., **Abdel-Wahab, A.**, Synthesis, characterization, and application of pyrite for removal of mercury, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 490, 326-335, 2016.
31. Bakkiyaraj, R., Bharath, G., Ramsait, K.H., **Abdel-Wahab, A.**, Alsharaeh, E.H., Chen, S-M., Balakrishnan, M., Solution combustion synthesis and physico-chemical properties of ultrafine CeO₂ nanoparticles and their photocatalytic activity, *RSC Advances*, Vol. 6(56), 51238-51245, 2016.
32. Bharath, G., Naldoni, A., Ramsait, K.H., **Abdel-Wahab, A.**, Madhu, R., Alsharaeh, E., Ponpandian, N., Enhanced electrocatalytic activity of gold nanoparticles on hydroxyapatite nanorods for sensitive hydrazine sensors, *Journal of Materials Chemistry A*, Vol. 4(17), 6385-6394, 2016.
33. Sahebi, S., Phuntsho, S., Tijing, L., Han, G., Han, D.S., **Abdel-Wahab, A.**, Shon, H.K., Thin-film composite membrane on a compacted woven backing fabric for pressure assisted osmosis, *Desalination*, 406, 98-108, 2017.
34. Almasri*, D., Mahmoud, K., **Abdel-Wahab, A.**, Two-stage sulfate removal from reject brine in inland desalination with zero-liquid discharge, *Desalination*, Vol. 362, 52-58, 2015.
35. Kang, U., Choi, S.K., Ham, D.J., Ji, S.M., Choi, W., Han*, D.S., **Abdel-Wahab, A.**, Park H., Photosynthesis of formate from CO 2 and water at 1% energy efficiency via copper iron oxide catalysis, *Energy & Environmental Science* 8 (9), 2638-2643, 2015. **Selected for Back Cover**
36. Lotfi, F., Phuntsho, S., Majeed, T., Kim, K., Han*, D.S., **Abdel-Wahab, A.**, Shon, H.K., Thin film composite hollow fibre forward osmosis membrane module for the desalination of brackish groundwater for fertigation, *Desalination* 364, 108-118, 2015.

37. Anas*, M., Han*, D.S., Mahmoud, K., Park, H., **Abdel-Wahab, A.**, Photocatalytic degradation of organic dye using titanium dioxide modified with metal and non-metal deposition, *Materials Science in Semiconductor Processing* 41, 209-218, 2015.
38. Jung*, B. Farzaneh*, H., Khodary*, A., **Abdel-Wahab, A.**, Photochemical degradation of trichloroethylene by sulfite-mediated UV irradiation, *Journal of Environmental Chemical Engineering* 3 (3), 2194-2202, 2015.
39. Mahmoud, K.A., **Abdel-Wahab, A.**, Zourob, M., Selective electrochemical detection of 2, 4, 6-trinitrotoluene (TNT) in water based on poly (styrene-co-acrylic acid) PSA/SiO₂/Fe₃O₄/AuNPs/lignin-modified glassy carbon electrode, *Water Science and Technology* 72 (10), 1780-1788, 2015.
40. Botlaguduru*, V.S.V., Batchelor, B., **Abdel-Wahab, A.**, Application of UV–sulfite advanced reduction process to bromate removal, *Journal of Water Process Engineering* 5, 76-82, 2015.
41. Basha, O., Sehabiague, L., **Abdel-Wahab, A.**, Morsi, B., Fischer–Tropsch Synthesis in Slurry Bubble Column Reactors: Experimental Investigations and Modeling – A Review, *International Journal Reactor Engineering* 13 (3), 201–288, 2015.
42. Jung*, B., Nicola*, R., Batchelor, B., **Abdel-Wahab, A.**, Effect of Low- and Medium-Pressure Hg UV Irradiation on Bromate Removal in Advanced Reduction Process, *Chemosphere*, Vol. 117, 663–672, 2014.
43. Botlaguduru, V.S.V., Batchelor, B., **Abdel-Wahab, A.**, Application of UV–sulfite advanced reduction process to bromate removal, *Journal of Water Process Engineering*, Vol. 5, 76-82, 2015.
44. Bensalah*, N., Nicola*, R., **Abdel-Wahab, A.**, Nitrate removal from water using UV-M/S₂O₄²⁻ Advanced Reduction Process, *International Journal of Environmental Science and Technology*, Vol. 11 (6), 1733-1742, 2014.
45. Han*, D., Orillano, M., Khodary*, A., Duan*, Y., Batchelor, B., **Abdel-Wahab, A.**, Reactive iron sulfide (FeS)-supported ultrafiltration for removal of mercury (Hg(II)) from water, *Water Research*, Vol. 53, 310-321, 2014.
46. Liu, X., Villanki* B. P., Batchelor, B., **Abdel-Wahab, A.**, Degradation of 1,2-dichloroethane with Advanced Reduction Processes (ARPs): Effects of Process Variables and Mechanisms, *Chemical Engineering Journal*, Vol. 237, 300–307, 2014.
47. Yoon*, S., Han, D.S., Liu*, X., Batchelor, B., **Abdel-Wahab, A.**, Degradation of 1,2-Dichloroethane using Advanced Reduction Processes, *Journal of Environmental Chemical Engineering*, Vol. 2(1), 731-737, 2014.
48. Lawen*, J., Yu, H., Fieg, G., **Abdel-Wahab, A.**, New unstructured mesh water quality model for cooling water biocide discharges, *Environmental Modeling & Assessment*, Vol. 19 (1), 1-17, 2014.
49. Jung*, B.M., Batchelor, B. Park, J. Y., **Abdel-Wahab, A.**, Linear free energy relationship analysis of chlorinated hydrocarbons in cement slurries, *International Journal of Environmental Research*, Vol. 8 (3), 819-830, 2014.
50. Sfaksi*, Z., Azzouz, N., Abdel-Wahab, A., Removal of Cr(VI) from Water by Cork Waste, *Arabian Journal of Chemistry*, Vol. 7 (1), 37-42, 2014.
51. Jeong, H. W., Choi, S-Y., Hong, S. H., Lim, S. K., Han*, D. S., **Abdel-Wahab, A.**, Park, H., Shape-Dependent Charge Transfers in Crystalline ZnO Photocatalysts: Rods versus Plates, *The Journal of Physical Chemistry C*, Vol. 118 (37), 21331–21338, 2014.
52. **Abdel-Wahab, A.**, Batchelor, B., Evaluating Alternative Aluminum Sources for Chloride Removal from Recycled Cooling Water, *Int. J. Environmental Technology and Management*, Vol. 16(3), 243-243, 2013.
53. Bensalah*, N., **Abdel-Wahab, A.**, Electrochemical Inactivation of *P. Aeruginosa*, *A. hydrophila*, *L. pneumophila* using Boron Doped Diamond Anodes”, *J. Adv. Oxid. Technol.* Vol. 16(1), 1-7, 2013.
54. Bensalah*, N., Liu*, X., **Abdel-Wahab, A.**, Bromate Reduction by Ultraviolet Light Irradiation using Medium Pressure Lamp. *International Journal of Environmental Studies*, Vol. 70(4), pp566-582, 2013.
55. Liu*, X., Yoon*, S., Batchelor, B., **Abdel-Wahab, A.**, Photochemical Degradation of Vinyl Chloride with an Advanced Reduction Process (ARP) – Effects of Reagents and pH, *Chemical Engineering Journal*, Vol. 215-216, 868–875, 2013.
56. Liu*, X., Yoon*, S., Batchelor, B., **Abdel-Wahab, A.**, Degradation of vinyl chloride (VC) by the

- sulfite/UV Advanced Reduction Process (ARP): effects of process variables and a kinetic model, *Science of the Total Environment*, Vol. 454-455, 578–583, 2013.
57. Han, D. S., Song, J.K., Batchelor, B., **Abdel-Wahab, A.**, Removal of Arsenic(III) and Arsenic(V) by Synthetic Pyrite (FeS₂): Synthesis, Effect of Contact Time, and Sorption/Desorption Envelopes, *Journal of Colloid & Interface Science*, Vol. 392, 311–318, 2013.
 58. Han*, D. S., Batchelor, B., **Abdel-Wahab, A.**, XPS analysis of sorption of selenium(IV) and selenium(VI) to mackinawite (FeS), *Environmental Progress & Sustainable Energy*, Vol. 32: 84-93, 2013.
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 60. Lawen*, J., Yu, H., Fieg, G., **Abdel-Wahab, A.**, New unstructured mesh water quality model for coastal discharges, *Environmental Modelling & Software*, Vol. 40, pp330-335, 2013.
 61. Khan, G., Kim, Y.K., Choi, S.K., Han*, D.S., **Abdel-Wahab, A.**, Park, H., Evaluating the Catalytic Effects of Carbon Materials on the Photocatalytic Reduction and Oxidation Reactions of TiO₂, *Bulletins of the Korean Chemical Society*, Vol. 34: 1137-1144, 2013.
 62. Han*, D. S., Batchelor, B., **Abdel-Wahab, A.**, Sorption of Selenium(IV) and Selenium(VI) Onto Synthetic Pyrite (FeS₂): Spectroscopic and Microscopic Analyses, *Journal of Colloid and Interface Science*, Vol. 368, 496-504, 2012.
 63. Park, S. H., Batchelor, B., Lee, C., Han*, D. S., **Abdel-Wahab, A.**, Perchlorate Degradation using Aqueous Titanium Ions Produced by Oxidative Dissolution of Zero-Valent Titanium, *Chemical Engineering Journal*, Vol. 192, 301–307, 2012.
 64. Lee, C., Batchelor, B., Park, S.H., Han*, D. S., **Abdel-Wahab, A.**, Kramer T.A., Reduction of Perchlorate using Zero-Valent Titanium (ZVT) Anode: Reaction mechanism, *Advances in Environmental Research*, Vol. 1(1), 37-55, 2012.
 65. Park S. H, Batchelor, B., Lee, C., Han*, D. S., **Abdel-Wahab, A.**, Degradation of Perchlorate in Water using Aqueous Multi-Valent Titanium: Effect of Titanium Type, Ionic Strength, and Metal and Solid Catalysts, *Journal of Colloid & Interface Science*, Vol. 380, 128–133, 2012.
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 67. Atilhan S., Bin Mahfouz A., Batchelor B., Linke P., **Abdel-Wahab A.**, Nápoles-Rivera F., Jiménez-Gutiérrez A., El-Halwagi M.M., A Systems-Integration Approach to the Optimization of Macroscopic Water Desalination and Distribution Networks: A General Framework Applied to Qatar's Water Resources, *Clean Technologies and Environmental Policy*, Vol. 14(2), 161-171, 2012.
 68. Mansouri K., Hannachi A., Bensalah* N., **Abdel-Wahab, A.**, Electrochemically dissolved aluminum coagulants for the removal of natural organic matter from synthetic and real industrial wastewaters, *Industrial & Engineering Chemistry Research*, Vol. 51(5), pp2428–2437, 2012.
 69. Bensalah* N., Louhichi B., **Abdel-Wahab A.**, Electrochemical Oxidation of Succinic Acid in Water using Boron-doped Diamond Anodes, *International Journal of Environmental Science and Technology*, Vol. 9, 135-143, 2012.
 70. Bin Mahfouz A., Atilhan* S., Batchelor B., Linke P., **Abdel-Wahab A.**, El-Halwagi M.M., A Systems Integration Approach to the Optimum Operation and Scheduling of Biocide Usage and Discharge for Seawater Cooling Systems, *Int. J. Process Systems Engineering*, Vol. 2(1), 1-35, 2012.
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 72. **Abdel-Wahab A.**, Batchelor B., Simulation Model for Multicomponent Removals from Recycled Cooling Water, *ASCE Journal of Environmental Engineering*, Vol. 137 (12), 2011.
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 77. Bedoui, A., Elsaid*, K., Bensalah*, N., **Abdel-Wahab, A.**, Treatment of Pharmaceutical-Manufacturing Wastewaters by UV Irradiation/Hydrogen Peroxide Process, *Journal of Advanced Oxidation Technologies*, Vol. 14(2), 226-234, 2011.
 78. Mansouri, K., Elsaid* K, Bedouia A., Bensalaha*, N., **Abdel-Wahab A.**, Application of Electrochemically Dissolved Iron in the Removal of Tannic Acid from Water, *Chemical Engineering Journal*, Vol. 172(2-3), 970-976, 2011.
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 82. Bin Mahfouz, A., El-Halwagi M.M., Batchelor B., Atilhan* S., Linke P., **Abdel-Wahab A.**, Optimal scheduling of biocide dosing for seawater-cooled power and desalination plants, *Clean Technologies and Environmental Policy*, Vol. 8 (3), 203-215, 2011.
 83. Atilhan* S., Linke P., **Abdel-Wahab A.**, El-Halwagi M., A systems integration approach to the design of regional water desalination and supply networks, *International Journal of Process Systems Engineering*, Vol. 1 (2), 125-135, 2011.
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6. Safan*, A., Jung*, B., **Abdel-Wahab, A.**, Removal of selenium by advanced reduction processes”, TAMUQ Research & Industry showcase, Doha, Qatar, April 23, 2015.
7. Soliman*, M., Safan*, A., Jung*, B., **Abdel-Wahab, A.**, Impact of humic acid on bromate removal in advanced reduction processes”, TAMUQ Research & Industry showcase, Doha, Qatar, April 23, 2015.
8. Sivasubramanian*, R., Jung*, B., **Abdel-Wahab, A.**, Quantum yield calculations to evaluate the efficiency of bromate reduction, TAMUQ Research & Industry showcase, Doha, Qatar, April 23, 2015.
9. Jung, B., Batchelor, B., **Abdel-Wahab, A.**, Disinfection byproducts removal from water using Advanced

- Reduction Process, TAMUQ Research & Industry Showcase, Doha, Qatar, April 7, 2014.
10. Hajar, F., Jung, B., **Abdel-Wahab, A.**, Degradation of trichloroethylene using advanced reduction processes, TAMUQ Research & Industry Showcase, Doha, Qatar, April 7, 2014.
 11. Sivasubramanian, R., Jung, B., **Abdel-Wahab, A.**, Removal of chlorate by advanced reduction process, TAMUQ Research & Industry Showcase, Doha, Qatar, April 7, 2014.
 12. Mustafa, S., Jung, B., **Abdel-Wahab, A.**, Chloride removal by electrocoagulation and lime-softening, TAMUQ Research & Industry Showcase, Doha, Qatar, April 7, 2014.
 13. Han, D.S., Choi, S.K., Kang, U., Park, H., **Abdel-Wahab, A.**, Nanostructured p-Type Photocathode for Selective Production of Hydrocarbon Fuel from Carbon Dioxide, TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 7, 2014.
 14. Kawsher, MD S., Han, D.S., Khodary, A., Batchelor, B., **Abdel-Wahab, A.**, Pyrite (FeS₂)-Supported Ultrafiltration System for Removal of Mercury from Water, TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 7, 2014.
 15. Mansour, A., Muhammad, A., Han, D.S., and **Abdel-Wahab, A.**, Photocatalytic Reduction of Mercury Using TiO₂ Particles, TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 7, 2014.
 16. Hamza, H., Katibe, T., Han, D.S., **Abdel-Wahab, A.**, Preparation, Characterization, and Stabilization of Silver Nanoparticles for Biological Wastewater Treatment, TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 7, 2014.
 17. Muhammad, A., Han, D.S., **Abdel-Wahab, A.**, Photocatalytic Degradation of Organic Pollutant Using Nanostructured Titania: Titania Nanotube, Titania Nanorod, and Pd or N-doped Titania, TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 7, 2014.
 18. **Abdel-Wahab, A.**, “Advanced reduction processes for destruction of persistent hazardous contaminants”, Annual TAMUQ-QAFCO Conference, Qatar National Convention Center, Doha, Qatar, January 10, 2013.
 19. Jung*, B.M., Nasr, B., Abdel-Wahab, A., “Bromate removal from water using UV-M/sulfite advanced reduction process”, Research and Industry Fostering Synergy, Qatar National Convention Center, Doha, Qatar, April 22, 2013.
 20. Han, D.S., Khodary, A., Orillano, M., Batchelor, B., and Abdel-Wahab, A., “Continuous contact method for removal of mercury in water using nanoparticle iron sulfide”, 2nd TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 22, 2013.
 21. Han, D.S., Lee, C., Park, S., Batchelor, B., and Abdel-Wahab, A., “Degradation of perchlorate in water using zero-valent titanium (ZVT): Kinetics, membrane separation, and electrochemistry, 2nd TAMUQ Annual Research and Industry Forum, Qatar National Convention Center (QNCC), Doha, Qatar, April 22, 2013.
 22. Orillano, M., Han, D.S., Batchelor, B., Abdel-Wahab, A., “Removal of mercury from water using reactive iron sulfide-laden cross-flow ultrafiltration membrane”, 2nd TAMUQ Annual Research and Industry Forum, Qatar National Convention Center, Doha (QNCC), Doha, Qatar, April 22, 2013.
 23. **Abdel-Wahab, A.**, “Scientific Approach: Cooling Water Discharge into Seawater”, the 8th Annual HSE Forum in Energy, Doha, Qatar, October 8-10, 2012.
 24. **Abdel-Wahab, A.**, “Environmental Impact Assessment of Cooling Water Discharge into Seawater”, the First TAMUQ Annual Research Forum, Doha, Qatar, May 21, 2012.
 25. Jung*, B.M., Batchelor, B., Park, J.Y., **Abdel-Wahab, A.**, “Linear Free Energy Relationships on Reductive Dechlorination of Chlorinated Aliphatic Hydrocarbons in Cement/Fe(II) Slurries”, Research and Industry: Fostering Synergy, Poster presentation, Qatar National Convention Center, Doha, Qatar, May 21, 2012.
 26. Han, D., Batchelor, B., **Abdel-Wahab, A.**, “Sorption of mercury(II) onto iron sulfides (FeS and FeS₂): Reaction mechanism and stability”, Theme 2: Energy and Environment, Research Showcase at Texas A&M

University at Qatar (TAMUQ), Qatar National Convention Center (QNCC), May 14th, 2012.

27. Yoon, S.H., Batchelor, B., **Abdel-Wahab, A.**, “Advanced reduction processes for hazardous wastes treatment”, Theme 2: Energy and Environment, Research Showcase at Texas A&M University at Qatar (TAMUQ), Qatar National Convention Center (QNCC), May 14th, 2012.
28. Abdel-Moati*, H., **Abdel-Wahab, A.**, “Silica and Sulfate Removals in Inland Desalination Using Reverse Osmosis with Brine Conversion and Zero Liquid Discharge”, the Second TAMUQ-QAFCO Annual Conference, January 2008.
29. Dashti*, A., Anany*, A., **Abdel-Wahab, A.**, “Utilization of Byproduct Sulfur for Treatment of Hazardous Wastes”, the Second TAMUQ-QAFCO Annual Conference, January 2008.

5.5. Invited Talks

1. **Abdel-Wahab, A.**, “Water Sustainability in Construction Conference, Wastewater Treatment and reuse in Construction: The Brine Issue”, Grand Hayat Hotel, Doha, Qatar, September 9, 2015.
2. **Abdel-Wahab, A.**, “Industrial Wastewater Treatment with Zero Liquid Discharge”, Industrial Wastewater Management Symposium, Oman Water Association, Sohar, Oman, December 1-2, 2014.
3. Han, D.S., **Abdel-Wahab, A.**, “The Nexus Technology for Water Supply, Reuse, and Security at MENA”, 3rd International Water Technology Symposium for Nakdong River Waterweek, Sangju City, Korea, Oct. 10-11, 2014.
4. Han, D.S., **Abdel-Wahab, A.**, “Pretreatment of Bioaccumulative Mercury in Water Using Reactive Nanoparticle-Supported Ultrafiltration and Photocatalytic Reduction Technology”, 24th Annual Practical Short Course on Membrane & Other Separations Technologies: Applications in food, dairy, beverage, and bioprocessing, Food Protein Research & Development Center, Texas A&M Engineering Experiment Station, College Station, TX, April 27- May 1, 2014.
5. **Abdel-Wahab, A.**, “Examples of QNRF Funded Research Projects Towards Sustainable Environment”, United Nations Climate Change Conference, Doha, Qatar, November 26-December 7, 2012.
6. Han, D. S., Yoon, S.H., **Abdel-Wahab, A.**, “Water Treatment Technologies and Trends”, Department of Civil and Environmental Engineering, Hanyang University, Korea, May 27, 2011
7. Han, D. S., Yoon, S.H., **Abdel-Wahab, A.**, “Water Treatment Technologies and Trend”, Department of Energy and Environmental Science, Keimyung University, Korea, May 21, 2011
8. Han, D.S; Batchelor, B.; **Abdel-Wahab, A.**, “Adsorptive Reduction of Selenium, Arsenic, Mercury by Pyrite (FeS₂) Toward Stable Precipitates”, Department of Environmental Energy and Science, Keimyung University, Republic of Korea, Aug. 4th 2010.
9. Han, D.S; Batchelor, B.; **Abdel-Wahab, A.**, “Adsorptive Reduction of Selenium, Arsenic, Mercury by Pyrite (FeS₂) Toward Stable Precipitates”, Department of Civil and Environmental Engineering, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea, Aug. 5th 2010.
10. **Abdel-Wahab, A.**, “A Holistic Approach for the Sustainable Use of Seawater for Process Cooling”, presented at the Doha Modeling Forum, Texas A&M University at Qatar, March 2008, Doha, Qatar.
11. **Abdel-Wahab, A.**, “Current and Future Research Activities on Water and the Environment at TAMUQ”, Presented at the Arab Expatriate Scientist Meeting, Qatar Foundation, Doha, March, 2007
12. Linke, P., and **A. Abdel-Wahab**, “Water Resource Issues from an Industrial Use Perspective”, Presented at Environmental Public Awareness Event, Georgetown University, Doha, Nov. 12, 2007
13. **Abdel-Wahab, A.**, “Causes and Sources of Groundwater Contamination”, presented at the Department of Agriculture and Water Research, Ministry of Agriculture and Municipal Affairs, Qatar, March, 2005
14. **Abdel-Wahab, A.**, “Conservation principals”, Academic Bridge Program (ABP), Doha, Qatar, 2004.
15. **Abdel-Wahab, A.**, “Creative Problem Solving”, Al-Bayan Educational Forum, Doha, Qatar, November 2004.

5.6. Major Technical Reports

1. Abdel-Wahab, A., Batchelor, B., Linke, P., Disinfection Byproducts Removal from Water using Advanced Reduction Processes, Final Report, submitted to Qatar National Research Fund (QNRF), Doha, Qatar, April 2015.
2. Abdel-Wahab, A., Batchelor, B., Chellam, S., Removal of Mercury from Wastewater using Reactive Adsorbent/Membrane (RAM) Hybrid Filtration Process, Final Report, submitted to Qatar National Research Fund (QNRF), Doha, Qatar, April 2015.
3. **Abdel-Wahab A.**, “Advanced Reduction Processes for Hazardous Wastes Treatment”, Final Report, QNRF, February 2013.
4. **Abdel-Wahab A.**, Linke P., Batchelor B., El-Halwagi M., “A Holistic Approach to the Sustainable Use of Seawater for Process Cooling”, Final Report, QNRF, August 2011.
5. **Abdel-Wahab A.**, Linke P., Batchelor B., El-Halwagi M., “Study of Residual Chlorine and Chlorinated Byproducts Discharge at Mesaaied Industrial Area”, Final Report, Qatar Fertilizers Company, February 2011.
6. **Abdel-Wahab, A.**, “KHI removal from wastewater”, Final Report, Worley Parsons, October 2011.
7. **Abdel-Wahab A.**, Linke P., Batchelor B., El-Halwagi M., “Inland Desalination with Zero Liquid Discharge for Brackish Groundwater” Final Report, Qatar Science and Technology Park (QSTP), September 2011.
8. **Abdel-Wahab A., Linke P.**, “**Environmental Impact Assessment of Cooling Water and Brine Discharges for QP_NGL Plant and Halul Desalination plant**”, Final Report, Environmental Studies Center, Qatar University, June 2010.
9. **Abdel-Wahab A.**, “Groundwater Survey in Qatar”, URS Qatar LLC., Final Report, October 2010.
10. **Abdel-Wahab A.**, “Oxy Marine Eco-Survey”, URS Qatar LLC., Final Report, September 2010.
11. **Abdel-Wahab A.**, “Assessment of Dewatering Discharge Along Doha Cornaish”, BAUER Emirates Environment Technologies & Services LLC, Final Report, August 2010.
12. **Abdel-Wahab A.**, Lawen J., “Evaluation of Qatar- Bahrain Causeway Environmental Impact Assessment Report”, Evaluation Report, June 2010.
13. **Abdel-Wahab A.**, “Evaluation of Ras Abu Aboud Old Desalination Plant Demolishing Impact Assessment Report”, Evaluation Report, March 2010.
14. **Abdel-Wahab A.**, “Evaluation of Gulf Chlorine Plant Impact Assessment Report”, Evaluation Report, July 2010.
15. **Abdel-Wahab A.**, “Evaluation of Um Bab Desalination Plan Impact Assessment Report”, Evaluation Report, February 2010.
16. Alnouri*, S., Linke, P., **Abdel-Wahab, A.**, “Desalination with Zero Liquid Discharge and Salt Production: Business Opportunities and Technological Challenges. Qatar Science and Technology Park. Final Project Report, 2009.
17. Alnouri*, S., Linke, P., **Abdel-Wahab, A.**, “Comparative assessment of alternative desalination configurations”, Qatar Shell, Final Project Report, 2009.
18. **Abdel-Wahab, A.**, Batchelor, B., El-Halwagi, M., “Feasibility Study for Chloride Removal from Oil Sands Water Using Ultra-High Lime with Aluminum Process”, Final Report, Suncor Energy Inc. Grant, August, 2007.
19. Batchelor, B., **Abdel-Wahab, A.**, “An Innovative Technology for Recycled Industrial Wastewater Treatment”, Gulf Coast Hazardous Substance Research Center, Final Report, Grant No. 83TAM3834, March 2005.
20. **Abdel-Wahab, A.**, Several Reports on the Evaluation of Environmental Impact Assessment Projects, Ministry of Environment, Doha, Qatar, 2004 – present.

5.7. Research Grants and Contracts

5.7.1. Research Grants

1. Qatar National Research Fund (QNRF), “Sustainable Reuse of Hypersaline Oil-Produced Water for Green Energy Production”, (\$1,200,000), January 16, 2018-January 15, 2021, **Principal Investigator**.

2. Texas A&M University at Qatar, “Novel Impaired Water Pretreatment Process for Food Security in Qatar”, (\$300,000), January 1, 2018-December 31, 2019, **Principal Investigator**.
3. Qatar National Research Fund (QNRF), “Solar-driven Advanced Reduction Processes for Destroying Persistent Contaminants in Water”, (\$809,694), March 2016-February 2019, **Principal Investigator**.
4. Qatar National Research Fund (QNRF), “Qatar Water Distribution Systems: Transition to Smarter Networks”, (\$784,513), March 2016-February 2019, **Co-Principal Investigator**.
5. Qatar Shell Research & Technology Center, Doha, Qatar, “Integrated Approach for Water, Brine, and Salt Management at Shell Pearl GTL Plant”, (\$408,891), December 1, 2014-November 30, 2016, **Principal Investigator**.
6. Qatar National Research Fund (QNRF), Doha, Qatar, “Development of Advanced Solar-Powered Photoelectrochemical System for Conversion of Carbon Dioxide to Useful Fuels”, (\$880,000), January 2015-January 2018, **Co-Principal Investigator**.
7. Qatar National Research Fund (QNRF), Doha, Qatar, “Reductive Immobilization and Removal of Arsenic and Selenium from Contaminated Water using Advanced Reduction Processes”, (\$968,207), January 2014-January 2017, **Co-Principal Investigator**.
8. Qatar National Research Fund (QNRF), Doha, Qatar, “Disinfection Byproducts Removal from Water using Advanced Reduction Processes”, (\$1,032,741), January 2012-January 2015, **Principal Investigator**.
9. Qatar National Research Fund (QNRF), Doha, Qatar, “Removal of Mercury from Wastewater Using Reactive Adsorbent/Membrane (RAM) Hybrid Filtration Process”, (\$830,288), January 2012-January 2015, **Principal Investigator**.
10. Qatar National Research Fund (QNRF), Doha, Qatar, “A systems approach to the development of sustainable water strategies for Qatar”, (\$930,113), June 2012-May 2015, **Co-Principal Investigator**.
11. QWE Consortium Funds, Multiple consortium members, (\$120,000), 2011-present.
12. Texas A&M University at Qatar, Transition Funds, \$350,000, 2011-2015.
13. Qatar National Research Fund (QNRF), Doha, Qatar, “Advanced Reduction Processes for Hazardous Wastes Treatment”, (\$1,021,539), September 2009-November 2012, **Principal Investigator**.
14. Environmental Studies Center, Doha, Qatar, “Environmental Assessment of Siltation along the Eastern Coast of Qatar North of Lusail Development to Navy Base”, (\$501,369), May 2012 – January 2014, **Principal Investigator**.
15. Qatar National Research Fund (QNRF), Doha, Qatar, “A Holistic Approach to the Sustainable Use of Seawater for Process Cooling”, (\$745,500), May 2008 – August 2011, **Principal Investigator**.
16. Qatar Fuel Additives Company (QAFAC), Doha, Qatar, “Environmental Impact Assessment of Residual Chlorine and Thermal Discharges into Seawater”, (\$45,000), April - July 2013, **Principal Investigator**.
17. Mitsubishi Corporation, Water Technology Center QSTP-B, “Feasibility Study of Seawater Desalination using RO: phase-1”, (\$63,272), January - August 2013, **Principal Investigator**.
18. Mitsubishi Corporation, Water Technology Center QSTP-B, “Feasibility Study of Seawater Desalination using RO: phase-1I”, (\$63,272), October 2013-March 2014, **Principal Investigator**.
19. Qatar Petrochemical Company (QAPCO), Doha, Qatar, “Provision of Study for Process Wastewater Discharge and NOx Emission Environmental Costs”, (\$52,175), May 2012 – July 2013, **Principal Investigator**.
20. Qatar Fertilizers Company (QAFCO), “Assessment of the Impact of Sodium Bisulphite and Other Dechlorination Chemicals on Mesaeed Marine Environment”, (\$133,000), February 2011-May 2013, **Principal Investigator**.
21. Environmental Studies Center Doha, Qatar, “Hydrodynamic Dispersion Modeling of Mesaeed NGL Plants Cooling Water and HTEF Brine Discharge Mixing Zone”, (\$100,000), June 2010 – May 2012, **Principal Investigator**.
22. Worley Parsons Qatar, “KHI removal from wastewater”, (QAR 80,000) June 2011-February 2012. **Principal Investigator**.
23. QWE Consortium Funds, Multiple consortium members, (\$120,000), 2011-present.
24. British Petroleum, Houston, Texas, “LNG safety: advancing the science and technology”, (\$3,300,000), September 2008 – August 2013, **Co-Principal Investigator**.

25. Qatar Science & Technology Park (QSTP)/Proof of Concept, Doha, Qatar, “Inland Desalination with Zero Liquid Discharge for Brackish Groundwater”, (\$419,788), October, 2008 – March 2011, Principal Investigator.
26. Qatar National Food Security Programme (QNFSP), “Research in support of the Qatar National Food Security Program, (\$70,000), September 2009 – March 2010, Co-Principal Investigator.
27. Qatar Fertilizers Company (QAFCO), “Study of Residual Chlorine and Chlorinated By-Products in Sea Near Mesaieed Industrial Area”, (\$880,000), January 2009 – August 2010, Principal Investigator.
28. Qatar Shell Science & Technology, Doha, Qatar, “Comparative Assessment of Alternative Industrial Wastewater Treatment Systems, (\$30,000), January 2009 – June 2009, Co-Principal Investigator.
29. Qatar Science & Technology Park (QSTP), “Desalination with Zero Liquid Discharge and Salt Production: Business Opportunities and Technological Challenges”, (\$74,000), October 2008 – March 2009, Co-Principal Investigator.
30. Suncor Energy Inc., Calgary, Canada, “UHLA for treatment of Oil Sand Tailing Pond” (\$50,000), February 2007 – August 2007, Principal Investigator.
31. National Center for Atmospheric Research (NCAR), USA, “Airborne Measurement of Cloud Condensation Nuclei and Ice Nuclei over Saudi Arabia”, (\$570,074), November 2007 – October 2008, Co-Principal Investigator.
32. Qatar National Research Fund (QNRF), Doha, Qatar, “Silica and Sulfate Removals in Inland Desalination Using Reverse Osmosis with Brine Conversion and Zero Liquid Discharge”, (\$10,000), January 2007 – December 2007, Principal Investigator.
33. Qatar National Research Fund (QNRF), Doha, Qatar, “Regeneration and Recycling of Precipitated Solids in Ultra-High Lime with Aluminum Treatment Process”, (\$10,000), July 2008 – June 2009, Principal Investigator.
34. Qatar National Research Fund (QNRF), Doha, Qatar, “Utilization of Byproduct Sulfur for Treatment of Hazardous Wastes (Phase 1)”, (\$10,000), January 2007 – December 2007, Principal Investigator.
35. Qatar National Research Fund (QNRF), Doha, Qatar, “Sensitivity Analysis of Adsorption Isotherms to Measurement Noise in the Data”, (\$10,000), January 2007 – December 2007, Co-Principal Investigator.
36. Qatar National Research Fund (QNRF), Doha, Qatar, “Improved Parameter Estimation of Adsorption Isotherms using Multiscale Modeling”, (\$10,000), January 2007 – December 2007, Co-Principal Investigator.
37. Qatar National Research Fund (QNRF), Doha, Qatar, “Study of Monomeric and Polymeric Charge-Transfer Interactions”, (\$10,000), January 2007 – December 2007, Co-Principal Investigator.
38. Qatar National Research Fund (QNRF), Doha, Qatar, “A comparative assessment of simulation tools for environmental impact assessment of biocide emissions from cooling water discharge”, (\$20,000), January 2007 – December 2007, Co-Principal Investigator.
39. Gulf Coast Hazardous Substance Research Center, Texas, USA, “An Innovative Technology for Recycled Industrial Wastewater Treatment”, (\$210,000), September 2001-August 2004.

5.7.2. Technical Service Contracts

1. Metito Overseas – Qatar, Analysis of water from different sites in Doha, 2015-2017, (service for 2015 worth \$94,330)
2. Qatar Shell Research and Technology Centre (QSRTC), Analysis of Kinetic hydrate inhibitor in wastewater using HPLC and GPC, September - October 2015, \$2,608
3. Action technology, Particles Size Distribution & analysis of water samples, March - December 2015, \$442
4. Newtech International Co. W.LL, Analysis of ammonia samples in air, March - April 2015, \$632.8
5. New tech International Co. W.LL, Analysis of heavy metals in air, May - June 2015, \$1,476.7
6. Ministry of Environment, Analysis of seawater, Nov, 2014 - June 2015, \$13,012
7. Qatar Scientific leadership program, Analysis of seawater samples, April 1- May 2015, \$ 6931
8. Ministry of Environment, Analysis of rain water & dust and sediment, September 2015, \$14,250
9. Action technology, water treatment (Jar test), November 2015, \$1020

10. Maersk Oil Research and Technology Centre, Characterization of petroleum crude oil and Identification of heterogeneous compounds, December 2014 - November 2015, \$ 21,431
11. Dow Chemical Company, Analysis of organic and inorganic parameters in solutions, July 2015-March 2020, \$250,000.
12. METITO OVERSEAS – QATAR, “Analysis of waste water samples” (\$8068.493), January- December 2013.
13. Total Research Center Qatar, “Analysis of waste water samples”, (\$ 996.71), August 2013
14. Nalco Gulf Ltd c/o Teyseer Trading & Contracting “Analysis of Didecyldimethyl ammonium Chloride DDAC” (\$821.9), August 2012 - January 2013.
15. URS Qatar LLC & ExxonMobil Research Qatar (EMRQ), “Analysis of THM in seawater” (\$25,433.0) November – December 2012.
16. Energoprojekt-Entel, “Sampling and Analysis of Water and Oil Samples from Crude Oil Storage Tanks” (\$14,164.38), January 2012.
17. Saipem S.p.A.– QAFCO 5 & 6 PROJECT “Analysis of synthetic and mineral oil” (\$5,972.60), July 2012.
18. Qatar Shell Research & Technology Centre (QSRTC) “Analysis of Sludge Samples and FT-IR Profile” (\$1,638.35), October 2012.
19. Norsk Hydro ASA “Analysis of waste water samples” (\$369.86), May 2012
20. Nalco Gulf Ltd c/o Teyseer Trading & Contracting “Analysis of Didecyldimethyl ammonium chloride DDAC” (\$821.9), August - December 2012.
21. Total E&P Qatar “Analysis of water sample” (\$772.05), June.2012.
22. METITO OVERSEAS – QATAR, “Analysis of waste water samples” (\$8,643.83), January- December 2012.
23. BAUER Emirates Environment Technologies & Services LLC “Analysis of sludge samples” (\$1,041.1) May 2012.
24. URS Qatar LLC “Analysis of Soil samples” (\$832.87), August 2012.
25. Schlumberger Overseas S.A. (\$813.69), July 2012.
26. QAFCO “ Analysis of THMs in water” (\$4,369.86) January-August 2012.
27. URS Qatar LLC., “Groundwater Survey in Qatar”, (QAR162,000), March 2010- December 2010.
28. URS Qatar LLC., “Oxy Marine Eco-Survey”, (QAR234,000), July 2010 September 2010.
29. BAUER Emirates Environment Technologies & Services LLC., “Assessment of Dewatering Discharge Along Doha Cornaish”, (QAR36,000), August 2010.
30. URS Qatar LLC., “Groundwater Survey in Qatar”, (QAR162,000), March 2010- December 2010.
31. URS Qatar LLC., “Oxy Marine Eco-Survey”, (QAR234,000), July 2010 September 2010.
32. BAUER Emirates Environment Technologies & Services LLC., “Assessment of Dewatering Discharge Along Doha Shore”, (QAR36,000), August 2010.

5.8. Research Initiatives

Qatar Sustainable Water & Energy Utilization Initiative

Co-founder and Technical Director of the “Qatar Sustainable Water & Energy Utilization Initiative” (QWE), an excellence initiative at TAMUQ to provide scientific and technical support to industrial and governmental stakeholders in the areas of water/wastewater, hazardous wastes, energy efficiency, and the environment. QWE has been established to support human resource capacity building in Qatar and to establish a center of scientific and technical excellence dedicated to solving the pressing water and energy problems in Qatar. QWE is based at Texas A&M University at Qatar in Education City. The initiative will bring together all relevant public and private stakeholders in Qatar to make sustainable water and energy utilization a reality.

6. STUDENTS/RESEARCH STAFF SUPERVISION

A. Masters (at TAMUQ, Chair of Advising Committee)

2. Maria Orillano, “Removal of mercury from water using iron(II) sulfide nanoparticles and ultrafiltration membrane”, expected graduation date is May 2019.

3. Karim Yousef, "Brine treatment and salt purification in zero liquid discharge systems", expected graduation date is December 2019.
4. Husnain Manzour, "Simulation of full-scale pressure retarded osmosis processes", expected graduation date is May 2019.
5. Ahmed Badreldin, "Photocatalytic water treatment using carbon nanotube-incorporated black titanium oxide nanowires", expected graduation date is August 2019.
6. Saly Matta, "Mass transfer modeling of multicomponent in pressure retarded osmosis processes", expected graduation date is August 2020.
7. Fahim Bin Abdur Rahman, "Modeling of Pressure Retarded Osmosis using the Q-Electrolattice Equation of State", expected graduation date is August 2017.
1. Aya Safan, "Selenium removal from water using advanced reduction process", graduated in August 2016.
2. Rand Elshorafa, "Chromium (VI) removal from water using photocatalytic reduction", graduated in August 2016.
3. Hessa Al Missned, Master of Engineering, graduated in December 2015.
4. Mary Katiba, "Photocatalytic Reduction of Mercury (II) in Water Using Nanostructured Titanium Dioxide", graduated in August 2015.
5. Raghavendran Sivasubramanian, "Chlorate removal using advanced reduction processes", graduated in August 2015.
6. Kawsher Solayman, "Removal of Mercury from Wastewater by Nanoparticle Pyrite (FeS₂) and Ultrafiltration (UF) Membrane System", graduated in August 2015.
7. Syed Faisal Mustafa, "Removal of chloride from water by advanced softening process using electrochemically generated aluminum", graduated in August 2014.
8. Hajar Farzaneh, "Trichloroethylene removal using UV-Sulfite based Advanced Reduction processes", graduated in December 2014.
9. Dema Al Masri, "Sulfate removals from brine in inland desalination systems with zero liquid discharge", graduated in August 2013.

A. Doctorate

1. Yuhang Duan (co-chair), Removal of mercury from water using iron sulfide nanoparticles, graduated in May 2016.
2. Vamsi Botlaguduru (member), UV based Advanced Reduction Treatment of Perfluorinated Chemicals and Disinfection Byproducts, graduated in May 2016.
3. Bhanu Prakash (member), Advanced Reduction Processes for Hazardous Waste Treatment, graduated in May 2012.
4. Selma Atilhan (member), CHEN grad student, Process Integration of Desalination Infrastructures, graduated in December 2011.
5. Dung Suk Han (member), Novel Adsorbent-Reactants for Treatment of Ash and Scrubber Pond Effluents, graduated in December 2009.
6. Zobeida Sfaksi (member), Heavy Metals Removal from water", University of Jijil, graduated in December 2010.
7. Xu Liu (member), Vinyl Chloride Degradation by Advanced Reduction Processes, graduated in August 2013.

B. Undergraduate Research Assistants.

Muhammad Imam (2017), Midhat Zaidi (2017), Ali Mansour (2014-2016), Mohamad Rafique (2014-2017), Amira Abu Hadid (2015), Basant Abouzeidaly (2015-present), Muhammad Anas (2013-2014), Mohamed Soliman (2014) Salma Khan (2013), Aya Safan (2013-2014), Karim Ibrik (2011-2012) Abdallah Marmar (2011), Rana Nicola (2012), Kareem Hassan (2011), Mohammed Al Shammasi (2012), Varun Chauhan (2011), Mostafa Ali (2012), Joseph Costandy (2012), Divya Thomas (2011), Mohamed Hassan (2010), Rym Kanes

(2012-2013), Maria Orillano (2010, 2012), Huda Hamza (2012-2013), Dema Al Masri (2010), Mary Katiba (2010), Sally Nicola (2009), Natalie Hamad (2009), Haider Ramadan (2010), Hazem Abdelmoati (2007), Hessa Al Missned (2007), Sabla Alnouri (2008), Karim Farhat (2007).

C. Post Doctorate/Research Associates (Direct supervisor)

1. Sanjay Ullattil, Assistant Research Scientist, 2019 - present
2. Dong Suk Han, Associate Research Scientist, 2009 – 2018
3. Bahngmi Jung, Assistant Research Scientist, 2011 – present.
4. Abdellatif El Ghenmy, Post Doctoral Research Associate, 2015 – present.
5. Ahmed Khodary, Post Doctoral Research Associate, 2008 – present.
6. Vignesh Kumaravel, Assistant Research Scientist, 2016-present.
7. Nasr Ben Salah, Assistant Research Scientist, 2009 – Feb. 2013.
8. Aya Safan, Research Assistant, 2016-present.
9. Fatima Abu Rub, Research Assistant, 2016-present.
10. Aya Mousa, Research Assistant, 2016-present.
11. Sun Hee Yoon, Post Doctoral Research Associate, 2010 – 2012, 2016-present.
12. Johannes Lawen, Research Associate, 2008 – present
13. Elitsa Dzhongova, Research Associate, 2009 – 2010
14. Mohamed Mahmoud, Post Doctoral Research Associate, July 2007 – September 2008.
15. Sherin Elshrbiny, Research Associate, 2011 - present
16. Murad Farhat, Research Assistant, 2011.
17. Huaming Yu, Research Associate, 2011 – present (part time)
18. Tejas Bhatelia, Research Associate, 2011 (part time)
19. Senad Hadziahmetovic, Research Associate, 2011 (part time)

7. TEACHING EXPERIENCE

I have taught many undergraduate chemical, civil, and general engineering courses at three different universities for a wide spectrum of students with different cultures and scientific backgrounds. In all cases my teaching has been very successful and my relations with my students have always been excellent scientifically and personally. The students' evaluation of my teaching has always been outstanding. I have received several teaching awards which are listed in the "Honors and Awards" Section.

List of Courses Taught

Texas A&M University at Qatar (2003-present)

- Fundamentals of Environmental Remediation Processes (CHEN 658) (one time)
- Environmental Engineering (CHEN 457) (three times)
- Chemical Engineering Thermodynamics I (CHEN 205) (three times).
- Chemical Engineering Thermodynamics II (CHEN 354) (nine times).
- Chemical Engineering Fluid Operations (CHEN 304) (three times).
- Special Topics in Environmental Engineering (CHEN 489) (three times).
- Foundations of Engineering I (ENGR111) (two times).
- Foundations of Engineering II (ENGR112) (two times).
- Graduate Seminar (CHEN 681) (six times)

Texas A&M University (2000-2001) (as graduate teaching assistant)

- Foundations of Engineering II (ENGR 112), spring 2000.
- Computer Applications in Engineering and Construction (CVEN 302), summer 2000.
- Environmental Engineering (CVEN 301), fall 2000 and spring 2001.

Al-Minia University, Egypt (1991-1998)

Environmental chemistry.

Engineered environmental systems.

Fluid Mechanics and Hydraulics.

Sanitary engineering.

Solid waste management.

8. PROFESSIONAL ACTIVITIES

8.1. Scholarly Activities

- Member of Editorial Board, Journal of Water Process Engineering, Elsevier, 2015-present.
- Associate Editor, Emergent Materials Journal, Springer, 2017-present
- Chair of Organizing Committee, 2nd International Conference on Desalination and Environment, Elsevier, Doha, Qatar, held on January 23-26, 2016.
- Co-Chair, Advanced Environmental Science and Technology (AEST12), which was held in Seoul, Korea during the period of August 26-30, 2012.
- Vice-Chair and Member of the Steering Committee of the Natural Gas Conversion Symposium, which will be held in Doha in 2013.
- Chair of Organizing Committee, TAMUQ-Industry Research Forum, 2013-2014.
- Member of the scientific committee of the International Water Association (IWA) Regional Conference on Water Reuse and Energy 2014, held in Daegu, Korea, on 21-24 October, 2014.
- Member of the scientific committee of the Arab Water Conference which was held on 27-29 May 2014, Doha – Qatar.
- Member of the scientific committee of the 10th Gulf Water Conference that will be held on 22-24 April 2012, Doha - Qatar.
- External Evaluator for the Environmental Science Program at Qatar University, May 2013.
- Member of the Steering Committee of the Society of Petroleum Engineers (SPE) Applied Technology Workshop entitled “Water Management”, scheduled to take place in April 2012 in Saudi Arabia.
- Member, Environmental Impact Assessment Committee, Ministry of Environment, 2004-present
- Served as external evaluator for Ph.D. thesis on Nano Fibrous Filtration at the University of Singapore, June, 2010.
- Served as independent evaluator for Water Treatment Plant Design, Metito Overseas Limited, 2010.
- Consultant to General Secretariat for Development Planning (GSDP) / United Nations Development Program (UNDP). Researched and prepared background paper on “Water Resources in Qatar: Challenges and Opportunities.” for the 2nd United Nations Development Report on Qatar, commissioned by the General Secretariat for Planning in 2009.
- Reviewer for the following internationally recognized journals: Desalination, Water Environment Research (WER), Journal of Membrane Science (JMS), Journal of Environmental Progress, Journal of Environmental Management (JEMA), International Journal of Environment and Waste Management (IJEWM), Journal of Hazardous Materials, and others.
- Reviewer for the Gas Processing Conference since 2010.
- Reviewer of QSTP Proof of Concept Applications.
- Program Specialist on Drinking Water Quality, Save The Children, United Nations, (1992-1993).
- Qatar Ministry of Environment, Committee of Best Environmental Initiative Award in Qatar, Member, 2007- 2009.
- Qatar Ministry of Environment, Committee for Environmental Assessment and Management of Mercury in Qatar, UNEP Program, Member, December 2007.

8.2. University Service

- Graduate Advisor and Chair of Graduate Committee, Chemical Engineering Program, Texas A&M

University at Qatar, 2012 - present.

- Chair, Mechanical Engineering Program Chair Search Committee, Texas A&M University at Qatar, 2019.
- Chair, Chemical Engineering promotion committee, Texas A&M University at Qatar, 2017-present.
- Member, College-Level Promotion Committee, Texas A&M University at Qatar, 2015-present.
- Chair, Research Strategy 2016-2021 Committee, Texas A&M University at Qatar, November 2015-present.
- Member, CHEN Undergraduate Curriculum Committee, Texas A&M University at Qatar, 2011 – present.
- Chair, Council of Principal Investigators, Texas A&M University at Qatar, 2012 – present.
- Member, TAMUQ safety Council, 2014-present.
- Member, CHEN Program Chair Search Committee, 2013.
- Member, CHEN faculty Search Committee, 2008 – present
- Member, CHEN Strategic Planning Committee, September 2007- present
- Member, CHEN Laboratory Committee, 2008 – present
- Member, CHEN faculty Search Committee, 2008 – 2010
- Member, CHEN Research and Outreach Committee, 2008 – August 2010
- Member, CHEN Safety Committee, 2008 – August 2010
- CHEN Program Coordinator, September 2007- December 2009
- Chair, CHEN ABET Committee, 2006 – August 2007
- Chair, CHEN Laboratory Committee, 2006 – August 2007
- Chair, TAMUQ Admission Board Committee, 2004 – 2005.
- Member, CHEN Research and Outreach Committee, 2008 – 2010
- Member, CHEN Safety Committee, 2008 - 2010
- Member, Faculty Advisory Committee, 2007 – 2008
- Member, TAMUQ Students Sponsorship Committee, 2007 – 2009
- Member, TAMUQ Search Committee for the Director of Student Advising Office, March –November 2007
- Member, CHEN search committee for hiring lab technician and two lab coordinators, 2007-2008
- CHEN Computing and Website Coordinator, January – December 2007
- Member, Search committee for hiring Director of Information Technology Services, TAMUQ, 2005

8.3. Continuing Education – Courses Taught

- Taught a Module on water management for HBKU MBA students, April 29-30, 2015.
- Training workshop on organic compounds quantification using GC-MS delivered to ExxonMobil Research Qatar in 2012.
- Training workshop on experimental and analytical procedures of water and wastewater analysis to engineers from Messaid Industrial Companies, September 2009.
- Three-day Short course on Environmental Chemistry”, TAMUQ, sponsored by ExxonMobil, March, 2007.