

RESEARCH INTERESTS

Urban Pollutant Fate and Transport
Green Infrastructure
Low Impact Development
Anthropogenic Influences on the Environment
Innovative Monitoring Instrumentation
Stormwater Runoff Effects on Human and Ecological Health
Coupled Human and Natural Systems

EDUCATION

North Carolina State University, Raleigh, NC

Ph.D. in Biological and Agricultural Engineering, December 2010
Dissertation topic: An Evaluation of Indicator Bacteria Transport in Urban Stormwater Runoff and Removal in Best Management Practices
Advisor: Dr. William F. Hunt

North Carolina State University, Raleigh, NC

M.S. in Biological and Agricultural Engineering, Minor in Soil Science, May 2005
Thesis topic: Constructed Wetlands as Remediation Tools for Shallow Groundwater Contaminated by Swine Lagoon Seepage
Advisor: Dr. Robert O. Evans

North Carolina State University, Raleigh, NC

B.S. in Civil, Construction, and Environmental Engineering, December 2002
Major: Environmental Engineering

PROFESSIONAL EXPERIENCE

Associate Professor – University of Tennessee at Knoxville, Department of Civil and Environmental Engineering (August 2019 – present)

Assistant Professor – University of Tennessee at Knoxville, Department of Civil and Environmental Engineering (August 2013 – July 2019)

- **Adjunct Assistant Professor** – North Carolina State University, Department of Biological and Agricultural Engineering (April 2017 – present)
- **Visiting Professor** – Politechnika Krakowska, Krakow, Poland (May-June 2018)

Water Resources Engineer – Biohabitats, Inc. (February 2011 – June 2013)

Visiting Research Fellow – Monash University, Australia (January 2011)

Graduate Research Assistant (PhD) – North Carolina State University (January 2008 – December 2010)

Extension Associate – Cooperative Extension, North Carolina State University (February 2005 – December 2007)

HONORS AND AWARDS

- Research Recognition Award - Department of Civil and Environmental Engineering – University of Tennessee (2022)
- Best Paper Award – Omega (2021)
- Best Case Study Award – ASCE Journal of Sustainable Water in the Built Environment (2020)
- Outstanding Faculty Award – Phi Eta Sigma National Honor Society – University of Tennessee Chapter (2019)
- Faculty Environmental Leadership Award – Office of Sustainability and Committee on the Campus Environment - University of Tennessee (2019)
- David W. Goodpasture Endowed Faculty Award - Department of Civil and Environmental Engineering – University of Tennessee (2018 - 2021)
- Undergraduate Research Mentor of the Year – Tickle College of Engineering – University of Tennessee (2018)
- Chancellor’s Award for Success in Multidisciplinary Research – University of Tennessee (2018)
- Teaching Fellow – Tickle College of Engineering – University of Tennessee (2018)
- Nominated for Blavatnik Award for Young Scientists – University of Tennessee (2017)
- Chancellor’s Award for Success in Multidisciplinary Research – University of Tennessee (2017)
- Professional Promise in Research – Tickle College of Engineering – University of Tennessee (2017)
- National Science Foundation CAREER Award (2016)
- Research Recognition Award - Department of Civil and Environmental Engineering – University of Tennessee (2016)
- Teaching Recognition Award – Department of Civil and Environmental Engineering – University of Tennessee (2015)

PUBLICATIONS

Journal Articles (72), Google Scholar H-Index = 27

1. Li, J., T.B. Culver, P.P. Persaud, J.M. Hathaway. (accepted). “Developing nitrogen removal models for stormwater bioretention systems.” *Water Research*.
2. Simpson, I.M., J.S. Schwartz, **J.M. Hathaway**, R.J. Winston. (accepted). “Environmental regulations in the United States lead to improvements in untreated stormwater quality over four decades.” *Water Research*.
3. Simpson, I.M., R.J. Winston, R.A. Tirpak, J.D. Dorsey, J.H. Stagge, and **J.M. Hathaway**. (accepted). “Hydrologic responses in urban and forested watersheds and their relationship to existing and novel runoff models.” *Journal of Hydrology*.
4. Scarbrough, K., P. Persaud, I. Fletcher, A.A. Akin, **J.M. Hathaway**, and A. Khojandi. (accepted). “Real-time sensor-based prediction of soil moisture in green infrastructure: A case study.” *Environmental modeling and Software*.
5. Rimer, S.P., A. Mullapudi, S.C. Troutman, G. Ewing, B.D. Bowes, A.A. Akin, J. Sadler, R. Kertesz, B. McDonnell, L. Montestruque, **J.M. Hathaway**, J.L. Goodall, J. Norton, B. Kerkez. (accepted). “A simulation sandbox for the development and evaluation of stormwater control algorithms.” *Environmental Modeling and Software*.

6. Weathers, M.W., **J.M. Hathaway**, R.A. Tirpak, and A. Khojandi. (2023). "Evaluating the Impact of Climate Change on Future Bioretention Performance Across the Contiguous United States." *Journal of Hydrology*. DOI: 10.1016/j.jhydrol.2022.128771
7. Diab, G.D., **J.M. Hathaway**, W.A. Lisenbee, R.A. Brown, and W.F. Hunt. (2022). "Fine Scale Hydrologic Modelling of Bioretention Using DRAINMOD-Urban: Verifying Performance Across Multiple Systems." *Journal of Hydrology*. DOI: 10.1016/j.jhydrol.2022.128571
8. Howard, M.H., **J.M. Hathaway**, R.A. Tirpak, W.A. Lisenbee, S.Sims. (2022). "Quantifying urban tree canopy interception in the southeastern United States." *Urban Forestry and Urban Greening*. DOI: 10.1016/j.ufug.2022.127741
9. Lisenbee, W.A., **J.M. Hathaway**, and R.J. Winston. (2022). "Modeling bioretention hydrology: quantifying the performance of DRAINMOD-Urban and the SWMM LID module." *Journal of Hydrology*. 612: 128179.
10. S. Zhou, C.G. Wilson, **J.M. Hathaway**, S.M. Schaeffer. (2022). "Tracking in-situ soil aggregate turnover under raindrop impact and wetting-drying cycles using rare earth elements." *Catena*. 213: 106227.
11. A.A. Akin, **J.M. Hathaway**, A. Khojandi. (2022). "Turbidity informed real-time control of a dry extended detention basin: a case study." *Environmental Science: Water Research & Technology*. DOI: 10.1039/D1EW00654A.
12. A. Petroselli, A. Wałęga, D. Młyński, A. Radecki-Pawlik, A. Cupak, and **J.M. Hathaway**. (2022). "Rainfall-runoff modeling: a modification of the EBA4SUB framework for ungauged and highly impervious urban catchments." *Journal of Hydrology*. 606: 127371.
13. Lisenbee, W.A., **J.M. Hathaway**, M.J. Burns, T.D. Fletcher. (2021) "Modeling bioretention stormwater systems: current models and future research needs." *Environmental Modeling and Software*. 144: 105146.
14. Epps, T.H., and **J.M. Hathaway**. (2021). "Assessment of inter-event water quality variability and pollutant dynamics in the context of effective impervious area." *Journal of Sustainable Water in the Built Environment*. 7(4): 04021013.
15. Tirpak, R.A., **J.M. Hathaway**, A. Khojandi, M. Weathers, and T.H. Epps. (2021). "Building resiliency to climate change uncertainty through bioretention design modifications." *Journal of Environmental Management*. doi: 10.1016/j.jenvman.2021.112300
16. Christian, L.E., T.H. Epps, G. Diab, and **J.M. Hathaway** (2020). "Pollutant concentration patterns of in-stream urban stormwater runoff." *Water*. 12(9): 2534
17. Thompson, J.M., J.S. Schwartz, and **J.M. Hathaway**. (2020). "Performance evaluation of a regenerative stormwater conveyance system: a case study in Knoxville, Tennessee." *Journal of Environmental Engineering*. 146(7): 05020004
18. Thompson, J.M., **J.M. Hathaway**, E. Perfect, and J.S. Schwartz. (2020). "The Effect of Stormwater Infiltration and Surrounding Built Infrastructure on Local Groundwater Dynamics: A Case Study for Regenerative Stormwater Conveyances." *Sustainable and Resilient Infrastructure*. 10.1080/23789689.2020.1772636
19. Barah, M., A. Khojandi, X. Li., **J.M. Hathaway**, and O. Omitaomu. (2020). "Optimizing green infrastructure placement under precipitation uncertainty." *Omega*. doi:10.1016/j.omega.2020.102196
20. Lisenbee, W.A., **J.M. Hathaway**, M. Youssef, L. Negm, and R.J. Winston. (2020). "Enhanced Bioretention Cell Modeling with DRAINMOD-Urban: Moving from Water Balances to Hydrograph Production." *Journal of Hydrology*. 582: 124491
21. Wałęga, A., A. Radecki-Pawlik, A. Cupak, **J.M. Hathaway**, and M. Pukowiec. (2019). "Influence of changes of catchment permeability and frequency of rainfall on critical storm duration in an urbanized catchment – a case study, Cracow, Poland" *Water*. 11, 2557; doi:10.3390/w1122557
22. Persaud, P.P., A. Akin, B. Kerkez, D.T. McCarthy, and **J.M. Hathaway**. (2019). "Real Time Control Schemes for Improving Water Quality from Bioretention Cells." *Blue-Green Systems*. 1(1): 55-71.
23. Tirpak, R.A., **J.M. Hathaway**, and J.A. Franklin. (2019). "Investigating the hydrologic and water quality performance of trees in bioretention mesocosms." *Journal of Hydrology*. 576: 65-71.

24. Mason, L.R., K.N. Ellis, and **J.M. Hathaway**. (2019). "Urban Flooding, Social Equity, and "Backyard" Green Infrastructure: An Area for Multidisciplinary Practice." *Journal of Community Practice*. 27(3-4): 334-350.
25. Tirpak, R.A., **J.M. Hathaway**, J.A. Franklin, and E. Kuehler. (2019). "Suspended Pavement Systems as Opportunities for Subsurface Bioretention." *Ecological Engineering*. 134: 39-46.
26. Chandrasena, G.I., A. Deletic, **J.M. Hathaway**, A. Lintern, R. Henry, D.T. McCarthy. (2019). "Enhancing Escherichia coli removal in stormwater biofilters with a submerged zone: balancing the impact of vegetation, filter media and extended dry weather periods." *Urban Water Journal*. 16(6): 460-468.
27. Epps, T.H., and **J.M. Hathaway**. (2019). "Using Spatially-Identified Effective Impervious Area to Target Green Infrastructure Retrofits: A Modeling Study in Knoxville, TN." *Journal of Hydrology*. 575: 442-453.
28. Zhang, K., A. Deletic, P.M. Bach, B. Shi, **J.M. Hathaway**, and D.T. McCarthy. (2019). "Testing of new stormwater pollution build-up algorithms informed by a genetic programming approach." *Journal of Environmental Management*: doi:10.1016/j.jenvman.2019.04.009
29. Tirpak, R.A., **J.M. Hathaway**, and J.A. Franklin. (2018). "Evaluating the Influence of Design Strategies and Meteorological Factors on Tree Transpiration in Bioretention Suspended Pavement Practices." *Ecohydrology*: doi:10.1002/eco.2037
30. Young, B.N., **J.M. Hathaway**, W.A. Lisenbee. (2018). "Assessing the Runoff Reduction Potential of Highway Swales and WinSLAMM as a Predictive Tool." *Sustainability*. 10: doi:10.3390/su10082871
31. Morse, N.R., E.G.I. Payne, R. Henry, B. Hatt, G. Chandrasena, J. Shapleigh, P.L.M. Cook, S. Coutts, **J.M. Hathaway**, M.T. Walter, and D.T. McCarthy. (2018). "Plant-microbe interactions drive denitrification rates, dissolved nitrogen removal, and the abundance of denitrification genes in stormwater control measures." *Environmental Science and Technology*. 52: 9320-9329.
32. Mason, L. R., J. Erwin, A. Brown, K.N. Ellis, and **J.M. Hathaway**. (2018). "Health impacts of extreme weather events: Exploring protective factors with a capitals framework." *Journal of Evidence-Based Social Work*. DOI: 10.1080/23761407.2018.1502115
33. Jovanovic, D., T. Jovanovic, A. Mejia, **J.M. Hathaway**, and E. Daly. (2018). "Long-term memory loss of urban streams as a metric for catchment classification." *Hydrology and Earth Systems Sciences*. 22: 3551-3559.
34. Tirpak, R.A., **J.M. Hathaway**, J.A. Franklin, and A. Khojandi. (2018). "The Health of Trees in Bioretention: A Survey and Analysis of Influential Variables." *Journal of Sustainable Water in the Built Environment*. 4(4) DOI: 10.1061/JSWBAY.0000865
35. Thompson J.T., **J.M. Hathaway**, and J.S. Schwartz. (2018). "Three-Dimensional Modeling of the Hydraulic Function and Channel Stability of Regenerative Stormwater Conveyances." *Journal of Sustainable Water in the Built Environment*. 4(3) DOI: 10.1061/JSWBAY.0000861.
36. Epps, T.H., and **J.M. Hathaway**. (2018). "Establishing a GIS Framework for the Spatial Identification of Effective Impervious Areas in Gaged Basins: A Review and Case Study." *Journal of Sustainable Water in the Built Environment*. 4(2) DOI: 10.1061/JSWBAY.0000853.
37. Jovanovic, D., **J.M. Hathaway**, R. Coleman, A. Deletic, and D.T. McCarthy. (2017). "Conceptual modelling of *E. coli* in urban stormwater drains, creeks, and rivers." *Journal of Hydrology*. 555: 129-140.
38. Merriman, L.S., **J.M. Hathaway**, M.R. Burchell, and W.F. Hunt. (2017). "Adapting the relaxed tanks-in series-model for stormwater wetland water quality performance." *Water*. 9(9): 691.
39. Howe, D.A., **J.M. Hathaway**, K.N. Ellis, L.R. Mason. (2017). "Spatial and temporal variability of air temperature across urban neighborhoods with varying amounts of tree canopy." *Urban Forestry and Urban Greening*. 27: 109-116.
40. Chandrasena, G.I., M. Shirdashtzadeh, Y. Li, A. Deletic, **J.M. Hathaway**, D. McCarthy. (2017). "Retention and survival of *E. coli* in stormwater biofilters: Role of vegetation, rhizosphere microorganisms and antimicrobial filter media." *Ecological Engineering*. 102: 166-177.

41. Kuehler, E., **J.M. Hathaway**, A. Tirpak. (2017). "Quantifying the benefits of urban forest systems as a component of the green infrastructure stormwater treatment network." *Ecohydrology*. DOI 10.1002/eco.1813
42. Mason, L.R., **J.M. Hathaway**, K.N. Ellis, T. Harrison. (2017). "Public interest in microclimate data in Knoxville, Tennessee, USA." *Sustainability*. 9(23): DOI 10.3390/su9010023
43. Mason, L.R., K.N. Ellis, **J.M. Hathaway**. (2017). "Experiences of urban environmental conditions in socially and economically diverse neighborhoods." *Journal of Community Practice*. 25(1), 48-67. DOI 10.1080/10705422.2016.1269250
44. Ellis, K.N., **J.M. Hathaway**, L.R. Mason, D.A. Howe, T.H. Epps, V.M. Brown. (2017). "Summer temperature variability across four urban neighborhoods in Knoxville, Tennessee, USA." *Theoretical and Applied Climatology*. 127, 701-710 DOI:10.1007/s00704-015-1659-8
45. Manka, B.N., **J.M. Hathaway**, R.A. Tirpak, Q. He, W.F. Hunt. (2016). "Driving forces of effluent nutrient variability in field scale bioretention." *Ecological Engineering*. 94: 622-628.
46. **Hathaway, J.M.**, R.J. Winston, R.A. Brown, W.F. Hunt, D.T. McCarthy. (2016). "Temperature dynamics of stormwater runoff in Australia and the USA." *Science of the Total Environment*. 559: 141-150.
47. Harmel, R.D., **J.M. Hathaway**, K.L. Wagner, J.E. Wolfe, R. Karthikeyan, W. Francesconi, D.T. McCarthy. (2016). "Uncertainty in monitoring *E. coli* concentrations in streams and stormwater runoff." *Journal of Hydrology*. 534: 524-533.
48. Hass, A., K. Ellis, L. R. Mason, **J.M. Hathaway**, D. Howe. (2016). "Heat and humidity in the city: Neighborhood heat index variability in a mid-sized city in the Southeastern United States." *International Journal of Environmental Research and Public Health*. 13(1): 117. DOI:10.3390/ijerph13010117.
49. **Hathaway, J.M.**, W.F. Hunt, D.T. McCarthy. (2015). "Variability of intra-event statistics for multiple fecal indicator bacteria and total suspended solids in urban stormwater." *Water Resources Management*. 29(10): 3635-3649.
50. Jones, J.R., J.S. Schwartz, K.N. Ellis, **J.M. Hathaway**, C.M. Jawdy. (2015). "Temporal variability of precipitation in the Upper Tennessee Valley." *Journal of Hydrology: Regional Studies*. 3: 125-138.
51. **Hathaway, J.M.**, R.A. Brown, J.S. Fu, W.F. Hunt. (2014). "Bioretention function under climate change scenarios in North Carolina, USA." *Journal of Hydrology*. 519: 503-511.
52. **Hathaway, J.M.**, W.F. Hunt, R.M. Guest, and D.T. McCarthy. (2014). "Residual indicator bacteria in autosampler tubing: a field and laboratory assessment." *Water Science and Technology*. 69(5): 1120 – 1126.
53. **J.M. Hathaway**, L.H. Krometis, and W.F. Hunt. (2014). "Exploring seasonality in *Escherichia coli* / fecal coliform ratios in urban watersheds." *Journal of Irrigation and Drainage Engineering*. 140(4): 1-6
54. **Hathaway, J.M.**, T.L.C Moore, J.M. Burkholder, and W.F. Hunt. (2012). "Temporal analysis of stormwater SCM effluent based on harmful algal bloom (HAB) sensitivity in surface waters: are annual nutrient EMCs appropriate during HAB-sensitive seasons?" *Ecological Engineering*. 49: 41-47.
55. McCarthy, D.T., **J.M. Hathaway**, W.F. Hunt, A. Deletic. (2012). "Intra-Event Variability of *E. coli* and Total Suspended Solids in Stormwater Runoff." *Water Research*. 46: 6661-6670.
56. **Hathaway, J.M.**, R.S. Tucker, J.M. Spooner, and W.F. Hunt. (2012). "A traditional analysis of the first flush effect for nutrients in stormwater runoff from two small urban catchments." *Water, Air, and Soil Pollution*. 223(9): 5903-5915.
57. **Hathaway, J.M.**, and W.F. Hunt. (2012). "Indicator bacteria performance of stormwater control measures in Wilmington, NC." *Journal of Irrigation and Drainage Engineering*. 138(2): 185-197.

58. **Hathaway, J.M.**, W.F. Hunt, A.K. Graves, and J.D. Wright. (2011). "Field evaluation of bioretention indicator bacteria sequestration in Wilmington, NC." *Journal of Environmental Engineering*. 137(12): 1103-1113.
59. **Hathaway, J.M.**, W.F. Hunt, A.K. Graves, K.L. Bass, and A. Caldwell. (2011). "Exploring fecal indicator bacteria in a constructed stormwater wetland." *Water Science and Technology*. 63(11): 2707-2712.
60. **Hathaway, J.M.**, and W.F. Hunt. (2011). "Evaluation of first flush for indicator bacteria and total suspended solids in urban stormwater runoff." *Water, Air, and Soil Pollution*. 217: 135-147.
61. Moore, T.L., W.F. Hunt, M.R. Burchell, and **J.M. Hathaway**. (2011) "Organic nitrogen exports from urban stormwater wetlands in North Carolina." *Ecological Engineering*. 37: 589-594.
62. **Hathaway, J.M.**, W.F. Hunt, and O.D. Simmons III. (2010). "Statistical evaluation of factors affecting indicator bacteria in urban stormwater runoff." *Journal of Environmental Engineering*. 136(12): 1360-1368.
63. Bright, T.M., **J.M. Hathaway**, W.F. Hunt, F.L. de los Reyes III, and M.R. Burchell. (2010). "Impact of stormwater runoff on clogging and fecal bacteria reduction in sand columns." *Journal of Environmental Engineering*. 136(12): 1435-1441.
64. **Hathaway, J.M.**, M.J. Cook, and R.O. Evans. (2010). "Nutrient removal capability of a constructed wetland receiving groundwater contaminated by swine lagoon seepage." *Transactions of the ASABE*. 53(3): 741-749.
65. **Hathaway, J.M.**, and W.F. Hunt. (2010). "An evaluation of wetlands in series in Piedmont, North Carolina." *Journal of Environmental Engineering*. 136(1): 140-146.
66. Hunt, W.F., **J.M. Hathaway**, and R.J. Winston. (2010). "Runoff volume reduction by a level spreader – vegetated filter strip system in suburban Charlotte, NC." *Journal of Hydrologic Engineering*. 15(6): 499-503.
67. Collins, K.C., W.F. Hunt, and **J.M. Hathaway**. (2010). "Side-by-side comparison of nitrogen species removal for four types of permeable pavement and standard asphalt in eastern North Carolina." *Journal of Hydrologic Engineering*. 15(6): 512-521.
68. **Hathaway, J.M.**, W.F. Hunt, and S. Jadlocki. (2009). "Indicator bacteria removal in stormwater best management practices in Charlotte, North Carolina." *Journal of Environmental Engineering*. 135(12): 1275-1285.
69. **Hathaway, J.M.**, and W.F. Hunt. (2008). "Field evaluation of level spreaders in the North Carolina Piedmont." *Journal of Irrigation and Drainage Engineering*. 134(4): 538-542.
70. Cook, M.J., **J.M. Hathaway**, and R.O. Evans. (2008). "The impact of swine lagoon seepage on shallow groundwater quality: groundwater remediation through lagoon closure and pumping." *Transactions of the ASABE*. 51(3): 891-900.
71. Collins, K.C., W.F. Hunt, and **J.M. Hathaway**. (2008). "Hydrologic comparison of four types of permeable pavement and standard asphalt in eastern North Carolina." *Journal of Hydrologic Engineering*. 13(12): 1146-1157.
72. Hunt, W.F., J.T. Smith, S.J. Jadlocki, **J.M. Hathaway**, and P.R. Eubanks. (2008). "Pollutant removal and peak flow mitigation by a bioretention cell in urban Charlotte, NC." *Journal of Environmental Engineering*. 134(5):403-408.

Book Chapters (1)

1. Wood-Ponce, R., A. Khojandi, and J.M. Hathaway. (2023). "Optimization of Green Infrastructure." In P.M. Pardalos & O.A. Prokopyev (Eds.), *Encyclopedia of Optimization*. Springer, Cham. https://doi.org/10.1007/978-3-030-54621-2_732-1

2. Tatum, L., Weiss, S., Mason, L. R., Norton, E., Thompson, J., Camponovo, M., **Hathaway, J.**, Li, Y., Washington-Allen, R., & Sharma M. (2018). "Youth empowerment through interdisciplinary outreach." In M. Powers & M. Rinkel (Eds.), *Social work promoting community and environmental sustainability: A workbook for global social workers and educators*, Volume 2 (pp. 200–210). Rheinfelden, Switzerland: International Federation of Social Workers

Peer Reviewed Extension Publications (2)

1. **Hathaway, J.M.**, and W.F. Hunt. (2008). "Removal of pathogens in stormwater." *Urban Waterways Series – North Carolina Cooperative Extension*. Extension publication: AG-588-16W.
2. **Hathaway, J.M.**, and W.F. Hunt. (2006). "Level spreaders: overview, design, and maintenance." *Urban Waterways Series – North Carolina Cooperative Extension*. Extension publication: AG-588-9.

GRADUATE ADVISING AND SUPERVISION

Major Advisor

1. Aaron Akin, PhD, Graduated Su 2021
2. Barry Blanton, Masters, Graduated F 2014 (Co-Advised with John Schwartz)
3. Laurel Christian, Masters, Graduated F 2016
4. Ghada Diab, PhD, Anticipated F 2023
5. Thom Epps, PhD, Graduated S 2018
6. Matthew Howard, Master, Graduated S2021
7. David Howe, Masters, Graduated S 2016
8. Hannah Kubas, Masters, Graduated F2017
9. Katie Lance, Masters, Anticipated F2021
10. Whitney Lisenbee, PhD, Graduated S 2020
11. Gillian Palino, PhD, Anticipated F 2023
12. Padmini Persaud, PhD, Graduated S 2021
13. Victoria Rexhausen, PhD, Anticipated S 2022
14. Probal Saha, PhD, anticipated S 2023
15. Jessica Thompson, PhD, Graduated F 2018
16. Andrew Tirpak, PhD, Graduated F 2018
17. Michael Walton, Masters, Graduated F 2015 (Co-Advised with John Schwartz)
18. Matthew Weathers, Masters, Graduated S 2021
19. Bailee Young, Masters, Graduated F 2017
20. Shengnan Zhou, PhD, Graduated S 2021

Committee Member

(CEE = Civil and Environmental Engineering, ISE = Industrial and Systems Engineering, LA = Landscape Architecture, BC = Bredesen Center for Interdisciplinary Research and Graduate Education, EPS = Earth and Planetary Sciences, EECS = Electrical Engineering and Computer Science, BAE = Biological and Agricultural Engineering)

1. Noor Akroush, Masters, CEE, Graduated S 2017
2. Matthew Alpin, Masters, CEE, Graduated Su 2014
3. Masoud Barah, PhD, ISE, Anticipated F 2018
4. Kate Choi, Masters, LA, Graduated S 2016
5. Sarah Dowda, Masters, CEE, Graduated S 2020
6. Kathleen Ernst, PhD, BC, Anticipated Su 2018
7. Seif Eteifa, Masters, CEE, Graduated S 2018

8. Violet Feudenberg, Masters, CEE, Graduated S 2018
9. Sudershan Gangrade, PhD, Bredesen Center, Graduated F 2019
10. Ali Hangul, Masters, CEE, Graduated S 2017
11. Jordan Hayes, Masters, CEE, Graduated S 2014
12. James Jones, Masters, CEE, Graduated S 2014
13. Jeffrey Johnson, PhD, BAE, Anticipated S 2019 (NC State University)
14. Jeremy Melton, MS, CEE, Graduated F 2018
15. Rebecca Purvis, PhD, BAE, Anticipated SU 2018 (NC State University)
16. Ashley Ramsey, EPS, Graduated S 2018
17. Mohammad Ramshani, PhD, ISE, Anticipated S 2019
18. Joseph Rungee, Masters, CEE, Graduated S 2014
19. Diego Sanchez, Masters, EPS, Graduated S 2017
20. Zachariah Seiden, Masters, CEE, Graduated S 2015
21. Jennifer Sharkey, Masters, CEE, Graduated F 2014
22. Andrew Steinman, Masters, CEE, Graduated F 2016
23. Paul Simmons, Masters, CEE, Graduated S 2014
24. Payton Smith, Masters, CEE, Anticipated Su 2018
25. Andrew Steinman, Masters, CEE, Graduated F 2016
26. Jessica Taylor, Masters, LA, Graduated SU 2015
27. Jacob Tobin, Masters, EECS, Graduated F 2015
28. Robby Woockman, PhD, CEE, Graduated S 2018

Undergraduate Research Associates

1. Karen Abercrombie (Summer 2020 – Fall 2020)
2. Lauren Barnette (Fall 2015 – Spring 2016)
3. Claudia Bible (Fall 2020 – present)
4. Laurel Christian (Summer 2014 – Spring 2015)
5. Charles Cianciolo (Fall 2016 – Fall 2017)
6. Andrew Dacus (Summer 2016)
7. Margaret Gordon (Summer 2020, Summer 2021)
8. Matthew Howard (Summer 2017 – Summer 2019)
9. Brooklynn Isom (Fall 2014 – Summer 2015)
10. Katie Lance (Fall 2019)
11. Devina Langarica (Fall 2020 – present)
12. Brandy Manka (Summer 2014 – Spring 2016)
13. Cassidy Quistorff (Summer 2016 – Fall 2017)
14. Nicholas Ross (Spring 2018 – present)
15. Katherine Schildmeyer (Summer 2021)
16. Sierra Sims (Summer 2017 – Spring 2018)
17. Payton Smith (Summer 2014 – Spring 2016)
18. Caleb Svensson (Summer 2019)
19. Danielle Ursprung (Summer 2018 – Spring 2019)

RESEARCH AND EXTENSION GRANTS

University of Tennessee

Total (as PI and Co-PI): \$10.6 M (Hathaway Share = \$2.65 M)

As-PI: \$2.39 M

- Collaborative Research: Reimagining Urban Watershed Management: A Systems Approach to Stormwater Control and Ecological Rehabilitation. **J.M. Hathaway**, M. Blum, A. Khojandi. National Science Foundation. 8/2022 – 7/2025. \$399,812.

- Green Infrastructure for Sustainable Urban Environments (GI4SURrE). **J.M. Hathaway**, K. Wyckoff, C. Cox, C. Cronley, J. Fu, T. Hazen, Q. He, M. Jin, M. Papes, J. Schwartz, C. Sims, H. Zhou. National Science Foundation. 8/2020 – 7/2024. \$404,784.
- Supplemental: Optimizing Green Infrastructure Investment to Improve Urban Storm Water System Resilience under Environmental Uncertainty: A Data Science Approach. A. Khojandi, **J.M. Hathaway**, X. Li. National Science Foundation. 8/16 – 7/22. \$69,984.
- FY2020 TN Water Resources Center. **J.M. Hathaway**, A. Szykiewicz, P. Persaud. USDOI - United States Geological Survey. 3/20 - 12/21. \$22,150.
- FY2019 TN Water Resources Center. **J.M. Hathaway**, A. Akin. USDOI - United States Geological Survey 6/19 - 12/20. \$5,306.
- Restoring Floodplain Wetlands Using Regenerative Stormwater Conveyances. **J.M. Hathaway**, J.S. Schwartz, A. Ludwig, F. Walker. Environmental Protection Agency. 10/19 – 09/22. \$290,000.
- Transition to Practice: S&CC Overcoming Social and Technical Barriers for the Broad Adoption of Smart Stormwater Systems. B. Kerkez, **J.M. Hathaway**, J. Goodall, T. Culver, L. Reyes Mason, N. Webster, J. Nassauer, and R. Kertesz. National Science Foundation. 11/19 – 07/21. \$84,749
- Multi-Sensor Data-Driven Inspection/Maintenance of Green Infrastructure. A. Khojandi, **J.M. Hathaway**. Institute for a Secure and Sustainable Environment. 10/19 – 4/2020. \$39,810.
- Nashville Stormwater Manual Development and Review. **J.M. Hathaway**. Wood PLC. 4/19 – 12/19. \$10,000.
- SCC-IRG Track 1: Overcoming Social and Technical Barriers for the Broad Adoption of Smart Stormwater Systems. B. Kerkez, **J.M. Hathaway**, J. Goodall, T. Culver, L. Reyes Mason, N. Webster, J. Nassauer, and R. Kertesz. National Science Foundation. 9/17 – 8/20. \$1,872,406.
- Rainfall Interception by Urban Trees. **J.M. Hathaway**. 5/17 – 12/20. U.S. Forest Service. \$60,960.
- Runoff Reduction Update for Nashville and Washington, DC. **J.M. Hathaway**. Hirschman Water and Environment. 1/18 – 6/18. \$14,499.
- FY2017 WRRIP Application for TN Water Resources Center. T. Gangaware, A. Papanicolaou, J. Schwartz, **J.M. Hathaway**, C. Wilson, A. Tsakiris. 3/17 - 2/18. USDOI - United States Geological Survey. \$92,335.
- Engaging the Community and Creating Young Scientists to Restore Nutrient Impacted Baker Creek. **J.M. Hathaway**, Y. Li, L. Reyes Mason, M. Sharma, R. Washington-Allen. 8/16 – 7/18. United States Environmental Protection Agency. \$59,995.
- Socially Responsible Stormwater Management in the Face of Climate Change Uncertainty. A. Khojandi, L. Reyes Mason, X. Li, K. Ellis, and **J.M. Hathaway**. 6/16 – 6/17. University of Tennessee - Institute for a Secure and Sustainable Environment. \$50,000.
- FY2016 WRRIP Application for TN Water Resources Center. T. Gangaware, J. Fu, **J.M. Hathaway**, A. Szykiewicz, A. Papanicolaou, C. Wilson. 3/17 - 2/18. USDOI - United States Geological Survey. \$70,335.
- Optimizing Green Infrastructure Investment to Improve Urban Storm Water System Resilience under Environmental Uncertainty. **J.M. Hathaway**, A. Khojandi, X. Li, O. Omitaomu. 8/16 – 7/19. National Science Foundation. \$349,518.
- CAREER: Toward Sustainable Urban Water Management Through a Twofold Approach: Enhanced Landscape Modeling and Strategic Spatial Placement of Stormwater Control Measures. **J.M. Hathaway**. 3/16 – 3/21. National Science Foundation. \$514,534.
- Post Construction Stormwater Research: Informing TDOT MS4 Strategies by Quantifying Performance of Current Practices. **J.M. Hathaway** and Q. He. 10/15 – 3/18. Tennessee Department of Transportation. \$99,941.
- In Service Performance Evaluation of Erosion Prevention and Sediment Control (EPSC) Devices. J. Schwartz and **J.M. Hathaway**. 10/15 – 3/18. Tennessee Department of Transportation. \$64,609.
- Microenvironments, Vulnerability, and Resilience in the City of Knoxville: Comparative Study of Three Urban Neighborhoods. K. Ellis, L. Mason, and **J.M. Hathaway**. 4/14 – 6/16. Institute for a Secure and Sustainable Environment. \$124,698.

- Increasing the Resilience of Agricultural Production in the Tennessee and Cumberland River Basin through More Efficient Water Resource Use. F. Walker, C. Clark, C. Boyer, M. Bushermohle, B. English, A. Griffith, **J.M. Hathaway**, S. Hawkins, C. Hellwinckel, D. Lambert, L. Lambert, B. Lieb, A. Papanicolaou, J. Rhinehart, J.S. Schwartz, L. Steckel, A. Smith, C. Wilson. 4/15 – 3/20. USDA – AFRI. \$4,999,884.
- FY2015 WRRIP Application for TN Water Resources Center. T. Gangaware, K. Carter, and **J.M. Hathaway**. 3/15 - 2/16. USDO - United States Geological Survey. \$92,335.
- Climate Data for Water Resources Study. J. Fu and **J.M. Hathaway**. 10/14 – 12/15. Biohabitats, Inc. \$12,000.
- Stormwater Goes Green? Investigating the Benefit and Health of Urban Trees in Green Infrastructure Installations. **J.M. Hathaway**, J.A. Franklin, W.F. Hunt and J.S. Schwartz. 8/14 – 9/18. USDA - United States Forest Service. \$200,322.
- Regenerative Stormwater Conveyances: An Innovative Watershed Management Tool for Tennessee. **J.M. Hathaway** and J.S. Schwartz. 8/14 – 11/16. Tennessee Healthy Watershed Initiative. \$113,000.
- U.S.-Australia Planning Visit: Sustainable Urban Water Management. **J.M. Hathaway**. 6/14 - 6/15. National Science Foundation. \$34,878.
- FY2014 WRRIP Application for TN Water Resources Center. T. Gangaware, K. Carter, and **J.M. Hathaway**. 3/14 - 2/15. USDO - United States Geological Survey. \$92,335.

North Carolina State University

- Principal Investigator on four grants totaling approximately \$96,000
- Co- Principal Investigator on eight grants totaling approximately \$513,000

PRESS AND INVITED SPEAKING ENGAGEMENTS

- Invited Speaker:
 - North Carolina Department of Environmental Quality, Virtual, August 18, 2021. “Preparing for the Future: Green Infrastructure Design Modifications and Smart Technologies for Building Resilience”
 - Marquette University – Department of Civil, Construction, and Environmental Engineering, Virtual, April 7, 2021. “Reimagining urban watershed management: Smart city approaches and the ultimate prize”
 - Vanderbilt University – Department of Civil and Environmental Engineering Seminar Series, Virtual, November 13, 2020. “Reimagining urban watershed management: Smart city approaches and the ultimate prize”
 - Trees SC Annual Conference, Virtual, October 15, 2020. “Rainfall interception of urban trees in the Knoxville area”
 - University of Minnesota - Stormwater Seminar Series, Minneapolis, MN, January 16, 2020. “Tree function in stormwater biofilters: The Green in Green Infrastructure”
 - Warnell School of Forestry – University of Georgia, Athens, Georgia, October 17, 2019. “Stormwater Goes Green? Investigating the Benefit and Health of Urban Trees in Green Infrastructure”
 - International Society of Arboriculture – Southern Chapter Annual Conference, Mobile, Alabama, April 8, 2019. “Urban Trees: Exploring the Green in Green Infrastructure”
 - S&ME Annual Technical Conference, Charlotte, NC, January 25, 2019. “Sustainable Urban Water: The Rise of Green infrastructure”
 - Global Environment Facility, Washington, DC, January 31, 2017. “Sustainable Urban Water: The Rise of Green infrastructure”

- Howard H. Baker Jr. Center for Public Policy, Knoxville, TN, April 14, 2016. “Sustainable Urban Water: The Rise of Green infrastructure”
- Green Infrastructure Summit, Raleigh, NC, April 6, 2016. “Green Infrastructure: Resiliency to Climate Change in the Urban Environment?”
- Mid-Atlantic Transportation Center Annual Conference, Wilmington, DE, August 6-7, 2015. “Enhanced Water Quality Management: New Approaches to Old Challenges.”
- Popular Press:
 - Christian Science Monitor, December 20, 2016, “Cities enlist nature to tame rising flood risks.”

CONFERENCE PRESENTATIONS DELIVERED AND/OR CO-AUTHORED (# PER EVENT)

- **2021**
 - Urban Drainage Modeling Conference. Costa Mesa, CA, and online (2)
 - International Conference on Urban Drainage. Melbourne, AUS, and online (3)
 - American Ecological Engineering Society Annual Conference. Baltimore, MD. (1)
- **2020**
 - Symposium on Urbanization and Stream Ecology. Austin, TX. (1)
 - International Low Impact Development Conference. Nashville, TN. (1)
- **2019**
 - ASCE - Environmental and Water Resources Congress. Pittsburgh, PA. (2)
 - American Ecological Engineering Society Annual Meeting. Asheville, NC. (1)
 - Association of Environmental Engineering and Science Professors. Tempe, Arizona (1)
 - Transportation Research Board. Washington, DC (1)
- **2018**
 - International Low Impact Development Conference. Nashville, TN. (3)
 - Tennessee Water Resources Symposium. Burns, TN. (3)
- **2017**
 - ASCE - Environmental and Water Resources Congress. Sacramento, CA. (4)
 - Association of Environmental Engineering and Science Professors (1)
 - ASABE – Annual International Meeting (1)
 - Tennessee Water Resources Symposium. Burns, TN. (3)
- **2016**
 - American Ecological Engineering Society Annual Meeting. Knoxville, TN. (4)
 - ASCE - Environmental and Water Resources Congress. West Palm Beach, FL. (4)
 - Tennessee Water Resources Symposium. Burns, TN. (3)
- **2015**
 - East Tennessee Development Symposium. Knoxville, TN. (2)
 - International Urban Drainage Modeling Conference. Quebec, Canada.
 - International Low Impact Development Conference. Houston, TX.
 - Tennessee Water Resources Symposium. Burns, TN. (2)
 - ASCE - Environmental and Water Resources Congress. Austin, TX. (3)
- **2014**
 - Tennessee Stormwater Association Annual Meeting. Chapel Hill, TN.
 - Tennessee Society of Professional Engineers Conference. Murfreesboro, TN.
 - East Tennessee Development Symposium. Knoxville, TN
 - ASCE - World Environmental and Water Resources Congress. Portland, OR. (4)

- **2012**
 - Intecol International Wetlands Conference. Orlando, FL.
- **2011**
 - Confluence Conference. Greenville, SC.
 - North Carolina American Public Works Association Water Resources Division. Wilmington, NC.
- **2010**
 - Southeast Stormwater Association Annual Conference. Biloxi, MS.
 - North Carolina American Public Works Association Water Resources Division. Asheville, NC.
 - ASCE - World Environmental and Water Resources Congress. Providence, RI. (2)
 - Land Grant and Sea Grant National Water Conference. Hilton Head, SC. (2)
- **2009**
 - ASCE - World Environmental and Water Resources Congress. Kansas City, MO. (2)
- **2008**
 - 11th International Conference on Urban Drainage. Edinburgh, Scotland, UK. (2)
 - USDA – CSREES National Water Conference. Reno, NV.
 - ASABE Annual International Meeting. Providence, RI.
- **2007**
 - Second National Low Impact Development Conference. Wilmington, NC.
 - ASCE - World Environmental and Water Resources Congress. Tampa, FL.
- **2006**
 - ASABE Annual International Meeting. Portland, OR. (3)
- **2005**
 - ASABE Annual International Meeting. Tampa, FL.

PROFESSIONAL LICENSES, SOCIETIES, AND ACTIVITIES

- Professional Engineer: North Carolina (License number: 036771)
- Technical Chair: 2018 ASCE-EWRI International Low Impact Development Conference, Nashville, TN
- Member
 - Association of Environmental Engineering and Science Professors
 - International Water Association
 - Elected member of Joint Committee on Urban Drainage (2019 – present)
 - American Society of Civil Engineers
 - Elected member Urban Water Resources Research Council Core Group (2018 – present)
 - ASCE webinar co-instructor, “Pathogens in Urban Stormwater Systems: Source Controls and Stormwater Control Measures” July 31, 2015.
- Journal Activities
 - Associate Editor – Journal of Environmental Engineering
 - Guest Editor
 - Special Issue: “Plant and microbial processes in stormwater treatment systems.” *Water*. Co-Editor with Dr. David McCarthy, Monash University, Australia
 - Peer Reviewer
 - Ecological Engineering
 - Environmental Science and Technology
 - Journal of Sustainable Water in the Built Environment
 - Journal of Environmental Engineering

- Journal of Hydrology
 - Transactions of the American Society of Agricultural and Biological Engineers
 - Journal of Irrigation and Drainage Engineering
 - Journal of Environmental Management
 - Journal of Environmental Quality
 - Science of the Total Environment
 - Water Research
 - Water Science and Technology
- University / Departmental Service
 - University
 - Stormwater Advisory Council (2015 – present)
 - Committee on the Campus Environment (2014 – 2017)
 - Interdisciplinary Watershed Minor – Faculty Advisor
 - Hydrolunteers (student water group) – Faculty Advisor (2015 – present)
 - Department
 - Public Works Committee (2014 – 2015)
 - Strategic Planning Committee (2015 – present)
 - Awards Committee (2017 – present)
- External Peer Reviewer
 - National Science Foundation
 - National Fish and Wildlife Foundation
 - U.S. Geological Survey
 - Natural Sciences and Engineering Research Council of Canada
 - Austrian Science Fund
 - Hudson River Fund
 - Engineering and Physical Sciences Research Council (EPSRC)
- International Thesis Review / Committees
 - Monash University, Melbourne, Australia
 - Spring 2014 - 2 reviews
 - Fall 2015 – 1 review
 - Macquarie University, Sydney, Australia (Fall 2014, Spring 2016)
 - Confirmation Committee, Monash University, Melbourne, Australia (Summer 2014, Student: Ze Meng)
 - Opponent/External Reviewer: Luleå University of Technology, Luleå, Sweden (Spring 2020, Student: Helen Galfi)