

JAMES D. ENGLEHARDT

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SUMMARY

Dr. James Englehardt, P.E., is Professor of Environmental Engineering at the University of Miami, appointed 1992. Before receiving his Ph.D. from the University of California, Davis, Dr. Englehardt led filtration research projects for Johns Manville Corporation (1983-1987), and supervised water treatment laboratory development and field service for the Western Filter Company (now GE Water) (1978-1980). He currently directs the Water Quality Engineering Laboratory. Developments include the first energy-positive treatment system for management of municipal water and wastewater; the first inferential models for tracking of relatively slow-moving pollutant masses; and the first machine learning/evidence fusion algorithms for sensor-based detection of health risk in drinking water in near-real time, under support of the National Science Foundation (NSF), the U.S. Environmental Protection Agency (EPA), and the Gulf of Mexico Research Initiative (GoMRI). Discoveries in the field of risk analysis include the first explanation of $1/f$ noise (the power law Fourier transform signature of complex system-generated time series of outcome magnitudes); derivation of discrete and continuous probability distributions for illness severities, microbial concentrations in water over time, and other complex system outcome sizes; and derivation of the first general multivariate dose-response function for mixtures of chemical toxicants in water and other media.

Dr. Englehardt serves on the EPA Science Advisory Board, Drinking Water Advisory Committee, and as Associate Editor for PLoS ONE, and for ASCE-ASME Risk and Uncertainty in Engineering Systems, Parts A Civil Engineering and ASCE-ASME Risk and Uncertainty in Engineering Systems, Part B Mechanical Engineering B. Awards include the WaterReuse Association 2018 Award for Excellence in Transformation Innovation, two Johnson A. Edosomwan Outstanding Publication Awards, University of Miami; the Science Advisor's Award, EPA National Center for Environmental Assessment; the Robert C. Barnard Environmental Science & Engineering Award for Advances in Risk Assessment, American Association for the Advancement of Science and EPA; and two University of Miami Eliahu I. Jury Awards for excellence in research.

EDUCATION

Ph.D., University of California, Davis, Civil/Environmental Engineering, 1992.

M.S., Colorado State University, Agricultural/Environmental Engineering, 1983.

B.S., University of Pittsburgh, Chemistry, 1976.

LICENSURE

Professional Engineer, Florida no. 0048821, 1995.

PROFESSIONAL AWARDS AND SERVICE

Associate Editor, *PLoS ONE*, 2019 – present.

WaterReuse Association 2018 Award for Excellence in Transformational Innovation for the National Science Foundation project “EFRI-SEED: Design for Autonomous Net-Zero Water Buildings.”

Johnson A. Edosomwan 2017 Outstanding Publication Award, “Electrochemical Oxidation for of Landfill Leachate Treatment,” *Water Research*, University of Miami College of Engineering, \$500, 2018.

Nominee, 2017, 2018, 2019, *Clarke Prize for Outstanding Achievement in Water Science and Technology*, National Water Research Institute, Fountain Valley, CA, \$50,000.

Member, *U.S. Environmental Protection Agency Science Advisory Board*, Drinking Water Advisory Committee, Office of the Administrator, Washington, DC, May 10, 2016 – present.

Associate Editor, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 2017 – present.

Associate Editor, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*, 2017 – present.

Albert Nelson Marquis Lifetime Achievement Award, Marquis Who's Who Publications Board, 2017.

Small Business Advisory Board, Architecture and Engineering, Miami-Dade County, 2016 – 2017.

Who's Who in America, Marquis Who's Who, 2010 – present.

Johnson A. Edosomwan Outstanding Publication Award, "Treatment of Landfill Leachate by Fenton Process," *Water Research*, University of Miami College of Engineering, \$700, 2014.

Editorial Board Member, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems*, 2013 – present.

Selection Committee Panel, *Miami-Dade Water and Sewer Department Multi-Year Capital Improvement Plan*, Program and Construction Management Services related to the Wastewater System Priority Projects, 2013-2014.

Nominee, *Board of Directors*, Association of Environmental Engineering & Science Professors, 2009.

Distinguished Service Award, Chair, Student Services Committee, Association of Environmental Engineering & Science Professors, 2009.

Faculty Board, Abess Center for Ecosystem Science and Policy, University of Miami, 2008 – 2015.

Chair, Research and Education Standing Committee, Green U Task Force, University of Miami, 2007 - 2015.

Blue Ribbon Selection Committee, Reverse Osmosis Water Treatment Plant Contract, City of Hialeah, FL, 2008 – 2010.

Chair, Student Services Committee, Association of Environmental Engineering & Science Professors, 2005 – 2008.

Who's Who Among American Teachers & Educators, Who's Who Among American Teachers & Educators, Austin TX, 2007.

Science Advisor's Award, "Predictive Bayesian Microbial Dose-Response Assessment Based on Suggested Self-Organization in Primary Illness Response: *C. Parvum*," U.S. Environmental Protection Agency, National Center for Environmental Assessment, Cincinnati (with J. Swartout), 2006.

Eliahu I. Jury Excellence in Research Award, "Predictive Population Dose-Response Assessment for *Cryptosporidium Parvum*: Infection Endpoint," University of Miami College of Engineering, 2005.

Eliahu I. Jury Excellence in Research Finalist, "Analytical Predictive Bayesian Assessment of Occupational Injury Risk: Municipal Solid Waste Collectors," University of Miami College of Engineering, 2004.

Invention Recognition Award, "Metal Mediated Aeration for Water and Wastewater Purification," University of Miami, 2004.

Outstanding Service Award, Student Chapter Coordinator, Florida Water Environment Association 1998, 1999, 2000, 2003.

Eliahu I. Jury Excellence in Research Finalist, “Scale Invariance of Incident Size Distributions in Response to Sizes of Their Causes,” University of Miami College of Engineering, 2002.

National Academy of Sciences, Nominee, National Research Council Committee on Restoration of the Greater Everglades Ecosystem, 1998.

Peer Review Committee, South Florida Water Management District Lower East Coast Water Supply Plan, Southeast Florida Utility Council in cooperation with the South Florida Water Management District and the U.S. Army Corps of Engineers, 1997 - 1998.

Robert C. Barnard Environmental Science and Engineering Award, “Benefit-Risk Analysis of Everglades Stormwater Treatment Area Phase I Discharge Alternatives,” American Association for the Advancement of Science and U.S. Environmental Protection Agency, 1997.

Eliahu I. Jury Excellence in Research Award, “Predicting Incident Size from Limited Information,” University of Miami College of Engineering, 1996.

Environmental Science and Engineering Fellow, “Advances in Probabilistic Methods for Environmental Policy Analysis,” American Association for the Advancement of Science and U.S. Environmental Protection Agency (AAAS-EPA), 1996.

Research Initiation Award, “Development of Process for Detoxifying Nuclear Reactor Cooling Water,” Engineering Foundation, 1993 - 1994.

Junior Faculty Enhancement Award, “Risk-Based Design of Advanced Oxidation Treatment Processes,” Oak Ridge Associated Universities, 1993 - 1994.

Knight Junior Faculty Fellow, “Risk Analysis and Process Development for Waste Minimization,” University of Miami, 1992 - 1993.

TOPS (Towards Outstanding Postgraduate Studies) Research Fellow, University of California, Davis, 1989.

ACADEMIC EXPERIENCE

University of Miami, Professor, Department of Civil, Architectural, and Environmental Engineering, 2004-present.

University of Delaware, Visiting Scholar, Department of Civil and Environmental Engineering, 2007.

University of New Hampshire, Visiting Scholar, Department of Civil Environmental Engineering, 2006.

University of Miami, Associate Professor, Department of Civil, Architectural, and Environmental Engineering, 1998-2004.

University of Miami, Assistant Professor, Department of Civil, Architectural, and Environmental Engineering, 1992-1998.

University of California, Davis, Postgraduate Research Engineer, 1989-1991, Associate-in-Civil Engineering, 1988-1989, Department of Civil Engineering.

PROFESSIONAL EXPERIENCE

Consultant, Triad Engineering, Inc., Scott Depot, WV, 2019.

Lawrence Berkeley National Laboratory, Visiting Professor, Sustainable Energy Systems Group, Sustainable Energy & Environmental Systems Department, Energy Technologies area (ETA), 2016.

Consulting Expert, Viles and Beckman, LLC Attorneys at Law, Ft. Meyers, FL, 2013-2014.

U.S. Environmental Protection Agency, Visiting Scientist, National Center for Environmental Assessment, Cincinnati, OH, 2001.

National Center for Environmental Assessment, Expert Panelist, Models and Tools for Including Susceptibility, Immunity, and Secondary Spread into Microbial Risk Assessment: EPA-NCEA Workshop, U.S. Environmental Protection Agency, Cincinnati, OH, November 18-19, 2004.

Florida Water Environment Association Utility Council, Consulting Professional Engineer. Review of U.S. Environmental Protection Agency Report “Relative Risk Assessment of Management Options for Treated Wastewater in South Florida” as Related to Wastewater Management in Southeast Florida, 2003.

BFI, Inc., Miami, Florida, Consulting Professional Engineer. Sieve analysis of mixed reject recycled glass for recovery, 2002.

Broward County Office of Solid Waste Management, Ft. Lauderdale, Florida, Consulting Professional Engineer. Sieve analysis of mixed reject recycled glass for recovery, 2002.

Elmer Marmorstein AIA CSI, Miami, FL, Consulting Professional Engineer. Cleanup of metals contamination in groundwater and soil at industrial site, 1997.

Cauffiel Machinery Corp., Toledo, Ohio, Consulting Engineer. Pickling liquor iron recovery process development research, 1989.

Manville Corporation, Filtration and Minerals Division, Lompoc, California, Contract Research Engineer. Development of pollution prevention alternatives for diatomaceous earth filtration processes, 1988.

Manville Corporation, Filtration and Minerals Division, Denver, Colorado, Research Engineer. Research and development into the manufacture and application of mineral filter media, including surface chemical and thermo-structural investigations, 1983-1987.

Western Filter Company, Denver, Colorado, Chemical Laboratory Supervisor, Water Treatment System Field Technician. Water treatment equipment field service, supervision of water quality and treatment analytical wet laboratory, treatment process optimization, new process research, new laboratory design, 1978-1980.

PROFESSIONAL ORGANIZATIONS

Water Reuse, 2013 – 2014, 2018.

Association of Environmental Engineering and Science Professors, 1992 – present; Chair, Student Services Committee (2005 – 2008) and Committee member (1999 – 2008).

Society for Risk Analysis, 1995 - present.

Florida Water Environment Association, University of Miami Student Chapter Coordinator, 1993 - present.

American Society Civil Engineers, 1983 – 1997, 2017 – 2018; Waste Minimization Steering Committee Member (1993).

HONORARY ORGANIZATIONS

Tau Beta Pi (Engineering)

Chi Epsilon (Civil Engineering)

Alpha Epsilon (Agricultural Engineering)

Gamma Sigma Delta (Agricultural)

REFEREED JOURNAL ARTICLES UNDER REVIEW

- Jacketti, Mary, CJ Beegle-Krause, and J. Englehardt (2019) "Behavior, Detection, Modeling, and Recovery of Sunken Oil following Documented Spills: a Review," *Marine Pollution Bulletin*, under review.
- Perera, M. and J. Englehardt (2019) "Simultaneous Nitrogen and Phosphorus Recovery from Municipal Wastewater by Electrochemical pH Modulation," *Separation and Purification Technology*, under review.

REFEREED JOURNAL ARTICLES

- Perera, M. and J. Englehardt (2019) "Electrohydromodulation for Phosphorus Recovery from Wastewater," *Separation and Purification Technology*, tentatively accepted.
- Ji, Chao, CJ Beegle-Krause, and J. Englehardt (2019) "Formation, Detection, and Modeling of Submerged Oil: A Review," *Marine Pollution Bulletin*, accepted.
- Jacketti, M., C. Ji, J.D. Englehardt, and C.J. Beegle-Krause, Development of the SOSim Model for Inferential Tracking of Subsurface Oil, Proceedings of the Forty-second AMOP Technical Seminar, Environment and Climate Change Canada, Ottawa, ON, Canada, June 4, pp. 485-501, 2019.
- Gassie, L. W., J.D. Englehardt (2019) "Mineralization of greywater organics by the ozone-UV advanced oxidation process: Kinetic modeling and efficiency," *Environmental Science: Water Research & Technology*, 5, 1956-1970.
- Gassie, L. W., J.D. Englehardt, N. Brinkman, J. Garland, and M.K. Perera (2019) "Ozone-UV Net-Zero Water Wash Station for Remote Emergency Response Healthcare Units: Design, Operation, and Results," *Environmental Science: Water Research & Technology*, 5, 1971-1984.
- Englehardt, J. and W. Chiu (2019) "A general dose-response relationship for chronic chemical and other homogeneous health stressors and mixtures based on an autocorrelated first-order illness severity model," *PLoS ONE*, <https://doi.org/10.1371/journal.pone.0211780>, Feb. 15.
- Perera, M.K., J.D. Englehardt, and A.C. Dvorak (2019) "Technologies for Recovering Nutrients from Wastewater: A Critical Review," *Environmental Engineering Science*, vol. 36, no. 5, pp. 511-529. Published Online: 7 Mar 2019, <https://doi.org/10.1089/ees.2018.0436>.
- Wu, T., J. Englehardt, T. Guo, and L. Gassie (2018) "Applicability of Energy-Positive Net-Zero Water Management in Alaska: Technology Status and Case Study," *Environmental Science and Pollution Research*, 25, 33025–33037, DOI: 10.1007/s11356-017-0743-2, published online Nov. 22, 2017, <http://rdcu.be/zdFk>.
- Gassie, L. and J. Englehardt (2017) "Advanced oxidation and disinfection processes for onsite net-zero greywater reuse: A review," *Water Research*, 125, 384–399.
- Perera, K., J. Englehardt, G. Tchobanoglous, and R. Shams (2017) "Control of Nitrification/Denitrification in an Onsite Two-Chamber Intermittently Aerated Membrane Bioreactor with Alkalinity and Carbon Addition: Model and Experiment," *Water Research*, 115, 94-110. DOI: 10.1016/j.watres.2017.02.019.
- Martinez, O., R. Dabarera, K. Premaratne, M. Kubat, and J. Englehardt (2017) "LFDA Model for the Assessment of Water Quality through Microtox® using Excitation-Emission Matrices, *Intelligent Data Analysis*, 21, 181–203.
- Wu, T. and J. Englehardt (2016) "Mineralizing Urban Net-Zero Water Management: Field Experience for Energy-Positive Water Management," *Water Research*, 106, 352–363, and Corrigendum to "Mineralizing Urban Net-Zero Water Treatment: ...," *Water Research*, 110, 399–400.

- Gassie, L., J. Englehardt, J. Wang, N. Brinkman, J. Garland, P. Gardinali, and T. Guo (2016) “Mineralizing Urban Net-Zero Water Treatment: Phase II Field Results and Design Recommendations,” *Water Research*, 105, 496–506.
- Guo, T., J. Englehardt, and H. Fallon (2016) “Modeling the Economic Feasibility of Large-Scale Net-Zero Water Management: A Case Study,” *Water Environment Research*, doi:10.2175/106143016X14609975747487, 88(9), 811–823.
- Englehardt, J., T. Wu, F. Bloetscher, Y. Deng, P. du Pisani, S. Eilert, S. Elmir, T. Guo, J. Jacangelo, M. LeChevallier, H. Leverenz, E. Mancha, E. Plater-Zyberk, B. Sheikh, E. Steinle-Darling, and G. Tchobanoglous (2016) “Net-Zero Water Management: Achieving Energy-Positive Municipal Water Supply,” *Environmental Science: Water Research & Technology*, 2, 250 – 260, DOI: 10.1039/C5EW00204D.
- Englehardt, J. (2015) “Distributions of Autocorrelated First-Order Kinetic Outcomes: Illness Severity,” *PLoS ONE* 10(6): e0129042. doi:10.1371/journal.pone.0129042, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129042>.
- Echavarria Gregory, M. A., and J. Englehardt (2015) “A Predictive Bayesian Data-Derived Gaussian Model of Sunken Oil Mass (SOSim),” *Environmental Modelling & Software*, 69, 1-13.
- Guo, T. and J. Englehardt (2015) “Principles for Scaling of Distributed Direct Potable Water Reuse Systems: A Modeling Study,” *Water Research*, 75, 146-163, <http://www.sciencedirect.com/science/article/pii/S0043135415001062>.
- Wu, T. and J. Englehardt (2015) “Peroxone Mineralization of Chemical Oxygen Demand for Potable Water Reuse: Kinetics and Process Control,” *Water Research*, 73, 362-372, <http://www.sciencedirect.com/science/article/pii/S0043135415000585#>.
- Guo, T., J. Englehardt, and T. Wu (2014) “Review of Cost versus Scale: Water and Wastewater Treatment and Reuse Processes,” *Water Science & Technology*, 69(2):223-34, doi: 10.2166/wst.2013.734.
- Englehardt, J., T. Wu and G. Tchobanoglous (2013) “Urban Net-Zero Water Treatment and Mineralization: System Modeling and Design,” *Water Research*, 47(13), pp. 4680-4691, <http://authors.elsevier.com/sd/article/S004313541300434X>.
- Deng, Y., J.D. Englehardt, S. Abdul-Aziz, T. Bataille, A. Narayanan, P. Gardinali, M. Wright, J. Polar, and S. Tomoyuki (2013) “Ambient Iron-Mediated Aeration (IMA) for Water Reuse,” *Water Research*, 47, 850-858, available online November 21, 2012, <http://dx.doi.org/10.1016/j.watres.2012.11.005>.
- Englehardt, J., C. Loewenstine, E. Gadzinski, N. Ashbolt, and A. Ayenu-Prah Jr. (2012) “Methods for Assessing Long-Term Mean Pathogen Count in Drinking Water and Risk Management Implications,” *Journal of Water and Health*, vol. 10, no. 2, pp. 197-208, doi:10.2166/wh.2012.142, available online March 8, <http://www.iwaponline.com/jwh/up/default.htm>.
- Wu, Tingting and J. Englehardt (2012) “A New Method for Removal of Hydrogen Peroxide Interference in the Analysis of Chemical Oxygen Demand,” *Environmental Science & Technology*, vol. 46, pp. 2291–2298.
- Li, R., J. Englehardt, and X. Li (2012) “A Gradient Markov Chain Monte Carlo Algorithm for Computing Multivariate Maximum Likelihood Estimates and Posterior Distributions: Mixture Dose-Response Assessment,” *Risk Analysis*, vol. 32, no. 2, pp. 345-359, published online September 13, 2011, DOI: 10.1111/j.1539-6924.2011.01672.x).
- Avellaneda, P., J. Englehardt, J. Olascoaga, E. Babcock, L. Brand, D. Lirman, W. Rogge, H. Solo-Gabriele, and G. Tchobanoglous (2011) “Relative Risk Assessment of Cruise Ships Biosolids Disposal Alternatives,” *Marine Pollution Bulletin*, vol. 62, no. 10, pp. 2157–2169.

- Englehardt, J. and R. Li (2011) "The Discrete Weibull Distribution: An Alternative to the Discrete Growth Distribution with Verification for Microbial Counts in Water," *Risk Analysis*, vol. 31, no. 3, pp. 370-381.
- Iudicello, J. and J. Englehardt (2009) "A Predictive Bayesian Dose-Response Assessment for Evaluating the Toxicity of Carbon Nanotubes Relative to Crocidolite Using a Proposed Emergent Model," *Human and Ecological Risk Assessment*, vol. 15, no. 6, pp. 1168 - 1186.
- Deng, Y., and Englehardt, J. D. (2009), "Kinetics and Oxidative Mechanism for H₂O₂-Enhanced Iron-Mediated Aeration (IMA) Treatment of Recalcitrant Organic Compounds in Mature Landfill Leachate," *Journal of Hazardous Materials*, vol. 169, no. 1-3, pp. 370-375.
- Englehardt, J., J. Swartout, and C. Loewenstine (2009) "A New Theoretical Discrete Growth Distribution with Verification for Microbial Counts in Water," *Risk Analysis*, vol. 29, no. 6, pp. 841-856.
- Deng, Y. and J. Englehardt (2008) "Hydrogen Peroxide-Enhanced Iron-Mediated Aeration for the Treatment of Mature Landfill Leachate," *Journal of Hazardous Materials*, vol. 153, pp. 293-299.
- Englehardt, J., D. Meeroff, L. Echegoyen, Y. Deng, F. Raymo, and T. Shibata (2007) "Oxidation of Aqueous EDTA and Associated Organics and Coprecipitation of Inorganics by Ambient Iron-Mediated Aeration," *Environmental Science & Technology*, vol. 41, no. 1, pp. 270-276, web edition released November 18, 2006.
- Deng, Y., and J. Englehardt (2007) "Electrochemical Oxidation for Landfill Leachate Treatment," *Waste Management*, vol. 27, no. 3, pp. 380-388, available online April 24, 2006.
- Deng, Y., and J. Englehardt (2006) "Treatment of Landfill Leachate by the Fenton Process," *Water Research*, vol. 40, pp. 3683 - 3694.
- Meeroff, D., J. Englehardt, L. Echegoyen, and T. Shibata (2006) "Iron-Mediated Aeration: Evaluation of Energy-Assisted Enhancement for In Situ Subsurface Remediation," *Journal of Environmental Engineering*, vol 132, no. 7, pp. 747-757.
- Englehardt, J. and J. Swartout (2006) "Predictive Bayesian Microbial Dose-Response Assessment Based on Suggested Self-Organization in Primary Illness Response: *C. Parvum*," *Risk Analysis*, vol. 26, no. 2, pp. 543-554.
- Bloetscher, F., J. Englehardt, D. Chin, J. Rose, G. Tchobanoglous, V. Amy, and S. Gokgoz (2005) "Comparative Assessment of Municipal Wastewater Disposal Methods in Southeast Florida," *Water Environment Research*, vol. 77, no. 5, pp.480-490.
- Englehardt, J. and J. Swartout (2004) "Predictive Population Dose-Response Assessment for *Cryptosporidium Parvum*: Infection Endpoint," *Journal of Toxicology and Environmental Health Part A: Current Issues*, vol. 67, no. 8-10, pp. 651-666.
- Englehardt, J. (2004) "Predictive Bayesian Dose-Response Assessment for Appraising Absolute Health Risk from Available Information," *Human and Ecological Risk Assessment*, The Association for Environmental Health and Sciences, vol. 10, no. 1, pp. 69-74.
- De, D., E. Kalu, P. Tarjan, and J. Englehardt, (2004) "Kinetic Studies of the Electrochemical Treatment of Nitrate and Nitrite Ions on Iridium-Modified Carbon Fiber," *Chemical Engineering & Technology*, vol. 27, no. 1, pp. 56-64.
- Englehardt, J., H. An, H., L. Fleming, and J. Bean (2003) "Analytical Predictive Bayesian Assessment of Occupational Injury Risks: Municipal Solid Waste Collectors," *Risk Analysis*, Society for Risk Analysis, vol. 23, no. 5, pp. 919-927.
- Englehardt, J. (2002) "Scale Invariance of Incident Size Distributions in Response to Sizes of Their Causes," *Risk Analysis*, Society for Risk Analysis, vol. 22, no. 2, pp. 369-381.

- Rogers, J., J. Englehardt, H. An, and L. Fleming (2002) "Solid Waste Management Health and Safety Risks: Survey of Municipal Solid Waste Workers," *The Journal of Solid Waste Technology and Management*, Widener University School of Engineering and the University of Pennsylvania National Center for Resource Management and Technology, vol. 28, no. 3, pp. 154-160.
- Fleming, L., J. Bean, J. Englehardt, H. An, M. Danits, N. John, and J. Rogers (2002) "Solid Waste Workers: Occupational Exposures and Health Risks," *The Journal of Solid Waste Technology and Management*, Widener University School of Engineering and the University of Pennsylvania National Center for Resource Management and Technology, vol. 28, no. 2, pp. 79-96.
- Anex, R. and J. Englehardt (2001) "Application of a Predictive Bayesian Model to Environmental Accounting," *Journal of Hazardous Materials*, Elsevier, vol. 82, no. 2, pp. 99-112.
- Meeroff, D. and J. Englehardt (2001) "Precoat Filtration and Ultrafiltration of Emulsified Bitumen from Water," *Journal of Environmental Engineering*, American Society of Civil Engineers, vol. 127, no. 1, pp. 46-53.
- De, D., J. Englehardt, and E. Kalu (2000) "Electroreduction of Nitrate and Nitrite Ion on a Platinum-Group-Metal Catalyst-Modified Carbon Fiber Electrode: Chronoamperometry and Mechanism Studies," *Journal of the Electrochemical Society*, vol. 147, no. 12, pp. 4573-4579.
- Meeroff, D. and J. Englehardt (2000) "Flux Enhancement in Ultrafiltration of Bitumen Emulsions using Tubular Polyvinylidene Fluoride Membranes," *Separation Science and Technology*, Elsevier, vol. 35, no. 13, pp. 2019-2044, December.
- De, D., J. Englehardt, and E. Kalu (2000) "Cyclic Voltammetric Studies of Nitrate and Nitrite Ion Reduction at the Surface of Iridium-Modified Modified Carbon Fiber Electrode," *Journal of the Electrochemical Society*, vol. 147, no. 11, pp. 4224-4228.
- An, H., J. Englehardt, L. Fleming, and J. Bean (1999) "Occupational Health and Safety Among Municipal Solid Waste Management Workers in Florida," *Waste Management & Research*, International Solid Waste Association, Copenhagen, vol. 17, no. 5, pp. 369-377.
- Englehardt, J. (1998) "Ecological and Economic Risk Analysis of Everglades Phase I Restoration Alternatives," *Risk Analysis*, Society for Risk Analysis, vol. 18, no. 6, pp. 755-771.
- Douligeris, C., E. Iakovou, J. Englehardt, H. Li, C. Ip, and C. Mooers (1998) "Development of a National Marine Oil Transportation System Model," *Spill Science & Technology Bulletin*, Elsevier Science Ltd., vol. 4, no. 2, pp. 113-121.
- Englehardt, J. (1997) "Bayesian Benefit-Risk Analysis for Sustainable Process Design," *Journal of Environmental Engineering*, American Society of Civil Engineers, vol. 123, no. 1, pp. 71-79 (profiled in *Valuing Potential Environmental Liabilities for Managerial Decision-Making: A Review of Available Techniques*, U.S. Environmental Protection Agency publication no. EPA742-R-96-003, December, 1996).
- Englehardt, J. (1997) "Response: Pareto Incident Size Distribution," *ASCE Journal of Environmental Engineering*, vol. 123, no. 1, pp. 99-101.
- Englehardt, J., and C. Peng (1996) "Pozzolan Filtration/Solidification of Radionuclides in Nuclear Reactor Cooling Water," *Waste Management*, Elsevier Science Ltd., vol. 15, no. 8, pp. 585-592.
- Englehardt, J., and C. Peng (1996) "A Bayesian Benefit-Risk Model Applied to the South Florida Building Code," *Risk Analysis*, Society for Risk Analysis, vol. 16, no. 1, pp. 81-92.
- Englehardt, J. (1995) "Predicting Incident Size from Limited Information," *Journal of Environmental Engineering*, American Society of Civil Engineers, vol. 121, no. 6, pp. 455-464.

- Englehardt, J. (1994) "Identifying Promising Hazardous Waste Reduction Technologies," *Journal of Environmental Engineering*, American Society of Civil Engineers, vol. 120, no. 3, May/June, 1994, pp. 513-526.
- Englehardt, J. (1993) "Pollution Prevention Technologies: a Review and Classification," *Journal of Hazardous Materials*, Elsevier Science Ltd., vol. 35, no. 1, September, pp. 119-150.
- Englehardt, J., and J. Lund (1992) "Information Theory in Risk Analysis," *Journal of Environmental Engineering*, American Society of Civil Engineers, vol. 118, no. 6, pp. 890-904.
- Englehardt, J., and J. Lund (1990) "Economic Analysis of Recycling for Small Municipal Waste Collectors," *Journal of Resource Management and Technology*, vol. 18, no. 2, pp. 84-96, October.
- Englehardt, J., and R. Ward (1986) "Operation and Maintenance Requirements for Small-Flow Treatment Systems," *Journal of the Water Pollution Control Federation*, Water Environment Federation, vol. 58, no. 10, pp. 967-971.

OTHER PUBLICATIONS

- Perera, M. and J. Englehardt (2019) "Simultaneous chemical-free nitrogen and phosphorus recovery from municipal wastewater," ACS Spring 2019 National Meeting & Exposition, Orlando, FL, Abstracts of Papers of the American Chemical Society, vol. 257, Amer. Chemical Soc., 1155 16th St. NW, Wash. DC.
- Guo, T. and J. Englehardt (2014) "An Optimization Model for Scaling of Direct Potable Water Reuse Systems," Proc. iiSBE Net Zero Built Environment 2014 Symposium, Powell Center for Construction & Environment, M.E. Rinker School of Building Construction, University of Florida, Gainesville, FL, Mar. 6.
- Wu, T. and J. Englehardt (2014) "Urban Ambient Net-Zero Water Treatment and Mineralization: System Design and Field Performance," Proc. iiSBE Net Zero Built Environment 2014 Symposium, Powell Center for Construction & Environment, M.E. Rinker School of Building Construction, University of Florida, Gainesville, FL, Mar. 6.
- Englehardt, J., A. Echavarria Gregory, and P. Avellaneda (2010) "Development of a Predictive Bayesian Data-Derived Multimodal Gaussian Model of Sunken Oil Mass Location and Transport: Draft Final Report, NOAA grant no. NA04NOS4190063, Project no. 08-088, Coastal Response Research Center, University of New Hampshire, Durham, NH, June 1.
- Englehardt, James D., Pedro Avellaneda, Elizabeth A. Babcock, Larry Brand, Diego Lirman, Josefina Olascoaga, Wolfgang Rogge, Helena Solo-Gabriele, George Tchobanoglous (2010) Relative Assessment of Human Health and Ecological Risks of CLIA Cruise Line Biosolids Disposal Alternatives, Cruise Line Industry Association, 105 pp.
- Englehardt, James D. and Jeff Swartout/U.S. EPA. (2008) Development and Evaluation of Novel Dose-Response Models for Use in Microbial Risk Assessment. U.S. Environmental Protection Agency, National Center for Environmental Assessment, Cincinnati, OH. EPA/600/R-08/033.
- Kerstin Lesley K. Kenty, T. Helgeson, M. McNeal, T. Slifko, J. Englehardt, P. Gardinali, M. Meyer (2007) "Study of Reclaimed, Surface, and Groundwater," Final Report to the WaterReuse Foundation, Alexandria, VA, 189 pp.
- Deng, Y., and J. D. Englehardt (2007) "Oxidative Mechanisms and Kinetics of Aqueous Organics Removal in Hydrogen Peroxide-Enhanced Iron Mediated Aeration Treatment of Refractory Organic Wastewater," presentation and abstract, *Abstracts of Papers of the American Chemical Society*, 233rd ACS National Meeting, Chicago, IL, March 25-29.
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RESEARCH GRANTS

Principal Investigator, "Inferential/Parametric Forecasting of Subsurface Oil Trajectory Integrating Limited Reconnaissance Data with Flow Field Information for Emergency Response," Gulf of Mexico Research Initiative, \$499,813, 2018-2020.

Principal Investigator, “Non-Academic Research Internships for Graduate Students (INTERN)”, supplement to EFRI SEED: Design of Autonomous Net-Zero Water Buildings,” National Science Foundation, \$40,563, 2017-2019.

Principal Investigator, “Third-Party testing proposal – Aqualoop-AOP Direct Greywater Recycle for Human Contact Applications,” Sustainable Engineered Buildings Inc., \$81,314, 2017-2018.

Principal Investigator, “Chemical-Free Nutrient Recovery: Next-Generation Energy-Positive Net-Zero Water Treatment,” Electric Power Research Institute, 2017-2020, \$334,956.

Principal Investigator, “RAPID/GOALI: Development of a Field-Deployable Net-Zero Water Wash Station for Remote Ebola Decontamination,” National Science Foundation, 2015-2017, \$182,994.

Principal Investigator, “EFRI SEED: Design of Autonomous Net-Zero Water Buildings,” National Science Foundation, US Environmental Protection Agency, University of Miami, Engineered Control Systems, Inc., \$2,748,000, 2010-2018.

Principal Investigator, “Relative Assessment of Human Health and Ecological Risks of CLIA Cruise Line Biosolids Disposal Alternatives,” Cruise Line Industry Association, \$141,178, 2008-2009.

Principal Investigator, “Development of a Predictive Bayesian Data-Derived Multi-Modal Gaussian Maximum-Likelihood Model of Sunken Oil Mass,” Coastal Response Research Center, University of New Hampshire/National Oceanographic & Atmospheric Administration, \$189,409, 2008-2010, <http://cae.miami.edu/sunken-oil-mass/projects.html>.

Principal Investigator, “Development of Predictive Bayesian and Related Microbial Dose-Response Methods to Assess Untestable Risk,” U.S. Environmental Protection Agency, National Center for Environmental Assessment, through Oak Ridge Institute for Science and Education, \$195,893, 2005-2007.

Co-Principal Investigator, “Study of Reclaimed, Surface, and Groundwater Quality,” WaterReuse Foundation/University of Miami, \$91,547 of \$533,333 (CH2MHill, lead), 2005-2006.

Co-Principal Investigator, “Cost Allocation Implementation Strategies and Guidelines for Coordinating Transportation Services for Disadvantaged Populations,” U.S. Federal Transit Administration, \$8,398 of \$388,350 (Florida International University, lead), 2004-2005.

Principal Investigator, “Investigation of Options for Management of Leachate and Wastewater,” Florida Center for Solid and Hazardous Waste Management/University of Miami, \$36,912, 2004-2005.

Principal Investigator, “Development of In-Situ Chelation/Reduction Process for Remediation of Subsurface Metals and Radionuclides,” National Energy Technology Laboratory, U.S. Department of Energy/University of Miami, \$263,532, 2001-2002.

Principal Investigator, “Development of an Information-Theoretic, Predictive Bayesian Dose Response Model for Assessing Microbiological Health Risks from Available Information,” U.S. Environmental Protection Agency, National Center for Environmental Assessment/University of Miami, \$78,379, 2001.

Principal Investigator, “Assessment of Relative Risks of Human and Ecological Impacts from Municipal Wastewater Disposal Methods in Southeast Florida,” Florida Water Environment Association Utility Council/University of Miami, \$125,986, 2000-2001.

Principal Investigator, “Solid Waste Management Health and Safety Risks: Epidemiology and Assessment to Support Risk Reduction,” Florida Center for Solid and Hazardous Waste Management/University of Miami, \$239,711, 1998-2000.

Principal Investigator, “A Comparative Cost Analysis of the District’s Water Quality Monitoring Laboratory and Contract Laboratories,” South Florida Water Management District, \$24,748, 1997.

Principal Investigator, Robert C. Barnard Environmental Science and Engineering Award, “Benefit-Risk Analysis of Everglades Stormwater Treatment Area Phase I Discharge Alternatives,” American Association for the Advancement of Science/U.S. Environmental Protection Agency, \$3000, 1997.

Principal Investigator, “Advances in Probabilistic Methods for Environmental Policy Analysis,” AAAS-EPA Environmental Science and Engineering Fellowship, American Association for the Advancement of Science/U.S. Environmental Protection Agency, \$17,600, 1996.

Principal Investigator, “Development of Benefit-Risk Assessment Model for Sustainable Process Design,” The Gauntlett Group, Inc., San Francisco, CA, \$42,424, 1996.

Principal Investigator, “Filtration Studies for Removal of Orlumulsion® from Water in Ports,” U.S. Coast Guard/University of Miami, \$48,137, 1995-1996.

Co-Principal Investigator, “Commercial Exploitation of Electron Beam Sterilization of Infectious Hospital Waste: Task 3, Analysis of Medical Waste Management Options,” U.S. Department of Energy/University of Miami, \$63,331 (of \$1,000,000 with T. Waite), 1995-1996.

Task Principal Investigator, “National Marine Oil Transportation System, Task 3: Risk Assessment Model Development,” U.S. Coast Guard, \$52,070 (of \$1,000,000, Oil Pollution Research Center, with C. Mooers and B. Rosendahl), 1994-1995.

Co-Principal Investigator, “National Marine Oil Transportation System, Task 1: Oil Spill and Transportation Database Acquisition,” U.S. Coast Guard, \$11,181 (of \$1,000,000, Oil Pollution Research Center, with C. Mooers and B. Rosendahl), 1994-1995.

Principal Investigator, “Development of Process for Detoxifying Nuclear Reactor Cooling Water,” Engineering Foundation Research Initiation Award/University of Miami, \$46,558, 1993-1994.

Principal Investigator, “Risk-Based Design of Advanced Oxidation Treatment Processes,” Oak Ridge Associated Universities Junior Faculty Enhancement Award/University of Miami, \$10,000, 1993-1994.

Co-Principal Investigator, “Design of Prototype South Florida Oil Spill Information Management System,” U.S. Coast Guard/University of Miami, \$17,411 (of \$2,039,000, Oil Pollution Research Center, with C. Mooers and B. Rosendahl), 1993-1994.

Principal Investigator, “Pollution Prevention Research Opportunities Development,” Summer Award in Engineering and Physical Sciences, University of Miami, \$9,300, 1994.

Principal Investigator, University of Miami, Summer Award in Engineering and Physical Sciences, “Heavy Metals Detoxification and Risk Analysis, University of Miami,” \$9012, 1993.

Principal Investigator, “Risk Analysis and Process Development for Waste Minimization,” Knight Junior Faculty Fellowship, University of Miami, \$11,000, 1992.

Principal Investigator, “Hazardous Waste Detoxification,” General Research Support Award, University of Miami, \$3115, 1992.

Principal Investigator, “Toxicity Testing of Detoxified Waters and Wastes and Associated Risk Analysis Methods Development,” Microbics Corporation, Gift in Kind (\$10,000) 1992.

PATENTS AND INVENTIONS

- Provisional Patent Application no. 62/895,891 pending, Perera, K., L. Gassie, and J. Englehardt (2019) "High-Performance High-Efficiency Reactor Design for Photochemical and Non-First Order Reactions," University of Miami Disclosure UMIP-210, Sept. 4.
- Provisional Patent Application no. 62/862,530 pending, Englehardt, J. and K. Perera (2019) "Electrohydromodulating Process for Recovering Nutrients, Mineralizing Organics, and Inactivating Pathogens in Wastewater," University of Miami, UMIP-370, June 17.
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- Englehardt, J. (2019) "Method to extract rare earth metals from phosphogypsum waste material," University of Miami Disclosure UMIP-331, February 20.
- Englehardt, J. and K. Perera (2018) "Chemical-free electro-Fenton advanced oxidation process," University of Miami Disclosure UMID-125, May 17.
- Englehardt, J., et al. (2017) "Design for a Net-Zero Water System," University of Miami Disclosure UMID-107, Sept. 3.
- Englehardt, J., et al. (2015) "Net-Zero Water Treatment and Nutrient Recovery Process," University of Miami Invention Disclosure UMIP-44, Aug. 18.
- Englehardt, J., et al. (2015) "Water Quality Monitoring Device," University of Miami Invention Disclosure UMIP-43, Aug. 18.
- Englehardt, J. and T. Wu (2013) "Electrochemically-Activated Iron-Mediated Aeration Process for Denitrification," University of Miami Invention Disclosure UMN-102, June 10.
- Englehardt, J. and D. Meeroff (2003) "Metal-Mediated Aeration Process for Purification of Water and Wastewater," U.S. Patent Application no. 60/515,269 (pending), October 29, 2003. Submitted as International Patent Cooperation Treaty Application, October 29, 2004, by University of Miami, <http://www.miami.edu/techtransfer/UM04-02.pdf>.
- Englehardt, J. (1987) U.S. applications 926296 and 919391 accepted, Mexico patents pending (1991), Reduction of iron solubility in mineral filter media, Manville Corporation, Denver, CO, 1989.

OTHER PROFESSIONAL ACTIVITIES

- Presentation with M. Jacketti and C.J. Beegle-Krause (2020) "Development Of A Predictive Bayesian Oil Spill Model For Tracking Of Sunken Oil". Presentation, Gulf of Mexico Oil Spill & Ecosystem Science Conference, Tampa, FL, February 3-6.
- Presentation with C. Ji, and C.J. Beegle-Krause (2020) "SOSim: A Probabilistic Bayesian Model For Submerged Oil Tracking". Poster Presentation, Gulf of Mexico Oil Spill & Ecosystem Science Conference, Tampa, FL, February 3-6.
- Invited Presentation with C. Ji, M. Jacketti, and C.J. Beegle-Krause (2019) 'SOSim v2: Bayesian Tracking of Subsurface Oil' to Oil Spill Response Limited, *SINTEF Ocean*, Trondheim, Norway, June 26.
- Presentation with C. Ji, M. Jacketti, and C.J. Beegle-Kraus (2019) 'Inferential Forecasting of Submerged Oil Trajectory: a Predictive Bayesian Multi-Modal Gaussian Model', poster presentation, *Gulf of Mexico Oil Spill & Ecosystem Science Conference*, New Orleans, LA, February 4-7.

- Presentation with M. Jacketti, C. Ji, and CJ Beegle-Kraus (2019) ‘Development of SOSim Model for Inferential Tracking of Sunken oil’, poster presentation, *Gulf of Mexico Oil Spill & Ecosystem Science Conference*, New Orleans, LA, February 4-7.
- Presentation with M. Jacketti and C. Ji (2018) “Inferential/Parametric Forecasting of Subsurface Oil Trajectory Integrating Limited Reconnaissance Data with Flow Field Information for Emergency Response”, poster presentation, *College of Engineering Research Day*, University of Miami, Coral Gables, FL, September 7.
- Presentation: Englehardt, J., K. Perera (2018) “MD-WASD Reuse and Nutrient Reduction: EPRI-UM Net-Zero Water and Nutrient Recovery,” Miami-Dade Water and Sewer Department, Miami, FL, March 22.
- Expert Panel Member (expenses paid) (2017) Project #4665, Conventional Drinking Water Treatment of Alternative Water Sources: Source Water Requirements, WaterReuse Foundation, now *Water Environment & Reuse Foundation*, Alexandria, VA, University of Colorado, Boulder, January 31 and April 17.
- Presentation: Englehardt, J., Wang, J., Wu, T., Gardinali, P., Guo, T. (2017). Mineralizing Urban Net-Zero Water Treatment. Emerging Researchers National Conference. Washington, DC, March 2017.
- Invited presentation (expenses paid) (with G. Tchobanoglous, T. Wu, L. Gassie, J. Garland, P. Gardinali, N. Brinkman, J. Wang, and T. Guo) (2016) “Net-Zero Water: Energy-Positive Municipal Water Management,” expenses paid presentation, *WIHAH (Water Innovations for Healthy Arctic Homes)*, Hilton Anchorage, Anchorage, AK, 21 Sept. 2016.
- Invited presentation (with G. Tchobanoglous, T. Wu, L. Gassie, J. Garland, P. Gardinali, N. Brinkman, J. Wang, and T. Guo) (2016) “Net-Zero Water: Energy-Positive Municipal Water Management,” invited presentation, The William and Cloy Codiga Resource Recovery Center (CR2C), *Stanford University*, Palo Alto, CA, July 27.
- Invited presentation (with T. Wu, L. Gassie, J. Garland, P. Gardinali, N. Brinkman, J. Wang, T. Guo, and G. Tchobanoglous) (2016) “Net-Zero Water: An Energy-Positive Complete Wastewater Reuse System,” invited presentation, *Lawrence Berkeley National Laboratory*, Berkeley, CA, July 14.
- Presentation (with T. Wu, L. Gassie, J. Garland, P. Gardinali, N. Brinkman, J. Wang, T. Guo, and G. Tchobanoglous) (2016) “Design of Energy-Positive Municipal Water Supply Systems: Field Demonstration of a Net-Zero Water System,” 20th Annual WaterReuse Research Conference, Westin-Denver, *WaterReuse Research Foundation*, Alexandria, VA, May 24.
- Presentation, (with Gassie, L., Perera, K., Dvorak, A., Garland J., Brinkman, N. (2016) “RAPID-GOALI: Development of a Field-Deployable Net-Zero Water Wash Station for Remote Ebola Decontamination,” Ebola Research Workshop, Alexandria, VA, May 11-12.
- Co-author (with Wu, T.) (2015) “Carbon-Negative Low-Emission Urban Net-Zero Water Treatment,” Environmental Engineering and Science: At the Nexus, *Association of Environmental Engineering & Science Professors (AEESP)* 2015 Conference, Yale University, New Haven, CT.
- Co-author (with Wu, T.) (2015) “Peroxone Mineralization of Non-Biodegradable Organics for Direct Potable Water Reuse,” 19th Annual Water Reuse & Desalination Research Conference, The Waterfront Beach Resort, Huntington Beach, CA, May 4-5, *WaterReuse Association*, Alexandria, VA.
- Presentation (2014) “Emergent Dose-Response Function: Cumulative Risk,” poster presentation, *Society for Risk Analysis Annual Meeting: Risk Analysis: The Common Denominator*, Sheraton Denver, Denver, CO, December 8.
- Invited Presentation (2014) FSAWWA Region VII - *WWEA Southeast Chapter Joint Membership Meeting*, Wyndham Deerfield Beach Resort, Deerfield Beach, FL, November 18.

- Workshop Chair (2014) “Design of Distributed Urban Net-Zero Water Systems,” Courtyard-Miami Coconut Grove, Miami, FL, Water Quality Engineering Laboratory, Dept. of Civil, Arch., and Environmental Engineering, *University of Miami*, May 29 – 30, 2014.
- Presentation (2014) (coauthor with T. Wu), “Urban Direct Potable Reuse of Commingled Black and Grey Water without Reverse Osmosis: Operation, Performance, and Recommendations,” 18th Annual Water Reuse & Desalination Research Conference, Westin Las Vegas, Las Vegas, NV, *WaterReuse Association*, May 19 – 20.
- Invited Presentation (2014) “The UM Autonomous Net-Zero Water Residence Hall Project: Regulatory Resistance to the Evolution of Water Management,” Defending and Celebrating the Public Sector: The South Florida Chapter of ASPA 8th Annual Best Practices Conference, Miami-Dade College North Campus Conference Center, Miami, FL, April 11.
- Invited presentation (2014) “Urban Net-Zero Water Buildings: Laboratory, Modeling, and Initial Field Data,” *South Florida Building Officials Association*, 94th Aero Squadron, NW 57th Avenue, Miami, FL, Jan 8.
- Presentation, with T. Wu (2013) “Urban Net-Zero Water Treatment & Mineralization: Laboratory, Modeling, and Initial Field Data,” *Water Reuse and Desalination Research Conference*, Sheraton Phoenix Downtown Hotel, Phoenix AZ, WaterReuse Foundation, Alexandria, VA, May 7.
- Invited Presentation (2013) “Design for Autonomous Net-Zero Water Buildings,” *Miami Dade Environmental and Water Resources Institute* (EWRI), 94th Aero Squadron, NW 57th Avenue, Miami, FL, Jan 23.
- Invited panelist (2013) State of M-DCWS facilities and the potential for net-zero water technology, *Key Biscayne Community Foundation*, Key Biscayne Yacht Club, Key Biscayne, FL, October 10.
- Invited Panelist (2012) “Design for Autonomous Net-Zero Water Buildings,” *Executive Office of the President of the United States*, Association of Climate Change Officers, Marriott Wardman Park, Washington, DC September 24-26, www.GreenGov2012.org.
- Presentation (2012) EFRI-SEED: Design for Autonomous Net-Zero Water Buildings, *National Science Foundation*, EFRI Grantees Conference, Washington, DC, March 8.
- Presentation (2011) Autonomous Net-Zero Water Dorm, *National Science Foundation*, EFRI Grantees Conference, Washington, DC, April 2.
- Abstract and Presentation (with T. Wu) (2011) “A Low-Energy Treatment Scheme for Autonomous Net-Zero Water Buildings,” *Association of Environmental Engineering and Science Professors* (AEESP) Education & Research Conference, University of South Florida, Tampa, FL, July 12.
- Presentation, Çek, D., Fieldstone, S. C., Marker, C.D., Eilert, S., Plater-Zyberk, E., Englehardt, J. D., Broad, K. (2011, May). “Ideology, Moral Disgust and Waste Water Reuse,” Annual Meeting for the NSF Center for Research on Environmental Decisions, Columbia University. New York, NY.
- Expert Panelist (2010) Roundtable Discussion with Florida Governor Charlie Crist, State Senator Alex Villalobos, Miami-Dade Mayor Carlos Alvarez, County Commissioner Katy Sorenson, and other local politicians and scientists, on state response to the Horizon deepwater spill crisis and the need to ban oil drilling off the coast of Florida, July 14, <http://www.nbcmiami.com/news/local-beat/Governor-on-Oil-Dont-drill-near-our-shores-98458644.html>.
- Invited Expert Panelist (2010) Horizon Deepwater Oil Spill: Occurrence, Response, and Consequences,” *Butler Center for Volunteer Service and Leadership Development*, University of Miami, Coral Gables, FL, September 14.
- Invited Lecture (2010) “Discovery Pad: A Living Lab for Sustainability,” Environmental Science Series, *Osher Lifelong Learning Institute*, University of Miami, Founders Hall, Coral Gables, FL, September 14.

- Invited presentation (with A. Echavarria-Chavez and P. Avellaneda, 2009) “Development of a Predictive Bayesian Data-Derived Multi-Modal Gaussian Maximum-Likelihood Model of Sunken Oil Mass,” *Clean Gulf*, Ernest N. Morial Convention Center-New Orleans, New Orleans, Louisiana, November 17-19.
- Invited presentation (2008) “Predictive Bayesian Microbial Dose-Response Assessment in a Multiplicative Correlated World,” Bloomberg School of Public Health, *Johns Hopkins University*, September 23.
- Invited presentation (2008) “A Suggested Alternative to the Central Limit Theorem in Nonlinear Correlated Systems and Networks and Its Use in Dose-Response Assessment,” *Mathematics Department*, University of Miami, April 25.
- Presentation (2008) “Turning Wastewater into Drinking Water: Treatment and Risk Analysis,” *Engineering for the Americas (EFTA)*, January session, Miami Florida, January 6-12.
- Presentation (2007) “A new discrete “scaling” probability distribution of microbes in environmental samples and associated dose-response function,” *Society for Risk Analysis*, Risk 007: Agents of Analysis, Annual Meeting, San Antonio, TX, December 9-12.
- Invited presentation (with C. Loewenstine and A. Ayenu-Prah) (2007) “The Effect of Record Length on the Assessed Microbial Dose in Drinking Water,” *2007 Toxicology and Risk Assessment Conference*, West Chester, OH, April 25.
- Invited presentation (2007) “Sustainable Water Management: Molecular Decomposition and Risk Analysis for Potable Wastewater Reuse,” invited presentation, *Drexel University*, Department of Civil, Architectural, and Environmental Engineering, April 11.
- Invited presentation (2007) “Sustainable Water Management: Molecular Decomposition and Risk Analysis for Potable Wastewater Reuse,” invited presentation, *Johns Hopkins University*, Department of Geography and Environmental Engineering, February 6.
- Invited presentation (2006) “Assessment of Microbial Drinking Water Risks: Why Microbe Counts and Illnesses are Incidents,” invited presentation, *University of New Hampshire*, Department of Civil and Environmental Engineering, November 3.
- Invited presentation (2006) “Clean Water for a Growing World: Progress in Iron-Mediated Aeration for Potable Wastewater Reuse,” invited lecture, *University of Massachusetts*, Department of Civil and Environmental Engineering, October 19.
- Invited presentation (2006) “Clean Water for a Growing World: Progress in Iron-Mediated Aeration for Potable Wastewater Reuse,” invited presentation, *University of New Hampshire*, Department of Civil and Environmental Engineering, September 8.
- Coauthor (with Deng, Y.) (2006) “Hydrogen Peroxide-Enhanced Iron Mediated Aeration for the Treatment of Mature Municipal Landfill Leachate,” presentation, *2006 Florida Water Resources Conference*, Orlando, FL.
- Invited Session Chair, “Reactions and Degradation of Wastewater Contaminants,” First International Conference On Environmental Science And Technology, American Academy of Sciences, New Orleans, LA, January 23-26, 2005.
- Invited Presentation, “Predictive Bayesian Dose-Response Assessment: Integration of Empirical, Theoretical, and Simulated Results to Assess Untestable Risk,” Models and Tools for Including Susceptibility, Immunity, and Secondary Spread into Microbial Risk Assessment: EPA-NCEA Workshop, National Center for Environmental Assessment, *U.S. Environmental Protection Agency*, Cincinnati, OH, November 18-19, 2004.
- Invited Presentation, “Predictive Bayesian Dose-Response Assessment: Microbial Illness and Next Steps,” National Center for Environmental Assessment, *U.S. Environmental Protection Agency*, Cincinnati, OH, June 25, 2004.

Invited presentation, “Emergence and Treatment of Bio-Toxics in Water and Wastewater,” Technology & Tools for Pollutant Management: 2003 Annual Meeting, *South Florida Association of Environmental Professionals*, Miami, FL, October 30, 2003.

Invited presentation, “Predictive Bayesian Microbial Dose-Response Models: Cryptosporidiosis Versus Infection Endpoints,” *2003 Toxicology and Risk Assessment Conference*, Air Force Research Laboratory, U.S. Environmental Protection Agency, Naval Health Research Center, Air Force Institute for Environment, Safety, and Occupational Health Risk Analysis, USACHPPM, National Institute for Occupational Safety and Health, Agency for Toxic Substances and Disease Registry, Fairborn, Ohio, April 28 – May 1, 2003.

Invited presentation, “Determining Illness Probability from Available Information: Predictive Bayesian Microbial Dose-Response Assessment,” *The Sixth Annual Meeting on Chemical Adjustment Factors in Health Risk Assessment*, UMDNJ-New Jersey Medical School, Newark, NJ, Nov. 14-15, 2002.

Presenter, “Predictive Bayesian Microbial Dose-Response Functions for Mutually Adaptive Populations,” 2001 Society for Risk Analysis Annual Meeting, Seattle, Dec. 2-5, *Society for Risk Analysis*, McLean, VA.

Presenter (2001) “In-Situ Chelation and Removal of Subsurface Metals,” presentation, Industry Partnerships for Environmental Science and Technology Conference, *U.S. Department of Energy*, National Energy Technology Laboratory, Morgantown, WV, October 30 - November 1.

Presenter, “Comparative Assessment of Human and Ecological Impacts From Municipal Wastewater Disposal Methods in Southeast Florida,” presentation to U.S. Environmental Protection Agency Region IV, Florida Department of Environmental Protection, and other public agencies, for the *Florida Water Environment Association Utility Council*, Pompano Beach, FL, 17 October 2001.

Presenter, “Predictive Bayesian Microbial Dose Response Functions for Mutually Adaptive Populations,” 2001 *Society for Risk Analysis Annual Meeting*, Atlanta, Dec. 5-8, Society for Risk Analysis, Seattle, WA.

Presenter, “Shannon Entropy and Complexity: Bases for Predictive Bayesian Microbial Dose-Response Functions to Assess Absolute Risk,” by invitation to the *Santa Fe Institute*, Santa Fe, New Mexico, 30 July 2001.

Presenter (with J. Swartout), “Shannon Entropy and Complexity: Bases for Predictive Bayesian Microbial Dose-Response Functions to Assess Absolute Risk,” National Center for Environmental Assessment, *U.S. Environmental Protection Agency*, Cincinnati, OH, Washington, DC, 3 July 2001.

Presenter, “Predictive Bayesian Assessment of Dose Response in Adaptive Populations,” by invitation to National Center for Environmental Assessment, *U.S. Environmental Protection Agency*, Cincinnati, OH, Washington, DC, 8 March 2001.

Presenter, “Predictive Bayesian Estimation of Waste Collector Injuries,” 1999 *Society for Risk Analysis Annual Meeting*, Atlanta, Dec. 5-8, Society for Risk Analysis, McLean, VA.

Session Organizer and Chair, “Risk Assessment I and II,” 1999 ASCE-CSCE Conference on Environmental Engineering, Norfolk, VA, July 25-28, *American Society of Civil Engineers and Canadian Society of Civil Engineers*.

Plenary session presentation coauthor (1998, with Weisskoff, R., L. Lave, and A. Horvath) “An Input-Output Analysis of Ecosystem Restoration: the Missing Piece,” 12th International Conference on Input-Output Techniques, New York, 18-22 May, *International Input-Output Association*, Vienna, Austria.

Presenter, “Benefit-Risk Analysis of Everglades Construction Project Phase I Discharge Alternatives,” *Society for Risk Analysis*, McLean, VA, Annual Meeting and Exposition, Washington, DC, 7-10 December 1997.

Conference Program Committee Member, *Fourth International Congress on Environmentally Conscious Design & Manufacturing*, July 23 through July 25, 1996, Cleveland Marriott Society Center, Cleveland, Ohio.

Session Organizer and Chair, “Risk Analysis for Environmentally Conscious Design and Manufacturing,” *Fourth International Congress on Environmentally Conscious Design & Manufacturing*, July 23 through July 25, 1996, Cleveland Marriott Society Center, Cleveland, Ohio.

Session Organizer and Chair, “Industrial Process Evaluation using Emissions Data,” *Fourth International Congress on Environmentally Conscious Design & Manufacturing*, July 23 through July 25, 1996, Cleveland Marriott Society Center, Cleveland, Ohio.

Session Co-Chair, “Managerial Issues in ECDM,” *Fourth International Congress on Environmentally Conscious Design & Manufacturing*, July 23 through July 25, 1996, Cleveland Marriott Society Center, Cleveland, Ohio.

Invited Lecture, “Analysis of Risks of Non-Indigenous Species Introduction,” *National Research Council*, Marine Board, Washington, DC, October 2, 1995.

Invited Plenary Session Presenter, “Benefit-Risk Analysis and Industrial Source Reduction,” at Seeing Green: A Workshop on Business Waste Prevention, INFORM, Inc., U.S. Environmental Protection Agency, Florida Department of Environmental Regulation, University of Florida, Florida Center for Solid and Hazardous Waste Research, Dade County Department of Environmental Resources Management, Orlando, July 13, 1993.

Presenter, *25th Mid-Atlantic Industrial & Hazardous Waste Conference*, University of Maryland, College Park, MD, 1993.

Panelist, Waste Minimization Panel, Industrial and Hazardous Waste Conference, *California Water Pollution Control Association*, Sacramento, February 13, 1991.

Presenter, “Economic Risk Analysis for Waste Reduction Planning,” Environmental and Water Resources Seminar, *Department of Civil Engineering, University of California, Davis*, November 6, 1990.

Presenter, “Maintenance and Repair,” Mountain Areas On-Site Well and Sewage Disposal System Workshop, *Association of Engineering Geologists*, Denver, May 19-20, 1983.

Reviewer (books, articles, and proposals): *Water Research*, 2018 (3), 2017 (3), 2015 (2), 2007; *University of Miami Provost's Research Awards*, 2019 (8), 2018 (9), 2017 (14); *Environmental Science & Technology*, 2017, 2016 (2), 2013, 2012 (2), 2007; *Process Safety and Environmental Protection*, 2016; *University of Miami Institutional Review Board*, 2016, 2015, 2014; *Quality and Reliability Engineering International*, 2015; *PLoS ONE*, 2015 (2); *Risk Analysis*, 2015, 2014, 2013, 2012 (2), 2009 (3), 2008 (2), 2007, 2004, 2000, 1993; *ASCE-ASME Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, 2014; *National Science Foundation*, 2013, 2012 (7), 2011, 2010 (9), 2004, 2003, 2002, 1998, 1997, 1996, 1995; *Journal AWWA*, 2012; *Quarterly of Applied Mathematics*, 2010; *Journal of Hazardous Materials*, 2009 (2), 1993; *Inorganic Chemistry*, 2008; *Journal of Applied Statistics*, 2008; *IE&EC Research*, 2007; *Water Practice*, 2007; *Journal of Infrastructure Systems*, 2005, 2006; *Electrochimica Acta*, 2004; *Journal of Applied Electrochemistry*, 2004; *Journal of Environmental Engineering*, 2003, 2002, 1999, 1998, 1997, 1996, 1995, 1993, 1992, 1991; *Journal of Industrial Ecology*, 2003; *U.S. Geological Survey and National Institutes for Water Resources*, 2003, 2002; *Journal of Water Resources Planning and Management*, 2002, 1998; *Environmental Management*, 2002; *U.S. Civilian Research and Development Foundation*, 2002, 2001; *Sea Grant, Virginia*, 2001; *University of Wisconsin – Water Resources Institute*, 2001; *Environmental Science and Technology*, 1999; *WCB McGraw-Hill*, 1999, 1998; *American Society of Civil Engineers/Canadian Society of Civil Engineers*, 1998; *International Journal of Environment and Pollution*, 1998; *University of Miami Office of Technology Assessment*, 1998; *Journal of the Air & Waste Management Association*, 1997; *Water Science and Technology*, 1997; *Environmental Engineering Science*, 1997; *Valuing Potential Environmental Liabilities for Managerial Decision-Making*, (EPA742-R-96-003), U.S. Environmental Protection Agency, 1996; *University of Miami General Research Awards*, 1996 (10); *Waste Management*, 1996; *Advances in Environmental Research*, 1996; *University of Miami Research Council*, 1996; *Water Resources Research*, 1995; *ACS Symposium Series, American Chemical Society*, 1994; *Environmental Progress*, 1993.

TEACHING

Teaching and course development, including integration of ecologically-sustainable design concepts, emphasis on relationships among courses, and use of physical, chemical, and mathematical models for concept development:

CAE635 Water and Wastewater Treatment and System Design (developed course)

CAE 643 Risk Analysis (developed course)

CAE 542 Solid and Hazardous Waste Engineering (developed course)

CAE 540 Environmental Chemistry

CAE 440 Design and Analysis of Water Quality Treatment Systems

CAE 340 Introduction to Environmental Engineering

CAE 240 Introduction to Environmental Pollution

CEN 530 Water and Wastewater Engineering

GRADUATE STUDENTS AND POSTDOCTORAL RESEARCH FELLOWS

Committee Chair

Geng Yuan, “TBA: Electro-hydro-modulation for Peroxycoagulation Mineralization and Treatment of Organic Constituents in Municipal Secondary Effluent, PhD, 2021 (est.).

Mary Jacketti, “TBA: Inferential/Parametric Forecasting of Sunken Oil Trajectory Based on Available Field Concentration Observations and Bathymetric Data,” PhD, 2021 (est.).

Chao Ji, “TBA: Inferential/Parametric Forecasting of Submerged Oil Trajectory Based on Available Field Concentration Observations and the Output of Complimentary Fate and Transport Models,” PhD, 2020 (est.).

Kusumitha Perera, “Development of the Electrohydromodulation Process for Simultaneous Recovery of Nitrogen and Phosphorus from Municipal Wastewater,” Ph.D., 2019.

Lucien Gassie, “Design and Optimization of an Energy-Efficient Low Environmental Impact Net-Zero Water Wash Station, Ph.D., 2019.

Oscar Martinez, “LFDA: A Probabilistic Graphical Model for the Study of Excitation Emission Matrices,” PhD (Co-Chair with M. Kubat), 2016.

Ana Dvorak, M.S., non-thesis, 2016.

Mary Semaan, “Design of a Net-Zero Water Treatment Systems for Use on Mars,” MS., 2015, Ph.D. student, Dept. Civil and Environmental Engineering, Virginia Polytechnic Institute, Blacksburg, VA.

Raul Velarde, M.S., non-thesis, 2015, SPD Assistant Estimator, Turner Construction, Miami, FL.

Eric Antmann, M.S., non-thesis, 2015, Assistant Engineer, Hazen and Sawyer, Miami, FL.

Tingting Wu, Postdoctoral Associate, 2011-2014, Assistant Professor, University of Alabama, Huntsville, AL,
<https://www.uah.edu/eng/departments/cee/people/tingting-wu>.

Tianjiao Guo, “Optimal Scaling of Distributed Net-Zero Water Treatment Systems,” *Ph.D.*, 2014, Postdoctoral Associate, College of Chemical and Biological Engineering, Zhejiang University, China.

Guanghai Wang, “Potable Reuse without Environmental Buffer: Operation to Control the Urban Nitrogen Cycle,” M.S., 2013, Dot-Net Developer, UPMC WorkPartners, Pittsburgh, PA.

Kusumitha Perera, Visiting Scholar, B.Sc. Eng. Hons. Student, University of Moratuwa, Chemical and Process Engineering, “Process Design and Modeling for Control of Nitrogen in Net-Zero Water Treatment Systems,” May – November, 2012.

Yuri Almeida, M.S., non-thesis, 2012.

David Hernandez, M.S., non-thesis, 2012, Assistant Engineer, Hazen and Sawyer, Boca Raton, FL.

Lin Liu, M.S., non-thesis, 2012.

Jason Lecker, M.S., non-thesis, 2012.

Erik Gadzinski, M.S., non-thesis, 2011, Environmental Engineer at Valero - St. Charles Refinery, New Orleans, Louisiana.

Angelica Echavarria-Gregory. “Predictive Data-Derived Bayesian Statistic-Transport Model and Simulator of Sunken Oil Mass,” *Ph.D.*, 2010. Carollo Engineers, Lake Worth, FL.

Aarthi Anand, “Development of Hydrogen Peroxide-Assisted Electrocatalytic Advanced Oxidation Process for Tertiary Treatment of Municipal Wastewater, M.S., 2010. Senior Chemist, Nalco.

Ruochen Li. “Development of a Gradient Markov Chain Monte Carlo Algorithm for Computing Multivariate Maximum Likelihood Estimates and Posterior Distributions: Mixture Dose-Response Assessment,” M.S., 2010. Financial Systems Analyst, Hang Seng Bank, Shanghai, China.

Pedro Avellaneda, Risk Assessment Thrust Area Leader, Post-Doctoral Fellow, 2008-2009. Assistant Professor, National University of Colombia at Bogotá,
http://www.docentes.unal.edu.co/pmavellanedal/cvpedrom_short.pdf.

Samer Abdul Aziz, “Laboratory Study of Hydrogen Peroxide-Assisted Electrocatalysis for Oxidation of Dilute Recalcitrant Organics in Municipal Wastewater,” M.S., 2008.

Deng, Yang, “Iron Mediated Process for Treatment of High Strength Recalcitrant Organic Wastewater: Landfill Leachate,” *Ph.D., First Place, Engineering Category, University of Miami Graduate School Research and Creativity 2005 Competition*, 2006. Professor, Dept. of Earth & Environmental Studies, Montclair State University, NJ,
https://www.montclair.edu/profilepages/view_profile.php?username=dengy.

Legrenzi, Yves, Visiting Scholar, fifth year student at ENTPE, Ecole Nationale des Travaux Publics de l’Etat, Bureau des Stages, Yves DEPLACE, France, “Design and Testing of Fluidized Bed Iron-Mediated Aeration Reactor for Oxidation of COD in Leachate,” 2004.

Mognol, Joel, Visiting Scholar, fifth year student at ENTPE, Ecole Nationale des Travaux Publics de l’Etat, Bureau des Stages, Yves DEPLACE, France, “Optimization of Fixed Bed Iron-Mediated Aeration Reactor for Oxidation of COD in Leachate,” 2004.

Bataille, Tristan, Visiting Scholar, fifth year student at ENTPE, Ecole Nationale des Travaux Publics de l’Etat, Bureau des Stages, France, “Disinfection of Water by Mediated Aeration,” 2003.

Meeroff, Daniel, “Development of an In-Situ Chelation/Oxidation/Co-Precipitation Process for Subsurface Remediation of Metals, Radionuclides, Volatiles, and Biodegradable Organics,” Post-Doctoral Research Fellow,

University of Miami, 2001-2003, Associate Chair and Professor, Florida Atlantic University, Boca Raton, FL
<http://www.eng.fau.edu/directory/faculty/meeroff/>.

Bloetscher, Frederick, "Development of a Predictive Bayesian Microbial Dose-Response Function," *Ph.D., First Place, Engineering Category, University of Miami Graduate School Research and Creativity Competition*, 2001. Associate Dean and Professor, Florida Atlantic University, Boca Raton, FL,
<http://www.eng.fau.edu/directory/faculty/bloetscher/>.

An, Huren, "The Use of Markov Chain Monte Carlo Gibbs Sampling to Determine Reference Dose in Health Risk Assessment," *M.S.*, 2000. Assistant Director, City of North Miami Beach Public Services Department, N. Miami Beach, FL.

De, Dibyendu, "Characterization of Kinetics and Mechanisms of Electrochemical Nitrate Reduction Using Surface Modified Carbon Fiber Electrode," *Ph.D., Honorable Mention, University of Miami Graduate School Research and Creativity Competition*, 1999. Research and Development Scientist, Baxter-Althin Medical, Inc., Miami, FL.

Meeroff, Daniel, "Development of Filtration Processes for Separation of Emulsified Bitumen Fuels from Water," *M.S.*, 1997; *First Place, Water Environment Federation Student Paper Competition*, Masters Category, 1998,
<http://www.civil.fau.edu/~daniel/>.

Robert P. Anex, "Development of Benefit-Risk Assessment Model for Sustainable Process Design," Postdoctoral Research Fellow, 1996. Professor, Science and Public Policy, University of Oklahoma,
<https://bse.wisc.edu/staff/anex-rob/>.

Singh, Samresh, "Destruction of Aqueous Trihalomethanes in High-Surface Area, Zero-Valent Cobalt Bed Reactors," *M.S.*, 1997. Software Developer, Intel Corporation, Beaverton, OR.

Peng, Chengjun, "Development of a Process for Detoxifying Nuclear Reactor Cooling Water," *M.S.*, 1995. Project Engineer, Parsons Brinckhoff Tudor-Tuner Associates (MARTA General Consultant), Atlanta, GA.

Committee Member

Soyoung Baek, "Novel nanocomposites for the treatment of antibiotic resistant bacteria in water – antibacterial effects and mechanisms of nanocomposites," *PhD*, 2019.

Athena S. Jones, "TBA: Fate, transport, and/or toxicity of emerging constituents dibrom aerial pesticide and/or PFAS in sanitary landfills," withdrew from PhD, 2017.

Eleonora Spisni, "Toxicity assessment of industrial- and sunscreen-derived ZnO nanoparticles," *M.S.*, 2016.

Andrea Galletti, "Toxicity evaluation of TiO₂ nanoparticles embedded in consumer products," *M.S.*, 2016.

Diego F. Romero, "Evaluating the feasibility of cathode-ray tube glass as a substitute aggregate in concrete mixtures," *Ph.D.*, 2013.

Iudicello, Jeff, "New Methods for Improving Modeling Capabilities of In-Stream Pathogen Indicator Bacteria," *Ph.D.*, 2012.

Rojas, Richard "Development of Stochastic Models for Fate and Transport of Contaminants in the Environment," *M.S.*, (2010).

Ph.D. Kiger, Tommy (2011) Hydrological Studies of the Everglades System, *M.S.*, 2011 (est.).

Gonzales Ramirez, Noemi, "A 2-D Model to Improve Flash Flood Predictions in Urban Areas Using Radar Precipitation Estimates," *Ph.D.*, 2010.

- Sakura-Lemessy, Donna-May, "A Multi-Model Approach to Using Pathogen Indicator Bacteria Loading in TMDL Analyses," *Ph.D.*, 2010.
- Chimba, Deo, "Analysis of Safety and Operational Deficiencies on Access Roads to Tri-Rail Stations," *Ph.D.*, 2008.
- Signor, Ryan S., "Probabilistic Microbial Risk Assessment & Management Implications for Urban Water Supply Systems," *Ph.D.*, University of New South Wales, Sydney, Australia, 2007.
- Elmir, Samir, "Evaluation and Development of Microbial Water Quality Indicators," *Ph.D.*, 2006.
- Li, Jibing, "Accuracy Standards & Size Requirement for Four-Step Planning Model," *Ph.D.*, 2006.
- Gu, Xiaojun, "Multi-criteria signal timing control strategies for critical intersections," *Ph.D.*, 2005.
- Xu, H., "The Urban Hydrology of South Florida," *M.S.*, 2002.
- Zygnerski, Michael "Comparison of Microbial Water quality Indicators," *M.S.*, 2002.
- John, Nicolette, "Statistical Analysis of Municipal Solid Waste Collectors Workers' Compensation Data for Risk Analysis," *M.S.*, Environmental Health and Safety, 2000.
- Nemeth, Mark, "Transient Seepage Rates in a Hydraulically Interconnected System of Groundwater and Surface Water," *Ph.D.*, 2000.
- Swain, Eric, "Relative Effects of Variability in Recharge and Hydraulic Conductivity on Dispersion in Groundwater," *Ph.D.*, Civil Engineering, 1998.
- Chittaluru, Prasad, "Soil Washing Groundwater Remediation: Enhancement through High-Energy Electron Irradiation," *Ph.D.*, 1997.
- Ding, Li, "A Study of the Application of Ocean Surface Current Radar Systems to the Delineation of Outfall Mixing Zones," *M.S.*, 1997.
- Richards, April, "IMMUNISE Integrated Medwaste Management Utilizing New Inventory System Evaluation: A Spreadsheet Model to Assist in the Management of Hospital Waste," *M.S.*, 1995.
- Chinthamreddy, Supraja, "Validation of a Diagnostic Model of Ocean Currents," *M.S.*, Environmental Engineering, 1995.
- Zhao, Sifang, "An Assessment of the Evaporation and Rain Gauge Networks in the South Florida Water Management District," *M.S.*, 1995.
- Fu, X., "Incineration of Medical Waste in LFH," *M.S.*, Mechanical Engineering, 1995.
- Galav, Vivek, "Recycling of Surfactants Used for Washing PAH-Contaminated Soils Using High Energy Radiation," *M.S.*, 1994.
- Wang, Tiezheng, "Radiation Treatment of Sewage Sludge For Reuse," *Ph.D.*, 1993.
- Patey, Michael, "Inactivation of Selected Bacteria By Electron Beam in the Presence of Radical Scavengers," *M.S.*, 1993.

UNIVERSITY SERVICE

College of Engineering Dean Search Committee, 2019 – present.

Senator, University of Miami Faculty Senate, 2014 – 2016, 2018 - present.

Advisor, University of Miami College of Engineering Student Council, 2019 – present.

College of Engineering Awards Committee Representative, 2017 - present.

College of Engineering Tenure and Promotion Review Board Representative, Department of Civil, Architectural, and Environmental Engineering, 2004 – 2010, 2017.

Student Chapter Coordinator, Florida Water Environment Association, 1993 - present.

Undergraduate Advisor, Department of Civil, Architectural, and Environmental Engineering, 1992 – 2007, 2010 - present.

Environmental Engineering Curriculum Committee, Department of Civil, Architectural, and Environmental Engineering, 2007 - present.

Chair, Research and Education Standing Committee, Green U Task Force, University of Miami, 2007 - present.

Faculty Board, Abess Center for Ecosystem Science and Policy, University of Miami, 2008 – 2015.

Tenure and Promotion Review Board Member, University of Miami Faculty Senate, 2008 - 2009.

Graduate Program Director, Department of Civil, Architectural, and Environmental Engineering, 1995 – 1996, 2007 - 2016.

College of Engineering Engineers Without Borders Student Chapter, Co-Advisor, 2007 – 2010.

College of Engineering Research Council Representative, Department of Civil, Architectural, and Environmental Engineering, 1999 - 2008.

Graduate Studies Committee Member, Civil, Architectural, and Environmental Engineering, 1992 - present.

College of Engineering Council Representative, Department of Civil, Architectural, and Environmental Engineering, 1997 - 2000.

Library Committee Member, University of Miami Faculty Senate, 1995 - 1996.

Concrete Canoe Advisor, ASCE Student Chapter, 1992 - 1995.

Innovative Curriculum Committee Member, College of Engineering, 1994.

Chi Epsilon Advisor, 1992 - 1994.

United Way Representative, Department of Civil, Architectural, and Environmental Engineering, 1992 - 1993.

COMMUNITY SERVICE

Mentor, Maritime & Science Technology (MAST) Senior High students: Bryan Ibarra, Ana Sicilia, 2014

Mentor, Archimedean Academy students: Alejandro Rodriguez, Luis Fornes, Michael Pichardo, 2013

Big Brother, Big Brothers/Big Sisters of America, Jamal Thomas, 1999 - 2009.

Mentor, Dade County Public Schools Advanced Academic Internship Program, Gagan Sharma, “Technical Challenges to Laser Decomposition of Organic Contaminants in Water and Wastewater,” High School Advanced Internship, 1997.

Mentor, Dade County Public Schools Advanced Academic Internship Program, Michael Liu, “Programming of Oil Spill Risk Analysis Model and Use for Analysis of Oil Spill Risks in the Gulf of Mexico,” High School Advanced Internship, 1996.

Leader, Lost Faculties, University faculty musical group, University and student functions, 1994 - 1999.