Ashlynn S. Stillwell

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Education

2013 Ph.D. Civil (Environmental) Engineering, The University of Texas at Austin
Dissertation: *Water Impacts on Thermoelectric Power Generation* (Advisor: Michael E. Webber)

2010 M.S. Environmental & Water Resources Engineering, The University of Texas at Austin
Thesis: *Energy-Water Nexus in Texas*

2010 M.P.Aff. Public Affairs, The University of Texas at Austin

2006 B.S. Chemical Engineering (Environmental Emphasis), University of Missouri, Columbia
Summa cum laude

Academic and professional experience

since 2013 Assistant Professor; Civil and Environmental Engineering; University of Illinois at Urbana-Champaign; Urbana, IL

since 2015 Assistant Professor; Institute for Sustainability, Energy, and Environment; University of Illinois at Urbana-Champaign; Urbana, IL

2007–2013 Graduate Research Assistant; Civil, Architectural, and Environmental Engineering; The University of Texas at Austin; Austin, TX

2009 Summer Research Fellow; Congressional Research Service; Washington, D.C.

2006–2007 Assistant Chemical Engineer; Burns & McDonnell; Kansas City, MO

2004–2006 Undergraduate Research Assistant; Chemical Engineering; University of Missouri; Columbia, MO

Honors and awards

2017–2018 Sinai and Synapses Fellowship

2014–2017 List of Teachers Ranked as Excellent by their Students, University of Illinois at Urbana-Champaign

2016 *Environmental Science & Technology* Excellence in Review Award

2015 Girl Scouts of Central Illinois Woman of Distinction Award for STEM

2015 CEE Excellence Award on Undergraduate Advising and Mentoring, University of Illinois at Urbana-Champaign

2011 American Water Works Association Academic Achievement Award, Second Place Master's Thesis

2009–2012 National Science Foundation Graduate Research Fellowship

2006 Mizzou '39 (group of 39 outstanding seniors from the University of Missouri)

Professional certifications

2006 Engineer Intern — Engineer in Training (EIT), effective July 28, 2006

Research funding

2017–2018 *Modeling the Integration of Green Infrastructure into Urban Landscapes Using a Reliability-Based Framework.* Illinois Water Resources Center
Role: Principal Investigator; Total funding: $30,000
Co-PI: Reshmina William (Ph.D. student), Department of Civil and Environmental Engineering; University of Illinois at Urbana-Champaign

2015–2018 *Interdependent Critical Infrastructure Systems for Synergized Utilization of Multiple Energy Sources Toward Sustainable Vehicular Transportation.* University of Illinois at Urbana-Champaign, Institute for Sustainability, Energy, and Environment
Role: Co-Principal Investigator; Total funding: $350,000 (Stillwell portion: $78,548)
PI: Thomas Overbye, Department of Electrical and Computer Engineering; University of Illinois at Urbana-Champaign

2015–2016 *Characterizing the Performance and Cost-Effectiveness of Energy and Water Efficiency Measures in Buildings.* Siebel Energy Institute
Role: Principal Investigator; Total funding: $25,000
Co-PI: Philip Krein, Department of Electrical and Computer Engineering; University of Illinois at Urbana-Champaign

2015–2016 *Modeling and Prediction of Watershed-Scale Dynamics of Consumptive Water Reuse for Power Plant Cooling.* Illinois Water Resources Center
Role: Principal Investigator; Total funding: $30,000
Co-PI: Zachary Barker (M.S. student), Department of Civil and Environmental Engineering; University of Illinois at Urbana-Champaign

2014–2015 *Estimating Current and Future Impacts of Power Plants on Water Quantity and Quality in Large River Systems.* National Great Rivers Research & Education Center
Role: Principal Investigator; Total funding: $35,572
Co-PI: Zhenxing Zhang, Illinois State Water Survey; University of Illinois at Urbana-Champaign

Peer-reviewed journal publications

(publications with advised students* as noted)

35. Lauren H. Logan* and **Ashlynn S. Stillwell**. (2017) "Water Temperature Duration Curves for Thermoelectric Power Plant Mixing Zone Analysis." *Advances in Water Resources*, submitted.

34. Christopher M. Chini*, Lucas A. Djehdian*, William Naggaga Lubega*, and **Ashlynn S. Stillwell**. (2017) "Electrified Water: Virtual Water Transfers of the U.S. Electricity Grid." *Nature Energy*, under review.

33. Christopher M. Chini* and **Ashlynn S. Stillwell**. (2017) "The State of U.S. Urban Water: Data and Benchmarks for Sustainability." *Water Resources Research*, under review.

32. Lauren H. Logan* and **Ashlynn S. Stillwell**. (2017) "Probabilistic assessment of aquatic species risk from thermoelectric power plant effluent: Incorporating biology into the energy-water nexus." *Applied Energy*, in revision for Special Issue on "Energy-Water-Food Nexus."

31. Reshmina William*, Jugal Garg, and **Ashlynn S. Stillwell**. (2017) "A game theory analysis of green infrastructure stormwater management policies." *Water Resources Research*, Special Issue on "Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems," in revision.

30. **Ashlynn S. Stillwell**, Ahmed M. Mroue, Joshua D. Rhodes, Margaret A. Cook, Joshua B. Sperling, Tyler Hussey, David Burnett, and Michael E. Webber. (2017) "Water for Energy: Systems Integration and Analysis to Address Resource Challenges." *Current Sustainable/Renewable Energy Reports*, in press.
doi:10.1007/s40518-017-0081-5

29. William Naggaga Lubega* and **Ashlynn S. Stillwell**. (2017) "Maintaining Electric Grid Reliability under Hydrologic Drought and Heat Wave Conditions." *Applied Energy*, Special Issue on "Energy-Water-Food Nexus," in press.
doi:10.1016/j.apenergy.2017.06.091

28. Reshmina William* and **Ashlynn S. Stillwell**. (2017) "Use of fragility curves to evaluate the performance of green roofs." *Journal of Sustainable Water in the Built Environment*, 3(4), 04017010.
doi:10.1061/JSWBAY.0000831

27. Christopher M. Chini*, James F. Canning*, Kelsey L. Schreiber*, Joshua M. Peschel, and **Ashlynn S. Stillwell**. (2017) "The Green Experiment: Cities, Green Stormwater Infrastructure, and Sustainability." *Sustainability*, Special Issue on Urban Sustainability and Planning Support Systems. 9(1), 105. **Featured on journal issue cover**
doi:10.3390/su9010105

26. Christopher M. Chini*, Megan Konar, and **Ashlynn S. Stillwell**. (2017) "Direct and indirect urban water footprints of the United States." *Water Resources Research*, 53(1), 316–327.
doi:10.1002/2016WR019473

25. **Ashlynn S. Stillwell** and Michael E. Webber. (2016) "Predicting the Specific Energy Consumption of Reverse Osmosis Desalination." *Water*, 8(12), 601.
doi:10.3390/w8120601.

24. Christopher M. Chini* and **Ashlynn S. Stillwell**. (2016) "Where Are All the Data? The Case for a Comprehensive Water and Wastewater Utility Database." *Journal of Water Resources Planning and Management*. 143(3), 01816005.
doi:10.1061/(ASCE)WR.1943-5452-0000739

23. Zachary A. Barker*, **Ashlynn S. Stillwell**, and Emily Z. Berglund. (2016) "Energy and water tradeoffs in the expansion of a dual water system." *Journal of Water Resources Planning and Management*. 142(12), 05016012.
doi:10.1061/(ASCE)WR.1943-5452.0000714

22. Christopher M. Chini*, Kelsey L. Schreiber*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2016) "Quantifying Energy and Water Savings in the U.S. Residential Sector." *Environmental Science & Technology*. 50(17), 9003–9012.

doi:10.1021/acs.est.6b01559

21. Reshmina William*, Allison Goodwell, Meredith Richardson, Phong V. V. Le, Praveen Kumar, and **Ashlynn S. Stillwell**. (2016) "An environmental cost-benefit analysis of alternative green roofing strategies." *Ecological Engineering*. 95(1), 1–9.
doi:10.1016/j.ecoleng.2016.06.091

20. Zachary A. Barker* and **Ashlynn S. Stillwell**. (2016) "Implications of transitioning from de facto to engineered water reuse for power plant cooling." *Environmental Science & Technology*. 50(10), 5379–5388. **Mentioned in *Science***
doi:10.1021/acs.est.5b05753

19. Tyler A. DeNooyer*, Joshua M. Peschel, Zhenxing Zhang, and **Ashlynn S. Stillwell**. (2016) "Integrating water resources and power generation: the energy-water nexus in Illinois." *Applied Energy*. 162(1), 363–371.
doi:10.1016/j.apenergy.2015.10.071

18. Patricia A. Malinowski, **Ashlynn S. Stillwell**, Jy S. Wu, and Peter M. Schwarz. (2015) "Energy-Water Nexus: Potential Energy Savings and Implications for Sustainable Integrated Water Management in Urban Areas from Rainwater Harvesting and Gray-Water Reuse." *Journal of Water Resources Planning and Management*. Special Issue on Sustainability, 141(12), A4015003.
doi:10.1061/(ASCE)WR.1943-5452.0000528

17. **Ashlynn S. Stillwell**. (2015) "Sustainability of Public Policy: Example from the Energy-Water Nexus." *Journal of Water Resources Planning and Management*. Special Issue on Sustainability, 141(12), A4015001.
doi:10.1061/(ASCE)WR.1943-5452.0000522

16. **Ashlynn S. Stillwell** and Michael E. Webber. (2014) "Geographic, technologic, and economic analysis of using reclaimed water for thermoelectric power plant cooling." *Environmental Science & Technology*. 48(8), 4588–4595.
doi:10.1021/es405820j

15. Emily A. Grubert, **Ashlynn S. Stillwell**, and Michael E. Webber. (2014) "Where Does Solar-Aided Seawater Desalination Make Sense? A Method for Identifying Sustainable Sites." *Desalination*. 339(1), 10–17.
doi:10.1016/j.desal.2014.02.004

14. Mary E. Clayton, **Ashlynn S. Stillwell**, and Michael E. Webber. (2014) "Implementation of brackish groundwater desalination using wind-generated electricity: A case study of the energy-water nexus in Texas." *Sustainability*. 6(2), 758–778.
doi:10.3390/su6020758

13. Kelly T. Sanders, Carey W. King, **Ashlynn S. Stillwell**, and Michael E. Webber. (2013) "Clean Energy and Water: Assessment of Mexico for Improved Water Services and Renewable Energy." *Environment, Development, and Sustainability*. 15(5), 1303–1321.
doi:10.1007/s10668-013-9441-5

12. **Ashlynn S. Stillwell** and Michael E. Webber. (2013) "Evaluation of power generation operations in response to changes in surface water reservoir storage." *Environmental Research Letters*. 8(2), 1–15.

doi:10.1088/1748-9326/8/2/025014

11. Carey W. King, **Ashlynn S. Stillwell**, Kelly M. Twomey, and Michael E. Webber. (2013) "Coherence Between Water and Energy Policies." *Natural Resources Journal.* 53(1), 117–215.

10. **Ashlynn S. Stillwell** and Michael E. Webber. (2013) "A Novel Methodology for Evaluating Economic Feasibility of Low-Water Cooling Technology Retrofits at Power Plants." *Water Policy.* 15(2), 292–308.
doi:10.2166/wp.2012.018

9. Colin M. Beal, **Ashlynn S. Stillwell**, Carey W. King, Stuart M. Cohen, Halil Berberoglu, Rajendra P. Bhattarai, Rhykka Connelly, Michael E. Webber, and Robert E. Hebner. (2012) "Energy Return on Investment for Algal Biofuels Production Coupled with Wastewater Treatment." *Water Environment Research.* 84(9), 692–710.
doi:10.2175/106143012X13378023685718

8. **Ashlynn S. Stillwell**, Kelly M. Twomey, Rusty Osborne, David M. Greene, Dan W. Pedersen, and Michael E. Webber. (2011) "An Integrated Energy, Carbon, Water, and Economic Analysis of Reclaimed Water Use in Urban Settings: A Case Study of Austin, Texas." *Journal of Water Reuse and Desalination.* 1(4), 208–223.
doi:10.2166/wrd.2011.058

7. Nawaf S. Alhajeri, Pearl Donohoo, **Ashlynn S. Stillwell**, Carey W. King, Mort D. Webster, Michael E. Webber, and David T. Allen. (2011) "Using market-based dispatching with environmental price signals to reduce emissions and water use at power plants in the Texas grid." *Environmental Research Letters.* 6(4), 1–9.
doi:10.1088/1748-9326/6/4/044018

6. **Ashlynn S. Stillwell**, Mary E. Clayton, and Michael E. Webber. (2011) "Technical analysis of a river basin-based model of advanced power plant cooling technologies for mitigating water management challenges." *Environmental Research Letters.* 6(3), 1–11. **Featured in journal's "Highlights of 2011"**
doi:10.1088/1748-9326/6/3/034015

5. **Ashlynn S. Stillwell**, Carey W. King, Michael E. Webber, Ian J. Duncan, and Amy Hardberger. (2011) "The Energy-Water Nexus in Texas." *Ecology and Society.* 16(1), 2.

4. **Ashlynn S. Stillwell**, Carey W. King, and Michael E. Webber. (2010) "Desalination and Long-Haul Water Transfer as a Water Supply for Dallas, Texas: A Case Study of the Energy-Water Nexus in Texas." *Texas Water Journal.* 1(1), 33–41.

3. **Ashlynn S. Stillwell**, David C. Hoppock, and Michael E. Webber. (2010) "Energy Recovery from Wastewater Treatment Plants in the United States: A Case Study of the Energy-Water Nexus." *Sustainability.* 2(4), 945–962.
doi:10.3390/su2040945

2. Kelly M. Twomey, **Ashlynn S. Stillwell**, and Michael E. Webber. (2010) "The unintended energy impacts of increased nitrate contamination from biofuels production." *Journal of Environmental Monitoring.* 12(1), 218–224.
doi:10.1039/B913137J

1. Carey W. King, **Ashlynn S. Holman**, and Michael E. Webber. (2008) "Thirst for energy." *Nature Geoscience.* 1(5), 283–286.
doi:10.1038/ngeo195

Invited talks

43. "Water for Sustainable Development." Invited panel at World Environmental and Water Resources Congress, American Society of Civil Engineers, Environmental and Water Resources Institute, Sacramento, CA, USA, May 23, 2017.

42. "Framing the Food-Energy-Water Nexus." Infrastructure and Environmental Management Systems Program Seminar, University of North Carolina, Charlotte, Charlotte, NC, USA, March 23, 2017.

41. "Exploring the Energy-Water Nexus in Urban Environments." Northwestern University, Environmental Engineering and Science seminar, Evanston, IL, USA, January 6, 2017.

40. "Energy and water sustainability in urban environments." Missouri University of Science and Technology, Environmental Research Center seminar, Rolla, MO, USA, October 21, 2016.

39. "Energy and Water in a Changing World." Association of Professional Energy Consultants, seminar, Normal, IL, USA, October 4, 2016.

38. "Water Energy Nexus." Invited panel at World Environmental and Water Resources Congress, American Society of Civil Engineers, Environmental and Water Resources Institute, West Palm Beach, FL, USA, May 25, 2016.

37. "The Energy-Water Nexus and the "New" Environmental Engineer." Association of Environmental Engineering and Science Professors, NSF-AEESP Grand Challenges Workshop, Rice University, Houston, TX, USA, April 1, 2016.

36. "The Energy-Water Nexus: A Holistic Perspective." Pacific Gas & Electric, Water Conservation Showcase, San Francisco, CA, USA, March 22, 2016.

35. "Sustainable Cities and the Energy-Water Nexus." Indian Institute of Science, seminar, Bangalore, Karnataka, India, March 11, 2016.

34. "Energy and Water: Analysis of Interrelated Systems." University of North Carolina at Chapel Hill, seminar, Chapel Hill, NC, USA, January 28, 2016.

33. "The Water-Energy Nexus and the Built Environment." University of Kansas, Design Challenges and Innovation at the Nexus of Food + Energy + Water workshop, Lawrence, KS, USA, January 21, 2016.

32. "Water and Electricity: Multi-scale systems analysis of related resources." Pacific Northwest National Laboratory, Joint Global Change Research Institute, College Park, MD, USA, October 30, 2015.

31. "Multi-Scale Systems Analysis and the Energy-Water Nexus." Institute for Sustainability, Energy, and Environment Congress *Water Planet, Water Crisis?*, University of Illinois at Urbana-Champaign, Urbana, IL, USA, September 15, 2015.

30. "Water, Energy, and a Sustainable Future: An Interdisciplinary Approach." Engineering Sustainability Conference invited panel, University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA, USA, April 21, 2015.

29. "The Energy-Water Nexus in a Changing World." Champaign County Sustainability Network lunch, Champaign, IL, USA, April 16, 2015.

28. "Sustainability in a Changing World: Energy, Water, and the Environment." Environmental Engineering and Science Symposium, University of Illinois at Urbana-Champaign, Champaign, IL, USA, April 9, 2015.

27. "Managing the Energy-Water Nexus in Urban Environments." U.S. Army Corps of Engineers Construction Engineering Research Laboratory seminar, Champaign, IL, USA, April 8, 2015.

26. "The Water/Energy Nexus: Sample Interdisciplinary Systems Analysis." Champaign-Urbana Hydraulic Engineering Luncheon, Urbana, IL, USA, November 20, 2014.

25. "Civil Engineering and Interdisciplinary Systems Analysis: The Energy-Water Nexus as an Example." Civil, Architectural, and Environmental Engineering Seminar, Illinois Institute of Technology, Chicago, IL, USA, November 11, 2014.

24. "Infrastructure and the Energy-Water Nexus: Managing Related Resources." Infrastructure and Environmental Management Systems Program Seminar, University of North Carolina, Charlotte, Charlotte, NC, USA, October 28, 2014.

23. "Energy-Water Nexus: Managing Related Resources." Energy and Sustainability Engineering Seminar, University of Illinois at Urbana-Champaign, Urbana, IL, USA, October 1, 2014.

22. "The Energy-Water Nexus and the Role of Civil Engineers: Interdisciplinary Systems Analysis." Civil, Environmental, and Architectural Engineering Joint Hydrologic and Environmental Engineering Seminar, University of Colorado Boulder, Boulder, CO, USA, September 26, 2014.

21. "Infrastructure in a Changing Climate: The Energy-Water Nexus and Infrastructure Vulnerability." Atmospheric Science Colloquia, University of Illinois at Urbana-Champaign, Urbana, IL, USA, September 17, 2014.

20. "Energy's Role in National Water Policy." Elements of National Water Policy: Understanding the Complexity panel, AGU Science Policy Conference, Washington, D.C., USA, June 17, 2014.

19. "Water and Energy." Panel discussion at World Water Forum Symposium, World Environmental and Water Resources Congress, Portland, OR, USA, June 2, 2014.

18. "Sustainability and the Energy-Water Nexus." U.S. Green Building Council Student Sustainability Initiatives Symposium, Urbana, IL, USA, April 5, 2014.

17. "Systems Analysis of the Energy-Water Nexus: Engineering, Policy, and Economy." Program for Environmental and Resource Economics, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1, 2014.

16. "Systems Analysis of the Energy-Water Nexus: Integrating Resources, Policy, and Economics." Argonne National Laboratory, Argonne, IL, USA, February 13, 2014.

15. "Energy, Water, and Policy: Supporting Decision-Making with Systems Analysis." Illinois State Geological Survey, Champaign, IL, USA, February 3, 2014.

14. "The Energy-Water Nexus: Using Systems Analysis to Inform Decision Making." Ven Te Chow Hydrosystems Seminar Series, University of Illinois at Urbana-Champaign, Urbana, IL, USA, November 1, 2013.

13. "Water: Life and Death." Earth Day Social Justice Feature, First United Methodist Church, Austin, TX, USA, April 21, 2013.

12. "Water-Energy Tradeoffs." G'Day USA United States — Australia Dialogue: Practical Solutions for Managing the Energy-Water Nexus, San Francisco, CA, USA, January 14, 2013.

11. "Water's Role in Thermoelectric Power Generation: Texas and Beyond." American Bar Association Section of the Environment, Energy, and Resources, 20th Section Fall Meeting, Austin, TX, USA, October 11, 2012.

10. "Energy-Water Nexus in Texas." Austin Power Lunch, Austin, TX, USA, April 10, 2012.

9. "Energy-Water Nexus: Energy for Water." Water Law, Texas Tech University School of Law (online guest lecture), April 2, 2012.

8. "The Nexus of Energy & Water." Texas Rainwater Catchment Association Annual Meeting, San Marcos, TX, USA, March 31, 2012.

7. "Water Use in Thermoelectric Power Generation and Drought Implications." The University of Texas at Austin Energy Forum, Austin, TX, USA, February 3, 2012.

6. "The Nexus of Energy & Water." Rainwater Revival, Dripping Springs, TX, USA, October 8, 2011.

5. "The Energy-Water Nexus in Texas: Water and energy policies." University of Technology Sydney, Sydney, NSW, Australia, December 8, 2010.

4. "The Energy-Water Nexus in Texas: Water and energy policies." The University of Melbourne, Melbourne, VIC, Australia, December 6, 2010.

3. "The Energy-Water Nexus in Texas: Water and energy policies." Australian National University, Canberra, ACT, Australia, December 3, 2010.

2. "Energy-Water Nexus in Texas." Water Wi$e, Metropolitan Energy Center, Kansas City, MO, USA, December 16, 2009.

1. "Oil and Water: Balancing Key Resources" World Affairs Council Student Energy Summit, Houston, TX, USA, February 10, 2009.

Invited legislative and governmental testimony

"The Energy-Water Nexus." Senate Natural Resources Committee Hearing, Texas Legislature, Austin, TX, USA, September 30, 2008.

"Water and Nuclear Power." Brazos G Regional Water Planning Group Public Meeting, Waco, TX, USA, June 4, 2008.

Other publications

Book chapters

1. **Ashlynn S. Stillwell** and Michael E. Webber. (2014) "Economic Benefits of Alternative Cooling Technologies," in Thermal Power Plant Cooling: Context and Engineering, Carey W. King ed., American Society of Mechanical Engineers, New York, NY. ISBN: 978-0-7918-6025-0.

Peer-reviewed conference proceedings
(publications with advised students* as noted)

11. Lauren H. Logan*, Nancy C. Emery, and **Ashlynn S. Stillwell**. (2014) "The Science Not Yet Behind Wetland Policy: Ecology, Hydrology, Public Perception and Conservation." *Proceedings of the 2014 World Environmental and Water Resources Congress*, June 1–5, 2014, Portland, OR, USA.

10. Margaret A. Cook, **Ashlynn S. Stillwell**, Carey W. King, and Michael E. Webber. (2013) "Alternative Water Sources for Hydraulic Fracturing in Texas." *Proceedings of the 2013 World Environmental and Water Resources Congress*, May 19–23, 2013, Cincinnati, OH, USA.

9. **Ashlynn S. Stillwell** and Michael E. Webber. (2012) "Value of Reservoir Storage for Resilient Power Plant Cooling and Basin-Wide Water Availability." *Proceedings of the 2012 ASME International Mechanical Engineering Congress and Exposition*, November 9–15, 2012, Houston, TX, USA.

8. Mary E. Clayton, **Ashlynn S. Stillwell**, and Michael E. Webber. (2011) "Implementation of Brackish Groundwater Desalination Using Wind-Generated Electricity as a Proxy for Energy Storage: A Case Study of the Energy-Water Nexus in Texas." *Proceedings of the 2011 ASME International Mechanical Engineering Congress and Exposition*, November 11–17, 2011, Denver, CO, USA.

7. **Ashlynn S. Stillwell**, Kelly M. Twomey, Michael E. Webber, Rusty Osborne, David M. Greene, and Dan W. Pedersen. (2011) "An Integrated Energy, Carbon, and Economic Analysis of Reclaimed Water Use in Austin, Texas." *Proceedings of the 2011 World Environmental and Water Resources Congress*, May 22–26, 2011, Palm Springs, CA, USA.

6. **Ashlynn S. Stillwell**, Mary E. Clayton, Michael E. Webber, David T. Allen, and Mort Webster. (2010) "A River Basin-Based Model of Advanced Power Plant Cooling Technologies for Mitigating Water Management Challenges." *Proceedings of the 2010 AIChE Annual Meeting*, November 7–12, 2010, Salt Lake City, UT, USA.

5. Mary E. Clayton, **Ashlynn S. Stillwell**, and Michael E. Webber. (2010) "Model of Implementing Advanced Power Plant Cooling Technologies to Mitigate Water Management Challenges in Texas River Basins." *Proceedings of the 2010 ASME International Mechanical Engineering Congress and Exposition*, November 12–18, 2010, Vancouver, British Columbia, Canada.

4. **Ashlynn S. Stillwell** and Michael E. Webber. (2010) "Feasibility of Wind Power for Brackish Groundwater Desalination: A Case-Study of the Energy-Water Nexus in Texas." *Proceedings of the 2010 ASME Energy Sustainability Conference*, May 17–22, 2010, Phoenix, AZ, USA.

3. **Ashlynn S. Stillwell** and Michael E. Webber. (2010) "Water Conservation and Reuse: A Case Study of the Energy-Water Nexus in Texas." *Proceedings of the 2010 World Environmental and Water Resources Congress*, May 16–20, 2010, Providence, RI, USA.

2. Kelly M. Twomey, **Ashlynn S. Stillwell**, and Michael E. Webber. (2009) "The Water Quality and Energy Impacts of Biofuels." *Proceedings of the 2009 ASME Energy Sustainability Conference*, July 19–23, 2009, San Francisco, CA, USA.

1. **Ashlynn S. Stillwell**, Carey W. King, and Michael E. Webber. (2009) "Desalination and Long-Haul Water Transfer: A Case Study of the Energy-Water Nexus in Texas." *Proceedings of the 2009 ASME Energy Sustainability Conference*, July 19–23, 2009, San Francisco, CA, USA.

Conference presentations and posters
(publications with advised students* as noted)

41. Reshmina William* and **Ashlynn S. Stillwell**. (2017) "Addressing Uncertainty in Green Infrastructure Decision-Making: Fragility Curves as a Policy Tool." 2017 World Environmental and Water Resources Congress, May 21–25, 2017, Sacramento, CA, USA.

40. William Naggaga Lubega* and **Ashlynn S. Stillwell**. (2017) "Hedging Thermal Power Plant Cooling Water Risk with Financial Instruments." 2017 World Environmental and Water Resources Congress, May 21–25, 2017, Sacramento, CA, USA.

39. Lauren H. Logan* and **Ashlynn S. Stillwell**. (2017) "Temperature Duration Curves and the Energy-Water Nexus." 2017 World Environmental and Water Resources Congress, May 21–25, 2017, Sacramento, CA, USA.

38. Christopher M. Chini* and **Ashlynn S. Stillwell**. (2017) "Much Ado About Data: A Need for a Water Utility Database." 2017 World Environmental and Water Resources Congress, May 21–25, 2017, Sacramento, CA, USA.

37. William Naggaga Lubega* and **Ashlynn S. Stillwell**. (2016) "Drought and Heat Wave Impacts on Electricity Grid Reliability in Illinois." 2016 American Geophysical Union Fall Meeting, December 12–16, 2016, San Francisco, CA, USA.

36. Reshmina William*, Allison Goodwell, Meredith Richardson, Phong V. V. Le, Praveen Kumar, and **Ashlynn S. Stillwell**. (2016) "An environmental cost-benefit analysis of alternative green roofing strategies." 2016 American Geophysical Union Fall Meeting, December 12–16, 2016, San Francisco, CA, USA.

35. Zachary A. Barker*, Lucas A. Djehdian*, and **Ashlynn S. Stillwell**. (2016) "Utilizing reclaimed water at power plants in the Chicago Area." Illinois Water Conference, October 26–27, 2016, Urbana, IL, USA. **Best Student Poster Award, Runner Up**

34. Reshmina William* and **Ashlynn S. Stillwell**. (2016) "Investigating green roof embedded energy: An energy-water nexus perspective." Illinois Water Conference, October 26–27, 2016, Urbana, IL,

USA.

33. Lauren H. Logan*, Rohini S. Gupta*, and **Ashlynn S. Stillwell**. (2016) "Quantifying economic tradeoffs between thermoelectric power generation and aquatic ecosystem stability." Ohio River Basin Consortium for Research and Education Symposium, September 27–29, 2016, Youngstown, OH, USA. **Second Place Student Presentation**

32. **Ashlynn S. Stillwell**. (2016) "Water, Sanitation, and Religion: Sustainability in Religious Tradition and Practice." Oxford Symposium on Population, Migration, and the Environment, August 1–2, 2016, Oxford, UK.

31. Christopher M. Chini* and **Ashlynn S. Stillwell**. (2016) "Social Indicators and Embedded Energy in the Urban Water Cycle." American Water Works Association Annual Conference & Exposition, June 19–22, 2016, Chicago, IL, USA.

30. Christopher M. Chini*, Kelsey L. Schreiber*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2016) "The Residential Energy-Water Nexus: A Cost Abatement Curve Analysis." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA. **Winner of Best Student Presentation Award in Sustainability**

29. William N. Lubega* and **Ashlynn S. Stillwell**. (2016) "Maintaining Electric Grid Reliability Under Drought Conditions." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

28. Zachary A. Barker* and **Ashlynn S. Stillwell**. (2016) "Watershed Dynamics of Consumptive Water Reuse for Power Plant Cooling." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

27. Reshmina William* and **Ashlynn S. Stillwell**. (2016) "Characterizing the Performance and Reliability of a Green Roof in Response to Rainfall Variability." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

26. Lauren H. Logan* and **Ashlynn S. Stillwell**. (2016) "Quantifying Economic Tradeoffs Between Thermoelectric Power Generation and Aquatic Ecosystem Stability." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

25. Lucas A. Djehdian*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2016) "Quantifying De Facto Water Reuse in the Greater Chicago Area." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

24. Kelsey L. Schreiber*, Christopher M. Chini*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2016) "A Cost Abatement Analysis of Appliance and Fixture Upgrades in an Average Residential Home." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

23. Rohini S. Gupta*, Lauren H. Logan*, and **Ashlynn S. Stillwell**. (2016) "Thermal Pollution Impacts on Aquatic Ecosystems: A Case Study of Power Generation and Ohio River Fish Species." 2016 World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, FL, USA.

22. Christopher M. Chini*, Kelsey L. Schreiber*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2015) "Characterizing Synergistic Water and Energy Efficiency at the Residential Scale Using a Cost

Abatement Curve Approach." 2015 American Geophysical Union Fall Meeting, December 14–18, 2015, San Francisco, CA, USA.

21. Reshmina William* and **Ashlynn S. Stillwell**. (2015) "Reliability Analysis of a Green Roof Under Different Storm Scenarios." 2015 American Geophysical Union Fall Meeting, December 14–18, 2015, San Francisco, CA, USA.

20. Lauren H. Logan*, Zachary A. Barker*, and **Ashlynn S. Stillwell**. (2015) "Novel Risk Assessment for Impact of Thermoelectric Power Plant Effluent on Aquatic Species." 2015 World Environmental and Water Resources Congress, May 17–21, 2015, Austin, TX, USA.

19. Zachary A. Barker*, **Ashlynn S. Stillwell**, and Emily Berglund. (2015) "Expansion of reclaimed water networks and the effect on pumping energy." 2015 World Environmental and Water Resources Congress, May 17–21, 2015, Austin, TX, USA.

18. Patricia A. Malinowski, **Ashlynn S. Stillwell**, Jy S. Wu, and Peter M. Schwarz. (2015) "The Energy-Water Nexus: Potential Energy Savings from Rainwater Harvesting and Gray Water Reuse and Implications for Sustainable Integrated Water Management in Urban Areas." 2015 World Environmental and Water Resources Congress, May 17–21, 2015, Austin, TX, USA.

17. Tyler A. DeNooyer*, Joshua M. Peschel, and **Ashlynn S. Stillwell**. (2015) "Integrating water resources and power generation: the energy-water nexus in Illinois." 2015 World Environmental and Water Resources Congress, May 17–21, 2015, Austin, TX, USA.

16. Christopher Chini, Joshua M. Peschel, and **Ashlynn S. Stillwell**. (2015) "An Analysis of the Green Infrastructure Policy and Feedback Cycle." 2015 World Environmental and Water Resources Congress, May 17–21, 2015, Austin, TX, USA.

15. Tyler A. DeNooyer* and **Ashlynn S. Stillwell**. (2014) "Integrating water resources and power generation: the energy-water nexus in Illinois." 2014 Illinois Water Conference, October 14–15, 2014, Urbana, IL, USA.

14. Zachary A. Barker*, Lauren H. Logan*, and **Ashlynn S. Stillwell**. (2014) "Quantifying risk of once-through cooling systems at power plants." 2014 Illinois Water Conference, October 14–15, 2014, Urbana, IL, USA.

13. Lauren H. Logan* and **Ashlynn S. Stillwell**. (2014) "The Energy-Water Nexus: Thermoelectric Power Plants and Aquatic Ecology." 2014 Illinois Water Conference, October 14–15, 2014, Urbana, IL, USA.

12. **Ashlynn S. Stillwell** and Clark W. Bullard. (2014) "Estimating Water Consumption from Open-Loop Power Plant Cooling." 2014 Illinois Water Conference, October 14–15, 2014, Urbana, IL, USA.

11. **Ashlynn S. Stillwell** and Michael E. Webber. (2014) "Analysis of Factors Influencing the Suitability of Reclaimed Water Use for Power Plant Cooling." 2014 World Environmental and Water Resources Congress, June 1–5, 2014, Portland, OR, USA.

10. **Ashlynn S. Stillwell** and Michael E. Webber. (2013) "Feasibility of Using Reclaimed Water for Thermoelectric Power Plant Cooling." 2013 AIChE Annual Meeting, November 3–8, 2013, San Francisco, CA, USA.

9. Kelly T. Sanders, **Ashlynn S. Stillwell**, Carey W. King, and Michael E. Webber. (2012) "Clean Energy and Water: Assessment of Mexico for Improved Water Services with Renewable Energy." 2012 ASME International Mechanical Engineering Congress and Exposition, November 9–15, 2012, Houston, TX, USA.

8. Margaret A. Cook, **Ashlynn S. Stillwell**, and Michael E. Webber. (2012) "Alternative Sources of Water for Hydraulic Fracturing in Texas." 2012 ASME Energy Sustainability Conference, July 23–26, 2012, San Diego, CA, USA.

7. **Ashlynn S. Stillwell** and Michael E. Webber. (2012) "Thermal Discharge Implications for Drought and Heat Wave Resiliency of Thermoelectric Power Plants." 2012 ASME Energy Sustainability Conference, July 23–26, 2012, San Diego, CA, USA.

6. **Ashlynn S. Stillwell** and Michael E. Webber. (2012) "Reclaimed Water for Power Plant Cooling: What Do We Know and Where Could We Go?" 2012 World Environmental and Water Resources Congress, May 20–24, 2012, Albuquerque, NM, USA.

5. **Ashlynn S. Stillwell** and Michael E. Webber. (2012) "Assessing the Economic Value of Drought Mitigation from Alternative Power Plant Cooling Technologies." 2012 IWA World Congress on Water, Climate, and Energy, May 13–18, 2012, Dublin, Ireland.

4. **Ashlynn S. Stillwell**, Kelly M. Twomey, Michael E. Webber, Rusty Osborne, David M. Greene, and Dan W. Pedersen. (2011) "An Integrated Energy, Carbon, and Economic Analysis of Reclaimed Water Use in Austin, Texas." 2011 ASME International Mechanical Engineering Congress and Exposition, November 11–17, 2011, Denver, CO, USA.

3. **Ashlynn S. Stillwell**, Mary E. Clayton, and Michael E. Webber. (2011) "Analysis of a River Basin-Based Model of Advanced Power Plant Cooling Technologies for Mitigating Water Management Challenges." 2011 ASME International Mechanical Engineering Congress and Exposition, November 11–17, 2011, Denver, CO, USA.

2. **Ashlynn S. Stillwell** and Michael E. Webber. (2009) "Energy and Water: Integration for Sustainable Policy." 2009 Villanova University International Sustainability Conference, April 23–25, 2009, Villanova, PA, USA.

1. **Ashlynn S. Holman**, Carey W. King, and Michael E. Webber. (2008) "Energy Water Nexus in Texas: Planning for Future Energy and Water Needs." Climate Change Impacts on Texas Water Conference, April 28–30, 2008, Austin, TX, USA.

Technical reports and white papers
(publications with advised students* as noted)

6. Lucas A. Djehdian* and **Ashlynn S. Stillwell**. (2016) "Quantifying Leaks in Mummy Mountain (Phoenix, AZ)." City of Phoenix. Phoenix, AZ, USA.

5. Carey W. King, Kelly M. Twomey, **Ashlynn S. Stillwell**, and Michael E. Webber. (2011) "Clean Energy and Water: Assessment of Mexico for improved water services with renewable energy." International Development Research Centre. Ottawa, Ontario, Canada.

4. Carey W. King, **Ashlynn S. Stillwell**, Kelly M. Twomey, and Michael E. Webber. (2010) "Coherence Between Water and Energy Policies." Organisation for Economic Co-operation and Development.

ENV/EPOC/GSP(2010)21. Paris, France.

3. Melissa C. Lott, **Ashlynn S. Stillwell**, Stuart M. Cohen, Carey W. King, and Michael E. Webber. (2009) "Power Generation for the 21st Century." ATI Clean Energy Incubator. Austin, TX, USA.

2. **Ashlynn S. Stillwell**, Carey W. King, Michael E. Webber, Ian J. Duncan, and Amy Hardberger. (2009) "Energy-Water Nexus in Texas." University of Texas at Austin and Environmental Defense Fund. Austin, TX, USA.

1. Carey W. King, **Ashlynn S. Holman**, and Michael E. Webber. (2008) "CleanTX Analysis on Water: The Thirst for Power." ATI Clean Energy Incubator. Austin, TX, USA.

General interest article contributions

"Linking reclaimed water with power generation: Water reuse and the energy-water nexus." Global Water Forum, July 22, 2014. Available: http://www.globalwaterforum.org/2014/07/22/linking-reclaimed-water-with-power-generation-water-reuse-and-the-energy-water-nexus/.

"Long Distance Water Turns Up the Dial on Energy." Texas Water Solutions blog, September 23, 2010. Available: http://blogs.edf.org/texaswatersolutions/2010/09/23/long-distance-water-turns-up-the-dial-on-energy/.

"Thirsty Texas." The Baines Report, April 14, 2010. Available: http://www.bainesreport.org/2010/04/thirsty-texas/.

Teaching

2016 Instructor, *CEE 598 SH Stochastic Hydrology*, University of Illinois at Urbana-Champaign
Lecture course for graduate students in Civil and Environmental Engineering; Class content is statistical theory and methods application to hydrology; Evaluation: 4.3/5 (instructor), 4.6/5 (course)

2014–2016 Instructor, *CEE 433 (formerly CEE 498 WT3/WT4) Water Technology & Policy*, University of Illinois at Urbana-Champaign
Lecture-discussion course for upper-level undergraduates and graduate students in Civil and Environmental Engineering; Class includes field trips, guest speakers, and an individual analytical project with podcast; Evaluation: 4.7–5/5 (instructor), 4.4–5/5 (course)

2015, 2017 Instructor, *CEE 350 Water Resources Engineering*, University of Illinois at Urbana-Champaign
Lecture course for junior-level undergraduate students in Civil and Environmental Engineering; Class content is an overview of hydrology and hydraulics; Evaluation: 4.6–5/5 (instructor), 4.5–4.9/5 (course)

2013–2014 Collins Scholar, Academy for Excellence in Engineering Education, University of Illinois at Urbana-Champaign

2012–2013 Instructor and co-organizer, *Continuing Education: Water Technology & Policy*, The University of Texas at Austin
1- and 2-day short courses with the University of Texas Center for Lifelong Engineering Education

2012 Co-instructor, *TC 357 Water and Society*, The University of Texas at Austin
Discussion-oriented seminar format Plan II Honors course; Class included field trips, guest speakers, and a 25-page individual research paper; Evaluation: 4.8/5 (instructor)

Research advising

Current Ph.D. students

Lauren H. Logan; anticipated graduation: May 2018
William N. Lubega; anticipated graduation: May 2018
Christopher M. Chini; anticipated graduation: December 2018
Reshmina William; anticipated graduation: May 2019

Current M.S. students

Trevor Auth; anticipated graduation: May 2019
James F. Canning; anticipated graduation: May 2018
Lucas A. Djehdian; anticipated graduation: May 2018

Current undergraduate research students

Gabrielle M. Bethke; Civil and Environmental Engineering; graduation: May 2018
Micah Stickling; Civil and Environmental Engineering; graduation: May 2018
Allisa G. Hastie; Civil and Environmental Engineering; graduation: May 2020
Grace E. Wackerman; Electrical and Computer Engineering; graduation: May 2020

Former students

Zachary A. Barker (M.S. Civil Engineering, 2015; thesis: "Local and Downstream Impacts of Water Reuse at Power Plants")
Current position: Data Scientist, Xylem Inc., Morrisville, NC

Tyler A. DeNooyer (M.S. Civil Engineering, 2015; thesis: "Integrating Water Resources and Power Generation: The Energy-Water Nexus in Illinois")
Current position: Engineer, Prein *&* Newhof, Muskegon, MI

Mingming Gui (B.S. Civil Engineering, 2017)
Current position: M.S. student, University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering

Rohini S. Gupta (B.S. Civil Engineering, 2017; Second Place Ira O. Baker Award)
Current position: M.S./Ph.D. student, Cornell University, Department of Civil and Environmental Engineering

Kelsey L. Schreiber (B.S. Systems Engineering and Design, 2016)
Current position: M.S. student, University of Illinois at Urbana-Champaign, Department of Agricultural and Biological Engineering

Reshmina William (M.S. Civil Engineering, 2015; thesis: "Reliability Analysis of Green Roofs Under Different Storm Scenarios")
Current position: Ph.D. student, University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering

Service on Ph.D. committees

Patricia A. Malinowski (Ph.D. Infrastructure and Environmental Management Systems, 2017, University of North Carolina, Charlotte)
Dissertation: "Integrated Water Management and Green Infrastructure Retrofits in Urban Areas: Perspectives on Energy Savings, Water Quality Improvements and Economic Incentives"

Desiree Phillips (Ph.D. Electrical and Computer Engineering, expected 2018, University of Illinois at Urbana-Champaign)
Dissertation: "Towards Joint Water-Power Electric Grid Modeling"

Service to the profession

University of Illinois campus service

2017–2018 Committee member, Civil and Environmental Engineering Curriculum Committee
2017–2018 Committee member, Civil and Environmental Engineering Faculty Search Committee
2016–2018 Committee member, Civil and Environmental Engineering Interdisciplinary Oversight Committee
2016–2017 Committee member, College of Engineering IT Education Working Group
2014–2015 Coordinator, Civil and Environmental Engineering Interdisciplinary Research Summit
2014–2015 Committee member, Environmental Hydrology and Hydraulic Engineering Graduate Applications Admissions
2014–2016 Environmental Hydrology and Hydraulic Engineering Representative, Graduate Affairs Committee
2014 Coordinator, Ven Te Chow Hydrosystems Seminar Series
2014, 2016 Advisor, Illinois Water Day

Editorship of journal publications

2017 Associate Editor, *Journal of Water Resources Planning and Management*
Responsibilities: Select reviewers, summarize reviews, recommend decision regarding publication
2013–2014 Section Editor, Energy-Water Nexus Section, *Current Sustainable/Renewable Energy Reports*
Responsibilities: Select pertinent and timely topics, invite authors to contribute topical papers, review submissions and accept for publication

Professional society service

since 2011 American Society of Civil Engineers; Environmental & Water Resources Institute
Past Chair (2017–2018), Sustainability Committee (Interdisciplinary Council)
Chair (2016–2017), Sustainability Committee (Interdisciplinary Council)
Vice Chair (2015–2016), Sustainability Committee (Interdisciplinary Council)
Secretary (2014–2015), Sustainability Committee (Interdisciplinary Council)
Member, Environmental and Water Resources Systems Committee (Planning and Management Council)
Member, Energy and Environment Nexus Committee (Energy Division)
2017 U. S. Green Building Council
WaterBuild Advisory Council member

Membership in professional and honorary societies

since 2012 American Association for the Advancement of Science
since 2013 American Geophysical Union

since 2013 Association of Environmental Engineering and Science Professors
2012–2015 American Society of Mechanical Engineers
Member, Energy-Water Interdisciplinary Council
2004 National Honor Society Tau Beta Pi
2004 National Honor Society Omega Chi Epsilon

Membership in service organizations

lifetime Girl Scouts of the USA — lifetime member, volunteer, leader, Gold Award recipient
since 2015 Girl Scouts of Central Illinois Board of Directors, Coordinator of "Girl Power" event at Abbott Power Plant (2015, 2017)
since 2014 Faith in Place Board of Directors, Chair (2016–2018)

Consulting

2016–2017 UI Labs, Chicago, IL, USA
2011 International Research and Development Centre, Ottawa, Ontario, Canada
2010 Organisation for Economic Cooperation and Development (OECD), Paris, France
2010 ExxonMobil Corporate Strategic Research, Clinton, NJ, USA