

## **Moustapha Harb, PhD, PE**

New Mexico Institute of Mining and Technology  
Department of Civil and Environmental Engineering  
801 Leroy Place, Jones Annex 117, Socorro, NM 87801  
moustapha.harb@nmt.edu • 575-835-5592

### **EDUCATION**

Ph.D. in Environmental Science and Engineering, August 2017  
*King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

M.S. in Environmental Engineering, May 2010  
*University of Houston, Houston, Texas, USA*

B.S. in Civil Engineering, May 2007  
*University of Houston, Houston, Texas, USA*

### **ACADEMIC POSITIONS**

Assistant Professor of Environmental Engineering  
*New Mexico Institute of Mining and Technology (NMT), Socorro, New Mexico, USA*  
August 2022 – Present

Assistant Professor of Civil and Environmental Engineering  
*Lebanese American University (LAU), Byblos, Lebanon*  
January 2019 – July 2022

Postdoctoral Research Associate  
*University of Southern California (USC), Los Angeles, California, USA*  
August 2017 – December 2018

Graduate Research Assistant  
*Water Desalination and Reuse Center (WDRC), KAUST, Thuwal, Saudi Arabia*  
August 2012 – July 2017

### **INDUSTRY POSITIONS**

Environmental Engineer  
*C-K Associates, Houston, Texas, USA*  
July 2011 – July 2012

Lead Project Engineer  
*Cobb, Fendley & Associates, Houston, Texas, USA*  
May 2006 – July 2011

### **TEACHING AND MENTORING**

#### *Courses at NMT*

- ENVE 3001 – Applied Principles of Environmental Engineering
- ENVE 3003 – Water Treatment Process Design
- ENVE 3004 – Wastewater Treatment Process Design
- CEE 5012 – Industrial Water and Wastewater Treatment
- CEE 5024 – Physiochemical and Biological Processes
- CEE 5071 (Sp. Topic) – Processes for Resource Recovery from Wastewater
- CEE 5071 (Sp. Topic) – Engineering Biofilms for Water & Wastewater

*Courses at LAU*

- CIE 527 – Environmental Microbiology
- CIE 598 – Advanced Biological Wastewater Treatment
- CIE 520 – Solid Waste Management
- CIE 522 – Environmental Impact Assessment
- CIE 526 – Environmental Remediation
- CIE 321 – Fluid Mechanics Laboratory
- CIE 322 – Hydraulics

*Postdoctoral Advising*

- Josephine Al Alam, 2019 – 2022
- Stephanie Greige, 2021 – 2022

*Graduate Advising - Ph.D.*

- Lama Ramadan, 2023 – present
- Thilini Bandara, 2026 – present

*Graduate Advising - Masters*

- Angela Antwi, 2025 – present
- Kirk Baloun, 2025 – present
- Ashley Tomlinson, 2024 – present
- Aakriti Sharma, 2023 – 2025
- Charbel El Khoury, 2020 – 2022
- Lama Ramadan, 2020 – 2022
- Christelle Sawaya, 2020 – 2022
- Reem Zeeb, 2020 – 2022

*Undergraduate Research Advising*

- Kirk Baloun, 2023 – 2025
- Christelle Sawaya, 2019

*Thesis Committees - PhD*

- Matthew Green, 2026 (Biotechnology)

*Thesis Committees - Masters*

- Aakriti Sharma, 2025 (CEE)
- Gabriela Torres Fernandez, 2023 (CEE)
- Samuel Oppong, 2023 (CEE)
- Mohamad Abdallah, 2022 (CEE)
- Michelle Ghosn, 2022 (CEE)
- Reem Hachem, 2022 (CEE)
- Charbel El Khoury, 2022 (CEE)
- Caroline Merheb, 2022 (CEE)
- Lama Ramadan, 2022 (CEE)
- Christelle Sawaya, 2022 (CEE)
- Saad Allah Solh, 2022 (CEE)
- Reem Zeeb, 2022 (CEE)
- Maria El Khoury, 2020 (Biology)
- Jennifer Moussa, 2019 (Biology)

## **PUBLICATIONS** (\*corresponding author)

- S. Greige, L. Ramadan, J. Al Alam, M. Harb, M. Wazne\* (2026), A quantitative characterization of antibiotic resistance and its influencing factors in hospital wastewaters across Lebanon. *Scientific Reports*, Vol. 16, Art. 2108
- L. Ramadan and M. Harb\* (2025), Fungi as an emerging waterborne health concern: Impact of treated wastewater discharge *versus* aerosolization. *Environmental Science: Processes & Impacts* Vol. 27, Pages 1103-1119
- M. Abdallah, S. Greige, C. F. Webster, M. Harb, H. Beyenal, M. Wazne\* (2025), Enhancement of the start-up and performance of an upflow anaerobic sludge blanket (UASB) reactor using electrochemically-enriched biofilm. *Enzyme and Microbial Technology*, Vol.188, Art. 110651
- S. Greige, M. Abdallah, C. F. Webster, M. Harb, H. Beyenal, M. Wazne\* (2025), Microbial community analysis of the biofilms of both working and counter electrodes in single-chamber microbial electrolysis cells. *Enzyme and Microbial Technology*, Vol. 188, Art. 110650
- L. Ramadan, R. Deeb, C. Sawaya, C. El Khoury, M. Wazne, and M. Harb\* (2023), Anaerobic membrane bioreactor-based treatment of poultry slaughterhouse wastewater: Microbial community adaptation and antibiotic resistance gene profiles. *Biochemical Engineering Journal*, Vol. 192, Art. 108847
- J. Al Alam, M. Harb, T. Hage, and M. Wazne\* (2023), Assessment of *Opuntia ficus-indica* (L.) Mill. extracts for the removal of lead from soil: The role of CAM plant harvest phase and soil properties. *Environmental Science and Pollution Research*, Vol. 30, Pages 798-810
- J. Al Alam, M. Millet, M. Harb, E. Akoury, S. Tokajian, and M. Wazne\* (2023), Field evaluation of metal bioaccumulation in the gastropod *Helix aspersa* at agricultural and industrial sites in Lebanon. *Environmental Monitoring and Assessment*, Vol. 195, Art. 197
- C. Sawaya, L. Ramadan, C. El Khoury, J. Al Alam, M. Wazne, and M. Harb\* (2022), Targeted pressure-based development of membrane biofilms improves anaerobic membrane bioreactor effluent quality. *Environmental Science: Water Research & Technology*, Vol. 8, Iss. 9, Pages 1859-1873
- C. Sawaya, C. El Khoury, L. Ramadan, R. Deeb, and M. Harb\* (2022), Effects of influent municipal wastewater microbial community and antibiotic resistance gene profiles on anaerobic membrane bioreactor effluent. *Water Reuse*, Vol. 12, Iss. 3, Art. 305
- M. Abdallah, S. Greige, H. Beyenal, M. Harb, and M. Wazne\* (2022), Investigating microbial dynamics and potential advantages of anaerobic co-digestion of cheese whey and poultry slaughterhouse wastewaters. *Scientific Reports*, Vol. 12, Art. 10529
- J. Al Alam, M. Millet, D. Khoury, A. Rodrigues, M. Harb, E. Akoury, S. Tokajian and M. Wazne\* (2022), Snails as Temporal Biomonitors of the Occurrence and Distribution of Pesticides in an Apple Orchard. *Atmosphere*, Vol. 13, Art. 1185
- C. Sawaya and M. Harb\* (2021), Considering the prospect of utilizing anaerobic membrane biofouling layers advantageously for the removal of emerging contaminants. *Frontiers in Chemical Engineering*, Vol. 3, Art. 642280
- M. Harb, A. Zarei-Baygi, P. Wang, C. Sawaya, D. L. McCurry, L.B. Stadler, and A.L. Smith\* (2021), Antibiotic transformation in an anaerobic membrane bioreactor linked to membrane biofilm microbial activity. *Environmental Research*, Vol. 200, Art. 111456
- A. Zarei-Baygi, P. Wang, M. Harb, L.B. Stadler, and A.L. Smith\* (2020), Membrane fouling inversely impacts intracellular and extracellular antibiotic resistance gene abundances in the effluent of an anaerobic membrane bioreactor. *Environmental Science & Technology*, Vol. 54, Iss. 13, Pages 12742-12751
- M. Harb, N. Ermer, C. Sawaya, and A.L. Smith\* (2020), Increased applied voltage in the

presence of GAC enhances microbial activity and methane production during anaerobic digestion of food waste. *Environmental Science: Water Research & Technology*, Vol. 6, Iss. 3, Pages 737-746

- E. Lou, M. Harb, A.L. Smith, and L.B. Stadler\* (2020), Livestock manure improved antibiotic resistance gene removal during co-treatment of domestic wastewater in an anaerobic membrane bioreactor. *Environmental Science: Water Research & Technology*, Vol. 6, Iss. 10, Pages 2832-2842
- A. Zarei-Baygi, M. Harb, P. Wang, L.B. Stadler, and A.L. Smith\* (2020), Microbial community and antibiotic resistance profiles of biomass and effluent are distinctly affected by antibiotics addition to an anaerobic membrane bioreactor. *Environmental Science: Water Research & Technology*, Vol. 6, Iss. 3, Pages 724-736
- M. Harb, P. Wang, A. Zarei-Baygi, M.H. Plumlee, and A.L. Smith\* (2019), Background Antibiotic Resistance and Microbial Communities Dominate Effects of Advanced Purified Water Recharge to an Urban Aquifer. *Environmental Science & Technology Letters*, Vol. 6, Iss.10, Pages 578-584
- M. Harb, E. Lou, A.L. Smith, and L.B. Stadler\* (2019), Perspectives on the fate of micropollutants in mainstream anaerobic wastewater treatment. *Current Opinion in Biotechnology*, Vol. 57, Pages 94-100
- A. Zarei-Baygi, M. Harb, P. Wang, L.B. Stadler, and A.L. Smith\* (2019), Evaluating Antibiotic Resistance Gene Correlations with Antibiotic Exposure Conditions in Anaerobic Membrane Bioreactors. *Environmental Science & Technology*, Vol. 53, Iss. 7, Pages 3599-3609
- S. Chen, M. Harb, P. Sinha, and A.L. Smith\* (2018), Revisiting greenhouse gas mitigation from conventional activated sludge and anaerobic-based wastewater treatment systems. *Environmental Science: Water Research & Technology*, Vol. 4, Iss.11, Pages 1739-1758
- M. Harb and P.Y. Hong\* (2017), Molecular-based detection of potentially pathogenic bacteria in membrane bioreactor (MBR) systems treating municipal wastewater: a case study. *Environmental Science and Pollution Research*, Vol. 24, Iss. 6, Pages 5370-5380
- M. Harb and P.Y. Hong\* (2017), Anaerobic membrane bioreactor effluent reuse: a review of microbial safety concerns. *Fermentation*, Vol. 3, Iss. 3, Pages 39-67
- Y. Xiong, M. Harb, and P.Y. Hong\* (2017), Performance and microbial community variations of anaerobic digesters under increasing tetracycline concentrations. *Applied Microbiology and Biotechnology*, Vol. 101, Iss.13, Pages 5505-5517
- G. Scarascia, H. Cheng, M. Harb, and P.Y. Hong\* (2017), Application of hierarchical oligonucleotide primer extension (HOPE) to assess relative abundances of ammonia- and nitrite-oxidizing bacteria. *BMC Microbiology*, Vol. 17, Iss. 1, Article No. 85
- M. Harb, C.H. Wei, N. Wang, G. Amy, and P.Y. Hong\* (2016), Organic micropollutants in aerobic and anaerobic membrane bioreactors: Changes in microbial communities and gene expression. *Bioresource Technology*, Vol. 218, Pages 882-891
- Y. Xiong, M. Harb and P.Y. Hong\* (2016), Characterization of biofoulants illustrates different membrane fouling mechanisms for aerobic and anaerobic membrane bioreactors. *Separation and Purification Technology*, Vol. 157, Pages 192-202
- M. Harb, Y. Xiong, J.S. Guest, G. Amy, P.Y. Hong\* (2015), Differences in microbial communities and performance between suspended and attached growth anaerobic membrane bioreactors treating synthetic municipal wastewater. *Environmental Science: Water Research & Technology*, Vol. 1, Iss. 6, Pages 800-813
- N. Al-Jassim, M.I. Ansari, M. Harb, and P.Y. Hong\* (2015), Removal of bacterial contaminants and antibiotic resistance genes by conventional wastewater treatment processes in Saudi Arabia: Is the treated wastewater safe to reuse for agricultural irrigation? *Water Research*, Vol. 73, Pages 277-290

- M.I. Ansari, M. Harb, B. Jones, and P.Y. Hong\* (2015), Molecular-based approaches to characterize coastal microbial community and their potential relation to the trophic state of Red Sea. *Scientific Reports*, Vol. 5, Art. No. 9001
- C.H. Wei\*, M. Harb, G. Amy, P.Y. Hong, and T.O. Leiknes (2014), Sustainable organic loading rate and energy recovery potential of mesophilic anaerobic membrane bioreactor for municipal wastewater treatment. *Bioresource Technology*, Vol. 166, Pages 326–334

## **PATENTS**

- P. Hong, M. Harb, H. Cheng, and N. Augsburger (2023), Anaerobic membrane bioreactor coupled with UV advanced disinfection process for wastewater treatment. *US Patent App.*, Appl. No.: 17/921,202, Pub. No.: US20230166995A1

## **INVITED PRESENTATIONS**

- M. Harb (2024), Mitigating emergent health threats in wastewaters to improve water reuse safety and sustainability. *Northern New Mexico College (NNMC) Biology, Chemistry, and Environmental Science Seminar*
- M. Harb (2022), Addressing emerging contaminants in wastewater: The role of biofilm-based strategies in anaerobic treatment systems. *NMT Chemistry Department Seminar*, Socorro, NM
- M. Harb (2022), Treatment of industrial wastewaters using anaerobic membrane bioreactors (AnMBRs). *2<sup>nd</sup> USAID Workshop for advancing anaerobic digestion in the upper Litani basin for industrial waste treatment*, Beirut, Lebanon
- M. Harb (2022), Membrane biofilm-based strategies in anaerobic membrane bioreactors to improve mitigation of emerging contaminants. *KAUST Water Desalination and Reuse Center (WDRC) Seminar*, Thuwal, Saudi Arabia
- M. Harb (2021), Coupling membrane separation with anaerobic digestion for treatment of diverse waste streams. *1<sup>st</sup> USAID Workshop for advancing anaerobic digestion in the upper Litani basin for industrial waste treatment*, Beirut, Lebanon
- M. Harb (2020), Interpreting the implications of observed antibiotic resistance gene data in various water reuse scenarios. *Webinar for the DAM Chair for Integral Management and Resource Recovery of Wastewater at the University of Valencia*, Valencia, Spain
- M. Harb (2019), Implications of Contaminants of Emerging Concern (CECs) on Water Reuse in the Arab Region: Exploring sustainable decentralized treatment solutions. *7<sup>th</sup> National Academies' Arab-American Frontiers of Sci., Eng. and Medic. Symposium*, Cairo, Egypt
- M. Harb (2019), Considering the Ethical Implications of Promoting Reclaimed Water Reuse for Agricultural Applications in Lebanon. *UNESCO Commission on the Ethics of Scientific Knowledge and Technology Conference*, Beirut, Lebanon

## **CONFERENCE PRESENTATIONS** (presenter underlined)

- A. Tomlinson, L. Ramadan, and M. Harb (2025), Polyvalent bacteriophages to mitigate the spread of antibiotic resistance in treated wastewater effluents. *2025 Annual NM-INBRE Symposium*, Santa Fe, NM, USA ([oral presentation](#))
- L. Ramadan and M. Harb (2025), Advanced wastewater treatment to address emerging contaminants: Potential of dynamic versus conventional membranes to enhance effluent safety in anaerobic MBRs, *American Chemical Society (ACS) Rocky Mountain Regional Meeting 2025*, Albuquerque, NM, USA ([oral presentation](#))
- A. Sharma, L. Ramadan and M. Harb (2025), Impacts of chlorination on antibiotic resistance in treated wastewater effluent discharges and receiving irrigation canals, *American Chemical*

*Society (ACS) Rocky Mountain Regional Meeting 2025, Albuquerque, NM, USA (poster)*

- A. Tomlinson and M. Harb (2025), Polyvalent bacteriophages to combat antibiotic resistance spread during anaerobic wastewater treatment. *11th IWA Microbial Ecology and Water Engineering (MEWE) Conference, Atlanta, GA, USA (poster)*
- A. Sharma, L. Ramadan, K. Baloun, and M. Harb (2025), Impacts of chlorinated wastewater effluent discharge on antibiotic resistance in irrigation canals. *11th IWA Microbial Ecology and Water Engineering (MEWE) Conference, Atlanta, GA, USA (poster)*
- L. Ramadan and M. Harb (2025), Dynamic versus conventional membranes in anaerobic MBRs: Biofilm makeup and effluent safety considerations. *11th IWA Microbial Ecology and Water Engineering (MEWE) Conference, Atlanta, GA, USA (poster)*
- M. Abdallah, S. Greige, M. Harb, H. Beyenal, M. Wazne (2025), Electrochemically active biofilms growing on working and counter electrodes in bioelectrochemical systems. *ASM Microbe 2025, Los Angeles, CA, USA (poster)*
- L. Ramadan, A. Sharma, and M. Harb (2025), Treated wastewater discharge impact on irrigation canal waters: Effects of chlorination on the spread of antibiotic resistance. *2025 Western Regional IDeA Conference, Anchorage, AK, USA (oral presentation)*
- L. Ramadan, A. Sharma, K. Baloun, and M. Harb (2024), Investigating emerging microbial contaminants in water sources applicable for indirect agricultural reuse. *2024 Annual NM-INBRE Symposium, Las Cruces, NM, USA (oral presentation)*
- L. Ramadan and M. Harb (2024), Biofilms of polymeric and dynamic membranes in anaerobic MBRs: Mitigation of antibiotic resistance in treated effluents. *American Chemical Society (ACS) Fall 2024 National Meeting, Denver, CO, USA (oral presentation)*
- L. Ramadan, C. Sawaya, M. Wazne, and M. Harb (2024), Anaerobic membrane biofilm microbiomes and their role in emerging pollutant removal from wastewater streams. *American Chemical Society (ACS) Fall 2024 National Meeting, Denver, CO, USA (oral presentation)*
- L. Ramadan and M. Harb (2024), Effluent safety of anaerobic dynamic membrane bioreactors (AnDMBRs): Intracellular and extracellular antibiotic resistance gene profiles. *18<sup>th</sup> International Water Association (IWA) World Congress on Anaerobic Digestion, Istanbul, Turkey (poster)*
- L. Ramadan, C. Sawaya, R. Deeb, C. El Khoury, M. Wazne, and M. Harb (2023), Assessing anaerobic membrane bioreactor suitability for treatment of diverse influent types: A look into effluent antibiotic resistance gene and microbial community variability. *2023 AEESP Research and Education Conference, Boston, MA, USA (oral presentation)*
- L. Ramadan, R. Deeb, C. El Khoury, C. Sawaya, and M. Harb (2023), Insights into membrane biofilms and their potential role in enhancing micropollutant degradation during mainstream anaerobic wastewater treatment. *2023 AEESP Research and Education Conference, Boston, MA, USA (poster)*
- C. Sawaya, L. Ramadan, C. El Khoury, J. Al Alam, M. Wazne, and M. Harb (2022), Assessing membrane biofilm predevelopment strategies to improve anaerobic membrane bioreactor effluent quality. *17<sup>th</sup> International Water Association (IWA) World Congress on Anaerobic Digestion, Ann Arbor, MI, USA (oral presentation)*
- C. El Khoury, R. Deeb, C. Sawaya, L. Ramadan, and M. Harb (2022), Tetracycline addition to an anaerobic membrane bioreactor and antibiotic resistance gene proliferation from different membrane types. *17<sup>th</sup> International Water Association (IWA) World Congress on Anaerobic Digestion, Ann Arbor, MI, USA (oral presentation)*
- L. Ramadan, R. Deeb, C. Sawaya, C. El Khoury, M. Wazne, and M. Harb (2022), Poultry slaughterhouse wastewater treatment by an anaerobic membrane bioreactor: Evaluation of system performance and key microbial elements. *17<sup>th</sup> International Water Association (IWA)*

*World Congress on Anaerobic Digestion*, Ann Arbor, MI, USA ([oral presentation](#))

- M. Abdallah, S. Greige, M. Harb, and [M. Wazne](#) (2022) Enhancement of start-up and performance of a UASB reactor through electrochemical enrichment of biofilm. *17<sup>th</sup> International Water Association (IWA) World Congress on Anaerobic Digestion*, Ann Arbor, MI, USA ([poster](#))
- C. Sawaya, C. El Khoury, L. Ramadan, R. Deeb, and [M. Harb](#) (2022), Interpreting domestic wastewater antibiotic resistance gene profile influence on treated effluents for an anaerobic membrane bioreactor. *12<sup>th</sup> Micropol & Ecohazard Conference of the International Water Association (IWA)*, Santiago de Compostela, Spain ([oral presentation](#))
- [C. Sawaya](#), L. Ramadan, J. Al-Alam, M. Wazne, and M. Harb (2021), Effect of membrane biofilms and transmembrane velocity in an anaerobic membrane bioreactor on effluent quality and dissolved methane. *9<sup>th</sup> Microbial Ecology and Water Engineering (MEWE) Conference of the International Water Association (IWA)*, Delft, Netherlands ([virtual oral presentation](#))
- [M. Harb](#) (2021), Anaerobic membrane biofilm development for mitigating the threat of antibiotics in wastewater. *8<sup>th</sup> National Academies' Arab-American Frontiers of Science, Engineering and Medicine Symposium*, Doha, Qatar ([virtual poster](#))
- [M. Harb](#), N. Ermer, and A.L. Smith (2019), Impact of applied voltage on methane production and microbial activity in anaerobic digesters in the presence of granular activated carbon (GAC). *16<sup>th</sup> International Water Association (IWA) Conference on Anaerobic Digestion*, Delft, Netherlands ([oral presentation](#))
- A. Zarei-Baygi, [P. Wang](#), M. Harb., L.B. Stadler, and A.L. Smith (2019), Evaluating antibiotic resistance proliferation in anaerobic membrane bioreactors under different antibiotic exposure conditions. *16<sup>th</sup> International Water Association (IWA) Conference on Anaerobic Digestion*, Delft, Netherlands ([oral presentation](#))
- [A. Zarei-Baygi](#), M. Harb, P. Wang, L.B. Stadler, and A.L. Smith (2019), Role of membrane foulant layers in antibiotic resistance gene fate from anaerobic membrane bioreactors. *AEESP Research and Education Conference*, Tempe, AZ, USA ([poster](#))
- [P. Wang](#), M. Harb, A. Zarei-Baygi, L.B. Stadler, and A.L. Smith, (2019), The effect of elevated antibiotic levels on intracellular and extracellular antibiotic resistance genes in AnMBR effluent. *AEESP Research and Education Conference*, Tempe, AZ, USA ([poster](#))
- [M. Harb](#), A. Zarei-Baygi, P. Wang, and A.L. Smith (2018), Potential reduction of antibiotic resistance proliferation in anaerobic membrane bioreactor (AnMBR) microbial communities. *17<sup>th</sup> International Society of Microbial Ecology (ISME) Conference*, Leipzig, Germany ([poster](#))
- [A. Zarei-Baygi](#), M. Harb, P. Wang, L.B. Stadler, and A.L. Smith (2018), Investigation of anaerobic membrane bioreactor (AnMBR) potential to reduce antibiotic resistance proliferation and promote wastewater reuse. *256<sup>th</sup> American Chemical Society (ACS) National Meeting*, Boston, MA, USA ([oral presentation](#))
- [M. Harb](#) and P.Y. Hong (2016), Molecular-based detection of potentially pathogenic bacteria in aerobic and anaerobic membrane bioreactors: comparison of removal rates and risk during reuse events. *7<sup>th</sup> Microbial Ecology and Water Engineering (MEWE) Conference of the International Water Association (IWA)*, Copenhagen, Denmark ([poster](#))
- [M. Harb](#), C.H. Wei, N. Wang, G. Amy, and P.Y. Hong (2016), Organic micropollutants in aerobic and anaerobic MBRs: microbial communities, antibiotic resistance genes, and gene expression. *7<sup>th</sup> Microbial Ecology and Water Engineering (MEWE) Conference of the International Water Association (IWA)*, Copenhagen, Denmark ([poster](#))
- [G. Scarascia](#), H. Cheng, M. Harb, and P.Y. Hong (2016), Correlating the relative abundance of ammonia- and nitrite-oxidizing bacteria with nitrification performance using hierarchical oligonucleotide primer extension (HOPE). *7<sup>th</sup> Microbial Ecology and Water Engineering (MEWE)*

*Conference of the International Water Association (IWA), Copenhagen, Denmark (poster)*

- M. Harb, C.H. Wei, N. Wang, G. Amy, and P.Y. Hong (2016), Effect of organic micropollutants on the microbial populations of both aerobic and anaerobic MBRs. *Singapore International Water Week (SIWW) 2016*, Singapore (poster)
- M. Harb, Y. Xiong, J. Guest, G. Amy, and P.Y. Hong (2015), Microbial dynamics and membrane biofouling in suspended and attached growth anaerobic membrane bioreactors treating synthetic municipal wastewater. *250<sup>th</sup> American Chemical Society (ACS) National Meeting*, Boston, MA, USA (oral presentation)
- P.Y. Hong, N. Al-Jassim, M.I. Ansari, and M. Harb (2015), Removal of bacterial contaminants and antibiotic resistance genes by conventional wastewater treatment processes in Saudi Arabia: Is the treated wastewater safe to reuse for agricultural irrigation? *250<sup>th</sup> American Chemical Society (ACS) National Meeting*, Boston, MA, USA (oral presentation)
- M. Harb, C.H. Wei, N. Wang, G. Amy, and P.Y. Hong (2014), Organic micro-pollutant (OMP) spiking effect on microbial populations of aerobic and anaerobic membrane bioreactors (MBRs). *248<sup>th</sup> American Chemical Society (ACS) National Meeting*, San Francisco, CA, USA (poster)
- M.I. Ansari, M. Harb, B. Jones, and P.Y. Hong (2014), Effect of anthropogenic contamination on marine water microbial community of the Red Sea. *15<sup>th</sup> International Symposium of Microbial Ecology (ISME)*, Seoul, South Korea (poster)
- Y. Xiong, M. Harb, G. Amy, and P.Y. Hong (2014), Characteristics of soluble microbial products and bound extracellular polymeric substances in anaerobic membrane bioreactors. *1<sup>st</sup> IWA EPS Slime Conference*, Essen, Germany (poster)
- Y. Xiong, M. Harb, and P.Y. Hong (2014), Size Distribution of extracellular polymeric substances and soluble microbial products in upflow attached anaerobic membrane bioreactors. *4<sup>th</sup> MBR Workshop for the Next Generation and Waste-to-Energy Conversion*, Gunsan, Korea (oral presentation)
- M. Harb, C.H. Wei, N. Wang, G. Amy, and P.Y. Hong (2013), Initial Microbial Population Dynamics of Anaerobic Membrane Bioreactors (AnMBRs) in Attached Growth and Continuously Stirred Reactors. *7<sup>th</sup> Microbial Ecology and Water Engineering (MEWE) Conference of the International Water Association (IWA)*, Ann Arbor, MI, USA (poster)

## **RESEARCH SUPPORT**

ERI: Dynamic membranes in anaerobic wastewater treatment systems: Enhancing mitigation of emerging microbial threats to promote safe water reuse (PI)

*National Science Foundation (NSF)* \$199,795 (2023-2026)

Isolation of polyvalent phages to suppress spread of antibiotic resistance in wastewater (PI)

*NM-IDeA Networks of Biomed. Research Excellence (NM-INBRE)* \$61,019 (2024-2026)

Assessment of fungal pathogen occurrence in Rio Grande irrigation canals (PI)

*NM-IDeA Networks of Biomed. Research Excellence (NM-INBRE)* \$53,082 (2023-2024)

Evaluation and development of anaerobic membrane bioreactor (AnMBR) technology to promote unrestricted wastewater reuse and mitigate surface water quality in the Mediterranean region (PI)

Co-PIs: A. Robles (Univ. de València), C. Guigui (INSA-Toulouse), and A. El-Awwad (Cairo Univ.)  
*Partnership for Res. and Innov. in the Mediterranean Area (PRIMA)* €385,000 (2020-2022)

## **PROFESSIONAL MEMBERSHIPS**

- Association of Environmental Engineering & Science Professors (AEESP)
- International Water Association (IWA)
- Texas Board of Professional Engineers and Land Surveyors

## **CERTIFICATIONS AND AWARDS**

- Professional Engineer (State of Texas), Issued December 2010 (License No. 107375)
- KAUST Academic Fellowship, 2012-2017
- John Malloy Endowed Graduate Fellowship, 2008-2010
- University of Houston Academic Excellence Scholarship, 2003-2007

## **ACADEMIC SERVICE**

- Computing on Campus Committee, 2023-2025
- 4<sup>th</sup> LAU Strategic Plan Committee, 2021-2022
- University Faculty Senate (Vice Chair), 2021-2022
- School of Engineering Academic Committee (Member), 2021-2022
- School of Engineering Student Affairs Committee (Chair), 2020-2022
- School of Engineering Student Affairs Committee (Member), 2019-2020
- Department Graduate Program Advisory Committee (Member), 2019-2022
- School of Engineering Summer Camp Ad-Hoc Committee (Member), 2019

## **PROFESSIONAL SERVICE**

### *Professional Society Contributions*

- Organizing Committee, 17<sup>th</sup> IWA World Congress on Anaerobic Digestion (2022)
- Scientific Committee, 17<sup>th</sup> IWA World Congress on Anaerobic Digestion (2022)
- Session Moderator, 17<sup>th</sup> IWA World Congress on Anaerobic Digestion (2022)
- Co-host, AEESP distinguished lecture series at UTEP (2024)
- Co-host, AEESP distinguished lecture series at UNM (2026)
- Scientific Committee, 19<sup>th</sup> IWA World Congress on Anaerobic Digestion (2026)

### *Journal Review Contributions*

- Manuscript Reviewer, ACS ES&T Water
- Manuscript Reviewer, Bioresource Technology
- Manuscript Reviewer, Bioresource Technology Reports
- Manuscript Reviewer, Chemical Engineering Journal
- Manuscript Reviewer, Chemosphere
- Manuscript Reviewer, Environmental Science and Technology
- Manuscript Reviewer, Environment International
- Manuscript Reviewer, Environmental Science: Water Research and Technology
- Manuscript Reviewer, Environmental Pollution
- Manuscript Reviewer, Environmental Science and Pollution Research
- Manuscript Reviewer, Frontiers in Environmental Science
- Manuscript Reviewer, Frontiers in Microbiology

- Manuscript Reviewer, Journal of Membrane Science
- Manuscript Reviewer, Journal of Hazardous Materials
- Manuscript Reviewer, Journal of Water Process Engineering
- Manuscript Reviewer, Process Safety and Environmental Protection
- Manuscript Reviewer, Scientific Reports
- Manuscript Reviewer, Science of the Total Environment
- Manuscript Reviewer, Separation and Purification Technology
- Manuscript Reviewer, Water Research
- Manuscript Reviewer, Water Science and Technology