**Curriculum Vitae**

**Jennifer Weidhaas, PhD, PE**

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**Professional Preparation**

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| --- | --- | --- |
| University of California-Davis | Civil and Environmental EngineeringDesignated Emphasis in Biotechnology | PhD 2006 |
| University of California-Davis | Civil and Environmental Engineering | MS 2002 |
| Montana State University | Civil EngineeringEmphasis in Bio-Resources Engineering | BS 1999 |
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**Professional Certification**

Professional Engineer, Environmental Engineering, State of Idaho, License # 12525

**Professional appointments/employment**

2019–current **Associate Professor (tenured)**, University of Utah, Civil & Environmental Engineering

2016–2019 **Associate Professor (untenured)**, University of Utah, Civil & Environmental Engineering

2010–2016 **Assistant Professor**, West Virginia University, Civil & Environmental Engineering

2005–2010 **Environmental Engineer**, North Wind, Inc., Idaho Falls, ID

2000 **Environmental Engineer**, Idaho National Laboratory, Idaho Falls, ID

**Publications** [**scopus link**](https://www.scopus.com/results/authorNamesList.uri?name=name&st1=weidhaas&st2=jennifer&origin=searchauthorlookup)[**google scholar link**](https://scholar.google.com/citations?user=YvBCdPwAAAAJ&hl=en)

*(graduate advisees \*, undergraduate researchers #, secondary school teachers%)*

1. Imran, U, A Ullah, RB Mahar, K Shaikh, WA Khokhar, **J Weidhaas**, 2023, An Integrated Approach for evaluating freshwater ecosystems under the influence of high salinity: A Case Study of Manchar Lake in Pakistan, Environmental Monitoring and Assessment, 195(11): 1-21 <https://doi.org/10.1007/s10661-023-11917-z>
2. Cavanaugh,\* S, **J Weidhaas**, 2023, Improved Extended Nernst Plank nanofiltration modeling via inclusion of pore size, electrostatic interactions, and compound shape and orientation, Desalination, 566(116904) <https://doi.org/10.1016/j.desal.2023.116904>
3. Zebelean\*, D, D. Tran\*, R. Goel, **J Weidhaas**,2023, Halophilic Biodegradation of 3-nitro-1,2,4-triazol-5-one (NTO) in Brine, Journal of Environmental Engineering, 149:9 <https://doi.org/10.1061/JOEEDU.EEENG-7319>
4. Cavanaugh\*, S, **J Weidhaas**, 2023, Response surface methodology for performance evaluation of insensitive munitions wastewater membrane filtration, Cleaner Engineering and Technology, 12(100603), <https://doi.org/10.1016/j.clet.2023.100603>
5. **Weidhaas, J**, M Olsen\*, J McLean, N Allen, L Ahmadi, K Duodu, R Dupont, 2022 Microbial and chemical risk from reclaimed wastewater use for residential irrigation, Water Reuse, 12(3) 289-303, <https://doi.org/10.2166/wrd.2022.014>
6. Tran\*, D, **J Weidhaas**, 2022, Ion exchange for effective separation of 3-nitro-1,2,4-triazol-5-one (NTO) from wastewater, Journal of Hazardous Materials*,* 436: 129215, <https://doi.org/10.1016/j.jhazmat.2022.129215>
7. Jiang, G, J Wu, **J Weidhaas**, X Li, Y Chen, J Mueller, J Li, M Kumar, X Zhou, S Arora, E Haramoto, S Sherchan, G Orive, U Lertxundi, R Honda, M Kitajima, G Jackson, 2022, Artificial neural network-based estimation of COVID-19 case numbers and effective reproduction number using wastewater-based epidemiology, Water Research, 218: 118451, <https://doi.org/10.1016/j.watres.2022.118451>
8. Jamal\*, R, **J Weidhaas**, 2022, Temporal physiochemical and bacteriological variability in an urban stream and implications for compliance monitoring: Case Study, Journal of Environmental Engineering, 148:5, DOI: 10.1061/(ASCE)EE.1943-7870.0001992
9. Cavanaugh\*, S, P Smith, **J Weidhaas**, 2022, Experimental diffusivity of energetic compounds determined by peak parking, Journal of Hazardous Materials, 424 Part D, <https://doi.org/10.1016/j.jhazmat.2021.127681>
10. Stein, N, A Podder, **J Weidhaas**, R Goel, 2022, Simultaneous reduction of perchlorate and nitrate using fast-settling anoxic sludge, Chemosphere, 286 Part 2, <https://doi.org/10.1016/j.chemosphere.2021.131788>
11. **Weidhaas, J**, Z Aanderud, DK Roper, J VanDerslice, EB Gaddis, J Ostermiller, K Hoffman, R Jamal \*, P Heck, Y Zhang, K Torersen, J Vander Laan, N LaCross, 2021, Correlation of SARS-CoV-2 RNA in wastewater with COVID-19 disease burden in sewersheds, Science of the Total Environment, <https://doi.org/10.1016/j.scitotenv.2021.145790>
12. Pecson, BM, E. Darby, C. Haas, Y. Amha, M. Bartolo, R. Danielson, Y. Dearborn, G. Giovanni, C. Ferguson, S. Fevig, E. Gaddis, D. Gray, G. Lukasik, B. Mull, L. Olivas, A. Olivieri, Y. Qu, T. Au, N. Brinkman, K Chandran, F Chauvin, J Dennehy, P. Dennis, S Feng, M. Flood, R. Gonzalez, J. Hernandez, K. Janssen, S. Jiang, M. Johnson, D. Kaya, H. Lee, J. Lee, X. Li, C. Mansfeldt, S. Monhal, K. Nelson, K. Papp, A. Pierri, C. Pratt, A. Quintero, T. Raniecki, R. Reinke, D. Roper, T. Sivy, B. Swalla, **J Weidhaas**, 2021, Reproducibility and sensitivity of 36 methods to quantify the SARS-CoV-2 genetic signal in raw wastewater: findings from an interlaboratory methods evaluation in the U.S., Environmental Science: Water Research & Technology, DOI: 10.1039/d0ew00946f
13. Jamal \*, R, X. Li, **J. Weidhaas**, 2021, Template length, concentration and guanidine and cytosine content influence on multiple displacement amplification efficiency, Journal of Microbiological Methods, <https://doi.org/10.1016/j.mimet.2021.106146>.
14. Jamal, R\*, S Mubarak, S Sahulka, J Kori, A Tajammul, J Ahmed, R Mahar, MS Olsen\*, R Goel, **J Weidhaas**, 2020, Informing water distribution line rehabilitation through quantitative microbial risk assessment, Science of the Total Environment, 739: 10.1016/j.scitotenv.2020.140021
15. Mehmood, R, U Iran, A Ullah, J.L. Ullman, **J. Weidhaas**, 2020*,* Health risks associated with accumulation of heavy metals in fish of Keenjhar Lake, Pakistan, Environmental Science and Pollution Research, doi: 10.1007/s11356-020-08705-4
16. Imran, U, **J Weidhaas**, A. Ullah, K Shaikh, 2020, Risk associated with spatio-temporal variations in trace metals and a metalloid in a major freshwater reservoir of Pakistan, Human and Ecological Risk Assessment: An International Journal, doi.org/10.1080/10807039.2020.1729090
17. Imran, U, M Khan, R Jamal\*, S Sahulka, R Goel, R Mahar, **J. Weidhaas**, 2020, Probabilistic risk assessment of water distribution system in Hyderabad, Pakistan reveals unacceptable health hazards and areas for rehabilitation,Ecotoxicology and Environmental Safety, 191: https://doi.org/10.1016/j.ecoenv.2020.110233
18. Acharya, SP \*, J. Johnson \**%*, **J. Weidhaas,** 2020, Adsorption kinetics of the herbicide safeners, benoxacor and furilazole, to activated carbon and agricultural soils, Journal of Environmental Sciences, 89:23-34, https://doi.org/10.1016/j.jes.2019.09.022
19. Deng, D, O. Lin, A. Rubenstein, **J. Weidhaas,** L-S Lin, 2019, Elucidating biogeochemical transformations of Fe and S in an innovative Fe(II)-dosed anaerobic wastewater treatment process using spectroscopic and phylogenetic analyses, Chemical Engineering Journal, 358: 1208-1217, https://doi.org/10.1016/j.cej.2018.10.030
20. Clark, GG #, R. Jamal \*, **J. Weidhaas,** 2019, Roofing Material and Irrigation Frequency Influence Microbial Risk from Consuming Homegrown Lettuce Irrigated with Harvested Rainwater, Science of the Total Environment, 651(1), 1011-1019, doi.org/10.1016/j.scitotenv.2018.09.277
21. Boney, J, J. Jaczynski, **JL Weidhaas**, A Bergeron, J Moritz, 2018, The Effects of Steam Conditioning and Antimicrobial Inclusion on Feed Manufacturing and Inactivation of *Enterococcus faecium*, a *Salmonella* surrogate, Journal of Applied Poultry Research, pfy052, 1-11, http://dx.doi.org/10.3382/japr/pfy052
22. Acharya, SP\*, **J Weidhaas**, 2018*,* Solubility, partitioning, oxidation and photodegradation of dichloroacetamide herbicide safeners, benoxacor and furilazole,Chemosphere, 211:1018-1024, doi.org/10.1016/j.chemosphere.2018.08.024
23. **Weidhaas, JL**, A. Anderson\*, R. Jamal\*, 2018*,* Elucidating waterborne pathogen presence and aiding source apportionment in an impaired stream, Applied and Environmental Microbiology, 84(6): DOI: 10.1128/AEM.02510-17
24. **Weidhaas, JL**, A. Panaccione#, A. Bhattacharjee, R. Goel, A. Anderson\*, S. Poudel Acharya\*, 2018, Whole community transcriptome of a sequencing batch reactor transforming 2,4-dinitroanisole (DNAN) and 3-nitro-1,2,4-triazol-5-one (NTO), Biodegradation, 29(1):71-88, DOI: 10.1007/s10532-017-9814-9
25. S. Mantha \*, A. Anderson #, S.P. Acharya \*, V.J. Harwood, **J. Weidhaas**, 2017*,* Transport and Attenuation of *Salmonella enterica*, Fecal Indicator Bacteria and a Poultry Litter Marker Gene are Correlated in Soil Columns, Science of the Total Environment*,* 598:204-212, doi.org/10.1016/j.scitotenv.2017.04.020
26. Li, KW, **J. Weidhaas**, L. Lemonakis, H. Khouryieh, M. Stone, L. Jones, C. Shen, 2017, Microbiological Quality and Safety of Fresh Produce at West Virginia and Kentucky Farmers’ Markets and Validation of Post-Harvest Washing Practice with Antimicrobials to Inactivate *Salmonella* and *Listeria* *monocytogenes*, 79:101-108, Food Control, http://dx.doi.org/10.1016/j.foodcont.2017.03.031
27. **Weidhaas, J.L.**, L-S. Lin, K. Buzby, 2017, A case study for orphaned chemicals: 4-methylcyclohexanemethanol (MCHM) and propylene glycol phenyl ether (PPH) in riverine sediment and water treatment processes, Science of the Total Environment, 574: 1396-1404, DOI: 10.1016/j.scitotenv.2016.08.063
28. **Weidhaas, J**, A. Dietrich, N.J. DeYonker, R.R. Dupont, W. Foreman, D. Gallagher, J. Gallagher, A. Whelton, W. Alexander, 2016, Enabling science support for better decision making when responding to chemical spills, Journal of Environmental Quality, 45:1490-1500, DOI: 10.2134/jeq2016.03.0090
29. **Weidhaas, J.L.**, L-S. Lin, K. Buzby, X. Li\*, 2016, Biodegradation of MCHM and PPH in river microcosms and activated sludge, Journal of Environmental Engineering, 142(11), DOI: 10.1061/(ASCE)EE.1943-7870.0001133
30. Li, X. \*, V.J. Harwood, B. Nayak, **J.L. Weidhaas**, 2016, Ultrafiltration and Microarray Detect Microbial Source Tracking Marker and Pathogen Genes in Riverine and Marine Systems, Applied and Environmental Microbiology, 82(5): 1625-1635, DOI: 10.1128/AEM.02583-15
31. Deng, D., **J. Weidhaas**, L-S. Lin, 2016, Kinetics and Microbial Ecology of Sulfate Reducing Reactors for Co-treatment of Municipal Wastewater and Acid Mine Drainage, Journal of Hazardous Materials, 305:200-208, doi:10.1016/j.jhazmat.2015.11.041
32. Li, X. \*, V.J. Harwood, B. Nayak, C. Staley, M Sadowsky, **J.L. Weidhaas**, 2015, A novel microbial source tracking microarray for pathogen detection and fecal source identification in environmental systems, Environmental Science and Technology, 49(12):7319-7329, DOI: 10.1021/acs.est.5b00980
33. Nayak, B., **J. Weidhaas**, V.J. Harwood, 2015, LA35 Poultry Fecal Marker Persistence Is Correlated with that of Indicators and Pathogens in Environmental Waters, Applied and Environmental Microbiology, 81(14): 4616-4625, doi: 10.1128/AEM.00444-15
34. **Weidhaas, J.**, S. Mantha \*, E. Hair #, B. Nayak, V.J. Harwood, 2015, Evidence for extra-intestinal growth of *Bacteroidales* originating from poultry litter,Applied and Environmental Microbiology, 81(1): 196-202, doi: 10.1128/AEM.02354-14
35. Richard, T.\*, **J. Weidhaas**, 2014, Dissolution, sorption and phytoremediation of IMX-101 explosive formulation constituents: 2,4-dinitroanisole (DNAN); 3-nitro-1,2,4-triazol-5-one (NTO); and nitroguanidine, Journal of Hazardous Materials, 280:561-569, DOI: 10.1016/j.jhazmat.2014.08.042
36. Richard, T.\*, **J. Weidhaas**, 2014, Biodegradation of IMX-101 explosive formulation constituents: 2,4-dinitroanisole; 3-nitro-1,2,4-triazol-5-one; and nitroguanidine, Journal of Hazardous Materials, 280: 372-379, DOI: 10.1016/j.jhazmat.2014.08.019
37. **Weidhaas, J.,** E. Garner #, T. Basden, V.J. Harwood, 2014,Runoff Studies Demonstrate Parallel Transport Behavior for a Marker of Poultry Fecal Contamination and *Staphylococcus aureus*, Journal of Applied Microbiology, 117(2): 417-429, doi: 10.1111/jam.12543
38. **Weidhaas, J.**, E. Lipscomb#, 2013, A new method for tacking poultry litter in the Potomac Basin headwaters of West Virginia, Journal of Applied Microbiology, 115(2): 445-54, doi: 10.1111/jam.12231
39. **Weidhaas, J.L.**, R.R. Dupont, 2013, Aerobic biotransformation of N-nitrosodimethylamine and N-nitrodimethylamine in methane and benzene amended soil columns, Journal of Contaminant Hydrology, 150, 45-53, doi:10.1016/j.jconhyd.2013.04.004
40. **Weidhaas, J.L.**, M. Zigmond, R.R. Dupont, 2012, Aerobic biotransformation of N-nitrosodimethylamine and N-nitrodimethylamine by benzene, butane, methane, propane and toluene fed cultures, Bioremediation Journal, 16(2), 74-85, doi.org/10.1080/10889868.2012.665961
41. Swift, D.L., J. Rothermel, L. Peterson, B. Orr, G. Bures, **J. Weidhaas,** 2012, Remediating TCE‐contaminated groundwater in low‐permeability media using hydraulic fracturing to emplace zero‐valent iron/organic carbon amendment, Remediation Journal, 22(2): 49-67, DOI: 10.1002/rem.21310
42. **Weidhaas, J.L.**, T.W. Macbeth, R.L. Olsen, V.J. Harwood, 2011, Correlation of quantitative PCR for a Poultry-Specific *Brevibacterium* Marker Gene with Bacterial and Chemical Indicators of Water Pollution in a Watershed Impacted by Land Application of Poultry Litter, Applied and Environmental Microbiology, 77(6): 2094-2102, doi: 10.1128/AEM.02555-10
43. **Weidhaas, J.L.**, T. W. Macbeth, R. L. Olsen, M. J. Sadowsky, D. Norat and V. J. Harwood, 2010, Identification of a *Brevibacterium* marker gene specific to poultry litter and development of a quantitative PCR assay. Journal of Applied Microbiology, 109(1):334-347, doi: 10.1111/j.1365-2672.2010.04666.x
44. **Weidhaas, J.L.**, D.P.Y Chang, E.D. Schroeder, 2009, Biodegradation of nitroaromatics and RDX by isolated *Rhodococcus opacus*, Journal of Environmental Engineering, 135(10): 1025-1031, DOI: 10.1061/(ASCE)EE.1943-7870.0000072
45. **Weidhaas, J.L.**, E.D. Schroeder, D.P.Y Chang, 2007, An aerobic sequencing batch reactor for 2,4,6-trinitrophenol (picric acid) biodegradation, Biotechnology and Bioengineering, 97(6): 1408-1414, DOI: 10.1002/bit.21361

**Book Chapters**

1. Hrudey, SE, and **J Weidhaas**, *in press*, Waterborne Disease Outbreaks: Their Causes, Problems, and Challenges to Treatment Barriers, in A. Korajkic, E Villegas, (eds). American Water Works Association Manual M48 Waterborne Pathogens, 3rd ed.
2. **Weidhaas, J**, 2023, Adoption of Analytical Methods for Identifying Contaminants of Emerging Concern, Methods for Biological Contaminants, in Panzino, P and Mathrani, V (eds), Interstate Technology and Regulatory Council (ITRC), Contaminants of Emerging Concern, <https://cec-1.itrcweb.org/>
3. **Weidhaas J**, 2021, Graphical Displays, in Brooks, B and Sorrentino, C (eds), Interstate Technology and Regulatory Council (ITRC), Soil Background and Risk Guidance, <https://sbr-1.itrcweb.org/>
4. Blanch A, Ballesté E, **Weidhaas J**, Domingo J, Ryu H, Harwood V, Yates. 2015. Methods of Targeting Animal Sources of Fecal Pollution in Water, p 3.4.4-1-3.4.4-28. In Yates M, Nakatsu C, Miller R, Pillai S (ed), Manual of Environmental Microbiology, Fourth Edition. ASM Press, Washington, DC. doi: 10.1128/9781555818821.ch3.4.4

**Conference PROCEEDINGS (PEER reviewed)**

1. **Weidhaas, JL,** SP Acharya, D. Tran, V Gupta, R. Goel, 2018, Ion Exchange and Biological Treatment of NTO Wastewater, JANNAF Conference, December 10-14, Vancouver, WA
2. **Weidhaas, J**, 2017, Engineering Student Self-Assessment of Performance in a Team Setting: Realism versus Fantasy, *American Society of Engineering Education Rocky Mountain Section Conference*, September 22-23, Provo, Utah.

\*selected as Best Paper at the conference

1. Bukhary; S, **J Weidhaas**, K Ansari, RB Mahar, C Pomeroy, JA VanDerslide, S Burian, S Ahmad, 2017, Using Distributed Solar for Treatment of Drinking Water in Developing Countries. In: Dunn C, Van Weele B (eds) *World Environmental and Water Resources Congress 2017*, Sacramento, CA, May 21-25. American Society of Civil Engineering. doi:10.1061/9780784480618.026
2. **Weidhaas, J.L.**, D.P.Y. Chang, 2004, Aerobic Biodegradation of Polynitroorganic Explosives by Isolated Gram-positive Bacteria, Proceedings *Battelle 4th International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, May 24-27, Monterey, CA.
3. **Weidhaas, J.L.**, D.P.Y. Chang, E.D. Schroeder, 2002, Biodegradation of Trinitrophenol-*Contaminated Soil, Air and Waste Management Association*, 95th Annual Conference Proceedings, June, Baltimore, MD

**Conference PRESENTATIONS**

1. **Weidhaas, JL**, S Cavanaugh, D Tran, N Stein, R Goel, 2023, Cost effective treatment trains for wastewater containing legacy munitions and insensitive high explosives, SERDP/ESTCP symposium, November 29-December 1, Washington DC
2. **Weidhaas, JL**, S Cavanaugh, D Tran, N Stein, R Goel, 2022, Cost effective treatment trains for wastewater containing legacy munitions and insensitive high explosives, AEESP Conference, 28-30 June, St. Louis, MO.
3. **Weidhaas, JL,** R. Dupont, M Olsen, L Ahmadi, K Duodu, J McLean, N Allen, R. Martin, C Flint, 2021, Human heath risks from exposure to reclaimed wastewater, Utah Water Users Association, May 18-19 2021, St. George, UT.
4. **Weidhaas, JL**, M. Olsen, 2019, Quantitative microbial risk from wastewater reuse for irrigation in a peri-urban setting, 12th International Water Association, International Conference on Water Reclamation and Reuse, June 16-19, Berlin, Germany.
5. **Weidhaas, JL**, M. Olsen, 2019, Pathogen Monitoring and Quantitative Microbial Risk Assessment of Secondary Water in Cache Valley, UT, Universities Council on Water Resources, June 11-13, Snowbird, UT
6. **Weidhaas, JL**, 2017, Engineering Student Self-Assessment of Performance in a Team Setting: Realism versus Fantasy, ASEE Rocky Mountain Section Conference, September 22-23, Provo, Utah.
7. **Weidhaas, JL**, A. Anderson, R. Jamal, 2017, High density sampling of pathogenic microbial community in a fecally impaired watershed, International Water Association, May 15-19, Chapel Hill, NC
8. **Weidhaas, JL**, A. Panaccione, A. Anderson, S. Proudel Acharya, 2016, Sequencing batch reactor for biotransformation of 2,4-dinitroanisole (DNAN) and 3-nitro-1,2,4-triazol-5-one (NTO), Society for Industrial Microbiology and Biotechnology, July 24-28, New Orleans, LA (Invited Speaker)
9. **Weidhaas, JL**, X. Li, VJ Harwood, 2015, A Novel Microbial Source Tracking Microarray for Pathogen Detection and Fecal Source Identification in Environmental Systems, American Chemical Society National Meeting and Exposition, August 16-20th, Boston, MA
10. **Weidhaas, JL**, T Richard, 2015, Environmental Fate and Transport of a New Military Explosive, IMX-101, Third International Symposium on Bioremediation and Sustainable Environmental Technologies, May 18-21, Miami, FL (Invited Speaker)
11. Solo-Gabriele, H.M., Harwood, V.J., Ferguson, A., Byrne, A., Mena, K.D., Becker, A., Omachonu, V., Axelrad, D.M., Beamer, P., Buckley, B., Bursac, B., Canales, R., DiGiovanni, G.D., Dutton, M., Elmir, S., Gurian, P., Hollenbeck, J., Johnson, L., Kirkpatrick, B., Klaus, J., Lopez, I., Mormann, M., Plano, L.W., Rodriguez, R.A., Sadowsdky, M., Shalat, S., Solo-Josephson, P., Studts, J.L., Suther, S., Tarwater, P., **Weidhaas, J.,** Wright, A., 2015. Approach for Improved Public Health Guidance for Beach Use During and After Oil Spills. Gulf of Mexico Oil Spill & Ecosystem Science Conference. February 16-19, Houston, TX
12. Mantha, SK, **J. Weidhaas**, 2014, A poultry litter marker gene correlates with pathogen and fecal indicator bacteria deposition, growth and transport from poultry bedding, West Virginia Academy of Science Conference, April 12, Shepardstown, WV
13. **Weidhaas, J.,** E. Lipscomb, 2013, Tracking Poultry Litter Contamination in the WV Potomac River Headwaters, ASCE Environmental Water Research Institute Conference, May 20-24, Cincinnati, OH
14. **Weidhaas, J.,** T. Richard, 2013, Phytoremediation and Biodegradation of a new military explosive, IMX-101, ASCE Environmental Water Research Institute Conference, May 20-24, Cincinnati, OH
15. **Weidhaas, J.,** P.W. Gautam, 2013, Spatial relationship between the trichloroethylene degrading bacteria *Dehalococcoides* sp., sulfate reducers and methanogens during reductive dechlorination, ASCE Environmental Water Research Institute Conference, May 20-24, Cincinnati, OH
16. **Weidhaas, J.L.,** 2013, Advances in the Use of Molecular Biological Tools for Site Investigation and Monitoring: An ITRC Perspective, RemTech Summit, March 5, Denver, CO
17. Richard, T, **J. Weidhaas**, 2012, Adsorption and bioremediation of explosive compound: IMX‑101 and constituents, West Virginia Academy of Science and the West Virginia Science, Technology and Research, April 12, Institute, WV
18. Wagle-Gautam, P, **J. Weidhaas**, 2012, Spatial relationship between the trichloroethylene degrading bacteria *Dehalococcoides* sp., sulfate reducers and methanogens during the reductive dechlorination process, West Virginia Academy of Science and the West Virginia Science, Technology and Research, April 12, Institute, WV
19. **Weidhaas, J.L.,** 2011, Hydraulic fracturing for remediation of chlorinated solvents in a fractured sandstone aquifer, ASCE Technical Conference, April 14, Morgantown, WV
20. **Weidhaas, J.L.**, T. Macbeth, R. Olsen, V.J. Harwood, 2011, Identification of a poultry-litter specific Brevibacterium Marker Gene and Correlation of the Marker Gene with Bacterial and Chemical Indicators in a Poultry Litter Impacted Watershed West Virginia Academy of Science, WVU-Institute of Technology, April 2, Montgomery, WV
21. **Weidhaas, J.L.,** R. Starr, 2010, Phosphate stabilization of lead-contaminated landfill soil and debris. Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 24-27, Monterey, CA
22. **Weidhaas, J.L.**, T.W. Macbeth, R. Dupont, and M. Zigmond, 2009, Evaluation of the Simultaneous Cometabolic Oxidation of NDMA, CFCs, and Chlorinated Solvents with Multiple Substrates. Tenth International Situ and On-site Bioremediation Symposium, May 6-8, Baltimore, MD
23. Lee, M.H., **J.L. Weidhaas**, D. Swift, T.W. Macbeth, and E. Brodie, 2009, Fluorescent In Situ Hybridization (FISH) Techniques for Remediation. Tenth International Situ and On-site Bioremediation Symposium, May 6-8, Baltimore, MD
24. Swift, D.L., J. Rothermel, **J.L. Weidhaas**, A. O’Hagan, G. Mecham, T.W. Macbeth, M.H. Lee, and L.O. Nelson, 2009, Ten Years of Optimizing a Multi-Component Remedy for a TCE Plume. Tenth International Situ and On-site Bioremediation Symposium, May 6-8, Baltimore, MD
25. T.W. Macbeth, **J.L. Weidhaas**, R.L. Olsen, K.S. Sorenson, and V.J. Harwood. 2008. Identification and Validation of a Novel Poultry Litter Biomarker for Tracking Fecal Pollution. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
26. **Weidhaas, J.L.** 2008. Evaluation of two induced blanket reactors for the generation of methane from animal manure. First International Biomass Conference, April 15-17th, Minnesota, MN.
27. **Weidhaas, J.L.**, D.P.Y. Chang, E.D. Schroeder. 2007. Aerobic Sequencing Batch Reactor for Munitions. Ninth International Situ and On-site Bioremediation Symposium, May 7-10, Baltimore, MD.
28. **Weidhaas, J.L.**, T.W. Macbeth, D. Dettmers, J. Rothermel, L. Peterson, L. Nelson, K. Harris. 2007. Bioremediation Performance for Long-Term Chlorinated Source Depletion and Flux Reduction. Ninth International Situ and On-site Bioremediation Symposium, May 7-10, Baltimore, MD.
29. **Weidhaas, J.L.**, T.W. Macbeth, R. Starr, R. Goehlert, K. Moor. 2007. Effects of Iterative Permanganate Injections on Indigenous Microbes in a PCE/DNAPL-Contaminated Aquifer. Ninth International Situ and On-site Bioremediation Symposium, May 7-10, Baltimore, MD

**Conference POSTERS**

*(graduate advisees \*, undergraduate researchers #)*

1. Tran, D, **J Weidhaas**, 2019, Improving ion exchange for munitions wastewater, SERDP/ESTCP Symposium, Washington DC, December 3-5, 2019
2. Zebelean, D, **J Weidhaas**, 2019, Sustainable Bioregeneration of Ion Exchange Resin Brine for Treatment of 3‐nitro‐1,2,4‐triazol‐5‐one, SERDP/ESTCP Symposium, Washington DC, December 3-5, 2019
3. **Weidhaas J**, R Goel, S Cavanaugh, A Podder, N Stein, D Tran, D Zebelean, Cost effective treatment trains for wastewater containing legacy munitions and insensitive high explosives, SERDP/ESTCP Symposium, Washington DC, December 3-5, 2019
4. Stein, N, A Podder, **J Weidhaas**, R Goel, 2019, Biological degradation of Munitions Wastewater Containing Mixture of Legacy Munitions and Insensitive Explosives using Aerobic and Anaerobic Granular Sludge Reactors, SERDP/ESTCP Symposium, Washington DC, December 3-5, 2019
5. Mehmood, R, JL Ullman, U Imran, **J Weidhaas**, 2018, Human health risk assessment of heavy metals associated with fish consumption in Keenjhar Lake, Pakistan, Society of Environmental Toxicology-Asia Pacific, September, Daegu, Korea
6. Jamal, R\*, **JL Weidhaas**, 2018, A quantitative microbial risk assessment to evaluate public health risk associated with recreational use of a peri-urban stream contaminated with E. coli and Enterococcus, Water Microbiology Conference, UNC Chapel Hill, May 22-24.
7. Acharya-Poudel, S.\*, **J Weidhaas**, 2018, Environmental Occurrences of Herbicide Safeners Benoxacor and Furilazole, AEHS Foundation Conference, San Diego, March 19-22
8. Clark, G#, **JL Weidhaas**, 2018, The Effects of Nanomaterials on *E. coli* Growth, Utah Conference on Undergraduate Research, Southern Utah University, February 9.
9. Bukhary, S, **J. Weidhaas**, K Ansari, RB Mahar, C Pomeroy, JA VanDersilce, S Ahmad, S Burian, 2017, Using Distributed Solar for treatment of Drinking Water in Developing Countries, ASCE EWRI, May 21-25, Sacramento, CA.
10. Li, KW, L. Lemonakis, J Garry, **J Weidhaas**, H Khouryieh, M Stone, L. Lagana, C Shen, 2016, Microbiological Quality and Safety of Fresh Produce and an Assessment of Post-Harvest Practice of Venders at West Virginia and Kentucky Farmers’ Markets, International Association for Food Protection, Jul 31, St. Louis MO.
11. Lemonakis, L, KW Li, J Garry, P Southall, **J Weidhaas**, J Adler, C Shen, 2016, Microbiological Quality Assessment and Validation of Peroxyacetic acid, Lactic Acid, Lactic and Citric Acid Blend, and Sodium Hypochlorite against *Salmonella* on Broiler Carcasses and Wings Processed at a Small USDA-Inspected Slaughter Facility in West Virginia, International Association for Food Protection, Jul 31, St. Louis MO.
12. Nayak, BS, **J Weidhaas**, VJ Harwood, 2015, Seasonal Differences in the Persistence of LA35 Poultry Fecal Marker and its Correlation with Indicator Bacteria and Pathogens in Environmental Waters, American Society of Microbiology General Meeting, May 30-June 2, New Orleans, LA
13. **Weidhaas, J.**, S.K. Mantha\*, V.J. Harwood, 2014, Release Transport and Attenuation of Pathogens Fecal Indicator Bacteria (FIB) and Poultry Litter Marker Genes in Soil Column Studies, American Society of Microbiology General Meeting, May 17-20, Boston, MA
14. **Weidhaas, J.**, S.K. Mantha\*, V.J. Harwood, 2014, Temporal Variation in Deposition Growth and Decay of Pathogens Fecal Indicator Bacteria (FIB) and Poultry Litter Marker Genes on Poultry Bedding, American Society of Microbiology General Meeting, May 17-20, Boston, MA
15. Li, X\*, V.J. Harwood, **J. Weidhaas,** 2014, Microbial Source Tracking (MST) Microarray for Advanced Pathogen Detection and Source Identification in Environmental Systems, American Society of Microbiology General Meeting, May 17-20, Boston, MA
16. Nayak, B, **J. Weidhaas**, V.J. Harwood, 2014 Persistence of the LA35 Brevibacterium Marker for Poultry Litter Contamination is Correlated with that of Indicator Bacteria and Pathogens in Fresh and Marine Water, American Society of Microbiology General Meeting, May 17-20, Boston, MA
17. Li, X\*, V.J. Harwood, **J. Weidhaas,** 2014, A new high density microbial source tracking (MST) cDNA microarray for detecting pathogens in environmental samples, West Virginia Academy of Science Conference, April 12, Shepardstown, WV
18. Lipscomb, E.#, **J. Weidhaas**, 2012, Tracking Poultry Litter Contamination in the WV Potomac River Headwaters, West Virginia Water Research Conference, October, Morgantown, WV
19. Richard, T.\*, **J. Weidhaas**, 2012, Adsorption and bioremediation of explosive compound: IMX‑101 and constituents, West Virginia Academy of Science and the West Virginia Science, Technology and Research, April 12, Institute, WV
20. Wagle-Gautam, P.\*, **J. Weidhaas**, 2012, Spatial relationship between the trichloroethylene degrading bacteria *Dehalcooccoides* sp., sulfate reducers and methanogens during the reductive dechlorination process, West Virginia Academy of Science and the West Virginia Science, Technology and Research, April 12, Institute, WV
21. Richard, T.\*, **J. Weidhaas**, 2011, Biodegradation and Phytoremediation of IMX-101, A new insensitive munition formulation, Strategic Environmental Research and Development Program/ Environmental Security Technology Certification Program (SERDP/ESTCP), Partners in Environmental Technology Technical Symposium & Workshop, November 29 – December 1, 2011, Washington D.C.
22. **Weidhaas, J.L.**, A. Bailey, D. Jorgenson, K. Kearny, 2010, Full scale treatment of petroleum contaminated soils with Pentanonic acid and System E.T. 20. Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 24-27, Monterey, CA
23. **Weidhaas, J.L.**, R.R. Dupont, M. Zigmond, 2010, Stimulating Cometabolic Oxidation of NDMA, CFCs and Chlorinated Solvents with Benzene, Methane and Propane, Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 24-27, Monterey, CA
24. **Weidhaas, J.L.**, D.L. Swift, J. Rothermel, A. O’Hagan, G. Mecham, L.S. Cahn, 2010, Injection of Sodium Lactate as a Buffer with Whey Powder, Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 24-27, Monterey, CA
25. Macbeth, T.W., **J.L. Weidhaas**, T. Garvey, and E. Mutkowska. 2008. Comparing Biobarrier and Soluble Injection Bioremediation during Thermal Treatment. Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, Monterey, CA
26. Macbeth, T.W., **J. Weidhaas**, and M.H. Lee. 2008. Molecular Tools and Their Utility: The Good, the Bad, and the Ugly. Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds May 19-22, Monterey, CA
27. Macbeth, T.W., **J. Weidhaas**, R.R. Dupont, and T. Garvey. 2008. Effect of Bioremediation Amendments on Geochemical Parameters Affecting Anaerobic Dechlorination. Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. May 19-22, Monterey, CA
28. Swift, D.L., J.E. Gallegos, M.H. Lee, T.W. Macbeth, **J.L. Weidhaas**, and J. Skog. 2008. Use of Microbial Tools during Source Delineation and Natural Attenuation Evaluation. Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, Monterey, CA
29. **Weidhaas, J.L.**, D.P.Y. Chang, 2005, Aerobic Biodegradation of Nitroaromatic Explosives, Toxic Substances Research and Teaching Program, April 22-23, Sacramento, CA
30. **Weidhaas, J.L.**, D.P.Y. Chang, 2004, Aerobic Biodegradation of Polynitro Explosives by Isolated Gram-Positive Bacteria, Superfund Basic Research Annual Meeting, November 3-5, Seattle, WA
31. **Weidhaas, J.L.**, D.P.Y. Chang, 2003, Biodegradation of 2,4,6-Trinitrophenol, Toxic Substances Research and Teaching Program, April 25-26, Oakland, CA
32. **Weidhaas, J.L.**, D.P.Y. Chang, 2002, Biodegradation of Trinitrophenol Contaminated Soil, Toxic Substances Research and Teaching Program, April, Long Beach, CA

**POPULAR PRESS COVERAGE**

Nguyen, J, “How do you test wastewater for COVID-19?” ABC News, October 30, 2020 <https://www.abc4.com/news/how-do-you-test-wastewater-for-covid-19/>

McDonough, R, “Tracking the spread of coronavirus through the sewers,” The Hive, KCPW Radio, September 3, 2020, <https://kcpw.org/blog/local-news/healthcare/2020-09-03/coronavirus-sewers-rna/>

Boal, J, “Update: Water quality engineers detect coronavirus through Utah’s sewage,” KSL TV, June 12, 2020 <https://www.ksl.com/article/46764191/update-water-quality-engineers-detect-coronavirus-through-utahs-sewage>

Ostermiller, J, K Hoffman, E Gaddis, “Can wastewater influent be used to track the spread of COVID-19?,” Digested News, Water Environment Association of Utah, Summer 2020, <https://weau.starchapter.com/images/downloads/Digested_News/utah_summer2020_rich.pdf>

Maffly, B, “Testing sewage for coronavirus seemed to work. It detected the outbreak in Cache County,” Salt Lake Tribune, June 11, 2020 <https://www.sltrib.com/news/environment/2020/06/11/testing-sewage/>

O’Donoghue, Amy, “Utah researchers looking at sewage for answers on coronavirus rates,” Deseret News, May 29, 2020 <https://www.ksl.com/article/46758700/utah-researchers-looking-at-sewage-for-answers-on-coronavirus-rates>

Roe, G, “Water from Utah toilets helps researchers understand coronavirus,” KUTV, May 19, 2020 <https://kutv.com/news/coronavirus/water-from-utah-toilets-helps-researchers-understand-coronavirus>

Betts, C, “Silicon Slopes Live: Jim Vanderslice and Jennifer Weidhaas,” May 15, 2020, <https://youtu.be/NYRwWU9hWok>

Nelson, P, “Utah researchers look to the sewage system to better track coronavirus,” KSL News Radio, May 1, 2020, <https://kslnewsradio.com/1924325/utah-researchers-look-to-the-sewage-system-to-better-track-coronavirus/>

Maffly, B, “Utah scientists to test sewage to see if it can reveal rates of coronavirus infections”, Salt Lake Tribune, April 2020, <https://www.sltrib.com/news/environment/2020/04/17/utah-scientists-test/>

Izlar, R, “When a mysterious chemical leaks,” Soil Science Society of America, January 2017

Home-Douglas, P, “Off-Campus Crusaders,” PRISM, American Society for Engineering Education, March-April 2016

Shauna Johnson, “Study: Flushing made little difference for MCHM levels in homes,” MetroNews, February 5, 2014

Alexander Tullo, “Obscure chemical taints water supply, Chemical Engineering News, American Chemical Society,” February 17, 2014

John Hockenberry, “Water in America: In the Tap We Trust,” The Takeaway, January 17, 2014

**RESEARCH FUNDING**

2023-2026 USDA NIFA—$900,000 (PI)

 *PARTNERSHIP: Elucidating soil health impacts from contaminants of emerging concern in municipal biosolids used for agriculture (USDA NIFA2023-67020-39839)*

2023-2024 University of Utah-VPR funding—$38,000 (PI)

 *COE SEED: Wastewater micro-RNA and metabolomics as an untapped source for understanding the exposome of environmental justice communities*

2022-2026 CDC Safety and Healthcare Epidemiology Program Research and Development (SHEPheRD) Program—$4M (Task lead)

 *Wastewater surveillance approaches for antimicrobial resistant genes and organisms in healthcare settings within the Western U.S. Region*

2022-2024 US BOR—$250,000 (PI)

 *Recalcitrant surfactant effects on membrane filtration of viruses and formation of disinfection by products in water reuse systems*

2021 Utah Department of Health—$119,000 (PI)

 *SARS-CoV-2-wastewater monitoring in Utah*

2019-2023 SERDP—$637,000 (PI)

 *Cost effective treatment trains for wastewater containing legacy munitions and insensitive high explosives (19-C-0024)*

2020 Utah Department of Environmental Quality—$114,000 (PI)

 *SARS-CoV-2 wastewater epidemiology in Utah*

2020 University of Utah 3i-VPR funding—$37,500 (Co-PI)

 *Municipal wastewater monitoring based surveillance and prediction tools for community level occurrence and spread of COVID-19*

2017-2021 USDA—$500,000 (Weidhaas $130,000)

*Documenting Potential Human Health Impacts from Exposure to Reclaimed Wastewater Used for Agriculture in the Cache Valley, UT (NIFA 2017-69007-26310)*

2017-2020 Pakistan-US Science and Technology Cooperation Program—$189,000

 *Capacity building at Mehran University of Engineering and Technology to address drinking water issues in Pakistan*

2016-2023 National Science Foundation, Environmental Engineering—$606,000

*CAREER: An Integrated Research and Education Program to Advance Pathogen Detection and Quantitation (**CBET-* *1650098)*

*SUPPLEMENT: Public Participation in Engineering Research (PPER): Extending pathogen detection methods in wastewater reuse monitoring in Cache Valley, UT*

2015-2020 National Science Foundation, EPSCoR—$20 M (Weidhaas $395,000)  *RII-Track 1: Gravitational Wave Astronomy and Appalachian Freshwater Initiative*

2015-2017 National Science Foundation, Workshop—$50,000 *Fostering Advances in Water Resource Protection and Crisis Communication, Lessons Learned from Recent Disasters (CBET-* 1658642*)*

2015-2016 WVU Research Corporation, Program to Stimulate Competitive Research—$24,900 *Advancing Pathogen Detection in Environmental Systems to Improve Water Monitoring*

2014-2015 National Science Foundation, Environmental Engineering—$69,419 *RAPID: Assessing the Hazard and Fate of 4-methylcyclohexane methanol in a Drinking Water Distribution System Post Contamination (CBET-1422803)*

2012-2016 National Science Foundation, Environmental Engineering—Weidhaas PI $174,281 University of South Florida Co-PI $166,905 *Collaborative Research: Quantifying and Correlating Pathogens and a Poultry Feces Marker Gene in Environmental Waters (CBET-1234366)*

2012-2015 West Virginia Department of Highways—$1,600,000 *Corridor H Stream Study, Evaluating the Effect of Road Construction on Stormwater Quality*

2012-2014 WVU NSF ADVANCE sponsorship—$15,000 *Development of a Microarray for Transforming Microbial Source Tracking Studies*

2012 WV Higher Education Policy Commission, Mini-grant—$5,000

2011-2012 WVU NSF ADVANCE sponsorship—$15,000  *Development of an Environmentally Robust Swine Fecal Microbial Source Tracking Marker*

2011 Women in Science and Engineering, WISE Giving Circle Award—$3,750

2007-2009 National Aeronautics and Space Administration—$350,000  *Bioremediation of Emerging Contaminants in Groundwater from Rocket Fuel*

2005-2009 State of Oklahoma—$303,000 *Identification of a Novel Biomarker for Poultry Litter*

2007 Intrepid—$24,000 *Evaluation of Induced Blanket Reactors for Production of Pipeline Grade Biogas from Dairy Manure*

**Graduate Students ADVISED**

2027 expected Ibukunoluwa Salako, PhD, Civil and Environ. Eng., Univ of Utah

2026 expected Ean Warren, PhD, Civil and Environ. Eng., Univ of Utah

2024 expected Junyin Luo, PhD, Civil and Environ. Eng., Univ of Utah

2023 Dana Tran, PhD, Civil and Environ. Eng., Univ of Utah

2022 Stephen Cavanagh, PhD, Civil and Environ. Eng., Univ of Utah

2021 Katrina Brown, MS, Civil and Environ. Eng., Univ of Utah

2021 Rubayat Jamal, PhD, Civil and Environ. Eng., Univ of Utah

2021 Danielle Zebelean, MS, Civil and Environ. Eng., Univ of Utah

2019 McKinely Olsen, MS, Civil and Environ. Eng., Univ of Utah

2018 Saraswati Poudel Acharya, PhD, Civil and Environ. Eng., Univ of Utah

2015 Xiang Li, PhD, Civil and Environ. Eng., WVU

2014 Sirisha Mantha, MS, Civil and Environ. Eng., WVU

2013 Thomas Richard, MS, Civil and Environ. Eng., WVU

2013 Autumn Sayre, MS, Applied Environmental Microbiology, WVU

2012 Puja Wagle Gautum, MS, Civil and Environ. Eng., WVU

2012 Varuun Sadam, MS, Civil and Environ. Eng., WVU

**UNDERGraduate Researchers**

2024 Aspen Dalby, Jaewoo Jeun, Sydney Fusco, and Jade Fisher (CDC), University of Utah

2023 Aspen Dalby, Nathan Hattan, Jaewoo Jeun, and Melissa Jackson (CDC) University of Utah

2022 Wona Kim (UROP), Brayden Vonhatten, Christian Madsen (UROP), Sophia Reyes (NSF), Ryan Clay, and Ruby Gutierrez University of Utah

2021 Drew Becker (UROP), University of Utah

2019 Braden Collingwood, Michael Jarzin, Dani Zebelean, and Katrina Brown (UROP), University of Utah

2018-2019 Dana Tran (UROP), University of Utah

2017-2018 Gemma Clark (UROP), University of Utah

2015-2016 Angela Anderson (NSF CBET REU), Alexander Panaccione (NSF CBET REU), WVU

2014 Michael Fisher (NSF CBET RAPID), Patrick Philbin (NSF CBET RAPID), WVU

2013 Elliot Hair (NSF CBET REU), WVU

2012-2013 Emily Lipscomb-Garner, NSF Graduate Research Fellowship Recipient, WVU

**Research experience for secondary school teachers**

2020 Rachel Lee, “Tracking SARS-CoV-2 in wastewater and correlation with COVID-19 disease burden”, Univ of Utah

2018 Misty Snow, Masters of Science for Secondary School Teachers, “Effect of desiccation rate on bacterial die off on new and aged roofing materials”, Univ of Utah

2018 Jacob Johnson, Masters of Science for Secondary School Teachers, “Comparative transport of metolachlor and benoxacor to groundwater: are safener’s ‘safe’?” Univ of Utah

**Courses taught**

*(Number of Semesters) [Average Student Evaluation]*

2022 Sustainability of the built environment (1)

2016-2023 Treatment design (8), [5.3 out of 6] Univ of Utah

2019, 2022 Professional Practice and Design (2) [5.4 out of 6] Univ of Utah

2017-2021 Introduction to Environmental Engineering (4), [5.5 out of 6] Univ of Utah

2020 Introduction to Civil and Environmental Engineering (1) [4.6 out of 6] Univ of Utah

2018, 2019 Solid and Hazardous Waste Engineering (2), [6 out of 6] Univ of Utah

2012, 13, 15 Introduction to environmental engineering (6) [4.1 out of 5.0], WVU

2013, 15 Solid and hazardous waste management (3) [4.7 out of 5.0], WVU

2014 Environmental science and technology (1) [4.7 out of 5.0], WVU

2012, 14 Principles of biological treatment (2) [4.6 out of 5.0], WVU

2011, 14, 16 Environmental engineering design (3) [4.1 out of 5.0], WVU

2010 Nonpoint source pollution monitoring & control (1) [4.2 out of 5.0], WVU

**tRAINING ACTIVITES AND EDUCATIONAL MATERIALS**

2022-cuurent Lead author—Interstate Technology and Regulatory Council (ITRC), Contaminants of Emerging Concern team, <https://cec-1.itrcweb.org/>

2020-2022 *Lead author*—Interstate Technology and Regulatory Council (ITRC), Soil Background and Risk Guidance, <https://www.itrcweb.org/Team/Public?teamID=86>

2016, 17, 19 *Trainer*—US-Pakistan Center for Advanced Studies in Water at Mehran University of Engineering and Technology (MUET), Jamshoro, Pakistan

May 2017 *Trainer*—Utah Society of Professional Engineers annual conference, “Advanced Microbiological Methods for Water, Wastewater and Groundwater Quality Testing”

2013-2016 *Trainer*—Interstate Technology and Regulatory Council (ITRC), Environmental Molecular Diagnostics team—provided webinar training for over 1500 environmental remediation experts worldwide, <http://www.clu-in.org/live/archive/>

2010-2013 *Lead author*—Interstate Technology and Regulatory Council (ITRC), Environmental Molecular Diagnostics Guidance, Fluorescence in situ Hybridization Chapter, <http://www.itrcweb.org/emd-2/>

2012 *Author*—Introduction to Environmental Engineering laboratory manual, includes eleven new laboratory experiments, quizzes, and lab report grading rubrics.

**INVITED SEMINARS AND PRESENTATIONS**

2024 “Advantages and challenges with CRO wastewater surveillance at a rehabilitation hospital” Association of Public Health Laboratory (APHL) Wastewater Surveillance Community of Practice, February 12.

2023 “Cost Effective Treatment Trains for Wastewater Containing Legacy Munitions and Insensitive High Explosives” SERDP webinar, August 10, <https://serdp-estcp.org/toolsandtraining/details/ed4068e0-cc35-4cff-8cdf-0a946b7f2d4c/removal-of-munitions-constituents-from-wastewater>

2022 “Environmental surveillance of infectious disease-causing organisms for informing quantitative microbial risk.” Jacksonville Area Microbiology society, April 5.

2022 “Sustainable agriculture through water reuse, understanding the microbial risk,” USDA Workshop on Convergence in Bioengineering, Athens, GA, April 9.

2021 Guest speaker Water Research Foundation, Wastewater Surveillance Techniques and Applications Symposium, April 26.

2021 Guest lecture for Interfacial and Bioanalytical Chemistry (IBAC) University of Utah, “SARS-CoV-2 wastewater surveillance and epidemiology.” February 5

2020 Guest speaker WEAU webinar on “Wastewater epidemiology: Using SARS-CoV-2 genetic material to track COVID-19 trends in Utah communities.” Presentation on SARS-CoV-2 analytical methods. December 9, Water Environment Association of Utah

2020 Guest speaker 3i Flash Talks University of Utah on “Correlation of SARS-CoV-2 RNA in wastewater with COVID-19 disease burden in sewersheds”, October 2

2020 Guest speaker for MPDI Water webinar—Topic “Water Series - Sewage Screening as an Early Outbreak Alert Tool and Sars-Covid-2 Fate in the Aquatic Environment,” July <https://water-1.sciforum.net/#webinar_content>

2018 Guest speaker for Biology Seminar Series, Utah Valley University—Topic “Advanced Microbiological Methods for Water, Wastewater and Groundwater Quality Testing”, February

2017 Guest speaker for Microbial Pathogenesis Seminar Series—Topic “Human health risks from waterborne pathogens: an environmental engineering perspective” UU, October

2017 Guest lecturer for CMP3200 – Principles of Ecology for Planners—Topic “Urban Pollutants: Sources and Mitigation Methods” UU, March

2014 Guest speaker for ASCE Spring Technical Conference—Topic “Evaluating MCHM and PPH in the Charleston, WV drinking water and environmental systems: lessons learned” WVU

2014 Guest speaker for WVU Soil Microbiology seminar series—Topic “Effects of the Elk River spill, Charleston, WV on drinking water and environmental systems: lessons learned” WVU

2012 Guest lecturer for WVU Stable Isotope Geochemistry Course—Topic “Compound Specific Isotopic Analysis (CSIA) for Understanding Biodegradation” WVU

2012 Guest speaker for WVU Soil Microbiology seminar series—Topic “Cometabolic oxidation for remediation of the emerging contaminant N-Nitrosodimethylamine (NDMA)” WVU

2011 Guest speaker for WVU Geology and Geography colloquium series—Topic “Remediation of an emerging contaminant, N-Nitrosodimethylamine (NDMA), in fractured bedrock” WVU

2011 Guest speaker for ASCE Spring Technical Conference—Topic “Hydraulic fracturing for remediation of chlorinated solvents in a fractured sandstone aquifer” WVU

**Department and University Service**

2023-2024 *Committee member* —CVEEN water resources faculty position

2023-2024 *Committee member* —CVEEN department chair search

2022-current *Group lead*—CVEEN Environmental and Water Resources Committee

2021-current *Executive committee member*—Global Climate and Sustainability Center (GCSC)

2022 *Chair*—Search committee for career line instructor

2022-current *Committee member* —CVEEN Justice, Equity, Diversity and Inclusion committee

2019-current *Chair*—Student Recruitment and Outreach Committee

2016-2019 *Committee member* —Student Recruitment and Outreach Committee

2019-current *Committee member* —Academic Senate Consolidated Hearing Committee

2019-current *Presenter*—ACCESS for women in STEM at University of Utah, annually

2018, 2022 *Presenter*—Hi-GEAR camp for girls entering 10-12 grades, annually

2018 *Peer teaching evaluator*—evaluated two classes given by Dr. McPherson and Dr. Yang in CVEEN and provided feedback on content and teaching methods

2018 *Organizer*—mini-engineering day recruitment for high school students at UU (140 students)

2017 *Executive committee member*—U.S.-Pakistan Center for Advanced Studies in Water

2016-2019 *Peer Teacher Trainer & Research Mentor*—U.S.-Pakistan Center for Advanced Studies in Water

2016, 17, 18 *Faculty Search Committee*—CVEEN department, Nuclear, UU

2016 *Environmental and Water Resources Committee*—CVEEN department, UU

2016-2017 *Faculty Advisor*—WEAU Student Design Competition, UU

2010-2016 *Faculty Advisor*—WVU American Society of Civil Engineers (ASCE), student chapter

2010-2016 *Undergraduate and Graduate Recruitment Committee*—CEE department, WVU

2013-2016 *Digital, Media and Emerging Educational Technology Committee*—CEE department, WVU

2015-2016 *Faculty Search Committee*—Plant and Soil Sciences, Environmental Microbiologist

2014-2015 *Faculty Search Committee*—CEE Department, Water Resources, WVU

2014-2015 *Faculty Search Committee*—Plant and Soil Sciences, Environmental Microbiologist,

WVU

2013-2015 *Chair, Diversity and Inclusivity Task*—CEE department 2020 planning, WVU

2013-2014 *Graduate Program Development Committee*—WVU, Graduate program in Biochemistry, Genetics, and Molecular Biology

2011-2012 *Faculty Search Committee*—CEE Department, Sustainable Construction, WVU

2010-2012 *Student Scholarship Committee*—CEE Department, WVU

2011-2012 *Promotion and Tenure Committee*—CEE Department, WVU

2010-2011 *Faculty Search Committee*—CEE Department, Sustainable Construction & Environmental Engineering/Health Sciences, WVU

2010, 2015 *Peer reviewer*—WVU Senate Research Grant proposals

**PROFFESSIONAL SERVICE**

June 2022 Session Chair—AEESP session on Wastewater Treatment, St. Louis, MO, June 29

2022 *Peer reviewer*—National Science Foundation panel and ad hoc reviewer

2022 *Peer reviewer*—Environmental Protection Agency panel

2021 *Peer reviewer*—National Science Foundation panels (3 panels)

2021 *Peer reviewer*—Environmental Protection Agency panel

Dec 2020 *Session Chair*—SERDP/ESTCP Conference, Range Resiliency: Fate, Transport & Mitigation of Legacy & Insensitive High Explosive Constituents

2019 *Peer reviewer*—NC Sea Grant Program

2019 *Peer reviewer*—National Science Foundation panel

2018 *Peer reviewer*—Killam Research Fellowship, Canadian Council for the Arts

April 2018 *Session Chair*—Battelle Chlorinated Conference, Use of Advanced Molecular Tools for Site Assessment or Remedy Performance, Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs

2018 *Peer reviewer*—National Science Foundation panel

2018 *Peer reviewer*—Austria Research Council

2017 *Peer reviewer*—NC Sea Grant Program

2017-2023 *Council member*—Wastewater Operator Certification Council, Utah DEQ

2017 *Peer reviewer*—Strategic Environmental Research and Development Program (SERDP) proposals, Department of Defense

2017 *Peer reviewer*—Austria Research Council

2017 *Peer reviewer*—Environmental Protection Agency, P3 program

2017 *Peer reviewer*—National Science Foundation panel

2016 *Peer reviewer*—US Department of Agriculture

2016 *Peer reviewer*—National Science Foundation panel

2015 *Peer reviewer*—National Science Foundation panel

2015 *Workshop Organizer*—Fostering Advances in Water Resource Protection and Crisis Communication, Lessons Learned from Recent Disasters, National Conservation Training Center, Shepherdstown, WV May 27-29

2015 *Peer reviewer*—Engineering Research and Development Center proposals, Department of Defense

2015 *Session Organizer*—American Society for Microbiology Conference

2015 *Peer reviewer*—National Science Foundation panel

2014 *Peer reviewer*—US Department of Agriculture panel

2014 *Peer reviewer*—Engineering Research and Development Center proposals, Department of Defense

2014 *Peer reviewer*—National Science Foundation panel

2013 *Peer reviewer*—Strategic Environmental Research and Development Program (SERDP) proposals, Department of Defense

2013 *Peer reviewer*—National Science Foundation panel

2011 *Technical expert*—US Environmental Protection Agency workshop “Experts Scientific Workshop on Avian Wildlife and Human Health Risks,” Nov 15-17, Atlanta, GA

2010 *Peer reviewer*—Strategic Environmental Research and Development Program (SERDP) proposals, Department of Defense

June 2010 *Session chair*—Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, “Remediation Cost and Technology Selection”

2010-current *Manuscript Peer reviewer*—Applied and Environmental Microbiology, Applied Microbiology and Biotechnology, Bioresource Technology, Biochemical Engineering Journal, Bioremediation Journal, Ecotoxicology, Environmental Science and Technology, Food Microbiology, International Journal of Environmental Research and Public Health, International Journal of Nanomedicine, Journal of American Society of Mining and Reclamation, Journal of Environmental Engineering, Journal of Environmental Sciences, Journal of Environmental Quality, Water Research, Water

**COMMUNITY SERVICE AND OUTREACH**

2022-current *K-12 classroom outreach*—hands on class room demonstrations of structural, environmental and geotechnical engineering activities. Visited 22 local K-12 schools with approximately 800 students

2022 *Community water fair*—training 85 households at a title 1 school (Salt Lake City School for Science Education) how to test their tap water samples. The project included 15 high school students who helped trained the public attending the event, November 22

2022 *Community water fair*—training Navajo Nation Citizen Scientists to conduct water testing on 40 household, groundwater well and reservoir samples, March 26, Dine College, Tuba City, AZ

2021 *Community water fair*—training 100 households at a title 1 school (Bryant Middle School, Salt Lake City) on how to test their tap water samples. The project involved 20 high school chemistry students from the Salt Lake Center for Science Education who helped train the public attending the event, October 26

2021 *10th grade chemistry water quality testing training*—trained 120 tenth grade chemistry students in water quality testing methods at Salt Lake Center for Science Education, October 13

2021, 2022 *K-12 teacher training in engineering*—developed and delivered training to 80 teachers in the Salt Lake City School District on incorporation of engineering into the classrooms aligned with the State of Utah Science with Engineering Education (SEEd) Standards, each August

2019-2020 *Elementary school Dream Big outreach*—Presentation of hands on STEM activity in 35 fifth grade elementary classrooms reaching ~1000 students

June 2017 *Presenter* “*Exploring Engineering Day*”—University of Utah, College of Engineering (47 students)

March 2017 *Presenter “Pi Day”*—Central Valley Junior High, Salt Lake City, UT (300 students)

Spring 2015 *Science judge*—Society of Women Engineer’s Regional Conference

Spring 2015 *Volunteer*—Department of Energy, WV Regional Science Bowl

Spring 2014 *Environmentor*—WVU Environmental Research Center Mentored a high school student in the lab in a study evaluating the toxicity of drinking water containing the industrial chemical 4-methylcyclohexane methanol

2012 & 2013 *Guest speaker*—Association for Women in Science Hands on water filter demonstration for 6-8th grade girls

Fall 2012 *Technical expert*—West Virginia Brownfield Redevelopment Center Aided Wyoming County community group in designing Brownfield remediation and redevelopment plan of a former lumber yard into an industrial park

2011 & 2012 *Guest speaker*—Club PiSCES (Program to Stimulate Careers in Engineering and Science) and HSTA (Health Sciences and Technology Academy) Hands on water filter design demonstration for minority high school students

Fall 2010 *Guest speaker*—Society of Women Engineer’s Hands on landfill design demonstration for 8th grade girl scouts

**Workshops and further development**

2020 *Teaching workshop*—“Project Catalyst-Online teaching of engineering,” Bucknell, July 14-15, online.

2015-2016 *Women’s Leadership Initiative*, West Virginia University

August 2015 *Communications Workshop*—“Becoming an EPSCoR champion,” West Virginia University, August 13-14, Morgantown, WV

July 2013 *Teaching Workshop***—**“How to Engineer Engineering Education (E3),” Bucknell, July 24-26, 2013, Lewisburg, PA

June 2012 *Teaching Workshop***—**ASCE Excellence in Civil Engineering Education (ExCEEd), June 23-29, hosted by Florida Gulf Coast University, Ft. Myers, FL

July 2011 *Research Workshop*—“Developing and Sustaining Productive Graduate Research Groups in Engineering,” July 11-12 2011, hosted by Virginia Tech, Arlington VA

Fall 2011 *Grant writers workshop*—Grant Writers Seminars and Workshops, LLC, September to December 2011, hosted by West Virginia University, Morgantown, WV

**Honors and Awards**

2018 Outstanding Mentor, Department of Civil and Environmental Engineering, University of Utah

2018 Career and Professional Development Center Faculty Recognition Award, University of Utah, April (recognize faculty members who are contributing to students’ career development and exploration)

2017 Best Paper, American Society of Engineering Education, Rocky Mountain Section Conference, Brigham Young University, Provo, UT, September 22-23

2017 Ben Jacobsen Kingfisher Bend Ranch Award for Exceptional Effectiveness in Teaching, 2016-2017, Univ of Utah

2016 Excellence in Teaching Award, Civil and Environmental Engineering, WVU

2015 Excellence in Teaching Award, Civil and Environmental Engineering, WVU

2013 ASCE National Certificate of Commendation for Exceptional Service as Faculty Advisor to WVU Student Chapter of ASCE

**mentoring**

2022-2024 Mentor to Assistant Professors in Civil and Environmental Engineering Department—Shahrzad Roshankhah and Emily Marron

2018-2022 Mentor to American Environmental Engineering and Science Professor (AEESP) junior faculty-- Namita Shrestha (University of Wisconsin—Platteville), Sherri Cook (University of Colorado)

2018-2022 Mentor to Assistant Professors in the Civil and Environmental Engineering Department and Nuclear Engineering Program—Ge Oh, Tara Mastren, Luther McDonald and Edward Cazalas

**PROFESSIONAL ORGANIZATIONS**

American Chemical Society [ACS]-member since 2014

American Society for Engineering Education [ASEE]-member since 2010

Association for Women in Science [AWIS]-member since 2010

Association of Environmental Engineering and Science Professors [AEESP] -member since 2010

International Water Association [IWA]-member since 2023