

## **CURRICULUM VITA (CV): Professor Gary L. Amy, PhD**

### **Contact Information**

Dean's Distinguished Professor  
College of Engineering, Computing, and Applied Science  
School of Civil and Environmental Engineering  
Department of Environmental Engineering and Earth Science  
Clemson University  
Clemson, South Carolina 29632 USA  
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### **Education**

Doctor of Philosophy (Ph.D.) in Civil/Environmental Engineering  
University of California at Berkeley, 1978  
  
Master of Science (M.S.) in Civil Engineering  
San Jose State University, 1971  
  
Bachelor of Science (B.S.) in Civil Engineering  
San Jose State University, 1970

### **Major Field**

Environmental Engineering with Emphasis on Drinking Water Quality and Treatment, Wastewater Reclamation and Reuse, Seawater Desalination, and Aquatic Chemistry; Areas of Research: Membrane Technology, Low-Energy Desalination, Selective Adsorbents, Disinfection By-Products, Natural Organic Matter, Ozone/Advanced Oxidation, Soil Aquifer Treatment and Riverbank Filtration, Subsurface Contaminant Transport, Arsenic, Trace Organic Compounds, Trace Inorganic Compounds.

### **Employment**

Dean's Distinguished Professor (part-time); College of Engineering, Computing, and Applied Science; Environmental Engineering and Earth Science, Clemson University; Clemson, South Carolina 29632 USA (*July 2014 - Present*)  
  
Visiting Professor (part-time); Department of Chemical and Biomolecular Engineering, National University of Singapore (*July 2014 – June 2023*)  
  
Emeritus Professor of Environmental Science and Engineering, King Abdullah University of Science and Technology (KAUST) Thuwal 23955-6900, Saudi Arabia (*July 2014 – Present*)  
  
Director of Water Desalination and Reuse Center and Professor of Environmental Science and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia (*June 2009 - June 2014*))

Chaired Professor of Water Supply and Sanitation, UNESCO-IHE Institute for Water Education, Delft, Netherlands (2005 – 2009)

Professor of Sanitary Engineering (zero appointment), Technical University of Delft, Delft, Netherlands, (2005 – 2009)

Emeritus Professor of Environmental Engineering, Civil, Environmental, & Architectural Engineering, University of Colorado, Boulder (2005 – Present)

Professor of Environmental Engineering, Civil, Environmental, & Architectural Engineering, University of Colorado, Boulder (1990 – 2005)

DFG Mercator Guest Professor, Department of Water Quality Control, Technical University of Berlin, Sabbatical Leave (2003-2004)

Visiting Distinguished Research Scientist, Kyoto University, Japan (Summer 2001)

Visiting Research Scientist/Engineer, Compagnie Generale des Eaux and Universite de Poitiers, France, Sabbatical Leave (1996-1997)

Professor (1989 - 1990), Associate Professor (1984-1989), and Assistant Professor (1978 - 1984), Environmental Engineering Program, University of Arizona

Visiting Research Scholar, Drinking Water Research Center, Florida International University, Miami, Florida, Sabbatical Leave (Fall Semester, 1985)

Environmental Engineer, URS Research Company, San Mateo, California (1972 -1974)

## **Research Grants**

### ***Clemson Grants (2014 – Present)***

Social, Environmental, and Economic Benefits and Costs of Integrating Controlled Environment Agriculture and Non-Conventional Water, \$650,000, November 1, 2024 – October 31, 2027; PI: Dawoon Jeong; Co-PIs: Alba Collert, Gary Amy, R. Karthikeyan.

Nanobubbles for Mitigating Membrane Fouling: A Novel Approach to Anti-fouling and De-fouling, Water Reuse Foundation (WRF), \$175,000, April 1, 2025 – September 30, 2026 PI: Tanju Karanfil, Co-PIs: David Ladner and Gary Amy.

A Hydroponic Greenhouse Platform for Cultivation of Salt-Tolerant Crops with Integrated Saline Water Irrigation and Salinity Management, \$10,000,000, U.S. Department of Agriculture (USDA) Sustainable Agricultural Systems (SAS), April 1, 2023 – February 2028; Clemson University (Lead), University of Florida, and USDA ARS; PI: R. Karthikeyan; Co-PIs: Gary Amy, Dale Layfield, and Kenneth Robinson; University of Florida Co-PI: Melanie Correll; USDA ARS Co-PI: C. S. Kousik.

Climate Resilient Sustainable Food Production: Controlled Environment Hydroponic Agriculture with Novel Wastewater Treatment & Reuse, \$1,500,000, U.S. National Science Foundation, January 1, 2023 – December 31, 2025; PI: David Ladner; Co-PIs: Gary Amy, Jeff Adelberg, R. Karthikeyan, and Diana Vanegas.

Anaerobic Membrane Bioreactors as a Next Generation Technology to Address the Food-Energy-Water Nexus, \$300,000, U.S. National Science Foundation, March 1, 2018 – February

28' 2020; PI; Scott Husson; Co-PIs: Sudeep Popat and Gary Amy

Formation and Toxicity of Disinfection Byproducts in Desalinated Waters, U.S. National Science Foundation, \$340,000, May 1, 2015 – April 30, 2018, PI: Gary Amy; co-PIs: Tanju Karanfil, and Michael Plewa.

### ***National University of Singapore (2014 – 2023)***

Singapore National Membrane Consortium (SG-MEM), Singapore National Research Foundation, SG\$1,500,000, July 1, 2018 – June 30, 2021, co-PIs: Adil Dhalla and Gary Amy.

Seed Fund: Membrane Science and Technology Consortium, NUS Internal Funding, S\$400,000, April 1, 2015 – March 31, 2018, PI: Gary Amy

### ***KAUST Projects (2009 – 2014)***

KAUST Seed Fund Program: Hybrid Osmosis Process for Water Desalination and Reuse; \$200,000, 2013 – 2014; Co-PIs: Gary Amy, Rodrigo Valladares, Zhenyu Li, Lijo Francis, Muhannad Abu-Ghdaib

CGR AEA Program: Advancement of Anaerobic Membrane Bioreactor (anMBR) Technology via Quantitative Sustainable Design, \$120,000; Partner: University of Illinois at Urbana-Champaign; Co-PIs: Gary Amy and Peiying Hong; Sept 2012 – Sept 2014

KAUST GCR AEA Program: Anaerobic Membrane Bioreactor (AnMBR) with Nanofiltration (NF) Membrane: A Novel Approach to Energy Recovery and Enhanced Performance (Fouling Reduction and Organic Micropollutant Elimination), GCR AEA Call, \$150,000, July 1 2010 – June 30 2013, GCR Partner: University of Illinois at Urbana-Champaign; PI: G. Amy

GS E&C (Korea); Seawater Desalination Using Forward Osmosis (FO)-Reverse Osmosis Hybrid; \$250,000, 2010 – 2012; PI: G. Amy

Sabic; Alternative Treatment of Seawater Cooling Tower –Using Ozone Microbubbles and Chlorine Dioxide; \$381,000, 2011 – 2013; Co-PIs: Shahnawaz Sinha, Noredine Ghaffour, Kim Choon Ng, Hans Vrouwenvelder, Gary Amy

### ***UNESCO-IHE and TU-Delft Projects (2005 – 2009)***

From 2005, Dr. Amy was the recipient of eight major European and Dutch research grants/contracts worth approximately €1,350,000.

### ***Prior to 2005***

Before 2005, Dr. Amy was, either as a principal investigator or co-principal investigator, the recipient of about 75 research grants/contracts in North America worth about US\$6,500,000 of funding over a 26+ year period.

### **Awards**

2017 A. P. Black Research Award from the American Water Works Association (AWWA)

General Electric-National University of Singapore (GE-NUS) Distinguished Visiting Scientist, invited and hosted by the NUS Environmental Research Institute (NERI) in recognition of outstanding contributions to the water industry, Singapore, October 2014.

Served as Ph.D. Dissertation Advisor to NoHwa Lee, Recipient of the First Place AWWA Academic Achievement Award for Best Dissertation, 2004.

Appointed as DFG Mercator Professor at Technical University of Berlin, 2003-2004.

Recipient of Fulbright Award for Germany, 2003-2004.

Served as Ph.D. Dissertation Advisor to Namguk Her, Recipient of the Second Place AWWA Academic Achievement Award for Best Dissertation, 2003.

Invited as Distinguished Lecturer, Korea Brain 21 Program, 2002

Appointed as Distinguished Research Scientist at Kyoto University, Summer 2001.

Co-recipient of AWWA Publication Award, Best Paper in Journal AWWA, 1999.

Co-recipient of AWWA Publication Award, Best Water Quality Division Paper, 1999.

Served as Ph.D. Dissertation Advisor to Ken Carlson, Recipient of the First Place AWWA Academic Achievement Award for Best Dissertation, 1997.

Co-recipient of the Water Environment Federation's 1996 McKee Award for WEF research journal article "Water Quality Changes during Soil Aquifer Treatment of Tertiary Effluent", 1996.

Served as Ph.D. Dissertation Director for Mohamed Siddiqui, Recipient of I.O.A. Hallopeau Award for Outstanding Dissertation in Ozone Research, 1993.

Served as Ph.D. Dissertation Director for Cynthia Paulson, Recipient of Holly Cornell Award, 1991.

Served as Ph.D. Dissertation Director for Michael R. Collins, Recipient of Second Place Academic Achievement Award, Presented by the American Water Works Association, 1986.

Served as M. S. Thesis Advisor for Stephen King, Recipient of Second Place Academic Achievement Award, Presented by the American Water Works Association, 1982.

## **PhD Student Supervision**

*Dr. Amy has successfully graduated 53 Ph.D. students (ten hold academic appointments).*

### **2014 PhD Graduates:**

Craig Werner, Integrating Microbial Electrochemical Technology with Forward Osmosis and Membrane Bioreactors: Low-Energy Wastewater Treatment, Energy Recovery and Water Reuse, PhD Dissertation, King Abdullah University of Science and Technology (KAUST), PhD Co-Supervisors: Gary Amy and Pascal Saikaly (June) 2014.

Ahmad AlSaadi, The Effect of Non-condensable Gases Removal on Air Gap Membrane Distillation: Experimental and Simulation Studies, PhD Dissertation, King Abdullah University of Science and Technology (KAUST), PhD Co-Supervisors: Noredine Ghaffour and Gary Amy (April) 2014.

Riaan van der Merwe, Marine monitoring and environmental management of SWRO concentrate discharge: A case study of the KAUST SWRO plant, King Abdullah University of Science and Technology (KAUST), PhD Co-Supervisors: Gary Amy and Sabine Lattemann (June) 2014.

Ahmed AlHamadat, Soil Aquifer Treatment (SAT) and Constructed Wetlands (CW) Applications Using Primary and Secondary Wastewater Effluents, PhD Dissertation, King Abdullah University of Science and Technology (KAUST), PhD Co-Supervisor: Gary Amy (June) 2014.

### ***2013 PhD Graduates:***

Juma Hamad, Ceramic Membrane combined with Powdered Activated Carbon (PAC) or Coagulation for Treatment of Impaired Quality Waters, PhD Dissertation, King Abdullah University of Science and Technology (KAUST), PhD Supervisor: Gary Amy (August) 2013.

Chang-Won Ha, Ozonation and/or Coagulation - Ceramic Membrane Hybrid for Filtration of Impaired-Quality Source Waters, King Abdullah University of Science and Technology (KAUST), PhD Supervisor: Gary Amy (August) 2013.

Sairam Sudhakaran, Organic Micropollutants Removal from Water by Oxidation and Other Processes: QSAR Models, Decision Support System and Hybrids of Processes, King Abdullah University of Science and Technology (KAUST), PhD Supervisor: Gary Amy (August) 2013.

Valentine Uwamariyava, Adsorptive removal of heavy-metals from groundwater by iron (hydr) oxides based media, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Co-Supervisor: Gary Amy, (December) 2013.

### ***2012 PhD Graduates:***

Saeed Baghoth, Characterizing Natural Organic Matter in Drinking Water Treatment Processes and Trains, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Co-Supervisor: Gary Amy, (November) 2012.

David de Ridder, Adsorption of Organic Micropollutants onto Activated Carbon and Zeolites, PhD Dissertation, Technical University of Delft, PhD Co-Supervisor: Gary Amy, (November) 2012.

Karin Lekkerkerker-Teunissen, Advanced Oxidation and Managed Aquifer Recharge, PhD Dissertation, Technical University of Delft, PhD Co-Supervisor: Gary Amy, (November) 2012.

### ***2011 PhD Graduates:***

Sergio Salinas-Rodriguez, Particulate and organic matter fouling of seawater reverse osmosis systems: Characterization, modelling and applications, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Co-Supervisor: Gary Amy, (October) 2011.

Tarek Waly, Minimizing the Use of Chemicals to Control Scaling in SWRO, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Supervisor: Gary Amy, (April) 2011.

### ***2010 PhD Graduates:***

Sung Kyu (Andrew) Maeng, Multiple Objective Treatment Aspects of Bank Filtration, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Supervisor: Gary Amy, (Oct) 2010.

Lattemann, Sabine, Development of an Environmental Impact Assessment and Decision Support System for Seawater Desalination Plants, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Supervisor: Gary Amy, (Feb) 2010.

Yangali, Victor, Rejection of Emerging Organic Contaminants by Nanofiltration and Reverse Osmosis Membranes: Effects of Fouling, Modeling, and Water Reuse, PhD Dissertation, UNESCO-IHE Institute for Water Education and Technical University of Delft, PhD Supervisor: Gary Amy, (Feb) 2010.

***Prior to 2005:***

Dr. Amy successfully graduated 37 Ph.D. students at the University of Colorado at Boulder and the University of Arizona.

**Professional Memberships**

American Water Works Association (AWWA)

International Water Association (IWA)

International Desalination Association (IDA)

**(Extramural) Committees (2010 – 2023)**

Co-Organizer, Hot Issues Workshop: The Future of Seawater Desalination: Innovations in Desalting and Brine Management; Singapore International Water Week (SIWW), Singapore April 2022.

Vice President, Membrane Society in Singapore (MEMSIS), 2018 – 2023.

Chair, Technical Management Committee, Singapore National Membrane Consortium (SG-MEM), 2020 - 2023.

Coordinator, NUS Membrane Science and Technology Consortium (MSTC), 2016 – 2023.

Member, Program Committee, Singapore International Water Week, Singapore, 2016 and 2018

Co-Organizer, Hot Issues Workshop: Pre-Treatment Challenges for Desalination, Singapore International Water Week (SIWW), Singapore April 2016.

Member, Program Committee, IWA Water Reuse Conference, Long Beach, 2017

Member, Program Committee, 2<sup>nd</sup> International Symposium on Innovative Desalination Technologies, Geongju, Korea, 2017

Member, Steering Committee, Singapore Separation Technologies Applied Research and Translation (START) Centre, 2016 – 2020.

Member, Environment and Water Industry (EWI) Project Evaluation Panel (PEP), 2014 - 2020

Member, Program Committee, Singapore Technology Innovation Summit, Singapore, 2015

Member, Program Committee, IWA Leading Edge Technologies Conference, Hong Kong, 2015

Member, Program Committee, DesalTech, San Diego, 2015

Member, Program Committee, IWA Leading Edge Technologies Conference, Abu Dhabi, 2015

Member, Program Committee, 1<sup>st</sup> International Symposium on Innovative Technologies in Seawater Desalination, Seoul, 2014

Member, Organizing Committee, Hot Issues Workshop: Next Generation Biotechnologies For Wastewater Treatment, Singapore International Water Week, Singapore, 2014.

Member, International Desalination Association (IDA) R&D Committee, 2010 – 2014.  
Member, IDA Scholarship, Education and Training Committee, 2010 – 2014.  
Member, Research Advisory Committee (RAC) of the WaterReuse Foundation, 2011 – 2013.

## **Refereed Publications/Journal Articles**

*Dr. Amy has over 500 refereed publications in international and national journals including Environmental Science and Technology, ACS Sustainable Chemistry and Engineering, Water Research, Journal of Membrane Science, Separation and Purification Technology, Carbon, Journal of Environmental Engineering, Journal of the American Water Works Association, Ozone: Science and Engineering, Journal of the Water Environment Federation, Colloids and Surfaces, Water Air, and Soil Pollution, Ground Water, Journal of Contaminant Hydrology, Chemosphere, Organic Geochemistry, Applied Energy, Water Science and Technology, Desalination, Aqua, Science of the Total Environment, Revue des Sciences de l'Eau, and Environmental Technology Letters.*

## **Citations and h-Factor**

Based on 521 Journal Articles: 34,302 citations and h-factor = 105, ([www.scopus](https://www.scopus.com)); = 124 based on Google Scholar.

## **Articles from Present to 2005**

### **2024 Articles:**

Use of Reclaimed Municipal Wastewater in Agriculture: Comparison of Present Practice versus an Emerging Paradigm of Anaerobic Membrane Bioreactor Treatment coupled with Hydroponic Controlled Environment Agriculture, A. Alayande, W. Qi, D. Ladner, R. Karthikeyan, Sudeep Papat, and Gary Amy, Water Research 265: 122197 (2024).

Elsharkawy, K., Liu, Y., Amy, G., Liu, C., Sample enrichment of drinking water for biological analyses of disinfection byproducts-associated toxicity: Recent advances, TrAC Trends in Analytical Chemistry, 179:117892 (2024).

Enhanced Diclofenac Abatement by Ferrate in the Presence of Montmorillonite: Trapping In-Situ Formed Fe(III), X. Huang, C. Tian, Y. Fu, C. Hu, G. Amy, C. Liu, Journal of Environmental Chemical Engineering, 12:113160 (2024).

### **2023 Articles:**

Al Namazi, M., Li, S., Ghaffour, N., Leiknes, T., Amy, G., A Fouling Comparison Study of Algal, Bacterial and Humic Organic Matters in Seawater Desalination Pretreatment Using Ceramic UF Membranes, Membranes, 13:2:234 (2023).

### **2022 Articles:**

Rho, H., Yu, P., Zhao, Z., ... Alvarez, P., Amy, G., Westerhoff, P., Inhibition of biofouling on reverse osmosis membrane surfaces by germicidal ultraviolet light side-emitting optical fibers, Water Research, Volume 2241, Article number 119094 (2022).

Luo, J., Maier, R.M., Yu, D., Amy, G.L., Crittenden, J.C., Double-Network Hydrogel: A Potential Practical Adsorbent for Critical Metals Extraction and Recovery from Water

*Environmental Science and Technology*, 56(8):4715–4717 (2022).

Liu, C., Shin, Y.-H., Wei, X., Amy, G., Karanfil, T., Preferential Halogenation of Algal Organic Matter by Iodine over Chlorine and Bromine: Formation of Disinfection Byproducts and Correlation with Toxicity of Disinfected Waters, *Environmental Science and Technology*, 56(2):1244–1256 (2022).

Bahr, C., Jekel, M., Amy, G., Vanadium removal from drinking water by fixed-bed adsorption on granular ferric hydroxide, *AWWA Water Science*, 4(1):1271 (2022).

### **2021 Articles:**

Can Sener, S.E., Thomas, V.M., Hogan, D.E., Maier, R.M., Crittenden, J.C., Amy, G.L., Recovery of Critical Metals from Aqueous Sources, *ACS Sustainable Chemistry and Engineering*, 9(35):11616–11634 (2021).

### **2020 Articles:**

Liu, C., Ersan, M.S., Wagner, E., Amy, G., Karanfil, T., Toxicity of chlorinated algal-impacted waters: Formation of disinfection byproducts vs. reduction of cyanotoxins, *Water Research* 184,116145 (2020).

### **2019 Articles:**

Ersan, M., Liu, C., Amy, G., Plewa, M. Wagner, E., Karanfil, T., Chloramination of iodide-containing waters: Formation of iodinated disinfection byproducts and toxicity correlation with total organic halides of treated waters, *Science of the Total Environment*, 697,134-142 (2019).

Wei, C.-H., Sanchez-Huerta, C., Leiknes, T., Amy, G., Fang, Q., Rong, H., Removal and biotransformation pathway of antibiotic sulfamethoxazole from municipal wastewater treatment by anaerobic membrane bioreactor, *Journal of Hazardous Materials*, 380,120894 (2019).

Liu, C., Ersan, M.S., Plewa, M.J., Amy, G., Karanfil, T., Formation of iodinated trihalomethanes and noniodinated disinfection byproducts during chloramination of algal organic matter extracted from *Microcystis aeruginosa*, *Water Research*, 162: 115-126 (2019).

Kim, Y., Li, S., Francis, L., Linares, R., AlSaadi, A., Abu-Ghdaib, M., Son, H., Amy, G., Ghaffour, N., Osmotically and Thermally Isolated Forward Osmosis-Membrane Distillation (FO-MD) Integrated Module, *Environmental Science and Technology*, 53(7):3488-3498 (2019).

Ersan, M.S., Liu, C., Amy, G., Karanfil, T., The interplay between natural organic matter and bromide on bromine substitution, *Science of the Total Environment*, 646:1172-1181 (2019).

### **2018 Articles:**

Wei, C.-H., Wang, N., HoppeJones, C., Lieknes, T., Amy, G., Fang, Q., Hu, X., Rong, H., Organic micropollutants removal in sequential batch reactor followed by nanofiltration from municipal wastewater treatment, *Bioresource Technology*, 268:648-657 (2018).

Liu, C., Ersan, M.S., Plewa, M.J., Amy, G., Karanfil, T., Formation of regulated and unregulated disinfection byproducts during chlorination of algal organic matter extracted from freshwater and marine algae, *Water Research*, 142:313-324 (2018).

Al-Bloushi, M., Saththasivam, J., Al-Sayeghc, S., Jeong, J., Ng, K.C., Amy, G.L., Leiknes, T., Performance assessment of oxidants as a biocide for biofouling control in industrial seawater cooling towers, *Journal of Industrial and Engineering Chemistry*, 59:127-133 (2018).

### **2017 Articles:**

Al-Bloushi, M., Saththasivam, J., Jeong, S., Amy, G.L., Leiknes, T., Effect of organic on chemical oxidation for biofouling control in pilot-scale seawater cooling towers, *Journal of Water Process Engineering*, Vol. 20; 1-7 (2017).

Krasner, S.W., Cantor, K.P., Weyer, P.J., Hildesheim, M., Amy, G., Case study approach to modeling historical disinfection by-product exposure in Iowa drinking waters, *Journal of Environmental Sciences*, Vol. 58, 183-190 (2017).

Li, X., Cai, T., Amy, G.L., Chung, T.-S., Cleaning strategies and membrane flux recovery on anti-fouling membranes for pressure retarded osmosis, *Journal of Membrane Science*, Vol. 522, 116-123 (2017).

Amy, G., Ghaffour, N., Li, Z., Missimer, T., Lattemann, S., Membrane-based seawater desalination: Present and future prospects, *Desalination*, Vol. 401, 16-21 (2017).

Ge, Q., Amy, G.L., Chung, T.-S., Forward osmosis for oily wastewater reclamation: Multi-charged oxalic acid complexes as draw solutes, *Water Research*, Vol. 122, 580-590 (2017).

Al-Bloushi, M., Saththasivam, J., Al-Sayeghc, S., Amy, G.L., Leiknes, T., Performance assessment of oxidants as a biocide for biofouling control in industrial seawater cooling towers, *Journal of Industrial and Engineering Chemistry*, in-press (2017).

Shehab, N.A., Ortiz-Medina, J.F., Katuri, K.P., Amy, G., Logan, B.E., Saikaly, P.E., Enrichment of extremophilic exoelectrogens in microbial electrolysis cells using Red Sea brine pools as inocula, *Bioresource Technology*, Vol. 239, 82-86 (2017).

Li, Z., Valladares Linares, R., Bucs, S., Leiknes, T., Amy, G., Aquaporin based biomimetic membrane in forward osmosis: Chemical cleaning resistance and practical operation, *Desalination*, Vol. 420, 208-215 (2017).

### **2016 Articles:**

Liu, Q., Qiu, G., Zhou, Z., Amy, G., Xie, J., Lee, J.Y., An Effective Design of Electrically Conducting Thin-Film Composite (TFC) Membranes for Bio and Organic Fouling Control in Forward Osmosis (FO), *Environmental Science and Technology*, Vol. 50, 10596-10605 (2016).

Harb, M., Wei, C.-H., Wang, N., Amy, G., Hong, P.-Y., Organic micropollutants in aerobic and anaerobic membrane bioreactors: Changes in microbial communities and gene expression, *Bioresource Technology*, Vol. 218, 882-891 (2016).

Li, S., Lee, S.-T., Sinha, S., Amy, G.L., Ghaffour, N., Transparent exopolymer particles (TEP) removal efficiency by a combination of coagulation and ultrafiltration to minimize SWRO membrane fouling, *Water Research*, Vol. 102, 485-493 (2016).

Salifu, A., Petrusevski, B., Mwampashi, E.S., (...), Amy, G.L., Kenedy, M.D., Defluoridation of groundwater using aluminum-coated bauxite: Optimization of synthesis process conditions and equilibrium study, *Journal of Environmental Management*, Vol. 181, 108-117 (2016).

Uwamariya, V., Petrushevski, B., Lens, P.N.L., Amy, G.L., Organic micro-pollutants' removal via anaerobic membrane bioreactor with ultrafiltration and nanofiltration, *Journal of Environmental Engineering*, Vol. 142, Issue 9 (2016).

Kim, Y.-D., Thu, K., Ng, K.C., Amy, G.L., Ghaffour, N. A novel integrated thermal-/membrane-based solar energy-driven hybrid desalination system: Concept description and simulation results, *Water Research*, Vol. 100, 7-19 (2016).

Xu, J., Singh, Y.B., Amy, G.L., Ghaffour, N., Effect of operating parameters and membrane characteristics on air gap membrane distillation performance for the treatment of highly saline water, *Journal of Membrane Science*, Vol. 512, 73-82 (2016).

Werner, C.M., Katuri, K.P., Hari, A.R., Amy, G.L., Saikaly, P.E., Graphene-Coated Hollow Fiber Membrane as the Cathode in Anaerobic Electrochemical Membrane Bioreactors - Effect of Configuration and Applied Voltage on Performance and Membrane Fouling, *Environmental Science and Technology*, Vol. 50, 4439-4447 (2016).

Li, S., Winters, H., Jeong, S., Vigneswaran, S., Amy, G.L., Marine bacterial transparent exopolymer particles (TEP) and TEP precursors: Characterization and RO fouling potential, *Desalination*, Vol. 379, 68-74 (2016).

Chen, S.C., Amy, G.L., Chung, T.-S., Membrane fouling and anti-fouling strategies using RO retentate from a municipal water recycling plant as the feed for osmotic power generation, *Water Research*, Vol. 88, 144-155 (2016).

Li, S., Sinha, S., Leiknes, T., Amy, G.L., Ghaffour, N., Evaluation of potential particulate/colloidal TEP foulants on a pilot scale SWRO desalination study, *Desalination*, Vol. 393, 127-134 (2016).

Valladares Linares, R., Li, Z., Yangali-Quintanilla, V., Ghaffour, N., Amy, G., Leiknes, T., Vrouwenvelder, J.S., Life cycle cost of a hybrid forward osmosis - low pressure reverse osmosis system for seawater desalination and wastewater recovery, *Water Research*, Vol. 88, 225-234 (2016).

Linares, R.V., Li, Z., Yangali-Quintanilla, V., Amy, G.L., Ghaffour, N., Hybrid SBR-FO system for wastewater treatment and reuse: Operation, fouling and cleaning, *Desalination*, Vol. 393, 31-38 (2016).

### **2015 Articles:**

Chung, T.-S., Luo, L., Wan, C.F., Cui, Y., Amy, G., What is next for forward osmosis (FO) and pressure retarded osmosis (PRO), *Separation and Purification Technology*, Vol. 156, 856-860, 2015.

Kim, Daekyun, Amy, Gary, Karanfil, Tanju, Disinfection by-product formation during seawater desalination: A review, [Water Research](#), Volume 81, 15 Pages 343-355, 2015.

[Alsaadi, A. S.](#), Francis, L., [Maab, H.](#), Amy, G. L., [Ghaffour, N.](#), Evaluation of air gap membrane distillation process running under sub-atmospheric conditions: Experimental and simulation studies, [Journal of Membrane Science](#), Volume 489, Pages 73-80, 2015.

Shi, M., Printsypar, G., Iliev, O., Calo, V.M. , Amy, G.L., Nunes, S.P., Water flow prediction for membranes using 3D simulations with detailed morphology, *Journal of Membrane Science*, Volume 487, Pages 19-31, 2015.

Li, S., Winters, H., Villacorte, L.O., Ekowati, Y., Emwas, A. H., Amy, G.L., Compositional similarities and differences between transparent exopolymer particles (TEPs) from two marine bacteria and two marine algae: Significance to surface biofouling, *Marine Chemistry*, Volume 174, Pages 131-140, 2015.

Villacorte, L.O., Ekowati, Y., Winters, H., Amy, G., Schippers, J.C., Kennedy, M.D., MF/UF rejection and fouling potential of algal organic matter from bloom-forming marine and freshwater algae, *Desalination*, Volume 367, Pages 1-10, 2015.

Salinas-Rodriguez, S.G., Amy, G.L., Schippers, J.C., Kennedy, M.D., The Modified Fouling Index Ultrafiltration constant flux for assessing particulate/colloidal fouling of RO systems, *Desalination*, Volume 365, Pages 79-91, 2015.

Uwamariya, V., Petrusevski, B., Slokar, Y.M., Aubry, C., Lens, P.N.L., Amy, G.L., Effect of fulvic acid on adsorptive removal of Cr(VI) and As(V) from groundwater by iron oxide-based adsorbents, *Water, Air, and Soil Pollution*, Volume 226, Issue 6, Article number 2193, 2015.

Li, Z., Valladares Linares, R., Bucs, S., Aubry, C., Ghaffour, N., Vrouwenvelder, J.S., Amy, G., Calcium carbonate scaling in seawater desalination by ammonia-carbon dioxide forward osmosis: Mechanism and implications, *Journal of Membrane Science*, Volume 481, Pages 36-43, 2015.

Werner, C.M., Hoppe-Jones, C., Saikaly, P.E., Logan, B.E., Amy, G.L., Attenuation of trace organic compounds (TOrcs) in bioelectrochemical systems, *Water Research*, Volume 73, Pages 56-67, 2015.

Villacorte, L. O., Ekowati, Y., Neu, T.R., Kleijn, J.M., Winters, H., Amy, G., Schippers, J.C., Kennedy, M.D., Characterisation of algal organic matter produced by bloom-forming marine and freshwater algae, *Water Research*, Volume 73, Pages 216-230, 2015.

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**Prior to 2008:**

Ten chapters

**Conference Presentations and Proceedings  
Papers and Conference Proceedings**

Dr. Amy and his colleagues have delivered over 300 papers at national and international conferences, with many published in non-refereed conference proceedings, including the American Water Works (AWWA) Annual Conference, AWWA Water Quality Technology Conference, AWWA Membrane Technology Conference, International Water Association (IWA), International Desalination Association (IDA), European Desalination Society (EDS), Water Reuse Association (WRA), International Ozone Association (IOA) Conference, American Chemical Society (ACS) Conference Preprints, American Society of Civil Engineers (ASCE) National Conference on Environmental Engineering, Water Environment Federation (WEF) Conference, International Association on Water Quality Conference, and International Water Supply Association Conference.

**2024 Presentations:**

A New Paradigm for the Mining Industry: Recovery of Valuable Metals from Saline Aqueous Sources, G. Amy, R. Maier, J. Crittenden, International Water Association (IWA) Combined Particle Separation and Natural Organic Matter Specialty Conferences, Cape Town, South Africa. Dec 4 – 8<sup>th</sup>, 2023, Invited Plenary Presentation.

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**2021 Presentations:**

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**2017 Presentations:**

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Amy, Gary, Forward Osmosis (FO): Advances in Process Engineering, Membranes, Draw Solutions, Hybrids, and Applications, AMTA MTC, Long Beach, February 2017

**2016 Presentations:**

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Amy, Gary, et al., Sea Water Quality: Characterization And Implications For Membrane Fouling Potential And Pretreatment, Hot Issues Workshop, Singapore International Water Week (SIWW), Singapore July 2016.

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### **2012 Papers:**

Amy, G., Drewes, J., Missimer, T., Potable Wastewater Reuse: Salient Features of an Environmental or Engineered Buffer, 16<sup>th</sup> Annual Water Reuse and Desalination Research Conference, San Diego, June 2012.

Al-Hamadeh, A., Sharma, S., Amy, G., Comparative Assessment of Aquifer Recharge and Recovery versus Constructed Wetlands in Managing Chemical and Microbial Risks During Wastewater Reuse, Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Villacorte, L., Micor, K., Calix, H., Amy, G., Schippers, J., Kennedy, M., Fouling of UF Membranes during Algal Bloom: The Role of Transparent Exopolymer Particles (TEP), Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Yoon, Min, Amy, G., Ozone and Aquifer Recharge and Recovery Hybrid for Attenuation of Bulk Organics and Micropollutants, Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Salinas, S., Kennedy, M., Amy, G., Schippers, J., New Developments in Fouling Indices and Applications in Seawater Reverse Osmosis Systems, Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Uwamariya, V., Petrusevski, B., Lens, P., Amy, G., Effect of a Water Matrix on Adsorptive Removal of Heavy Metals from Groundwater, Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Li, Z., Yangalli, V., Amy, G., Seawater Desalination by Forward Osmosis: Investigation of Flux Patterns and Natural Organic Matter-Related Fouling, Presentation and Proceedings, IWA World Water Congress, Busan (Korea), September 2012.

Amy, G., Missimer, T., Drewes, J., Passive Biological Treatment: A Robust and Multi-Contaminant Barrier for Micropollutant Elimination, Presentation and Proceedings, AWWA Water Quality Technology Conference (WQTC), Toronto, November 2012.

Yoon, M., Drewes, J., Amy, G., Oxidation-Aquifer Recharge and Recovery Treatment Hybrid for Organic Contaminant Removal, Presentation and Proceedings, AWWA Water Quality Technology Conference (WQTC), Toronto, November 2012.

Li, Z., Valladares, R., Abu-Ghdaib, M., Amy, G., Forward Osmosis (FO): A comparative Assessment of Water Treatment Applications, Presentation and Proceedings, AWWA Water Quality Technology Conference (WQTC), Toronto, November 2012.

Winters, H., Ekowati, Y., Villacorte, L., Schippers, J., Amy, G., Kennedy, M., Characterization of Transparent Exopolymer Particles (TEP) from Freshwater and Marine Algae, Presentation, Expert Workshop: Red Tide and HABs: Impact on Desalination Plants, Muscat (Oman), February 2012.

Schippers, J., Villacorte, L., Schurer, R., Winters, H., Amy, G., Kennedy, M. Membrane Fouling Potential of Transparent Exopolymer Particles (TEP) from Bloom-Forming Algae, Presentation, Expert Workshop: Red Tide and HABs: Impact on Desalination Plants, Muscat (Oman), February 2012.

Lattemann, S., Amy, G., The Greening of SWRO: Focus on Intakes and Outfalls, Presentation, International Desalination Intakes and Outfalls Workshop, Adelaide, May 2012.

Van der Merwe, R., Lattemann, S., Amy, G., Environmental Impact and Management of Concentrate and Chemical Discharges from Seawater Desalination Plants, Presentation, International Desalination Intakes and Outfalls Workshop, Adelaide, May 2012.

Hamad, J., Ha, Chang-Won, Kennedy, M., Amy, G., Application of Ceramic Membranes for Seawater Reverse Osmosis (SWRO) Pretreatment, Presentation, International Conference on Membranes in Drinking and Industrial Water Production, September 2012.

Valladares, R., Li, Z., Yangalli, V., Li, Qingyu, Amy, G., Cleaning Protocol for a FO Membrane Fouled in Wastewater Reuse, Presentation, International Conference on Membranes in Drinking and Industrial Water Production, September 2012.

Villacorte, L., Schippers, J., Amy, G., Kennedy, M., Membrane Filtration of Algal Bloom Impacted Waters: Investigating the Fouling Potential of Algal Cells and Transparent Exopolymer Particles (TEP), Presentation, International Conference on Membranes in Drinking and Industrial Water Production, September 2012.

Ekowati, Y., Villacorte, L., Winters, H., Schippers, J., Amy, G., Kennedy, M., Composition, MF/UF Rejection and Fouling Potential of Transparent Exopolymer Particles (TEP) from “Red Tide” Algae, Presentation, International Conference on Membranes in Drinking and Industrial Water Production, September 2012.

G. Amy, S. Salinas, N. Ghaffour, M. Kennedy, New Concepts in Fouling Indices, AMTA/AWWA Membrane Technology Conference, Phoenix, February 27 – March 1, 2012, Presentation and Proceedings (2012).

Chunhai Wei and Gary Amy, Characterization and Membrane Fouling Potential of Secondary Effluent Organic Matter (EfOM), AMTA/AWWA Membrane Technology Conference, Phoenix, February 27 – March 1, 2012, Presentation and Proceedings (2012).

Juma Hama, Changwon Ha, Catalina Iovovich, Anthony Ku, Maria Kennedy, Influence of Transparent Exopolymer Particles on Fouling of UF Ceramic Membranes and Associated Flux Recovery After Membrane Cleaning, AMTA/AWWA Membrane Technology Conference, Phoenix, February 27 – March 1, 2012, Presentation and Proceedings (2012).

Zhenyu Li, Victor Yangali, Qingyu Li, Rodrigo Valladares, Gary Amy, A Sequential Batch Reactor-Forward Osmosis System for Water Reuse, AMTA/AWWA Membrane Technology Conference, Phoenix, February 27 – March 1, 2012, Presentation and Proceedings (2012).

Rodrigo Valladares, Zhenyu Li, Quinyu Li, Gary Amy, Victor Yangali, Fouling and Cleaning of Forward Osmosis (FO) Membranes Recycling Treated Wastewater, AMTA/AWWA Membrane Technology Conference, Phoenix, February 27 – March 1, 2012, Presentation and Proceedings (2012).

### **2011 Papers:**

V. Yangali, Z. Li, R. Valladares, The Fate of Emerging Organic Contaminants in Forward Osmosis Membranes, AWWA Water Technology Conference, Phoenix, November 13 – 17, 2011, Presentation and Proceedings (2011).

G. Amy, J. Drewes, Z. Chowdhury, Exploitation of Impaired-Quality Water Resources for Drinking Water, AWWA Water Technology Conference, Phoenix, November 13 – 17, 2011, Presentation and Proceedings (2011).

G. Amy, J. Drewes, T. Missimer, S. Sharma, Indirect Potable Reuse (IPR) by Soil Aquifer Treatment (SAT): A Robust, Multi-Contaminant Process, AWWA Water Technology Conference, Phoenix, November 13 – 17, 2011, Presentation and Proceedings (2011).

G. Amy, Application of Innovative Natural Organic Matter Characterization Protocols to Membrane Fouling Assessment and Control: Seawater, Wastewater, and Freshwater Sources,

IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011). IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

Z. Li, V. Yangali, G. Amy, N. Chung, Surface Modification of Membrane to Reduce Fouling During Forward Osmosis, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

V. Yangali, Z. Li, G. Amy, A New Immersed and Intermittent Osmosis System for Water Reuse, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

S. Li, S. Heijman, J. Verberk, G. Amy, J. van Dijk, A Pilot Study of Seawater Ultrafiltration Fouling Control with Demineralized Water Backwashing, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

S. Tabatabai, M. Kennedy, G. Amy, J. Schippers, Effect of Coagulation Modes on the Production of High Quality RO Feed in Seawater UF/RO Systems, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

L. Villacorte, B. Karna, D. Barenstein, H. Ponce, R. Schurer, M. Kennedy, G. Amy, J. Schippers, Non-Backwashable Fouling of UF Membranes Caused by Transparent Exopolymer Particles (TEP) in Seawater, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany, Presentation and Proceedings (2011).

Gary Amy and Jörg E. Drewes, Use of Chemical Indicators for Assessing Wastewater Impacts on Drinking Water Supplies and Monitoring the Efficacy of Indirect Potable Reuse, 8<sup>th</sup> IWA International Conference on Water Reclamation and Reuse, September 25-28, 2011, Barcelona, Spain, Presentation and Proceedings (2011).

Victor Yangali-Quintanilla, Rodrigo Valladares Linares, Zhenyu Li, Gary Amy, Water reclamation with submerged forward osmosis and seawater, 8<sup>th</sup> IWA International Conference on Water Reclamation and Reuse, September 25-28, 2011, Barcelona, Spain, Presentation and Proceedings (2011).

S. Sharma, M. Caballero, S. Maeng, and G. Amy Removal of Organic Micropollutants in SAT and Hybrid SAT Systems, 8<sup>th</sup> IWA International Conference on Water Reclamation and Reuse, September 25-28, 2011, Barcelona, Spain, Presentation and Proceedings (2011).

G. Amy, S. Salinas, M. Kennedy, J. Croue, Innovative Characterization Protocols for Seawater Natural Organic Matter (NOM): Insight into Membrane Fouling and Control, IDA World Congress on Desalination and Water Reuse, September 4 – 9, Perth, Australia (2011).

V. Yangali, Z. Li, R. Valladares, G. Amy, Wastewater Reclamation with Forward Osmosis and Red Sea Seawater, IDA World Congress on Desalination and Water Reuse, September 4 – 9, Perth, Australia (2011).

L. Villacorte, D. Berenstein, H. Ponce, M. Kennedy, G. Amy, J. Schippers, Membrane Fouling by Marine Algal Bloom: The Role of Transparent Exopolymer Particles (TEP), IDA World Congress on Desalination and Water Reuse, September 4 – 9, Perth, Australia (2011).

C. Ha, J. Hamad, M. Kennedy, G. Amy, Role of Ceramic Membranes in Treating Impaired Quality Water Sources, IDA World Congress on Desalination and Water Reuse, September 4 – 9, Perth, Australia (2011).

S Tabatabai, M. Caballero, M. Kennedy, G. Amy, J. Schippers, Optimizing Coagulation in Seawater UF/RO Systems to Reduce Fouling by Transparent Exopolymer Particles, IDA World Congress on Desalination and Water Reuse, September 4 – 9, Perth, Australia (2011).

G. Amy, et al., Understanding Dissolved Organic Matter in Wastewater Using an EfOM-Focused PARAFAC Model for Assessment of EfOM Impacts on a Watershed, IWA Conference on Natural Organic Matter, Irvine, July 27 – 29, California USA (2011).

G. Amy et al., Characterizing NOM and Removal Trends during Drinking Water Treatment Using Fluorescence Excitation-Emission Matrices and PARAFAC, IWA Conference on Natural Organic Matter, Irvine, July 27 – 29, California USA (2011).

G. Amy, S. Sharma, M. Yoon, S. K. Maeng, S. Sudhakaran, Hybridization of Aquifer Recharge and Recovery (ARR): New Concepts in Multi-Barrier Treatment for Wastewater Reuse, Singapore International Water Week (SIWW) Water Convention, July 4 – 8, 2011, Singapore, Presentation and Proceedings (2011).

G. Amy, V. Yagalli, M. Kennedy, T. Fujioka, Hybrid Models for Predicting Rejection of Micropollutants by NF and RO Membranes, American Water Works Association (AWWA) Membrane Technology Conference (MTC), March 28 – 31, 2011, Long Beach USA, Presentation (2011).

J. Drewes, G. Amy, Water Reuse in the Kingdom of Saudi Arabia – Status, Prospects and Research Needs, Water Reuse & Desalination Research Conference, May 16 – 17, 2011, Las Vegas, Presentation (2011).

G. Amy, Exploiting Impaired Quality Sources for Drinking Water, Water Arabia 2011 Conference, January 31 – February 2, 2011, Bahrain, Presentation (2011).

### **2010 Papers:**

S. K. Maeng, S. Sharma, G. Amy, Modeling of Biodegradation Potential of Wastewater-Derived Organic Micropollutants during Managed Aquifer Recharge, International Water Association (IWA) World Water Congress, September 19 – 24, 2010, Montreal, Presentation and Proceedings (2010).

G. Amy, V. Yangalli, S. K. Maeng, S. Sudhakaran, D. de Ridder, S. Sharma, Organic Micropollutant Elimination – Quantitative Structure-Activity Relationships for Process Selection and Performance Monitoring, International Water Association (IWA) World Water Congress, September 19 – 24, 2010, Montreal, Presentation and Proceedings (2010).

S. Sharma, H. Hirpa, K. Kahawita, G. Amy, Removal of Bulk Organic Matter from Different Wastewater Effluents during Soil Aquifer Treatment (SAT), International Water Association (IWA) World Water Congress, September 19 – 24, 2010, Montreal, Presentation and Proceedings (2010).

G. Amy, S. Lattemann, N. Ghaffour, The KAUST Water Desalination and Reuse (WDR) Center: Developing a Strategic Research Agenda for the GCC and MENA Regions, International Water

Association (IWA) World Water Congress, September 19 – 24, 2010, Montreal, Presentation and Proceedings (2010).

S. Sharma, D. Chaweza, N. Bosuben, E. Holzbecher, G. Amy, Framework for Feasibility Assessment and Performance Analysis of Riverbank Filtration Systems for Water Treatment, International Symposium on Managed Aquifer Recharge (ISMAR), October 9 – 13, 2010, Abu Dhabi, Presentation and Proceedings (2010).

S. Sharma, M. Hussen, G. Amy, Soil Aquifer Treatment Using Advanced Primary Effluent, International Symposium on Managed Aquifer Recharge (ISMAR), October 9 – 13, 2010, Abu Dhabi, Presentation and Proceedings (2010).

S. G. J. Heijman, B. Hofs, J. Hamad, M. Kennedy, G. Amy, Ceramic Microfiltration with a Sub-Micron Powdered Activated Carbon Pre-Coat for Water Treatment, International Water Association (IWA) Conference on Membrane Technology and Water Reuse, October 18 – 22, 2010, Istanbul, Presentation and Proceedings (2010).

H. Cikurel, S. Sharma, M. Jekel, C. Krasner, T. Wintgens, G. Amy, M. Ernst, Y. Guttman, N. Tal, T. Kreitzer, A. Putschew, K. Vairavamorthy, A. Aharoni, Alternative Hybrid SAT-Membrane Treatments: Short SAT-NF Treatment to Upgrade Effluent Quality, International Water Association (IWA) Conference on Membrane Technology and Water Reuse, October 18 – 22, 2010, Istanbul, Presentation and Proceedings (2010).

Amy, G., Role of Natural Treatment Systems in Managing the Urban Water Cycle, Proceedings, Water Convention, Singapore International Water Week, (June) 2010, Singapore.

Amy, G., Krasner, S., Westerhoff, P., Drewes, J., Jekel, M., Croue, J., Analytical Evidence of Unplanned/Unintentional Indirect Potable Reuse, Proceedings, International Water Association (IWA) Leading Edge Technologies Conference, (June) 2010, Phoenix.

Amy, G., Bank Filtration/Aquifer Recharge and Recovery as a Biologically-Driven Process, Workshop on Biological Drinking Water Treatment, International Water Association (IWA) Leading Edge Technologies Conference, (June) 2010, Phoenix.

### **2009 Papers:**

Lattemann, S., Kennedy, M., Amy, G., Best Available Techniques for Seawater Desalination, Proceedings, IDA World Congress, (Nov) 2009, Dubai.

Kennedy, M., Bae, H., Jacobson, J., Amy, G., Schippers, J., Controlling Biofouling by Limiting Phosphate in RO Feedwater, Proceedings, IDA World Congress, (Nov) 2009, Dubai.

Villacorte, L., Schurer, R., Kennedy, M., Amy, G., Schippers, J., Removal and Deposition of Transparent Exopolymer Particles (TEP) in Seawater UF-RO System, Proceedings, IDA World Congress, (Nov) 2009, Dubai.

T., Saleh, S., Kennedy, M., Witcamp, G., Amy, G., Schippers, J., Reducing the Calcite Scaling Risk in SWRO: Role of  $Mg^{2+}$  and  $SO_4^{2-}$ , Proceedings, IDA World Congress, (Nov) 2009, Dubai.

Verliefde, A., Cornelissen, S., Heijman, S., Hoek, E., Amy, G., van der Bruggen, B., van Dijk, J., Influence of Solute-Membrane Affinity on Rejection of Uncharged Organic Solutes by Nanofiltration Membranes, Proceedings, IWA Membrane Technologies Conference, (Sept) 2009, Beijing.

Villacorte, L., Kennedy, M., Amy, G., Schippers, J., Removal and Deposition of Transparent Exopolymer Particles (TEP) in Integrated Membrane Systems Treating Surface Water and Secondary Effluent, Proceedings, IWA Membrane Technologies Conference, (Sept) 2009, Beijing.

Lattemann, S., Anarna, M., Schippers, J., Kennedy, M., Amy, G., Environmental Impact Assessments (EIA) and Best Available Techniques (BAT) for Membrane-Based Seawater Desalination, Proceedings, IWA Membrane Technologies Conference, (Sept) 2009, Beijing.

**2008 Papers:**

Sharma, S., Musabe, K., Amy, G., Effect of Pre-Ozonation and Advanced Oxidation on Removal of Effluent Organic Matter (EfOM) during Soil Aquifer Treatment (SAT), Water Reuse and Desalination Research Conference, Denver (2008).

Nam, S., Amy, G., Quantitative Characterization of Natural Organic Matter (NOM) by Fluorescence Parallel Factor Analysis (PARAFAC), IWA LET, Zurich (2008).

Amy, G., Ernst, M., Villacorte, L., Maeng, S.K., Yangalli, V., Kim, T.U., Reemtsma, T., Jekel, M., Advanced Water/Wastewater Treatment Process Selection for Organic Micropollutant Removal: A Quantitative Structure-Activity Relationship (QSAR) Approach, Singapore International Water week Water Convention, Singapore (2008).

Banerjee, K., Amy, G., Jekel, M., Sperlich, A., Blumenschein, C., Buisson, H., Impact of phosphate and silica and comparative assessment of adsorption technologies for arsenic removal, IWA World Congress, Vienna (2008).

Sharma, S., Maeng, S.K., Amy, G., Framework for Assessment of Performance of Managed Aquifer Recharge (MAR) Systems, IWA World Congress, Vienna (2008).

Ghebremichael, K., Gebremeskel, A., Trifunovic, N., Amy, G., Modeling Disinfection By-Products: coupling hydraulic and chemical models, IWA World Congress, Vienna (2008).

Teunissen, K., Knol, A.H., Grefte, A., Amy, G., van Dijk, J.C., Impact of pretreatment by coagulation or ion exchange on UV transmission, IWA World Congress, Vienna (2008).

Maeng, S.K., Sharma, S., Magic-Knezev, A., Amy, G., Fate of effluent organic matter (EfOM) and natural organic matter (NOM) through riverbank filtration, IWA World Congress, Vienna (2008).

Salina Rodriguez, S., Kennedy, M., Chenet, J., Garcia-Aleman, J., Bankston, A., Amy, G., Tracking organic matter removal in a membrane treatment plant – air scour vs. hydraulic backwash, IWA Conference on Natural Organic Matter, Bath UK (2008).

Baghoth, S., Maeng, S., Salinas, S., Sharma, S., Kennedy, M., Amy, G., An urban water cycle perspective of natural organic matter: NOM in drinking water, wastewater effluent, storm water, and seawater, IWA Conference on Natural Organic Matter, Bath UK (2008).

Baghoth, S., Dignum, M., Grefte, A., Kroesbergen, J., Amy, G., Characterization of NOM in a drinking water process train with no disinfectant residual, IWA Conference on Natural Organic Matter, Bath UK (2008).

Dignum, M., Bagthoth, S., Grefte, A., Kroesbergen, J., Amy, G., van der Kooij, D., Characterization of NOM and biological stability in a distribution system network with two water types and no disinfectant residual, IWA Conference on Natural Organic Matter, Bath UK (2008).

Amy, G., Krasner, S., Westerhoff, P., Drewes, J., Jekel, M., Croue, J., Wastewater-impacted drinking water sources: The exception or the rule?, AWWA WQTC, Cincinnati (2008).

Amy, Selected membrane research topics: Ceramic membranes, organic matter fouling, and organic micropollutant rejection, AWWA WQTC, Cincinnati (2008).

Heijman, B., Hamad, J., Kennedy, M., Schippers, J., Amy, G., Sub-micron powdered activated carbon used as a pre-coat in ceramic microfiltration, Membranes in Drinking Water Production and Wastewater Treatment, Toulouse (2008).

Tabatabai, S., Kennedy, M., Schippers, J., Amy, G., Optimizing in-line coagulation to reduce chemical consumption in MF/UF systems, Membranes in Drinking Water Production and Wastewater Treatment, Toulouse (2008).

Salina Rodriguez, S., Kennedy, M., Schippers, J., Amy, G., Organic foulants in estuarine and bay sources for seawater reverse osmosis – Comparing pretreatment processes with respect to foulant reduction, Membranes in Drinking Water Production and Wastewater Treatment, Toulouse (2008).

Salina Rodriguez, S., Rabaani, B., Kennedy, M., Amy, G., Schippers, M., MFI-UF constant pressure at high ionic strength conditions, EuroMed 2008: Desalination for Clean Water and Energy, Dead Sea, Jordan (2008).

Waly, T., Saleh, S., Kennedy, M., Witcamp, G., Amy, G., Schippers, J., Will carbonate really scale in seawater reverse osmosis, EuroMed 2008: Desalination for Clean Water and Energy, Dead Sea, Jordan (2008).

Villacorte, L., Kennedy, M., Amy, G., Schippers, J., Measuring dissolved transparent exopolymer particles (TEP) as an indicator of the biofouling potential of RO feed water, EuroMed 2008: Desalination for Clean Water and Energy, Dead Sea, Jordan (2008).

Jacobson, J., Kennedy, M., Amy, G., Schippers, J., Phosphate limitation in reverse osmosis: an option to control biofouling?, EuroMed 2008: Desalination for Clean Water and Energy, Dead Sea, Jordan (2008).

Tabatabai, S., Gaulinger, S., Kennedy, M., Amy, G., Schippers, J., Optimization of inline coagulation in integrated membrane systems: A study of FeCl<sub>3</sub>, EuroMed 2008: Desalination for Clean Water and Energy, Dead Sea, Jordan (2008).

## **Plenary and Keynote Presentations**

Dr. Amy has presented numerous invited papers in Japan, China, Korea, Taiwan, Singapore, Netherlands, Switzerland, Germany, France, Norway, Great Britain, Australia, Canada, Saudi Arabia, Abu Dhabi, Qatar, Bahrain, and throughout the United States.

### **2024 Presentation**

Amy, Gary, The Greening of Seawater Reverse Osmosis, Invited Presentation and Panelist, CEO Roundtable, The Al-Attiyah Foundation, Doha, Qatar, September, 2024.

Controlled Environment Agriculture with Non-Conventional Water Resources, G. Amy, R. Karthikeyan, D. Ladner, and J. Adelberg, Invited Seminar, KAUST, May 5<sup>th</sup>, 2004.

Innovation and Impacts in Water Desalination and Reuse: Some Emerging Trends, G. Amy, Invited Member of Expert Panel, KAUST, May 6<sup>th</sup>, 2024,

Controlled Environment Agriculture with Non-Conventional Water Resources, G. Amy, R. Karthikeyan, D. Ladner, and J. Adelberg, 2024 National Workshop on Sustainable Development of Controlled Environment Agriculture, USDA, Invited Keynote Presentation, July 10<sup>th</sup>, 2004.

### ***2023 Presentation***

Amy, Gary, A New Paradigm for the Mining Industry: Recovery of Valuable Metals from Saline Aqueous Sources, International Water Association Particle Separation Conference, Johannesburg, South Africa, December, 2023.

### ***2022 Presentation***

Amy, Gary, A New Paradigm for the Mining Industry: Recovery of Valuable Metals from Saline Aqueous Sources, 14th International Desalination Workshop, Seoul, Korea, August, 2022.

### ***2018 Presentations:***

Amy, Gary, The Water-Energy Nexus and its Extension into Other Critical Resources, National University of Singapore, October 2016.

### ***2017 Presentations:***

Amy, Gary, Advances in Seawater Desalination: Sustainable Approaches for Exploiting an Infinite Water Resource, A P Black Research Award Presentation, AWWA ACE, Philadelphia, June 2017.

### ***2016 Presentations:***

Amy, Gary, The Water-Energy Nexus and its Extension into Other Critical Resources, RTI International, Arizona State University and University of Arizona, August 2016.

Amy, Gary, The Water-Energy Nexus and its Extension into Other Critical Resources, RTI International, Research Triangle Park NC, June 2016.

### ***2015 Presentations:***

(Invited) Panel Member, Global Solutions for Local Needs (Clean Water), SIWW Technology and Innovations Summit, Singapore, June 2015.

### ***2014 Presentations:***

Amy, Gary, Advances in Desalination: Processes, Energy and Material, WaterHub H2O Seminar, Singapore, January 2014.

Amy, Gary, Advances in Desalination: Processes, Energy and Material, Carnegie-Mellon University, November 2014.

Amy, Gary, Wastewater Reclamation/Reuse: Exploiting An Impaired-Quality (Unconventional) Water Resource, GE NUS Distinguished Scientist, Singapore, November, 2014.

Amy, Gary, Advances in Desalination: Processes, Energy, and Materials, GE NUS Distinguished Scientist, Singapore, November, 2014.

Amy, G., Forward Osmosis: An Emerging Desalination Technology, 1<sup>st</sup> International Symposium on Innovative Technologies in Seawater Desalination, Seoul, Korea, September, 2014.

Amy, G., Technologies for Production of High-Quality Recycled Water for Various Reuse Applications, Workshop on International Trends in Sustainable Water Reuse Technologies, IWA Leading Edge Technologies Conference, Abu Dhabi May, 2014.

Amy, G., Groundwater Aquifer Recharge and Recovery (ARR) as a Robust Process for Wastewater Reuse in the KSA and GCC Region, 2<sup>nd</sup> Saudi International Water Technology Conference, Riyadh, Saudi Arabia, February, 2014.

Amy, G., Overview of Municipal Wastewater Reuse: Global and KSA Trends, , 2<sup>nd</sup> Saudi International Water Technology Conference, Riyadh, Saudi Arabia, February, 2014.

Amy, Sustainable Water Technologies, KAUST Industry Affiliates Board (KIAB) Meeting, Thuwal, Saudi Arabia, February, 2014.

Amy, G., Advances in Desalination: Processes, Energy, and Materials, Water-Hub Seminar Series (Singapore), January 2014.

### ***2013 Presentations:***

Amy, G., Forward Osmosis (FO) and FO Hybrids, Saudi Water and Power Forum (Jeddah), December 2013.

Amy, G., Missimer, T., Groundwater Aquifer Recharge and Recovery (ARR): An Adaptation Strategy for Climate Change-Induced Water Scarcity in the KSA/GCC Region, Presentation, Water Arabia 2013, Khobar (Saudi Arabia), February 2013.

Amy, G., Drewes, J., Sustainable Water Management for the City of the Future: Reinventing Urban Water Infrastructure, Presentation, Symposium on Sustainable Water Management as an Adaptation to the Challenge of Climate Change, KAUST, January 2013.

Amy, G., Sinha, S., Lattemann, S., Missimer, T., Ng, K.C., Ghaffour, N., Presentation, Low-Energy Seawater Desalination: Renewable Energy-Driven and New Emerging Technologies, International Water Summit, Abu Dhabi, January 2013.

### ***2012 Presentations:***

Amy, G., Sinha, S., Lattemann, S., Missimer, T., Ng, K.C., Ghaffour, N., Seawater Desalination Using Renewable Energy: Solar Geothermal, and Wind, Presentation, COP18 Climate Change Conference, Doha, December 2012.

Amy, G., Strategic Research Needs in Wastewater Reuse, Presentation, Pre-Forum Session: Moving Wastewater Reuse Forward in Saudi Arabia, Saudi Water and Power Forum, Jeddah, December 2012.

Amy, G. Lattemann, S., The Greening of SWRO and Emerging Low-Energy Trends in Seawater Desalination, Presentation, Workshop Clean, Green, and Sustainable: Lower-Energy Desalination and Membrane Regeneration for the Global Water Industry, Singapore, July 2012.

Amy, G., Role of Membrane Technology for Water Reuse, Presentation, Workshop on Moving Water Reuse Forward in the GCC Region, Muscat (Oman), April 2012.

Amy, G., Drewes, J., Missimer, T., Groundwater Aquifer Recharge and Recovery (ARR) for (Municipal) Wastewater Reclamation/Reuse, Petroleum Environmental Research Forum (PERF), Damman (Saudi Arabia), March 2012.

Groundwater Aquifer Recharge and Recovery (ARR) for (Municipal) Wastewater Reclamation/Reuse, Gary Amy, Jörg Drewes, and Thomas Missimer, Petroleum Environmental Research Forum (PERF), March 10, 2012, Damman.

### **2011 Presentations:**

Application of Innovative Natural Organic Matter Characterization Protocols to Membrane Fouling Assessment and Control: Seawater, Wastewater, and Freshwater Sources, IWA Conference on Membrane Technology. October 4 – 7, Aachen, Germany (2011).

New Technologies for Desalination, G. Amy, International Water Association (IWA) Leading Edge Technologies (LET) Conference, June 6 – 11, 2011, Amsterdam, Plenary Presentation (2011).

Meeting the Challenges of Future Water Scarcity: Exploiting Impaired-Quality Sources, G. Amy, International Symposium on Managed Aquifer Recharge (ISMAR), October 9 – 13, 2010, Abu Dhabi, Plenary Presentation (2011).

Emerging Trends and Technologies in Exploiting Impaired Quality (Seawater and Wastewater Effluent) Sources for Drinking Water, G. Amy, Australian Water Association (AWA) Membranes and Desalination Specialty Conference, February 9 – 11, 2011, Brisbane, Keynote Presentation (2011).

Soil Aquifer Treatment (SAT): A Robust, Multi-Contaminant Process in Indirect Potable Reuse, G. Amy, Australian Water Association (AWA) Membranes and Desalination Specialty Conference, February 9 – 11, 2011, Brisbane, Keynote Presentation (2011).

### **2010 Presentations:**

Amy, G., Emerging Trends and Technologies in Exploiting *Impaired Quality* (Seawater and Wastewater Effluent) Sources for Drinking Water, Key Note Presentation, NEDO Water Solutions Symposium, (Feb) 2010, Tokyo.

Amy, G., Pretreatment Options for Controlling *Organic Foulants* in Seawater Reverse Osmosis (SWRO), Water Desalination Conference in the Arab Countries (ARWADEX), Key Note Presentation, (April) 2010, Riyadh.

Amy, G., Water Desalination: Present Practice, Future Trends, and Research Needs, Symposium on Economic and Technological Challenges in Membrane-Based Water Desalination (KAUSTIS), Key Note Presentation, (May) 2010, Shanghai.

**2009 Presentations:**

Amy, G., Is Nanofiltration a Robust Barrier for Organic Micropollutants?, Plenary Presentation, IWA Membrane Technologies Conference, (Sept) 2009, Beijing.

Amy, G., Recent Trends in Membrane-Based Desalination, and Water Reuse Applications, Invited Presentation, Saudi Water and Power Forum (SWPF), (Oct) 2009, Jeddah

**Prior to 2009:**

Seventy four.