

Sybil Sharvelle
Professor
Department of Civil and Environmental Engineering
Colorado State University
Tel: (970) 491-6081
Fax: (970) 491-7727
Sybil.Sharvelle@ColoState.edu

Education

<u>Institution</u>	<u>Major</u>	<u>Degree</u>	<u>Year</u>
Purdue University	Civil Engineering	Ph.D.	2006
University of Colorado	Civil Engineering	M.S.	2002
University of Colorado	Civil Engineering	B.S.	1998

Research and Professional Experience

Academic Positions

2020 – present. Colorado State University, Professor
2013 – 2020. Colorado State University, Associate Professor
2007 – 2013. Colorado State University, Assistant Professor

Other Positions

2007 Postdoctoral Research Associate, Civil Engineering, Purdue University.
2002 -2006. Graduate Research Assistant, Civil Engineering., Purdue University.
2000 -2002. Graduate Research Assistant, Civil Engineering., University of Colorado.

Areas of Expertise

Dr. Sybil Sharvelle has 16 years of experience working on sustainable practices for urban water systems. Her graduate studies were funded by NASA to optimize biological waste processing systems that would treat graywater with the end goal of potable reuse. The waste treatment concept employed entailed separate source collection and treatment of graywater, urine, and fecal material. Dr. Sharvelle’s experience in closed loop recycling of resources led to her current area of expertise in sustainable practices for urban water systems. Research topics addressed in her nationally funded projects include beneficial use of graywater, decentralized use of local water sources, nutrient recovery from wastewater, energy recovery from organic wastes and life cycle costs for green infrastructure. Most recently, Dr. Sharvelle was a member of the National Research Council Committee for Beneficial Use of Graywater and Stormwater and chaired the National Water Research Institute panel for Decentralized Non-Potable Water Systems.

Externally Funded Grants

- Principal Investigator: Sharvelle, S. (PI), "Advancing Wet Weather Management Approaches for Snowstorm Events and Cold Climate Impacts," Sponsored by University of Colorado, State of Colorado Higher Education, \$17,726.00. (December 15, 2022 - May 15, 2025).
- Principal Investigator: “From Storms to Supply: A Framework to Integrate Stormwater Capture into Water Supply Planning”, Sponsored by Pacific Institute, August 14, 2023 –

December 30, 2024 (\$17,999).

- Co-Principal Investigator: Sharvelle, S. (CoPI), Boussetot, J. (PI), “Stormwater Greenroof and Bioretention Test Plot Analyses”, Denver Department of Transportation and Mile High Flood District, \$288,802. (July 2023 – June 2026)
- Co-Principal Investigator: “Navigating One Water Planning through Municipal Water Program”, HDR, Inc., March 1, 2023 – February 29, 2024 (\$35,388).
- Principal Investigator: “Novel Upflow Leachbed Reactor Prototype for Anaerobic Digestion of Feedlot Manure”, Five Rivers Cattle Feeding, CSU STRATA, Fluent Renewables, and Colorado Office of Economic Development and International Trade, January 1, 2023 – December 31, 2023 (\$160,000)
- Principal Investigator: "Seaweed Processing in Leachbed Reactors," Sponsored by Carbonwave, Domestic Commercial, August 26, 2022 - May 31, 2023 (\$59,983.00).
- Principal Investigator: "Manure Characterization for Feedlot Anaerobic Digestion," Sponsored by Five Rivers Cattle Feeding, LLC, April 1, 2022 - March 31, 2023, (\$30,000).
- Principal Investigator: “Advancing Wet Weather Management Approaches for Snowstorm Events and Cold Climate Impacts”, University of Colorado, August 15, 2023 – May 31, 2024 (\$17,726).
- Principal Investigator: "ReSOURCE: The Carbon Negative Biorefinery of the Future," Sponsored by Alliance for Sustainable Energy-NREL, April 1, 2022 - March 31, 2025 (\$1,521,141).
- Principal Investigator: "Reducing Cost for Recovery of Water and Energy from Flush Dairy Manure via a Novel Membrane Dewatering System," Sponsored by Colorado Office of Economic Development and Intl Trade and Vanguard Renewables, October 1, 2021 - September 30, 2022 (\$160,000).
- Principal Investigator: Assessing the Microbial Risks and Potential Impacts from Stormwater Collection and Uses to Establish Appropriate Best Management Practices, Water Research Foundation, June 10, 2020 – Feb 1, 2022 (\$75,000).
- Principal Investigator: Multi-Omics Analysis of Advanced Anaerobic Digestion Processes for Production of High-Value Biofuels, Colorado Energy Research Collaboratory, June 1, 2018 - March 1, 2019 (\$49,950).
- Principal Investigator: NRT-INFIEWS: Interdisciplinary Training, Education and Research for Food-Energy-Water Systems (InTERFEWS) in Semi-Arid Regions, National Science Foundation, September 1, 2018 – August 31, 2023 (\$3,000,000).
- Principal Investigator: Development of a Database to Support Decentralized Non-potable Water Systems, Oregon Environmental Council, Domestic, January 1, 2018 - May 31, 2018 (\$7,046).

- Principal Investigator: Advancing the Design of a Multi-Stage Anaerobic Digester, Colorado Office of Economic Development and Intl Trade and Nexus Bioenergy, February 28, 2017 - December 31, 2018 (\$91,111).
- Co-Principal Investigator: Employing Citizen Science to Enable Microbial Analysis Roof Runoff for Fit-for-Purpose Use," National Science Foundation, July 1, 2017 - June 30, 2018 (\$99,999).
- Principal Investigator: Life Cycle Costs of Water Infrastructure Alternatives, Sponsored by Water Environment Research Foundation, July 1, 2016 - June 30, 2019 (\$500,498).
- Co-Principal Investigator: Implications of Solid and Liquid Waste Co-Disposal on Organic Stability and Biochemical Compatibility, Environmental Research and Education Foundation, Jan 2015 – Dec 2017 (\$203,600).
- Major Investigator: Urban Water Innovation Network: Transitioning Toward Sustainable Urban Water Systems, National Science Foundation, June 2015 – June 2020 (\$12,000,000).
- Principal Investigator: Water Recycling Feasibility Assessment and Bench Scale Testing, Starbucks Corporation, August, 2015 – October, 2016 (\$170,173).
- Principal Investigator: Demonstration of a Prototype Leach-Bed Reactor for Anaerobic Digestion of Dry Waste, CO Office of Economic Development, July 2015 – July 2016 (\$55,000)
- Principal Investigator: Graywater Reuse in the State of Colorado, City of Fort Collins, Jan 2013 – Dec 2014 (\$70,000).
- Principal Investigator: Ideas for Dual Water Systems, City of Fort Collins, Jan 2013 – Dec 2014 (\$150,000).
- Principal Investigator: Achieving Nutrient Reductions through Innovative Approaches for Wastewater Management and Water Demand Reduction, USEPA, September 2013 – August 2017 (\$293,863).
- Co-Principal Investigator: Center for Comprehensive, optimal, and Effective Abatement of Nutrients, USEPA, July 2013 - June 2017 (\$2,499,994).
- Co-Principal Investigator: Advancing Multi-stage Anaerobic Digestion Technologies through Improved Hydrolysis Processes, supported by EREF, August 2012 - August 2015 (\$118,272).
- Co-Principal Investigator: Assessing Water Management Tradeoffs and Targets under Climatic and Land Use Uncertainty, supported by USDA-NIFA/NSF, August 2012 - August 2017 (\$1,500,000).
- Principal Investigator: Development of a Multi-Stage Anaerobic Digester for Generation of Methane from Manure, supported by CSURF, April 2011 – April 2012 (\$71,250).
- Co-Principal Investigator: Treatment, Public Health, and Regulatory Issues Associated with Graywater Reuse, supported by WateReuse Foundation, July 2011 - Aug 2012 (\$50,000).

- Co-Principal Investigator: Determine the Biological Efficacy of Graywater Reuse, supported by CSURF, Aug 2011 – Aug 2012 (\$51,353).
- Principal Investigator: Innovation and Research for Water Infrastructure for the 21st Century, supported by Water Environment Research Foundation, Jan 2010 - Dec 2010 (\$195,000)
- Principal Investigator: Development of Decision-Making Tools to Enhance Technology Transfer for Animal Waste Conversion to Energy, supported by USDA-NRCS-Natural Resources Conservation Service, Sep 2009 - Sep 2011 (\$75,000).
- Principal Investigator: Design and Construction of a Pilot Two-stage Dry Waste Anaerobic Digestion Unit, supported by State of Colorado - Governors Energy Office, March 2009 - June 2009 (\$32,600).
- Principal Investigator: Development of a Multi-Stage Anaerobic Digester for Generation of Methane from Manure, supported by Stewart Environmental Consultants, LLC, Jan 1, 2011 - Dec 31, 2011 (\$37,152).
- Principal Investigator: Study of the Long-Term Effects of Landscape Irrigation using Household Graywater, supported by Water Environment Research Foundation, March 2008 – March 2011 (\$373,000).
- Principal Investigator: Development of a Two-Stage Anaerobic Digester for Conversion of Animal Waste to Energy, supported by Agriculture Experiment Station, July 2009 - June 2011 (\$60,000).
- Principal Investigator: Feasibility of Conversion of Feedlot Biomass to Sustainable Energy for Colorado's New Energy Economy, supported by Symbios Logic, July 2009 - July 2010 (\$7,809).
- Principal Investigator: Development of Decision Making Tools for Energy Generation from Dairy Wastes in Colorado, supported by Colorado Agriculture Experiment Station, July 2008 – July 2009 (\$30,000).
- Principal Investigator: Feasibility Study for Installation of an Anaerobic Digester at Aurora Organic Platteville Dairy, supported by ACT Neutral, July 2008 – December 2008 (\$5,823)

Professional Affiliations

- Water Environment Federation, Water Reuse Committee Member
- American Society of Civil Engineers
- American Society of Environmental Engineering Professors

Honors and Awards

- 2023 Outstanding Faculty Performance, Colorado State University
- 2018 Faculty Award for Excellence in Research, Colorado State University
- 2014 Selected for NAE Frontiers in Engineering Education Workshop
- 2010 ASCE Rudolph Hering Award
- 2010 Faculty Award for Excellence in Service/Outreach, Colorado State University

2006 Elmer Ballotti Memorial Fellowship
2005 Chorafas Prize 1st Runner-Up
2005 American Association of University Women Fellowship
2004 Joseph P. Chu Fellowship
2003 Indiana Space Grant Fellowship
2002 Lynn Fellowship

Refereed Journal Articles

1. Larson, V.J., Rico, J.L., Wolfe, L.M., Sharvelle, S., Prenni, J., De Long, S.K. (2023) Composting post-anaerobic digestion for emerging contaminant biodegradation: Impacts of operating conditions. *J Environ Quality*, 52(6):1152-1165.
2. Jahne, M.A., Schoen, M.E., Kaufmann, A., Pecson, B.M., Olivieri, A., Sharvelle, S., Anderson, A., Ashbolt, N.J., Garland, J.L. (2023) Enteric pathogen reduction targets for onsite non-potable water systems: A critical evaluation. *Water Research*, 233:119742.
3. Pecson, B., Kaufmann, A., Sharvelle, S. E., Post, B., Leverenz, H., Ashbolt, N., Olivieri, A. (2022) Risk-based treatment targets for onsite non-potable water systems using new pathogen data. *Journal of Water Health*, jwh2022135.
4. Alja'fari, J. H., Sharvelle, S. E., Brinkman, N. E., Jahne, M., Keely, S., Wheaton, E., J., Welty, C., Sukop, M. C., Meixner, T. (2022) Characterization of Roof Runoff Microbial Quality in Four U.S. Cities with Varying Climate and Land Use Characteristics. *Water Research*, 2022(119123).
5. Cole, J., Sharvelle, S. E., Arabi, M. (2022) Assessing uncertainty in the multi-criteria evaluation of centralized and decentralized dual water supply strategies. *Journal of Water Resources Planning and Management*, 148(12), 04022070.
6. Alhelal, I. I., Sharvelle, S. E., Loetscher, L. H., Reardon, K. F. (2022) Nitrogen Recovery from Anaerobic Digestate via Ammonia Stripping and Absorbing with a Nitrified Solution. *Journal of Environmental Chemical Engineering*, 10(3), 107862.
7. Chinnasamy, C., Furth, C. C., Arabi, M., Sharvelle, S. E., Dozier, A. (2021) Characterization of Municipal Water Use in the Contiguous United States of America *Water Resources Research*, 57(6):e20220WR028637.
8. Dell, T., Razzaghmanesh, M., Sharvelle, S., Arabi, M. (2021) Development and application of a SWMM-based simulation model for municipal scale hydrologic assessments. *Water*, 13(12):1644.
9. Hanif, A., Loetscher, L., Sharvelle, S. (2021) Evaluation of a Leach Bed Reactor for the Anaerobic Digestion of Drylot Collected Cattle Manure, *Journal of Environmental Chemical Engineering*, 9(5):106080.
10. Heidari, H., Arabi, M., Warziniack, T., Sharvelle, S. (2021) Effects of Urban Development Patterns on Municipal Water Shortage, *Frontiers in Water*, frwa.2021.694817.
11. Neale, M.R., Sharvelle, S., Arabi, M. Dozier, A., Goemans, C. (2020) Assessing Tradeoffs of Strategies for Urban Water Conservation and Fit for Purpose Water, *Journal of Hydrology X*, 8(2020):100059.

12. Lackey, K., Sharkey, S., Sharvelle, S., Kehoe, P., Chang, T. (2020) Decentralized Water Reuse: Implementing and Regulating Onsite Non-Potable Water Systems, *Journal of Sustainable Water in the Built Environment*, 6(1):02519001.
13. Hodgson, B., Dell, T., Sharvelle, S., Arabi, M. (2020) Assessing Cost Effective Nutrient Removal Solutions in the Urban Water System, *Journal of Environmental Quality*, DOI: 10:1002/jeq2.20031.
14. Luthy, R. G., Sharvelle, S., Dillon, P. (2019) Urban Stormwater for Enhancing Water Supply. *Environmental Science and Technology*, 53:10.
15. Hodgson, B., Sharvelle, S. (2019) Development of Generalized Empirical Models for Comparing Effectiveness of Wastewater Nutrient Removal Technologies. *Environmental Science and Pollution Research*, 26(27):27915-27929.
16. Rasoulkhani, K., Mostavi, A., Cole, J., Sharvelle, S. (2019) Resilience-Based Infrastructure Planning and Asset Management: Study of Dual and Singular Water Distribution Infrastructure Performance Using A Simulation Approach, *Sustainable Cities and Society*, 48(July):101577.
17. Quiroz Arita, C., Sheehan, J., Baral, N. R., Hughes, A. R., Peers, G., Hodgson, B. A., Sharvelle, S. E., Bradley, T. H. (2019). A Cyanobacterial Sidestream Nutrient Removal Process and Its Life Cycle Implications. *BioEnergy Research*, 12(1):217-228.
18. Daigger, G. T., Sharvelle, S. E., Arabi, M., Love, N. G. (2019) Progress and Promise Transitioning to the One Water/Resource Recovery Integrated Urban Water Management Systems. *Journal of Environmental Engineering*, 145(10):04019061.
19. Cole, J., Sharvelle, S., Grigg, N. S., Pivo, G., Haukaas, J. (2018). Collaborative, Risk-Informed, Triple Bottom Line, Multi-Criteria Decision Analysis Planning Framework for Integrated Urban Water Management. *Water*, 10(12), 1722.
20. Hodgson, B., S. Sharvelle, J. Silverstein, A. McKenna (2017) Impact of Water Conservation and Reuse on Water Systems and Receiving Water Body Quality, *Environmental Engineering Science*, 35:6, DOI:101089/ees.2017.0157.
21. McKenna, A., J. Silverstein, B.Hodgson, S. Sharvelle (2017) Modeled Response of Wastewater Nutrient Treatment to Indoor Water Conservation, *Environmental Engineering Science*, 35:5, DOI:10.1089/ees.2017.0161.
22. Negahban-Azar and S.Sharvelle (2017) Potential Changes in Soil Quality Resulting from Graywater Recycling for Landscape Irrigation, *Water Environment Research*, May:252-264.
23. Sharvelle, S., A. Dozier, M. Arabi, B. Reichel (2017) A Geospatially-Enabled Web Tool for Urban Water Demand Forecasting and Assessment of Alternative Urban Water Management Strategies, *Environmental Modelling and Software*, 97:213-228.
24. Cole, J., S. Sharvelle, D. Fourness, N. Grigg, L. Roesner, J. Haukaas (2017) Evaluation of Centralized and Decentralized Strategies for Dual Water Supply: A Case Study. *ASCE Journal of Water Resources Planning and Management*, 144(1).
25. Wilson, Laura P., S. Sharvelle, S.K. DeLong (2016) “Enhanced Anaerobic Digestion Performance via Combined Solids and Leachate-based Hydrolysis Reactor Inoculation”, *Bioresource Technology*, 220(2016):94-103.

26. Ekeren, Kristen M, B.A. Hodgson, S. Sharvelle, S.K. DeLong (2016) Investigation of Pathogen Disinfection and Regrowth in a Simple Graywater Recycling System for Toilet Flushing, *Desalination and Water Treatment*, DOI: 10.1080/19443994.2016.115992.
27. Keely, Scott; Brinkman, Nichole; Zimmerman, Brian; Wendell, David; Ekeren, Kristen; De Long, Susan; Sharvelle, Sybil; Garland, Jay (2015) Characterization of the Relative Importance of Human- and Infrastructure-Associated Bacteria in Graywater: A Case Study, *Journal of Applied Microbiology*, 119(1) .
28. Chowdhury, R.K., S. Sharvelle, S. Beecham (2015) "Greywater Quality Changes in a Permeable Pavement Reservoir", *Water Management*, DOI: 10.1680/wama.14.0010.
29. Quinn, J.C., A. Hanif, S. Sharvelle, T.H. Bradley (2014) "Microalgae to Biofuels: Life Cycle Impacts of Anaerobically Digested Lipid Extracted Algae," *Bioresource Technology*, 171(2014):37-43.
30. Wilson, L.P., L.H. Loetscher, S. Sharvelle, S.K. DeLong (2013) "Microbial Community Acclimation Enhances Waste Hydrolysis Rates Under Elevated Ammonia and Salinity Conditions," *Bioresource Technology*, 146(2013):15-22.
31. Robins, C.A., S. Sharvelle (2013) "An Economic Analysis of Energy Generation and Food Waste Diversion for Enhanced Biogas Production at a Colorado Wastewater Treatment Facility," *Water Practice and Technology*, 8(1):105-119.
32. Bergdolt, J., S. Sharvelle, L.A. Roesner (2013) "Estimation of Graywater Constituent Removal Rates in an Outdoor Free Water Surface Wetland in a Temperate Climate," *Journal of Environmental Engineering*, 139(5), 766–771.
33. Negahban-Azar, M., S. Sharvelle, Y. Qian, and A. Shogbon (2013) "Leachability of Chemical Constituents in Soil-Plant Systems Irrigated with Synthetic Graywater," *Environmental Science: Processes and Impacts*, 14(4):760-762.
34. Negahban-Azar, M., S. Sharvelle, M. Stromberger, C. Olson, and L. Roesner (2012) "Fate of Graywater Constituents After Long-Term Application for Landscape Irrigation," *Water, Air, and Soil Pollution*, 223(8):4733-4749.
35. Jokerst, Adam, S. Sharvelle, M. Hallowed, and L. Roesner (2011) "Seasonal Performance of an Outdoor Constructed Wetland for Graywater Treatment in a Temperate Climate," *Water Environment Research*, 83(12):2187-2198.
36. Gallagher, Neal and S. Sharvelle (2010) "Demonstration of Anaerobic Digestion of Black Water for Methane Capture and Use in an Office Building," *Water Practice and Technology*, DOI:10.2166/wpt.2011.008.
37. Sharvelle, S., Skvarenina, E., and M.K. Banks (2008) "Biodegradation of Disodium Cocoamphodiacetate by a Wastewater Microbial Consortium." *Water Environment Research*, 80:3:276-281.
38. Sharvelle, S., Arabi, M., McLamore, E., and M.K. Banks (2008) "Model Development for Biotrickling Filter Treatment of Graywater Simulant and Waste Gas. I." *Journal of Environmental Engineering*, 134:10:813-825.
39. Sharvelle, S., Arabi, M., Mannering, F., and M.K. Banks (2008) "Model Sensitivity Analysis for Biotrickling Filter Treatment of Graywater and Waste Gas. II" *Journal of Environmental Engineering*, 134:10:826-834.

40. Sharvelle, S., McLamore E., and M.K. Banks (2008) “Hydrodynamic Characteristics in Biotrickling Filters as Affected by Packing Material and Hydraulic Loading Rate.” *Journal of Environmental Engineering*, 134(5):346-352.
41. Sharvelle, S., Lattyak, R., and M.K. Banks (2007) “Evaluation of Biodegradability and Biodegradation Kinetics for Anionic, Nonionic, and Amphoteric Surfactants.” *Water, Air and Soil Pollution*, 183(1-4): 177–186.
42. McLamore, E., Sharvelle, S., Huang, Z., Banks, M.K. (2007) “Simultaneous Treatment of Graywater and Waste Gas in a Biotrickling Filter,” *Water Environment Research*, 80:11:2096-2103.
43. Barry, B., Brophy S., Banks, M.K., Sharvelle, S., Oakes, W. (2008) “Developing Professional Competencies Through Challenge to Project Experiences.” *International Journal of Engineering Education*, 24-6, 1148-1162.
44. Sharvelle, S., McLamore, E., and M.K. Banks (2007) “Characterization of Effluent from Biological Trickling Filters Treating Graywater in Advanced Life Support Systems.” *Habitation*, 11(3):95-104.
45. Sharvelle, S., Shah, N., and M.K. Banks (2007) “Influence of Support Media Characteristics on Biofilm Activity in Graywater Treatment Systems for Advanced Life Support,” *Habitation*, 11(3):89-93.
46. Kuchenrither, R.D., Sharvelle, S., and J. Silverstein (2002) “Risk Exposure Among Wastewater and Biosolids Workers.” *Water Environment and Technology*, 14(5):37-40.

Refereed Chapters in Books

1. Sharvelle, S. (2019) Water Quality for Decentralized Use of Non-Potable Water Sources, In: Women in Water Quality: Investigations by Prominent Female Engineers (O’Bannon, D.), Springer.

Non-Refereed Journal Articles

1. Sharvelle, S., R. Glenn, L.A. Roesner (2013) “Navigating Graywater Reuse Issues,” *World Water: Water Reuse & Desalination*, 4(1):25-26.
2. Sharvelle, S. E. (2016). A new strategy for drought-stresses cities: graywater recycling. *Conversation*.

Peer Reviewed Reports

1. Alja’fari, J., Sharvelle, S., Branch, A., Rasmus, J., (2023) *Summary and Synthesis of Literature on Stormwater Microbial Quality for Stormwater Capture and Use*. The Water Research Foundation Project 5034.
2. Sharvelle, S., Alja’fari, J., Branch, A., Rasums, J. (2023) *Assessing the Microbial Risks and Impacts from Stormwater Capture and Use to Establish Appropriate Best Management Practices*, The Water Research Foundation Project 5034.
3. Sharvelle, S., N. Ashbolt, E. Clerico, R. Holquist, H. Leverenz and A. Olivieri (2017) *Risk Based Framework for the Development of Public Health Guidance for Decentralized Non-potable Water Systems*, Water Environment and Reuse Foundation, 2017, SIWM10C15.

4. National Research Council (2016) "Using Graywater and Stormwater to Enhance Local Water Supplies: An Assessment of Risks, Costs, and Benefits".
5. Sharvelle, S., L.A. Roesner, R. Glenn (2013) "Treatment, Public Health, and Regulatory Issues Associated with Graywater Reuse", WateReuse Research Foundation.
6. Sharvelle, S., L.A. Roesner, Y. Qian, M. Stromberger, M. Negahban Azar (2012) "Long-Term Study on Landscape Irrigation Using Household Graywater - Experimental Study," WERF Project 06-CTS-1CO.
7. Reichel, B., S. Sharvelle, L.A. Roesner (2011) "Development of the Integrated Urban Water Model," WERF Project INFR4SGc.
8. Lauwo, S., S. Sharvelle, L.A. Roesner (2011) "A Review of Advanced Sewer System Designs and Technologies," WERF Project INFR4SGd.
9. Bergdolt, J., S. Sharvelle, L.A. Roesner (2011) "Guidance Manual for Separation of Graywater from Blackwater for Graywater Reuse," WERF Project INFR4SG09a.
10. Fewless, K., S. Sharvelle, L.A. Roesner (2011) "Source Separation and Treatment of Anthropogenic Urine," WERF Project INFR4SG09b.
11. Sharvelle, S. C. Keske, J. Davis, J. Lasker (2011) "Feasibility of On-Farm AD at Cattle Operations in Colorado", NRCS Field Office Technical Guide.
12. Sharvelle, S., L. Roesner, Y. Qian, M. Stroberber (2010) " Interim Report: Long-term Study on Landscape Irrigation Using Household Graywater - Experimental Study," WERF Project #06-CTS-1CO.
13. Jokerst, A., M. Hollowed, S. Sharvelle, L. Roesner, A. Rowney (2010), "Graywater Treatment Using Constructed Wetlands", USEPA Report

Peer Reviewed Fact Sheets

1. Sharvelle, S., L. Loetscher (2011), "Anaerobic Digestion of Animal Wastes in Colorado," Colorado Extension Fact Sheet 1.227.
2. Sharvelle, S. (2011), "Anaerobic Digesters Fact Sheets," E³A: Exploring Energy Efficiency and Alternatives, <http://www.e3a4u.info/content.cfm?page=Anaerobic%20Digesters>

Peer Reviewed Proceedings

1. Sharvelle, S., N. Ashbolt, E. Clerico, R. Holquist, H. Leverenz and A. Olivieri (2017) *Risk Based Framework for the Development of Public Health Guidance for Decentralized Non-potable Water Systems*, WEFTEC 2017, Chicago, IL.
2. Sharvelle, S. and L.A. Roesner (2013) "Evaluation of Appropriate Urban Water Conservation Practices to Ensure Water Availability for Agricultural Production," in proceedings of USCID, Denver, CO.
3. Sharvelle, S., B. Reichel, and L.A. Roesner (2012) "Evaluation of Most Appropriate Water Conservation Practices Under Varying Hydrologic Conditions through Application of the Integrated Urban Water Model," In Proceedings of: WEFTEC, New Orleans, LA.

4. Sharvelle, S., B. Reichel, and L.A. Roesner (2012) "Application of the Integrated Urban Water Model to Evaluate Impacts of Hydrology on Efficacy of Water Conservation Practices," In Proceedings of: EWRI Conference, Albuquerque, NM.
5. Sharvelle, S., M.N. Azar, M. Stromberger, L.A. Roesner (2010) "Effect of Graywater Application for Landscape Irrigation on Soil Quality," WEFTEC Conference, New Orleans, LA.
6. Barry, Brock E., Banks, M.K., Brophy, S.P., Oakes, W.C., and Sharvelle, S.E. (2007), "Achieving Desired Graduate Competencies Through Integration of an Authentic Project Based Learning Experience in a Wastewater Treatment Course," 2007 American Society of Engineering Educators Annual Conference, June 2007.
7. McLamore, E., Z. Huang, S. Sharvelle and M.K. Banks (2006). "Simultaneous Biodegradation of a Two-Phase Fluid: Biofilm Discoloration Issues." 36th International Conference on Environmental Systems. Norfolk, VA, Paper No. 2006-01-2256.
8. Sharvelle, S.E., Banks, M.K., McLamore, E., Kim, Y.K., and S. Clark (2005) "Evaluation of Biotrickling Filter Performance for Graywater Treatment in ALS Systems." *Proceedings of the 35th International Conference on Environmental Systems*, SAE Paper #2005-01-3023, Rome, Italy.
9. Sharvelle, S.E., Banks, M.K., and E. Maloney (2004) "Surfactant Biodegradation for Advanced Life Support Applications" *Proceedings of the 34th International Conference on Environmental Systems*, SAE Paper #2004-01-2513, Colorado Springs, Colorado.
10. Hains-Allen, J., Banks, M.K., and Sharvelle, S. (2004). "ALS/NSCORT Education and Outreach." *Proceedings of the 34th International Conference on Environmental Systems*, SAE Paper #2004-010241, Colorado Springs, Colorado.
11. Sharvelle, S.E., Banks, M.K., Graham, K., and E. Maloney (2004) "Graywater Treatment Using Biofilm Reactors for Water Recycling in Advanced Life Support." *Proceedings of the 2004 ASCE Earth and Space Conference*, Houston, Texas.
12. Sharvelle, S.E., Banks, M.K., and A.J. Heber (2003) "Wastestream Characterization for a Packed Bed Biofilter Intended for Simultaneous Treatment of Graywater and Air in an Advanced Life Support System." *Proceedings of the 33th International Conference on Environmental Systems*, SAE Paper #03ICES-182, Vancouver, Canada.
13. Sharvelle, S.E., Silverstein, J., Klaus, D., and L. Supra (2002) "Nitrogen Removal from a Urine-Soap Wastewater Using a Bioprocessor System: Process Monitoring and Control." *Proceedings of the 32nd International Conference on Environmental Systems*, SAE Paper #2002-01-2353, Austin, Texas.

Invited Presentation

1. Sharvelle, S. Graduate Training Program Annual Meeting, "Sustaining Elements of your NRT", National Science Foundation, Phoenix, AZ. (October, 2023)
2. Sharvelle, S. E., Graduate Training Program PI Training, "If I Knew Then What I Know Now...", National Science Foundation, virtual, N/A, United States. (September 1, 2023).
3. Sharvelle, S. E., National Blue Ribbon Commission, "WRF 5034: Assessing the Microbial Risks and Potential Impacts from Stormwater Collection and Uses to Establish

- Appropriate Best Management Practices," National Blue Ribbon Commission, Virtual, N/A, United States. (February 2023).
4. Sharvelle, S.E., Water Education (NC-FEW), "Enhancing Transdisciplinary Capacities through a Food-Energy-Water Graduate Training Program", National Collaborative for Research on Food, Energy, Water (2023).
 5. Sharvelle, S. E., National Blue Ribbon Commission, "Assessing the Microbial Risks and Potential Impacts from Stormwater Collection and Uses to Establish Appropriate Best Management Practices," National Blue Ribbon Commission. (2022).
 6. Sharvelle, S. E., Stormwater Reuse and Human Health: A panel discussion, "Assessing the Microbial Risks and Potential Impacts from Stormwater Collection and Uses to Establish Appropriate Best Management Practices," Minnesota Stormwater Seminar Series (2022).
 7. Zhang, H., Sharvelle, S. E., Egan, J., Environmental Protection Agency Office of Air Quality, "Estimating the Multiple Benefits of Green Infrastructure through CLASIC and Triple Bottom Line Analysis," US Environmental Protection Agency (2022).
 8. Sharvelle, S. E., North Front Range Water Quality Planning Association, "CLASIC: Community Enabled Lifecycle Analysis of Stormwater Infrastructure Costs," North Front Range Water Quality Planning Association, Fort Collins, CO (2022).
 9. Sharvelle, S.E., Water Reuse Action Plan Webinar Series, "Estimating Multiple Benefits from Stormwater Capture Projects- Why and How," USEPA. (2021)
 10. Sharvelle, S.E. Water Reuse Action Plan Webinar Series, "Stormwater Capture Treatment Standards and Needs," USEPA. (2021)
 11. Zhang, H., Sharvelle, S. E., Egan, J., Bronleewe, T., Water Research Webinar Series, "Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC): Tool Functionality and Case Studies," USEPA, Virtual, N/A, United States. (May 2021).
 12. Sharvelle, S. E., Colorado Stormwater Symposium, "CSU Spur Campus: Water Technology Accelerator," One Water Solutions Institute, Fort Collins, CO, United States. (August 2021).
 13. Sharvelle, S. E., Water Wise Symposium, "Connections Between Urban Land Planning and Water Use," Water Wise, Denver, CO, United States. (July 2021).
 14. Sharvelle, S.E., Catalyzing Stormwater Capture and Use: Focusing Opportunities and Overcoming Barriers "Understanding Stormwater Characteristics and Treatment Needs," USEPA. (September 2021).
 15. Sharvelle, S., FEW Nexus Conference, keynote speaker, "Integration of Technological Innovation and Policy Solutions for Food-Energy-Water Resource Use Efficiency". (February 2021)
 16. Sharvelle, S. E., Water Conference, "Overcoming Challenges for Food-Energy-Water Resource Management in Arid Regions," American Institute of Chemical Engineering, web meeting, United States. (December 2020).
 17. Sharvelle, S. E., 21st Century Energy Transition Symposium, "Renewable Natural Gas from Anaerobic Digestion," Colorado Energy Research Collaboratory, web meeting, online, United States. (September 2020).
 18. Sharvelle, S. E., Natural Gas Leaks, Air Quality, and the Push for Renewable Natural

- Gas, "Renewable Natural Gas from Waste Processing," School of Global Environmental Sustainability, Larimer, Fort Collins, CO, United States. (June 17, 2020).
19. Sharvelle, S. (2020) "Renewable Natural Gas Workshop: Anaerobic Digestion", 21st Century Energy Transition Symposium, Fort Collins, CO.
 20. Von Fisher, J., Sharvelle, S., Hood, G., Zimmerle, D. (2020) "Natural Gas Leaks, Air Quality, and the Push for Renewable Gas", School of Global Environmental Sustainability webinar.
 21. Sharvelle, A. (2019) "Debarconization: Energy Generation from Organic Waste Materials", 21st Century Energy Transition Symposium, Denver, CO.
 22. Sharvelle, S. (2019) "Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC)", Water Environment Federation webinar series.
 23. Sharvelle, S., R. Luthy, P. Dillon (2019) "Urban Stormwater to Enhance Water Supply", Groundwater Protection Council, Oklahoma City, OK.
 24. Sharvelle, S. (2019) "Fostering Fit for Purpose Use of Alternate Water Sources via Health Risk Based Treatment Targets", Water Now Alliance, Austin, TX.
 25. Sharvelle, S. (2019) "Fostering Fit for Purpose Use of Alternate Water Sources via Health Risk Based Treatment Targets", University of Colorado, Boulder, CO.
 26. Sharvelle, S., T. Dell (2019) "Life Cycle Costs of Stormwater Infrastructure Tool Demo", presented for the WRF Webinar Series.
 27. Sharvelle, S. (2018) "Advances in the Development of a Multi-Stage Anaerobic Digester", Workshop on Anaerobic Digestion, National Renewable Energy Lab, Golden, CO.
 28. Sharvelle, S. (2018) "Building Scale Water Recycling," Water Conservation Workshop, Colorado Water Conservation Board, Fort Collins, CO, United States.
 29. Sharvelle, S., Kehoe, P. (2016) "Creating a Framework for Decentralized Non-Potable Water Systems," WE&RF, webinar.
 30. Sharvelle, S. (2017) "Fit for Purpose Water and Water Quality", One Water Panel, Confluence at the Confluence Annual Meeting, Denver, CO.
 31. Sharvelle, S., N. Ashbolt, E. Clerico, R. Holquist, H. Leverenz and A. Olivieri (2017) "Onsite Non-Potable Water Systems: Developing Guidelines for Performance", WE&RF Onsite Water Systems Workshop, Los Angeles, CA.
 32. Kehoe, P. S. Sharvelle, H. Leverenz, (2017) "Recent Findings on Developing Public Health Guidance for Decentralized Non-Potable Water Systems", Water Reuse Webcast Series.
 33. Sharvelle, S. (2017) "Beneficial Use of Graywater in Colorado", Colorado Extension Webinar.
 34. Luthy, R. G., Sharvelle, S. E., Johnson, S., (2016) "Using Graywater and Stormwater to Enhance Local Water Supplies: An Assessment of Risks, Costs and Benefits," WateReuse, webinar.
 35. Sharvelle, Sybil (2016) "Public Health Guidance on Implementing Decentralized Non-

Potable Water Systems” Clarke Prize Conference, Newport Beach, CA.

36. Luthy, R.G., S. Sharvelle, S. Johnson (2016) “Using Graywater and Stormwater to Enhance Local Water Supplies: An Assessment of Risks, Costs, and Benefits”, Water Reuse Webcast Series.
37. Sharvelle, Sybil (2015) “Implementation of Graywater Reuse at Colorado Businesses”, Northern Colorado Business Innovation Conference, Fort Collins, CO.
38. Sharvelle, Sybil (2014) "Graywater Reuse", Water Research Foundation Integrated Water Management Workshop, Denver, CO.
39. Sharvelle, S., L.A. Roesner (2013) "Implementation of Graywater Reuse in the State of Colorado," Colorado WaterWise Conference, Denver, CO.
40. Sharvelle, S., L.A. Roesner (2013) "Use of Graywater to Meet Nonpotable Demands," Urban Institute, Denver, CO.
41. Sharvelle, S., L.A. Roesner (2013) "A Graywater Reuse Database that Addresses Treatment, Public Health and Regulatory Issues," WaterReuse webinar, February 14, 2013.
42. Sharvelle, S., L.A. Roesner (2013) "Graywater Reuse: Plumbing and Systems," Colorado State Plumbing Board.
43. Sharvelle, S. (2012) “Anaerobic Digesters: Key Considerations in Feasibility,” E3A webinar.
44. Sharvelle, S., R. Waskom, and J. Kallenberger (2012) “Graywater Reuse and Rainwater Harvesting,” Colorado Extension Forum, Fort Collins, CO.
45. Sharvelle, S., 2012, “Technical Feasibility of Anaerobic Digestion at Cattle Operations in CO,” Ag Energy Workshop, Wellington, CO.
46. Sharvelle, S., L.A. Roesner, Y. Qian, M. Stromberger (2012) “Graywater Reuse for Irrigation: Impacts to Environmental Quality and Guidance for System Installation and Operation,” Water Environment Research Foundation, webinar.
47. Sharvelle, S. (2012) “Residential Graywater Reuse: Research, Concerns, and Commercial Products,” Water Quality Association Conference, Las Vegas, NV.
48. Sharvelle, S. (2010) "Graywater -- What is it? Benefits and limitations," Oregon Onsite Wastewater Association Conference, Portland, OR.
49. Sharvelle, S. (2010) "Graywater Reuse for Irrigation", EPA Regional Workshop on Treated Graywater as an Environmental Solution, Atlanta, GA.
50. Sharvelle, S. (2010) "Graywater Reuse," American Public Works Association, webinar.
51. Sharvelle, Sybil (2010) "A Multi-Stage Anaerobic Digester for Conversion of Dry Waste to Energy", Engineering Innovations Breakfast, Fort Collins, CO.
52. Sharvelle, S. (2009) "Anaerobic Digestion: Turning One Man's Trash Into Another Man's Treasure", T-bone Club, Greeley, CO.
53. Sharvelle, S. (2009) "Anaerobic Digestion in Colorado, Rocky Mountain Farmers Union, Rural Economy and Renewable Energy Conference", Greeley, CO.
54. Sharvelle (2009) "Biogas Generation from Waste", Fort Collins Beet Street Science Café.

55. Sharvelle, S., Banks, M.K., and E. McLamore (2005) "Biological Treatment of Graywater and Waste Gas for Advanced Life Support." Presented at the Gordon Research Conference on Space Sciences, Les Diablerets, Switzerland.

Presentations

1. Mohammad Zadeh, M., Dell, T., Sharvelle, S. E., Arabi, M., Hydrology Days, "Beyond Flood Control: Evaluating the Environmental, Economic, and Social Co-Benefits of Stormwater Management Practices in Philadelphia," One Water Solutions Institute, Fort Collins, CO, United States. (2023).
2. Alja'fari, J. H. M., Sharvelle, S. E., Branch, A., Rasmus, J. E., Hydrology Days, "Estimation of Stormwater Microbial Contamination to Help Develop Guidance for Stormwater Capture and Use Projects," One Water Solutions Institute, Fort Collins, CO, United States. (2023).
3. Sharvelle, S. E., Colorado Stormwater Symposium, "Barriers, Bridges, and Opportunities for Stormwater Capture and Use," Colorado Stormwater Center, Denver, CO, United States. (October 2023).
4. Sharvelle, S. E., Colorado Stormwater Symposium, "The Water Technology Acceleration Platform," Colorado Stormwater Center, Denver, CO, United States. (October 2023).
5. Sharvelle, S., Alja'fari, J., Branch, A., Rasmus, J., Clary, J., Garland, J., Jahne, M., Olivieri, A., Pecson, B. (2023) "Guidance for Treatment of Stormwater to Meet Pathogen Reduction Targets", WateReuse Symposium.
6. Sharvelle, S., "InTERFEWS Professional Partnerships", National Science Foundation Graduate Research and Training Annual Meeting (October 2022).
7. Zhang, H., Sharvelle, S. E., Egan, J., Bronleewe, T., Water Research Webinar Series, "Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC): Tool Functionality and Case Studies," USEPA, Virtual, N/A, United States. (May 2021).
8. Sharvelle, S. E. (2022) National Science Foundation Research Traineeship Annual Meeting, "InTERFEWS Professional Partnerships," National Science Foundation, Blacksburgh, Virginia.
9. Alja'fari, J., Sharvelle, S. E. (2022) WateReuse Symposium, "Off the Roof: Measuring Microbial Characteristics of Roof Runoff," WateReuse, San Antonio, TX.
10. Sharvelle, S. E., WateReuse Symposium (2022) "Selection of Log Reduction Targets for Stormwater," WateReuse, San Antonio, TX.
11. Sharvelle, S. E., Colorado Stormwater Symposium, "CSU Spur Campus: Water Technology Accelerator," One Water Solutions Institute, Fort Collins, CO, United States. (August 2021).
12. Sharvelle, S. E., Water Wise Symposium, "Connections Between Urban Land Planning and Water Use," Water Wise, Denver, CO, United States. (July 2021).
13. Sharvelle, S.E., Catalyzing Stormwater Capture and Use: Focusing Opportunities and Overcoming Barriers "Understanding Stormwater Characteristics and Treatment Needs," USEPA. (September 2021).
14. Sharvelle, S.E., Water Reuse Action Plan Webinar Series, "Estimating Multiple Benefits from Stormwater Capture Projects- Why and How," USEPA. (2021)

15. Sharvelle, S.E. Water Reuse Action Plan Webinar Series, “Stormwater Capture Treatment Standards and Needs,” USEPA. (2021)
16. Sharvelle, S. E. (Author & Presenter), Neale, M. R. (Author), Arabi, M. (Author), International Environmental Modelling and Software conference, "Assessing Regional Tradeoffs for Fit-for-Purpose Water and End-Use Efficiency," International Environmental Modelling and Software Society, Brussels, Belgium. (December 2, 2020).
17. Dell, T., Sharvelle, S. (2019) “Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC)”, presented at the EWRI Operations & Maintenance of Stormwater Control Measures Conference.
18. Dell, T., Liner, B., Sharvelle, S. (2019) “Life Cycle Costs of Stormwater Infrastructure CLASIC Tool Demo”, presented to the City of Honolulu as a half day workshop.
19. Dell, T., Liner, B., Sharvelle, S. (2019) “Life Cycle Costs of Stormwater Infrastructure CLASIC Tool Demo”, full day preconference workshop presented at the Stormwater Quality BMPs Workshop in Honolulu.
20. Dell, T. Sharvelle, S. (2019) “CLASIC Tool Features and User Interface”, presented at WEF Green Stormwater Infrastructure Conference, Special Seminar Advancing Green Infrastructure Through Life Cycle Cost and Co-Benefits Analysis.
21. Neale, M., Sharvelle, S., Arabi, M. (2019) “Cost-benefit evaluation of water conservation and reuse strategies using the Integrated Urban Water Model for three U.S. cities”, Hydrology Days, Fort Collins, CO.
22. Alja’fari, J., Sharvelle, S., Crall, A., Newman, G. (2019) “Off the Roof: A Citizen Science Project to Measure the Microbial Characteristics of Roof Runoff”, Hydrology Days, Fort Collins, CO.
23. Razzaghamanesh, M; Sharvelle, S, Dell, T and M. Arabi (2019) “Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC) tool hydrological investigation, a case study of McClelland Basin”, Hydrology Days, Fort Collins, CO.
24. S. Sharvelle (2019) “Life Cycle Costs of Stormwater Infrastructure Tool Demo”, Great Plains LID Symposium Special Workshop.
25. Sharvelle, S. Dell, T. (2018) “CLASIC Tool Features and User Interface”, Water Research Conference, New Orleans, LA.
26. Hodgson, B., Sharvelle, S. (2018), “Developing a Tool for Quantifying and Comparing the Effectiveness of Nutrient Removal Strategies at WWTF”, Water Environment Federation Nutrient Removal and Recovery Conference, Raleigh, NC.
27. Neale, M., Sharvelle, S., Dozier, A., Arabi, M. (2018) "Identifying Optimal Water Conservation and Reuse Strategies Using an Urban Water Demand Model for a Selection of U.S. Cities with Distinct Climatic Conditions and Land Cover Characteristics," 9th International Congress on Environmental Modelling and Software Fort Collins, CO.
28. Batista, G, Sharvelle, S., Dozier, A., Arabi, M., (2018) "Evaluation of Water Conservation Strategies Using the Integrated Urban Water Model in Sao Paulo, Brazil," 9th International Congress on Environmental Modelling and Software, Fort Collins, CO.
29. Sharvelle, S., Dell, T., (2018) "Introduction to the Modeling Framework and Outputs of the Community-Enabled Life-Cycle Analysis of Stormwater Infrastructure Costs

- (CLASIC) Tool," 9th International Congress on Environmental Modelling and Software, Fort Collins, CO.
30. Hodgson, B., Sharvelle, S. (2018) "Developing an Empirical Model for Evaluating Nutrient Removal Effectiveness at Wastewater Treatment Facilities," 9th International Congress on Environmental Modelling and Software, Fort Collins, CO.
 31. Sharvelle, S., T. Dell (2018) "CLASIC Tool Features and User Interface", presented at WEFTEC Special Seminar Advancing Green Infrastructure Through Life Cycle Cost and Co-Benefits Analysis.
 32. Sharvelle, S., Dell, T., Young, N. (2018) "Development of CLASIC: a Tool to Screen Green and Gray Infrastructure Practices Based on Lifecycle Costs and Holistic Benefits," Water Research Foundation Research Conference, Atlanta, GA.
 33. Sharvelle, S., Arabi, M., Sukop, M., (2018) "The National Science Foundation's Sustainability Research Networks Program," Resilient Utility Coalition Summit, Miami, FL.
 34. Sharvelle, S., Dell, T. (2018) "Model Framework for the Community Enabled Life-Cycle Analysis of Stormwater Infrastructure Costs (CLASIC) Tool," American Geophysical Union Fall Meeting, Washington, DC.
 35. Sharvelle, S., T. Dell (2017) "Development of Life Cycle Cost Tool that Reflects Triple Bottom Line for Gray to Green Stormwater Infrastructure Comparisons" EWRI O&M Conference, Denver, CO.
 36. Hodgson, B., S. Sharvelle (2017) "Identifying Effective Approaches to Reduce WWTF Nutrient Load at the Watershed Scale Accounting for Removal Efficiency and Implementation Cost", UCOWR, Fort Collins, CO.
 37. Sharvelle, S., M. Arabi, A. Dozier (2017) "Application of the Integrated Urban Water Model to Assess Scenarios of Water Conservation and Reuse", Climate Change and Urban Growth, UCOWR, Fort Collins, CO.
 38. Cole, J., S. Sharvelle, D. Fourness, L. Roesner, J. Haukaas (2017) "A Collaborative Evaluation of Centralized and Decentralized Strategies for Dual Water Supply", UCOWR, Fort Collins, CO.
 39. Sharvelle, S., (2017) "A Risk Based Framework for Decentralized Non-Potable Water Systems", UCOWR, Fort Collins, CO.
 40. Lewis, M., R. Wu, S. Sharvelle (2017) "Multistage AD Technology for Dry Lot AFOs", BioCycle Conference, Portland, OR.
 41. Sharvelle, S., N. Ashbolt, E. Clerico, R. Holquist, H. Leverenz and A. Olivieri (2017) "Risk Based Framework for the Development of Public Health Guidance for Decentralized Non-potable Water Systems", WEFTEC 2017, Chicago, IL.
 42. Sharvelle, S., T. Dell (2017) "CLASIC Demonstration", WEFTEC 2017, WEF/WE&RF Workshop for Lifecycle Cost Analysis of Green Infrastructure, Chicago, IL.
 43. Sharvelle, S., N. Ashbolt, E. Clerico, R. Holquist, H. Leverenz and A. Olivieri (2017) "Risk Based Framework for the Development of Public Health Guidance for Decentralized Non-potable Water Systems", International Water Association Conference on Water Reclamation and Reuse, Longbeach, CA.

44. Sharvelle, S. (2016) "System Level Approaches for Nitrogen Management," Water Environment Federation/International Water Association Nutrient Removal and Recovery Denver, CO.
45. Sharvelle, S. (2016) "NWRI Independent Advisory Panel: A Risk Based Approach for the Development of Public Health Standards for DNWS," WateReuse Conference Denver, CO, United States.
46. Cole, Jeanne, S. Sharvelle, N. Grigg, L. Roesner (2014) "Dual Distribution of Treated and Raw Water for more Sustainable Water Supply Systems", AWWA Sustainable Water Management Conference, March 30-April 2, Denver, CO.
47. Cordery-Cotter, Susanne, S. Sharvelle (2014) "Graywater Reuse - A Case Study at Colorado State University Regulatory Planning and Seeking a Cost Effective System", AWWA Sustainable Water Management Conference, March 30-April 2, Denver, CO.
48. Sharvelle, Sybil, R Glenn, L.A. Roesner (2014) "Graywater Reuse: An Overview of the Current Stat of Regulations and Implementation in Urban Areas", AWWA Sustainable Water Management Conference, March 30-April 2, Denver, CO.
49. Sharvelle, Sybil, J. Vandegrift, L.A. Roesner (2014) "Graywater Reuse for Toilet Flushing at a Colorado State University Residence Hall: Operational Experience and Perceptions by Users", 29th WateReuse Symposium, Dallas, TX.
50. Sharvelle, S., Lasker, J., Loetscher, L. (2013) "Feasibility of Installation of Anaerobic Digesters at Cattle Operations and Demonstration of Decision Support Tool," Waste to Worth Conference, Denver, CO.
51. Hanif, A., Sharvelle, S., Loetscher, L., Wasserbach, K. (2013) "Evaluation of a Trickle Flow Leachate Bed Reactor for Digestion of High Solids," Waste to Worth Conference, Denver, CO.
52. Loetscher, L., Sharvelle, S. (2013) "Demonstration of a Pilot Scale Leach-bed Multistage Digester for Treating Dry-lot Wastes," Waste to Worth Conference, Denver, CO.
53. Sharvelle, S., R. Glenn, L.A. Roesner (2013) "Treatment, Public Health, and Regulatory Issues Associated with Graywater Reuse," WateReuse Annual Reuse and Deslination Research Conference, Phoenix, AZ.
54. Sharvelle, S., R. Glenn, LA. Roesner (2013) "An Overview of Graywater Reuse Regulations and Implementation in Urban Areas," WateReuse Symposium, Denver, CO.
55. Glenn, R., L.A. Roesner, and S. Sharvelle (2012) "Treatment, Public Health and Regulatory Issues Associated with Graywater Reuse," Hydrology Days, Chair, Fort Collins, CO.
56. Negahban-Azar, M., A..Shogbon and S.Sharvelle (2012) "Leachability of Graywater Constituents after Application for Irrigation," Hydrology Days, Chair, Fort Collins, CO.
57. Robbins, C.A and S. Sharvelle (2012) "Food Waste Diversion for Enhanced Methane Gas Production at the Drake Water Reclamation Facility," Hydrology Days, Chair, Fort Collins, CO.
58. Sharvelle, S. and L.A.Roesner (2012) "Graywater Reuse as a Viable Means to Meet Municipal Water Demands under Water Shortages," Upper Colorado River Basin Water Conference, Grand Junction, CO.

59. Negahban Azar, M., S. Sharvelle, M. Stromberger, and L.A. Roesner (2011) "Graywater Reuse as a Sustainable Water Management Strategy and its Effects on Soil Quality," 242 American Chemical Society Meeting, Denver, CO.
60. Bergdolt, J. and S. Sharvelle (2011) "Evaluating Contaminant Removal Rates of Graywater Utilizing a Constructed Wetland Treatment System," Hydrology Days 2011, Fort Collins, CO.
61. Negahban Azar, M., S. Sharvelle, M. Stromberger, and L. Roesner (2011) "Is Graywater Reuse a New Way to Water Sustainability and What Are the Effects to Soil Quality?" Hydrology Days 2011, Fort Collins, CO.
62. Liang, Q, L. Loetscher, S. Sharvelle, and K. Carlson (2011) "Simultaneous Phosphorus and Nitrogen Removal in Wastewater by Using Aluminum Based Water Treatment Residual," Hydrology Days 2011, Fort Collins, CO.
63. Fewless, K., S. Sharvelle, and L. Roesner (2011) "Source Separation and Treatment of Anthropogenic Urine," Hydrology Days 2011, Fort Collins, CO.
64. Shogbon, Alicia and Sybil Sharvelle (2010) "Graywater Application for Landscape Irrigation: Greenhouse Experiments", Hydrology Days 2010, Fort Collins, CO.
65. Gallagher, Neal and Sybil Sharvelle (2010) "Anaerobic Digestion of Blackwater on the CSU Foothills Campus", Hydrology Days 2010, Fort Collins, CO.
66. Fewless, Kimberly and Sybil Sharvelle (2010) "World-wide Search and Review of Advanced Sewerage-System Design and Technology", Hydrology Days 2010, Fort Collins, CO.
67. Azar, Masoud N. and Sybil Sharvelle (2010) "Graywater Reuse: a Sustainable Water Management Strategy and its Effects on Soil Properties", Hydrology Days 2010, Fort Collins, CO.
68. Bergdolt, Jesse and Sybil Sharvelle (2010) "Evaluating Contaminant Removal Rates of Graywater Utilizing a Constructed Wetland Treatment System", Hydrology Days 2010, Fort Collins, CO.
69. Sharvelle, Sybil, Azar., M.N., Stromberger, M., Roesner, L. (2009) "Graywater Irrigation as a Means to Meet Water Demands in Arid Regions", EWRI, Kansas City, KA
70. Gallagher, Neal, Sharvelle, S. (2009) "Decentralized Anaerobic Treatment of Blackwater: A Sustainable Development Technology Concept for Urban Water Management", EWRI, Kansas City, KA
71. Azar, Masoud N., Sharvelle, S. (2009) "Long-term Effects of Graywater Irrigation on Soil Quality", Hydrology Days, Fort Collins, CO.
72. Jokerst, Adam, Roesner, L., Sharvelle, S. (2009) "An Evaluation of Graywater Reuse Utilizing a Constructed Wetland System" Hydrology Days, Fort Collins, CO.
73. Gallagher, Neal, Sharvelle, S. (2009) "Decentralized Anaerobic Treatment of Blackwater: A Sustainable Development Technology Concept for Urban Water Management", Hydrology Days, Fort Collins, CO.
74. Bruun, Kris, Sharvelle, S. (2009) "Evaluation of the Feasibility of Decentralized Anaerobic Digestion for Blackwater Treatment", Hydrology Days, Fort Collins, CO.

75. Azar, Masoud N., Sharvelle, S. (2009) "Long-term Effects of Graywater Irrigation on Soil Quality", Hydrology Days, Fort Collins, CO
76. Sharvelle, S. and Roesner, L.A., (2008) "Graywater Application for Household Irrigation as a Viable Means to Meet Water Demands in Arid Regions." Presented at Hydrology Days, Fort Collins, CO.
77. Sharvelle, S., Garland, J., McLamore E., and M.K. Banks (2008) "Application of Microtiter-Based Oxygen Sensors to Assess Microbial Communities." Presented at Institute for Biological Engineering, Chair, Raleigh, NC.

Advising

- *M.S. Graduates* – Neal Gallagher (2009), Kris Bruun (2010), Alicia Shogbon (2011), Matt Becker (2011), Brad Reichel (2011), Jesse Bergdolt (2011), Robert Glenn (2012), Cristian Robbins (2012), Meg Hollowed (2012), Ana Gonzalez (2012), Jeff Lasker (2012), Brock Hodgson (2012), Carlos Quiroz (2013), Asma Hanif (2013), Zhaohua Huang (2013), Kelly Wasserbach (2013), Kristin Wiles (2013), Jill Vandegrift (2014), Sarah Breidt (2014), Laure Trifone (2014), Christine Marjoram (2014), Dan Olson (2014), Kimberly Fewless (2015), Link Mueller (2015), Julie Sandefur (2016), Rongxi Wu (2017), Lucas Loetscher (2018), Matt Lewis (2018), Giovana Batista (2018), Amrish Nath (2018), Kadin Young (2020), Michael Nele (2020), Saloni Patel (2020), Ismail Alhelal (2021), Priya Bhowmik (2023).
- *Ph. D Graduates* – Masoud N. Azar (2012), Jeanne Cole (2018), Brock Hodgson (2019), Jumana Alja'fari (2023).
- *M.S. Advisees* –
- *pH.D. Advisees* – Tyler Dell, Ficky Maubauy, Lucas Loetscher, Kim Fewless, Amanda Guedes Salerno
- *pH.D Co-advisees* – Al Rikabi, Anmar
- *Postdoctorates* – Mostafa Razzaghmanesh (2018 – 2019)

Services

- (Aug 2007 – current) CSU Extension Specialist, Water Group and Ag Energy Group member
- (Aug 2007 – 2012) Institute for Livestock and Environment, founding member
- (Dec 2009 – 2015) Work Group for Development of a Graywater Regulation in Colorado, Colorado Department of Public Health and Environment, Co-Leader
- Development of online decision support tool for anaerobic digestion installation (https://erams.com/AD_feasibility/)
- (Aug 2007 – May 2010) Graduate Acceptance Committee, member
- (Aug 2011 – May 2014) Undergraduate Instruction Committee, member
- (Aug 2013 – 2020) Tenure and Promotion Committee
- (Aug 2016 – 2020) Awards Committee
- (Aug 2016 – 2019) Graduate Admissions Committee
- (2013 – 2016) National Research Council, Committee on the Beneficial Use of Graywater and Stormwater: Assessment of Risks, Costs and Benefits
- (2012 – 2015) Workgroup on development of Regulation 86, Use of Graywater

- (2015 – 2017) Chair for National Water Research Institute Panel: Technical Requirements for Public Health Standards for Onsite Water Systems
- (2020) Co-Chair for National Water Research Institute Panel to Inform California Regulations on Onsite Water Systems