Sherri M. Cook

Personal Information

Assistant Professor
Civil, Environmental, and Architectural Engineering Department
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University of Colorado Boulder

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Academic and Professional Background

Education

University of Michigan	Environmental Engineering	Ph.D.	2014
University of Michigan	Environmental Engineering	M.S.E.	2009
Virginia Tech (VPI&SU)	Civil Engineering (environmental focus)	B.S.	2008

Professional Experience

Assistant Professor, University of Colorado Boulder, Boulder, CO 8/2014 – Present

My research combines quantitative sustainable design and environmental biotechnology to design and develop sustainable water and infrastructure systems. My group uses experimentation, process modeling, field work, and life cycle analyses to investigate three main research areas: sustainable water system design, water treatment and reuse, and material and energy recovery from waste. I have developed two new courses on environmental sustainability principles and quantitative design methodology and also teach a biological processes in wastewater treatment course. I currently advise 6 graduate students, 1 undergraduate student, and 2 postdoctoral scholars.

Doctoral Researcher, University of Michigan, Ann Arbor, MI 8/2008 – 5/2014

My doctoral dissertation was titled *Analysis-Driven Sustainable Design of Waste Management Systems for Unused Medications & Wastewater Solids*. I was supported by four fellowships, including an NSF GRFP, and an internal research grant. My dissertation committee included: Steven Skerlos, Nancy Love, Lutgarde Raskin, and Eric Martens. I was co-instructor of a graduate course on wastewater treatment and helped to develop and teach a service learning course with an international project funded by an EPA P3 grant and UofM's multidisciplinary design minor.

Undergraduate Research Assistant, Clarkson University, Potsdam, NY 5/2007 – 8/2007

My independent project focused on the evaluation of colloid concentration effects on natural media filtration efficiency for stormwater treatment. Funded by NSF-REU and supervised by Stefan Grimberg and Tom Holsen.

Undergraduate Research Assistant, Virginia Tech, Blacksburg, VA 10/2005 – 8/2006

My independent project focused on the investigation of using chemical, enzymatic, and biological additives to enhance anaerobic digestion and reduce biosolids cake odor. Supervised by John Novak.

Intern, Froehling & Robertson, Sterling VA 5/2005 – 8/2005

I was a construction materials technician that conducted laboratory testing and quality control assessments at constructions sites, and I collected data for phase I & II environmental inspections.

Awards and Honors

2018-2022	University of Colorado Boulder Bennett-Lindstedt Faculty Fellowship
2018	University of Colorado Boulder CEAE Young Researcher Award
2018	Virginia Tech CEE Outstanding Young Alumni
2014	Rackham Graduate School Research Grant, University of Michigan
2013-2014	Rackham Graduate School Predoctoral Fellow, University of Michigan
2010-2013	Graham Sustainability Institute Doctoral Fellow, University of Michigan
2010	Michigan Water Environment Association Jack H. Wagner Scholarship
2009-2012	National Science Foundation Graduate Research Fellow
2008-2009	Phi Kappa Phi Honor Society National Fellow
2008	College of Engineering Outstanding Senior, Virginia Tech
2007, 2006	Morris K. Udall Scholar

Publications

Notation: Underline denotes Cook graduate student, double underline denotes Cook undergraduate student, wavy underline denotes Cook postdoctoral scholar, dashed underline denotes student or postdoc mentored by Cook as non-primary advisor ▲ denotes Cook's PhD advisors, * denotes corresponding author.

Author order: Typical in my field is that principal investigator is last (for multiple PI papers, PIs are listed at end with increasing contribution level); for other authors, authors that have contributed the most are near the front of the author list.

Peer-Reviewed Journal Articles

[1] Davis, A.L.; Javernick-Will, A.; **Cook, S.M.*** Priority Addressment Protocol: Understanding the Ability and Potential of Sanitation Systems to Address Priorities. *Environmental Science & Technology* (2019), 53 (1), 401-411. https://pubs.acs.org/doi/10.1021/acs.est.8b04761

[2] Davis, A.L.; Javernick-Will, A.; **Cook, S.M.*** A Comparison of Interviews, Focus Groups, and Photovoice to Identify Sanitation Priorities and Increase Success of Community-based Sanitation Systems. *Environmental Science: Water Research & Technology* (2018), 4, 1451-1463. http://pubs.rsc.org/en/content/articlelanding/2018/ew/c8ew00391b

[3] Jones, C.H.; Terry, L.G.; Summers, R.S.; **Cook, S.M.*** Environmental Life Cycle Comparison of Conventional and Biological Filtration Alternatives for Drinking Water Treatment. *Environmental Science: Water Research & Technology* (2018), 4, 1464-1479. http://pubs.rsc.org/en/content/articlelanding/2018/ew/c8ew00272j

[4] Jones, C.H.; Shilling, E.; Linden, K.; **Cook, S.M.*** Life Cycle Environmental Impacts of Disinfection Technologies Used in Small Drinking Water Systems. *Environmental Science & Technology* (2018), 52 (5), 2998–3007. https://pubs.acs.org/doi/10.1021/acs.est.7b04448

[5] Leow, S.; Shoener, B.D.; Li, Y.; Debellis, J.L.; Markham, J.; Davis, R.; Laurens, L.M.L.; Pienkos, P.T.; **Cook, S.M.**; Strathmann, T.J.; Guest, J.S.* A Unified Modeling Framework to Advance Biofuel Production from Microalgae. *Environmental Science & Technology* (2018), 52 (22), 13591–13599. https://pubs.acs.org/doi/10.1021/acs.est.8b03663

[6] Keshavarzmohammadian, A.*; **Cook, S.M.**; Milford, J.B. Cradle-to-gate Environmental Impacts of Sulfur-based Solid-state Lithium Batteries for Electric Vehicle Applications. *Journal of Cleaner Production* (2018), 202, 770-778. https://doi.org/10.1016/j.jclepro.2018.08.168

[7] Liang, L.; Heveran, C.; Liu, R.; Gill, R.; Nagarajan, A.; Cameron, J.; Hubler, M.; Srubar, W.V.; **Cook, S.M.*** Rational Control of Calcite Precipitation by Engineered *Escherichia coli*. *ACS Synthetic Biology* (2018), 7 (11), 2497–2506. https://pubs.acs.org/doi/10.1021/acssynbio.8b00194

[8] Thompson, K.A.; Summers, R.S.; **Cook, S.M.*** Development and experimental validation of the composition and treatability of a new synthetic bathroom greywater (SynGrey). *Environmental Science: Water Research & Technology* (2017), 3, 1120-1131. http://pubs.rsc.org/en/content/articlelanding/2017/ew/c7ew00304h

[9] Byrne, D.M.; Lohman, H.A.C.; **Cook, S.M.**; Peters, G.M.; Guest, J.S.* Life cycle assessment (LCA) of urban water infrastructure: Emerging approaches to balance objectives and inform comprehensive decision-making. *Environmental Science: Water Research & Technology* (2017), 3, 1002-1014. http://pubs.rsc.org/en/content/articlelanding/2017/ew/c7ew00175d
2017 ES:WR&T Editors' Choice Top 10

[10] **Cook, S.M.**; Skerlos, S.J.▲; Raskin, L.; Love, N.G.▲* The establishment of a stability algorithm for anaerobic codigestion. *Water Research* (2017), 117, 19-28. http://dx.doi.org/10.1016/j.watres.2017.01.027

[11] Thompson, K.A.; Shimabuku, K.K.; Kearns, J.P.; Knappe, D.R.U.; Summers, R.S.; **Cook, S.M.*** Environmental comparison between biochar and activated carbon for tertiary wastewater treatment. *Environmental Science & Technology* (2016), 50 (20), 11253-11262. http://pubs.acs.org/doi/full/10.1021/acs.est.6b03239

[12] **Cook, S.M.**; VanDuinen, B.J.; Love, N.G.▲; Skerlos, S.J.▲* Life cycle comparison of environmental emissions from three disposal options for unused pharmaceuticals. *Environmental Science & Technology* (2012), 46 (10), 5535-5541. http://pubs.acs.org/doi/full/10.1021/es203987b

Published Correspondence: **Cook, S.M.**; Love, N.G.▲; Skerlos, S.J.▲* Response to "Comment on 'Life cycle comparison of environmental emissions from three disposal options for unused pharmaceuticals'" (2012) *Environmental Science & Technology*, *46* (15), 8521–8522. http://pubs.acs.org/doi/full/10.1021/es302534a

Submitted and Under Review Journal Articles

[13] Welsh-Huggins, S.; Liel, A.*; **Cook, S.M.** Reduced, Reused, Resilient? Life-cycle seismic and environmental performances of buildings with alternative concretes. Under Review at *Journal of Infrastructure Systems*.

[14] Thompson, K.A.; Summers, R.S.; Hill, C.; **Cook, S.M.*** Blended water reuse: assessing the effectiveness of conventional drinking water treatment on stormwater, wastewater, and blends with surface water. Under Review at *Environmental Science: Water Research & Technology*.

[15] Davis, A.L.; Javernick-Will, A.*; **Cook, S.M.** Identifying Pathways to Successful Sanitation Interventions in Resource Limited Communities using Qualitative Comparative Analysis. Under Review at *Science of the Total Environment*.

[16] Heveran, C.M., Liang, L.; Nagarajan, A.; Hubler, M.; Gill, R.; Cameron, J.; **Cook, S.M.**, Srubar, W.V.* Tailoring the morphology and nanomechanical response of microbial-precipitated calcite using engineered ureolytic bacteria. Under Review at *Acta Biomaterialia*.

Conference Proceedings

Abstracts were peer-reviewed before being selectively chosen to contribute conference proceedings.

[1] Keshavarzmohammadian, A.; Milford, J.B; **Cook, S.M.**† Impacts of Power Generation Technology Choices on Life Cycle Water Consumption. *Proceedings of the Life Cycle Assessment XVIII Conference*, 4 pgs, Fort Collins, CO, September, 2018.

[2] Davis, A.L.†; Javernick-Will, A.; **Cook, S.M.** Avoiding Failure: The Use of Qualitative Comparative Analysis to Identify Pathways to Successful Sanitation Interventions. *Proceedings of the Engineering Project Organization Conference*, 25 pgs, Brijuni, Croatia, June 2018.

[3] Kikale, P.†; Kumar, P.; **Cook, S.M.** Integrated solutions for water reuse and resource recovery: comparing and identifying sustainable water reuse treatment options. *Proceedings of the IWA Water Reuse Conference*, 8 pgs, Long Beach, CA, July 2017.

[4] Davis, A.L.†; Javernick-Will, A.; **Cook, S.M.** Multi-Method Approach to Identify Community Priorities for Sanitation Systems. *Proceedings of the Engineering Project Organization Conference*, 19 pgs, Lake Tahoe, CA, June 2017.

[5] Guest, J.S.†; **Cook, S.M.**; Skerlos, S.J.▲; Love, N.G.▲ A methodology to assess the environmental impacts of upgrading wastewater infrastructure: A case study to evaluate energy recovery from black water. *Proceedings of the WEF Technical Exhibition & Conference*, 19 pgs, Orlando, FL, Oct. 2009.

[6] **Cook, S.M.**†; Guest, J.S.; Skerlos, S.J.▲; Love, N.G.▲ Environmental characteristics of different energy recovery systems from the management of sewage sludge and food waste. *Proceedings of the IWA Sludge Conference*, 8 pgs, Harbin, China, August 2009.

Conference Oral Presentations

Notation: † denotes presenter, underline denotes graduate student, double underline denotes undergraduate student, dashed underline denotes postdoctoral scholar,
▲ denotes Cook's PhD or undergraduate research advisors.

[1] Jones, C.H.†; **Cook, S.M.** The Hidden Trade-offs Involved in Managing Limited Resources to Improve Water Quality. *AWWA Water Quality Technology Conference*, Toronto, ON, November, 2018.

[2] Davis, A.L.†; Javernick-Will, A.J.; **Cook, S.M.** Why do sanitation systems still not address user priorities? *UNC Water & Health Conference*. Chapel Hill, NC, October 2018.

[3] Chambers, K.G.†; Carrico, A.; **Cook, S.M.** Social Network Patterns of Latrine Re-adoption Following Flood Events. *UNC Water & Health Conference*. Chapel Hill, NC, October 2018.

[4] Jones, C.H.†; **Cook, S.M.** A Life Cycle Comparison of Small Drinking Water Treatment Alternatives. *Life Cycle Assessment XVIII*, Fort Collins, CO, September, 2018.

[5] Nagarajan, A.†, Liang, L.; Heveran, C.M.; Gill, R.; Hubler, M.; Srubar, W.V. Cameron, J.; **Cook, S.M.** Calcite production for building biohybrid living structural material from the cyanobacterium Synechococcus sp. PCC 7002. *Synthetic Biology: Engineering, Evolution & Design (SEED)*. Scottsdale, AZ, June 2018.

[6] Heveran, C.M.†, Liang, L.; Nagarajan, A.; **Cook, S.M.**, Cameron, J.; Gill, R.; Hubler, M.; Srubar, W.V. Engineered living building materials: multiscale mechanics of biogenic calcite from genetically modified bacteria. *Engineering Mechanics Institute*. Boston, MA, May 2018.

[7] Chambers, K.G.†; **Cook, S.M.** Sustainable and Resilient Sanitation Systems: Indicators, Tradeoffs, and Barriers. *Rocky Mountain Section AWWA & WEA Annual Conference*, Golden, CO, May 2018.

[8] Jones, C.H.†; Terry, L.; Summers, R.S.; **Cook, S.M.** Biological Filtration Scenarios that Reduce Environmental Impacts. *Rocky Mountain Section AWWA & WEA Annual Conference*, Golden, CO, May 2018.

[9] Terry, L.G.†; Jones, C.H.; Summers, R.S.; **Cook, S.M.** Impacts of Operational Parameters and Water Quality on Biofiltration for Potable Reuse Systems. *AWWA International Symposium on Biological Treatment*, Austin, TX, January 2018.

[10] Jones, C.H.†; Shilling, E.; Linden, K.; **Cook, S.M.** Decision Support for Small Systems: A Comparative Environmental Impact Assessment of Chlorine and UV Disinfection Alternatives. *AWWA Water Quality Technology Conference*, Portland, OR, November 2017.

[11] Davis, A.L.†; Javernick-Will, A.J.; **Cook, S.M.** Avoiding Failure: The Use of Qualitative Comparative Analysis to Identify Pathways to Successful Sanitation Interventions. *UNC Water & Health Conference*. Chapel Hill, NC, October 2017.

[12] Chambers, K.G.†; **Cook, S.M.** A Comparative Sanitation Infrastructure Analysis Evaluating Resilience, Community Priorities, and Sustainability Tradeoffs. *UNC Water & Health Conference*. Chapel Hill, NC, October 2017.

[13] Nagarajan, A.†, Liang, L.; Heveran, C.M.; Gill, R.; Hubler, M.; Srubar, W.V. Cameron, J.; **Cook, S.M.** Cyano-Calcite production for building living structural materials. *Annual Midwest Southeast Photosynthesis Conference*. Turkey Run, IN, October 2017.

[14] Kikale, P.†; Kumar, P.; **Cook, S.M.** Integrated solutions for water reuse and resource recovery: comparing and identifying sustainable water reuse treatment options. *IWA Water Reuse Conference*, Long Beach, CA, July 2017.

[15] Davis, A.L.; Javernick-Will, A.J.; **Cook, S.M.**† Identifying Community Priorities to Develop Appropriate Sanitation and Resource Recovery Systems and Interventions. *AEESP Education and Research Conference*, Ann Arbor, MI, June 2017.

[16] Terry, L.G.†; Jones, C.H.; Summers, R.S.; **Cook, S.M.** Environmentally Sustainable Scenarios for Biological Filtration Compared to Rapid Media Filtration. *AWWA Annual Conference & Exposition*, Philadelphia, PA, June 2017.

[17] Cornejo, P.K.; Hogrewe, W.†; **Cook, S.M.**; Seidel, C.; Malley, J. A Multi-Criteria Decision Analysis Framework for Small Systems. *AWWA Annual Conference & Exposition*, Philadelphia,PA, Jun2017.

[18] Davis, A.L.†; Javernick-Will, A.J.; **Cook, S.M.** Multi-Method Approach to Identify Community Priorities for Sanitation Systems. *Engineering Project Organization Conference (EPOC)*, Lake Tahoe, CA, June 2017.

[19] Terry, L.G.†; Jones, C.H.; **Cook, S.M.**; Summers, R.S. Evaluation of Extended EBCT Biofilters for Small Systems Based on Biomass Development and Distribution. *AWWA Water Quality Technology Conference & Exhibition*, Indianapolis, IN, November 2016.

[20] Davis, A.L.†; Javernick-Will, A.J.; **Cook, S.M.** Priorities for Sanitation and Energy Systems in Resource-Limited Communities. *UNC Water & Health Conference*. Chapel Hill, NC, October 2016.

[21] Leow, S.; Shoener, B.D.; Li, Y.; DeBellis, J.L.; Davis, R.; Laurens, L.M.L.; Nagle, N.; Pienkos, P.T; **Cook, S.M.**; Strathmann, T.J; Guest, J.S.† Systems-scale optimization of the integrated microalgae-biofuel process applying various downstream aqueous conversion technologies. *Algae Biomass Organization Algal Biomass Summit*, Phoenix, AZ, October 2016.

[22] Cornejo, P.K.†, Hogrewe, W., **Cook, S.M.**, Jones, C.H., Meyer, J. A sustainability framework for small systems: Multi-criteria decision analysis to evaluate drinking water treatment systems. *International Congress of Sustainability Science & Engineering*, Suzhou, China, October 2016.

[23] Thompson, K.A.†; Shimabuku, K.T.; Kearns, J.P., Knappe, D.R.U.; Summers, R.S; **Cook, S.M.** An environmental comparison between powdered activated carbon and biochar for tertiary wastewater treatment. *Biochar 2016*, Corvallis, OR, August 2016.

[24] Cornejo, P.K.†; Hogrewe, B.; Jones, C.H.; **Cook, S.M.** Improving Decision Support for Small Drinking Water Systems: An Innovative Approach to Alternatives Assessment. *AWWA Annual Conference & Exposition*, Chicago, IL, June 2016.

[25] Jones, C.H.†; Shilling, E.; **Cook, S.M.** Sustainability Comparison of Innovative and Conventional Treatment Technologies for Small Systems. *Rocky Mountain Section AWWA & WEA Annual Conference*, Laramie, WY, May 2016.

[26] Thompson, K.A.†; Shimabuku, K.T.; Kearns, J.P., Knappe, D.R.U.; Summers, R.S; **Cook, S.M.** An environmental comparison between powdered activated carbon and biochar for tertiary wastewater treatment. *Rocky Mountain Section AWWA & WEA Annual Conference*, Laramie, WY, May 2016.

[27] Shilling, E.; Linden, K.; **Cook, S.M.**† A Comparison of Life Cycle Environmental Emissions from Disinfection Technologies for Small Drinking Water Systems. *AEESP Education and Research Conference*, New Haven, CT, June 2015.

[28] Shilling, E.†; Linden, K.; **Cook, S.M.** Sustainable Solutions for Small Water Systems: An Environmental Assessment Framework and Its Application to Drinking Water Disinfection Technologies. *AWWA Annual Conference & Exposition*, Anaheim, CA, June 2015.

[29] Shilling, E.†; Linden, K.; **Cook, S.M.** An Environmental Assessment Framework and Its Application to Drinking Water Disinfection Technologies. *Rocky Mountain Section AWWA & WEA Annual Conference*, Las Cruces, NM, May 2015.

[30] Shilling, E.; Linden, K.; **Cook, S.M.**† Sustainable Solutions for Small Water Systems: A Comparison of the Life Cycle Environmental Emissions of Conventional & Innovative Technologies. *Engineering Sustainability Conference*, Pittsburgh, PA, April 2015.

[31] Shilling, E.; Linden, K.; **Cook, S.M.**† Sustainable Solutions for Small Water Systems: An Environmental Assessment Framework and Its Application to Drinking Water Disinfection Technologies. *IWA Conference on Water Efficiency and Performance Assessment of Water Services*, Cincinnati, Ohio, April 2015.

[32] **Cook, S.M.**†; Skerlos, S.J.▲; Love, N.G.▲ Resource Recovery From Waste: A Design-oriented Analysis of Anaerobic Co-digestion Stability. *Borchardt Conference*. Ann Arbor, MI, Feb. 2014.

[33] **Cook, S.M.**†; Love, N.G.▲ A Regional Strategy for Managing Food Processing and Septage Waste: The Grand Traverse Region Collaboration. *Biogas Summit*, Flint, MI, October 2010.

[34] **Cook, S.M.**†; Guest, J.S.; Christianson, M.G.; Love, N.G.▲; Skerlos, S.J.▲ Energy Recovery from Wastewater: Evaluation of Resource Management Alternatives for Appropriate & Environmentally Sustainable Energy Production. *Engineering Sustainability Conference*, Pittsburgh, PA, April 2009.

[35] **Cook, S.M.**†; Jaradat, A.Q.; Grimberg, S.J.▲; Holsen, T.M.▲ Sustainable Stormwater Treatment: Colloid Concentration Effect on Natural Media Filtration Efficiency. *American Society of Civil Engineers' 2008 Virginias' Student Conference*, Summersville, WV, April 2008.

[36] **Cook, S.M.**†; Novak, J.T.▲ Sustainable Wastewater Treatment: Investigation of Chemical, Enzymatic, and/or Biological Agents as Additives to Enhance Anaerobic Digestion and Reduce Biosolids Cake Odor. *ACC Undergraduate Research Conference*, Charlottesville, VA, April 2007.

Conference Poster Presentations

[1] Keshavarzmohammadian, A.; Milford, J.B; **Cook, S.M.**† Impacts of Future Scenarios for Natural Gas Production and Use on Life Cycle Water Consumption. *Life Cycle Assessment XVIII*, Fort Collins, CO, September, 2018.

[2] Solomon, M.†; Bentley, M.; **Cook, S.M.** Comparing the Performance of Biochar Generated from Landfill-Bound Organic Waste for the Treatment of Landfill Leachate. *Rocky Mountain Section AWWA & WEA Joint Annual Conference*, Denver, CO, September, 2018.

[3] Heveran, C.M.†, Liang, L.; Nagarajan, A.; **Cook, S.M.**, Cameron, J.; Gill, R.; Hubler, M.; Srubar, W.V. Microbial-precipitated calcite with tunable morphology and robust nanomechanical properties for living building materials. *World Congress of Biomechanics*. Dublin, Ireland, July 2018.

[4] Solomon, M.†; Bentley, M.; **Cook, S.M.** Impact of Landfill-Bound Feedstocks and Treatments on Biochar Adsorption for the Treatment of Landfill Leachate. *Rocky Mountain Section AWWA & WEA Annual Conference*, Golden, CO, May, 2018.

[5] Thompson, K.A.†; Hill, C.; Summers, R.S.; **Cook, S.M.** Bench-scale Testing of Conventional Drinking Water Treatment of Wastewater Effluent, Stormwater, and Blends with Surface Water. *AWWA International Symposium on Potable Reuse*, Austin, TX, Jan 2018.

[6] Thompson, K.A.†; Hill, C.; Summers, R.S.; **Cook, S.M.** Conventional Surface Water Treatment of Alternative Source Waters: Greywater, Stormwater, Wastewater Effluent and Blends Thereof. *AWWA Water Quality Technology Conference*, Portland, OR, November 2017.

[7] Thompson, K.A.†; **Cook, S.M.**; Summers, R.S. The Evaluation of Activated Carbon and Novel Biochar Sorbents as Treatment Approaches for Meeting Greywater Reuse Regulations. *AWWA Water Quality Technology Conference*, Portland, OR, November 2017.

[8] Jones, C.H.†; Cornejo, P.K.; Miller, W.; Hogrewe, W.; Seidel, C.; Meyer, J.; **Cook, S.M.** Small Systems Decision Tool: Methodology And Tool Development For Water Treatment Technology And Operational Decision-Making. *AWWA Water Quality Technology Conference*, Portland, OR, November 2017.

[9] Thompson, K.A.; Summers, R.S.; **Cook, S.M.**† Treatment of Real and a New Synthetic Bathroom Greywater with Biochar Adsorption, Chlorination, and Biodegradation. *IWA Water Reuse Conference*, Long Beach, CA, July 2017.

[10] Byrne, D.M.†; Lohman, H.A.C.†; **Cook, S.M.**; Peters, G.M.; Guest, J.S. Advancement of Life Cycle Assessment of Urban Water Infrastructure to Address the Local and Global Contexts of Environmental and Public Health. *AEESP Education and Research Conference*, Ann Arbor, MI, June 2017.

[11] Thompson, K.A.; **Cook, S.M.**†; Summers, R.S. Detailed Characterization of Real and Synthetic Bathroom Greywater to Support Development of Novel, Sustainable Greywater Reuse Treatment Technologies. *AEESP Education and Research Conference*, Ann Arbor, MI, June 2017.

[12] Jones, C.H.†; **Cook, S.M.** Sustainability Comparison of Innovative and Conventional Filtration and Disinfection Technologies for Small Systems. *AWWA Water Quality Technology Conference & Exhibition*, Indianapolis, IN, November 2016.

[13] Kilake, P.†; Kumar, P.; **Cook, S.M.** Comparison of Water Reuse Treatment Options to Maximize Resource Recovery from Wastewater. *Rocky Mountain Section AWWA & WEA Annual Conference*, Laramie, WY, May 2016.

[14] **Cook, S.M.**†; Skerlos, S.J.▲; Love, N.G.▲ A design-oriented stability analysis of anaerobic codigestion using ADM1. *IWA Wastewater Treatment Modeling*, Spa, Belgium, March 2014.

[15] **Cook, S.M.**†; Skerlos, S.J.▲; Love, N.G.▲ Modeling Anaerobic Co-digestion Performance and Reliability Under Varying Influent Compositions. *AEESP Education and Research Conference*, Golden, CO, July 2013.

[16] **Cook, S.M.**†; Delgado Vela, J.; Stadler, L.G. Modeling Advancing the Success of Engineering Service Projects from the Classroom to the Field. *AEESP Education and Research Conference*, Golden, CO, July 2013.

[17] **Cook, S.M.**†; VanDuinen, B.J.; Skerlos, S.J.▲; Love, N.G.▲ Life Cycle Comparison of Environmental Impacts from Alternative Pharmaceutical Disposal Methods. *AEESP Education and Research Conference*, Tampa, FL, July 2011.

[18] **Cook, S.M.**†; Love, N.G.▲ Two-phase Anaerobic Co-digestion of Septage and Food Processing Waste: Designing a Reliable, Regional Waste Management Strategy. *IWA Leading-Edge Conference on Water and Wastewater Technologies*, Amsterdam, the Netherlands, June 2011.

[19] Dorer, H.†; Hwang, J.†; Li, Z.†; Twill, K.†; Coir, E.†; Gupta, A.†; Frederick, T.†; Schulman, B.; Collins, M.; Nagel, A.; McCleary, E.; Bhandari, A.; Kaniz, N.; Sung, C.; **Cook, S.M.**†; Skerlos, S.J.▲ Development of a Robust Anaerobic Biogas System for Use in Developing Countries. *National Sustainable Design Exposition*, Washington, D.C., April 2011.

[20] **Cook, S.M.**†; VanDuinen, B.J.; Skerlos, S.J.▲; Love, N.G.▲ Life Cycle Comparison of Environmental Impacts from Alternative Pharmaceutical Disposal Methods. *Engineering Sustainability Conference*, Pittsburgh, PA, April 2011.

Other Professional Presentations

[1] **Higgins, M.R.**†; **Cook, S.M.**† Best Practices for Raising LCA Literacy Among Non-Practitioners (competitively selected workshop presentation). *Life Cycle Assessment XVIII*, Fort Collins, CO, September 2018.

[2] Jones, C.H.†; Davis, A.†; Hogrewe, B.; **Cook, S.M.**† Get a check on your gut check: Small water system treatment technology decision-support tool (invited workshop presentation). *Rural Community Assistance Partnership National Training Conference*, New Orleans, LA, April 2018.

[3] **Cook, S.M.** † Designing a Sustainable and Closed-loop Water Treatment Cycle by Using Design Insights from Wastewater and Drinking Water Systems (invited seminar presentation). *Colorado School of Mines*, Golden, CO, February 2017.

[4] **Cook, S.M.** † Energy Footprint of Water: Comparing Life Cycle Impacts of Water Treatment Alternatives to Support Sustainable Water Systems (invited seminar presentation). *National Center for Atmospheric Research*, Boulder, CO, January 2017.

[5] Shaw, A.†; Corominas, L.; **Cook, S.M.** Wastewater Treatment Life Cycle Assessments (invited workshop presentation). *IWA Wastewater Treatment Modeling,* Annecy, France, April 2016.

[6] **Cook, S.M.** † Greywater Treatment: Sustainable Design Insights from Wastewater and Small Drinking Water Systems (invited seminar presentation). *Eawag Aquatic Research Institution*, Dübendorf, Switzerland, March 2016.

[7] **Cook, S.M.**† Modeling Energy Production: Codigestion Overview and ADM1. Part of the Workshop "How Can Modeling be Effectively Used for Energy Balance Optimization" (invited workshop presentation). *IWA Wastewater Treatment Modeling*, Spa, Belgium, March 2014.

Contracts and Grants

Current

[1] GOALI: Landfill Leachate Treatment with Solid Waste Generated Biochar

Principal Investigator: **Sherri Cook**
Other Investigators: Scott Summers (CU-B), Mark Adams (WasteConnections)
Funding Agency: National Science Foundation
Total Award: $340,450
Award Period: 08/2017-07/2020
Cook Support: **$319,200** estimated (0.85 month summer salary, 1 50%GRA, travel, supplies for 3yr)
Description: The overall objective is to identify and develop a more cost-effective and environmentally sustainable landfill leachate treatment process and organic solid waste management plan. The diversion of organic matter from landfills to instead generate biochar as a renewable energy and adsorbent source and the effectiveness of biochar to treat landfill leachate will be evaluated using both experimental and life cycle modeling analyses. A research co-PI will consult on adsorption experimental design and biochar production protocols. An industry co-PI will consult on experimental conditions to support applicability and scaling.

[2] Resilient and Sustainable Sanitation Systems: Characteristics, Links, and Barriers

Principal Investigator: **Sherri Cook**
Other Investigators: Max Boykoff, Amanda Carrico, Trisha Shrum,
Funding Agency: CU Boulder Rio Seed Grant
Total Award: $49,999
Award Period: 06/2018-12/2019
Cook Support: **$49,999** (1 semester 50% GRA, travel and supplies)
Description: This project is evaluating both sustainability and resilience of sanitation system in disaster prone areas. The project context includes technical, social, and economic analyses of sanitation systems and decision-making processes by individual homes located in villages that are flooded annually in Ethiopia to understand both sanitation adoption and re-adoption after disaster and overall impact on sanitation success and access.

[3] Evaluation and Life Cycle Comparison of Ex-Situ Treatment Technologies for Poly- and Perfluoroalkyl substances in Groundwater

Project Manager: Kenan Ozekin (Water Research Foundation)
CU-B Investigators: **Sherri Cook**
Other Investigators: Chris Bellona (CO Mines), Chris Higgins (CO Mines), Charles Schaefer (CDM), Detlef Knappe (NCSU)
Funding Agency: DOD's Environmental Security Technology Certification Program (ESTCP)
Total Award: $1,090,451
CU-B Subaward: $298,136

Award Period: 10/2018-09/2021
Cook Support: **$298,136** (1 month summer salary, 1 50%GRA, travel, and supplies for 3 yrs)
Description: This research is investigating the life cycle environmental impacts and costs associated with various technologies for the removal of Poly- and Perfluoroalkyl substances from groundwater. My role is to develop the analysis framework, design the experiments to assure accurate and direct comparisons of each technology, and use the experimental data to performance detailed comparisons of each technology, over their life cycle, based on their PFAS removal performance. This framework is needed to develop effective strategies for ex-situ PFAS remediation.

[4] Wood-based Biochar as an Alternative Adsorption Media for the Control of Off-gasses at Wastewater Treatment Plants

Project Manager: Greg Kester (California Association of Sanitation Agencies)
CU-B Investigators: **Sherri Cook** (PI), Scott Summers
Other Investigators: Gerardo Diaz (UC-Merced), Milan Alex (North Fork Community Power)
Funding Agency: U.S. Forest Service Wood Innovations Program
Total Award: $238,756 (total budget $408,761)
CU-B Subaward: $75,000
Award Period: 07/2017-06/2019
Cook Support: **$75,000** (0.5 month summer salary, 1 50%GRA, supplies for 1 yr)
Description: This research and demonstration project will investigate cost-effective methods to optimize biochar produced from forest biomass to use as a substitute for imported activated carbon in odor control filtration at wastewater treatment plants. My role is the experimental evaluation of the gas-phase adsorption performance of multiple biochars and development of a simple cost comparison model. The co-PI will consult on biochar production and adsorption experimental design.

[5] Programmable Resurrection Of Materials Engineered To Heal Exponentially Using Switches

Principal Investigator: Wil Srubar (CU-B)
CU-B Investigators: **Sherri Cook**, Ryan Gill, Jeffrey Cameron, Mija Hubler
Funding Agency: Defense Advanced Research Projects Agency (DARPA)
Total Award: $1,848,293
Award Period: 04/2017-04/2021
Cook Support: **$584,300** estimated (1 month summer salary, 1 postdoctoral scholar, travel, supplies, small equipment for 4 yrs)
Description: Hybrid living materials are being developed by engineering microorganisms to produce cementitious or polymer materials and create a self-healing infrastructure system. My role is to help determine the best microorganisms, genes, and metabolisms; to design the experimental evaluation of performance under relevant environmental conditions; and to supervise microbiological experimental work and facilitate interdisciplinary interactions among multiple researchers in fields from microbiology, materials, and structural analysis.

[6] GAANN: Rebuilding Better Infrastructure for Resilient Communities

Director: Abbie Liel
Co-Directors: Kyri Baker, **Sherri Cook**, Shideh Dashti, Amy Javernick-Will, Joe Kasprzyk
Other Key Investigators: Ross Corotis, Wil Srubar, Cristina Torres-Machi, Brad Wham
Funding Agency: Department of Education Graduate Assistance in Areas of National Need
Total Award: $895,500 (total project costs $1,210,235 for 8 3-year PhD Fellowships)
Award Period: 06/2019-05/2023

Description: This project aims to increase the number of graduate students and, eventually, researchers and teachers, who have the multidisciplinary skills to address (i) the country's deteriorating infrastructure and (ii) the need for upgraded and new transport, water/sanitation, building, and power infrastructure. My role is to co-advise and mentor PhD students receiving the fellowship.

Completed

[7] Preparation of Baseline Data to Establish the Current Amount of Resource Recovery at Water Resource Recovery Facilities

Principal Investigator: Tanja Rauch-Williams (Carollo)
Other Investigators: **Sherri Cook**, Madison Marshall (Carollo), Jason Ren (CU-B)
Project Manager: Kristen Waksman (Carollo)
Funding Agency: Water Environment Foundation
Total Award: $49,750 (total budget $89,300)
Award Period: 04/2018-10/2018
Cook Support: **$2,500** estimated (0.25 month summer salary)
Description: This project surveyed wastewater treatment plants to create a database on the amount of resources (water, energy, nutrients) currently recovered and recoverable. My role was to oversee survey development and mass balances, evaluate data requirements and quality, and make recommendations for meaningful resource recovery targets and approaches.

[8] Integrated Water, Energy, and Emissions Trajectories and Tradeoffs for the U.S.

Principal Investigator: **Sherri Cook**
Other Investigators: Jana Milford (CU-B)
Funding Agency: CU Boulder Water Energy Nexus Interdisciplinary Research Theme Seed Grant
Total Award: $16,000
Award Period: 02/2018-10/2018
Cook Support: **$16,000** (postdoc for 3 months)
Description: This project developed a tool for investigating tradeoffs and co-benefits of energy and water choices for air pollutant emissions and water use across the regions of the U.S.

[9] Design of Risk-reducing, Innovative-implementable, Small-system Knowledge (DeRISK) Center

Principal Investigator: Scott Summers (CU-B)
CU-B Investigators: **Sherri Cook**, Chris Corwin, Karl Linden, Fernando Rosario, James Uber
Other Investigators: Chad Seidel, (Corona), Joy Barrett, William Hogrewe (RCAP); Robin Collins, James Malley (UNH); Aaron Dotson (UAA); Kiril Hristovski, Paul Westerhoff (ASU)
Funding Agency: U.S. Environmental Protection Agency (EPA)
Total Award: $4,099,973
Award Period: 09/2014-07/2018 (1-year no cost extension)
Cook Support: **$222,939** (0.5 month summer salary, 1 50%GRA, travel, supplies for 3 yrs)
Description: This research center's focused on identifying, developing, demonstrating, and facilitating innovative drinking water technology development and implementation. My role was to develop a model that compares the environmental sustainability of conventional treatment approaches with novel technologies and to develop a decision support tool for small systems.

[10] Stakeholder Input on Metrics Used to Evaluate Small Drinking Water Treatment Alternatives

Principal Investigator: **Sherri Cook**
Funding Agency: Rural Community Assistance Partnership (RCAP)

(*individual subcontracts funded by DeRISK subcontract to RCAP)*
Total Award: $44,100
Award Period: 06/2017-07/2018
Cook Support: **$44,100** (0.4 month summer salary, 2 50%GRAs for 3 summer months for 2 yrs)
Description: This project included the design of surveys and collection of data on stakeholder input on diverse sustainability objectives and technology selection. Data was used to develop the framework of a technology sustainability assessment and selection tool.

[11] Municipal Codigestion Enhancement with Agricultural Steel Slag Fines: Potential Screening

Principal Investigator: Mark Hernandez (CU-B)
Other Investigators: **Sherri Cook**
Funding Agency: Phoenix Services, LLC (*Industry Grant*)
Total Award: $40,000
Award Period: 01/2016-08/2016
Cook Support: **$4,081** (0.33 month summer salary)
Description: This project was a feasibility assessment of using steel slag fines, a waste product, to enhance the anaerobic digestion process at a wastewater treatment plant. My role was to develop a simple cost model to provide an initial assessment of life cycle costs and benefits.

[12] Rapid and Novel Agglomeration Process in the Water-Energy Nexus

Principal Investigator: Robert Davis (CU-B)
Other Investigators: **Sherri Cook**
Funding Agency: CU Boulder Water Energy Nexus Interdisciplinary Research Theme Seed Grant
Total Award: $7,872
Award Period: 02/2018-12/2018
Cook Support: **$1,280** estimated (0.12 month summer salary)
Description: This project evaluated a new process for petroleum-aided recovery of fine hydrophobic particles and organic droplets from water. My role was to conduct a preliminary environmental impact analysis to identify optimal conditions and compounds.

[13] Development of a Low-Maintenance Anaerobic Biogas System for Use in Developing Countries

Principal Investigator: Steven Skerlos (University of Michigan)
UofM Students: **Sherri Cook** (graduate advisor), Heather Dorer, Jinhyung Hwang, Zijia Li
Funding Agency: U.S. Environmental Protection Agency
Total Award: **$9,888**
Award Period: 08/2010-07/2011
Description: People, Prosperity and Planet Student Design Competition for Sustainability Phase I; Phase II honorable mention. Funding was used to develop an undergraduate two-semester independent study that included an international service trip and credit towards a multidisciplinary design minor.

Teaching & Mentoring

Courses Taught

Title	Semester	Level	Requirement	Enroll-ment	Contribution* & Time Commitment
CVEN 5534: Wastewater Treatment	Spring 2019	Graduate	Requirement option	13	
ENVM 6100: Special Topics – Evaluating Food Systems	Fall 2018	Graduate	Elective first year (future offerings required)	9	Developed structure of new course; Developed a one credit module; Taught module for first time
EVEN 3550: Sustainability Principles for Engineers	Fall 2018	Junior	Required	63	Developed new material
CVEN 5534: Wastewater Treatment	Spring 2018	Graduate	Requirement option	16	
CVEN 5834: Special Topics - Sustainable Engineering Design	Fall 2017	Graduate	Requirement option	12	Developed new material
CVEN 4834: Special Topics - Sustainability Principles for Engineers	Spring 2017	Sophomore	Required	49	Developed new material
CVEN 5534: Wastewater Treatment	Fall 2016	Graduate	Requirement option	15	
CVEN 5834: Special Topics - Sustainable Engineering Design	Fall 2016	Graduate	Elective	13	Developed new course; Taught for first time
CVEN 4834: Special Topics - Sustainability Principles for Engineers	Spring 2016	Sophomore	Required	58	Developed new material
CVEN 5534: Wastewater Treatment	Fall 2015	Graduate	Requirement option	9	
CVEN 4834: Special Topics - Sustainability Principles for Engineers	Spring 2015	Sophomore	Required	59	Developed new course; Taught for first time
CVEN 5534: Wastewater Treatment	Fall 2014	Graduate	Requirement option	14	Developed new material; Taught for first time
CEE 592: Biological Processes in Env. Engr.	Fall 2012	Graduate	Requirement option	14	UofM; Co-instructor

** "Developed new material" means that a significant amount of material was newly developed for the course (i.e., around a third of the existing class material was replaced); all courses are 3 credit courses*

Course Development

Fall 2018, ENVM 6100: Special Topics –Evaluating Food Systems

Created the structure and a one credit module for a new course for non-engineers in the Environmental Studies Professional Mater's Program. Structure included a team-based semester-long project focused on applying multiple evaluation techniques to the same food system when the system was functioning properly and when there was a critical change. My module was focused on environmental impacts, specifically the science behind different pollutants and environmental mechanisms (i.e., fate and impacts). This course's purpose is to teach different techniques for evaluating and improving food systems, holistically. The focus is on the following methodologies: cost-benefit analysis, environmental impacts, and system dynamics. Students are exposed to multiple examples and apply each method to the instructor selected food system.

Fall 2016, CVEN 5834: Special Topics –Sustainable Engineering Design

Created a new team-based semester design course focused on quantitative sustainable design. This is a graduate course that has received multidisciplinary interest with students enrolled from environmental, mechanical, and civil engineering. This course's purpose is to teach the fundamentals and mechanics of sustainability assessments, including life cycle assessment, life cycle costing, and sensitivity and uncertainty analyses. The focus is on the design, performance, and assessment of water and energy systems. Students are exposed to multiple examples and apply each method to one instructor selected system for homework assignments and to the system of their choosing for a team design project.

Spring 2014, CVEN 4834: Special Topics – Sustainability Principles for Engineers

Created a new required undergraduate sophomore-level course on sustainability principles and emerging topics. This course's purpose is to familiarize students with sustainability definitions, challenges, and engineering solutions as well as fundamentals associated with mass and energy balances, economics, and environmental pollution mechanisms. Course material development included identifying reading material and topics (text books are limited) and creation of learning objectives, lecture materials, in-class activities, example and homework problems, reading quizzes, and examinations. Course was formalized as EVEN 3550 (junior-level material was developed in 2018).

Student Advising

Program Abbreviations: EVEN is environmental engineering program; CEAE is civil, environmental, and architectural engineering department; CEAE-Env is environmental engineering focus within CEAE; CEAE-CS is civil systems focus within CEAE; MechE is mechanical engineering department.

PhD Student Committee Chair (name, program, graduation date)

Allison Davis (co-advised with Amy Javernick-Will); CEAE-CS, 2019 (anticipated)
Christopher Jones; EVEN, 2019 (anticipated)
Katherine Chambers; CEAE-Env, 2020 (anticipated)
Eric Petterson (co-advised with Scott Summers); EVEN, 2021 (anticipated)

Graduated:
Kyle Thompson (co-advised with Scott Summers); EVEN, 2018

MS Thesis Student Committee Chair

Michelle Solomon; CEAE-CS, 2019 (anticipated)

Graduated:
Simon Matter, ETH Zurich (visiting), 2018
Pranoti Kikale; EVEN, 2016
Elizabeth Shilling; CEAE-Env, 2015

Pranjali Kumar; CEAE-Env, 2015 *(MS project)*

Post-doctoral Scholars

Juliana Artier (co-advised with Jeffrey Cameron); September 2018-August 2020

Completed:

Liya Liang (co-advised with Ryan Gill); April 2017-Oct 2018
Aparna Nagarajan (co-advised with Jeffrey Cameron); April 2017-Oct 2018
Azadeh Keshavarzmohammadian (co-advised with Jana Milford); March 2018-July 2018

Undergraduate Students (name, dates, major, funding, mentor)

Selena Hinojos; AY 2018-2019; EVEN, DLA, PhD mentor C. Jones

Completed:

Katelyn Reeves; summer 2018; EVEN, SPUR, PhD mentor C. Jones
Alex Nolan; summer 2018; EVEN, UROP, PhD mentor K. Thompson
Tesia Golec; AY2017-2018, EVEN, DLA, PhD mentor A. Davis
Vanessa Thompson; summer 2017, CEAE, SPUR, PhD mentor A. Davis
Evan Valencia; summer 2017, EVEN, UROP, PhD mentor K. Thompson
Garrett Geer; AY2016-2017, CBEN, DLA, PhD mentor A. Davis

Graduate Student Committees (other than primary advisor)

Sydney Ulliman, PhD, CEAE-Env, 2019 (anticipated)
Matthew Bentley, PhD, EVEN, 2020 (anticipated)
Joshua Jack, PhD, EVEN, 2020 (anticipated)
Kaitlin Mattos, PhD, EVEN, 2021 (anticipated)

Graduated:

Alejandro Ramirez, PhD, CEAE-Env, Defended April 2018
Azadeh Keshavarzmohammadian, PhD, MechE, Defended Dec 2017
Leigh Terry, PhD, EVEN, Defended October 2017
Bihu Suchetana; PhD, CEAE, Defended May 2017
Zhe Huang, PhD, EVEN, Defended May 2017
Matthew Alongi, MS, CEAE, Defended May 2017
Alex Zerio, MS, CEAE, Defended May 2017
Sarah Welsh-Huggins, PhD, CEAE, Defended Dec 2016
Anna McKenna, MS, CEAE, Defended April 2016
Christina Barstow, PhD, CEAE, Defended Feb 2016

Professional Service & Activities

Professional Committees Water Environment Federation Academic Engagement Task Force, 2016 – 2018
Rocky Mountain Water Environment Association Internship Committee, 2016

Advisory Committees Dewberry (engineering consulting firm) Student Advisory Board (2008)
Pearson (education publishing and assessment) Student Advisory Board (2007-2008)

Conference Organization *Scientific Committee*: IWA 16th Anaerobic Digestion World Conference, Delft, the Netherlands, June 2019
Scientific Committee YWP Member: IWA Water Resource Recovery Modeling, Lac Beauport, Canada, March 2018

Scientific Committee: International Water Association/Water Environment Federation Nutrient Removal and Recovery, Denver, CO, July 2016
Workshop Co-organizer and Co-Chair: "Keeping up with the future: What's the best way to advance process modelling?", IWA Wastewater Treatment Modeling, Annecy, France, April 2016
Scientific Committee YWP Chair: IWA Wastewater Treatment Modeling, Annecy, France, April 2016
Moderator: Engineering Sustainability, Pittsburgh, PA, April 2015
Scientific Committee YWP Member: IWA Wastewater Treatment Modeling, Spa, Belgium, April 2014
Moderator: IWA Wastewater Treatment Modeling, Spa, Belgium, April 2014
Organizing Committee: Sustainable Energy Fellowship National Student Conference, Ann Arbor, MI, May 2009
Moderator: IWA Sludge Conference, Harbin, China, August 2009

Journal Review
Environmental Science & Technology, Water Research, Environmental Science: Water Research & Technology, Science of the Total Environment, Sustainable Chemistry & Engineering, Environmental Engineering Science, Waste Management, Sustainable Production and Consumption, Journal of Cleaner Production (average 10 papers per year)

Proposal Review
National Science Foundation—Chemical, Bioengineering, Environmental, and Transport Systems; 2015 panel (43 proposals, 10 assigned), 2016 panel (36 proposals, 6 assigned)

Professional Society Review
Carbon Capture and Management Strategies for Energy Harvest from Wastewater, WE&RF (2014-2017) (6 reports)
Direct Addition of High-Strength Organic Waste to Municipal Wastewater Anaerobic Digesters, WEF (2012)

Invited Professional Workshops
Participant: Development Effectiveness Workshop, CACHE, UIUC, IL, Sept 2016
Participant: Environmental Engineering Grand Challenges Workshop, NSF and AEESP, Arlington, VA, May 2016
Participant: Concept of Operations for a Wastewater Technology Testbed Network, NSF and WE&RF, Denver, CO, June 2016

Membership
Association of Environmental Engineering and Science Professors (AEESP); Water Environment Federation (WEF); International Water Association (IWA); American Water Works Association (AWWA); Tau Beta Pi; Order of the Engineer

Professional Certificates
Engineer in Training Certification, Virginia, 2008

Community Outreach
Educator: Detroit Area Pre-College Engineering Program; 2009, 2010
Organizer: Anaerobic Digester Energy Recovery Design; UofM; Nicaragua; 2009
Member: Water Collection & Distribution Design, Virginia Tech; Belize; 2008
Member: WEF YWP Rain Garden Project; Chicago, IL; 2008

Improvement Activities
Leadership Introductory Workshop, CU-B Leadership Education for Advancement and Promotion, 2016
Active Shooter Training, CU-B CUPD, 2016
Learning Goals Workshop, CU-B Faculty Teaching Excellence Program, 2015

Faculty Writing Workshops, CU-B Faculty Teaching Excellence Program, 2014
LGBTQ Ally Training, CU-B, 2014
Graduate Student Instructor Training, University of Michigan, 2012
Flipped Classroom Certification from Sophia and Capella University, 2012

University Service & Activities

University Activities
Member and Mentor: Udall Scholarship Nomination Committee (2016, 2017)
Mentor: Faculty Student Mentor Program (2014)

College Activities
Emcee: Order of the Engineer Inaugural Ceremony (2018)
Guest Instructor: 50 to 75 min modules on *Sustainability*, *Life Cycle Assessment*, and *Water-Energy Nexus*; MCEN 5228 (Spring 2017); MCEN 4228 (Fall 2016, Fall 2015); CVEN 4147/5147 (Fall 2015); EVEN 1000 (Fall 2014, 2015); CVEN 5834 (Fall 2014)

CEAE Department Activities
Member: CEAE Civil Systems Interdisciplinary Program; 2015-present
Member: CEAE Classroom Renovation Committee; 2015
Member: CEAE Curriculum Committee; 2014-2017
Member: CEAE Graduate Committee; 2014-2015

EVEN Program Activities
Member: EVEN Faculty Search Committee (2 positions); 2017-2018
Member: EVEN Graduate Committee; 2016-2017
Member: EVEN Curriculum Committee; 2014-2015, 2018-present