CURRICULUM VITAE

JENNIFER J. FOLLSTAD SHAH
(801) 633-2003 | jennifer.shah@envst.utah.edu | envst.utah.edu/about/faculty-staff.php
ORCID: 0000-0001-8287-5035 | researchgate.net/profile/Jennifer_Follstad_Shah

ACADEMIC APPOINTMENTS & TRAINING

2021-present	Associate Professor (Lecturer), Environmental & Sustainability Studies, University of Utah, Salt Lake City, UT
2022-present	Affiliate Faculty Member, SPARC Environmental Justice Lab, University of Utah, Salt Lake City, UT
2016-present	Affiliate Faculty Member, Global Change and Sustainability Center, University of Utah, Salt Lake City, UT
2016-present	Assistant Professor (Lecturer), Environmental & Sustainability Studies, University of Utah, Salt Lake City, UT
2015-present	Research Assistant Professor, Department of Geography, University of Utah, Salt Lake City, UT
2015-2017	Affiliate Faculty Member, innovative Urban Transitions and Arid-region Hydrosustainability Network (iUTAH), University of Utah, Salt Lake City, UT
2014-2016	Associate Instructor & Academic Advisor, Environmental & Sustainability Studies, University of Utah, Salt Lake City, UT
2011-2014	Adjunct Assistant Professor, Department of Biology, University of New Mexico, Albuquerque, NM
2010-2018	Adjunct Assistant Professor, Department of Watershed Sciences, Utah State University, Logan, UT
2010	Visiting Scholar, Department of Biology, Duke University, Durham, NC
2007-2009	National Science Foundation Bioinformatics Postdoctoral Fellow, Department of Biology, Duke University, Durham, NC. *Advisor*: Dr. Emily S. Bernhardt
2000-2006	Doctor of Philosophy, IGERT Freshwater Sciences Interdisciplinary Doctoral Program Fellow, University of New Mexico, Albuquerque, NM. *Dissertation*: Effects of Flood Regime and Riparian Plant Species on Soil Nitrogen Cycling Along the Rio Grande: Implications for Restoration, *Major Advisor*: Dr. Clifford N. Dahm
1999	Research Assistant, Wisconsin River Floodplain Project Center for Limnology, University of Wisconsin-Madison, Madison, WI. *Primary investigators*: Drs. Emily Stanley (Center for Limnology) and Monica Turner (Department of Zoology)

1996-1998	Executive Director, Wisconsin Environmental Initiative, Madison, WI A nonprofit, non-partisan organization aimed at growing a sustainable economy while preserving environmental resources (https://www.wi-ei.org)
1991-1995	Bachelor of Arts, Political Science with minor in French, University of Wisconsin-Madison, Madison, WI
1993-1994	Certificate of Political Studies, Institut d'Études Politique, Aix-en-Provence, France

RESEARCH INTERESTS

Effects of global change (rising temperature, altered river flow and resource supply, and biotic invasion) on the metabolism and biogeochemistry of lotic and riparian ecosystems; theoretical ecology (metabolic scaling, ecological stoichiometry, enzyme kinetics); river and riparian restoration; green infrastructure

PROFESSIONAL MEMBERSHIPS

American Society for Limnology & Oceanography
American Water Resources Association
Ecological Society of America
Society for Ecological Restoration
Society for Freshwater Science

HONORS & AWARDS

- Advancing Equity and Connecting Communities Award, College of Social and Behavioral Science, University of Utah (2022)
- Beacons of Excellence Award, University of Utah (2021)
- Superior Research Award – Career Line Faculty, College of Social & Behavioral Science, University of Utah (2021)
- Nominee, Faculty Teaching Award for Excellence in General Education, University of Utah (2019, 2020)
- Nominee, Early Career Teaching Award, University of Utah (2019, 2020, 2022)
- Superior Teaching Award – Career Line Faculty, College of Social and Behavioral Sciences (2019)
- Scientific and Technological Achievement Award, Level III recognition in the category of Ecological Research, U.S. Environmental Protection Agency (2011)
- Bioinformatics Postdoctoral Fellowship, U.S. National Science Foundation (2007-2009)
- Best Graduate Student Oral Presentation, Soil Ecology Society (2005)
- Graduate Research Opportunities Doctoral Fellowship, U.S. Environmental Protection Agency (2003-2006)
- IGERT Freshwater Sciences Interdisciplinary Doctoral Fellowship, U.S. National Science Foundation (2000-2002)

MENTORING

Graduate Students

Eric McCulley, M.S., Department of Watershed Sciences, Utah State University, Co-advisor (2011-2012)
Brittany Duncan, M.S., Department of Watershed Sciences, Utah State University, Co-advisor (2015-2018)
Anna Sahl, P.M.S.T., University of Utah, Co-advisor (2018)
Ryan Thomas, P.M.S.T., University of Utah, Co-advisor (2020)
Yvette Hastings, M.S., Department of Geography, University of Utah, Advisor (2020-2022)
Brenna Egan, M.S., Department of Geography, University of Utah, Advisor (2022-2024)
Matthew O'Brien, P.M.S.T., University of Utah, Co-advisor (2023)
Eli Schroeder, P.M.S.T., University of Utah, Co-advisor (2023)

Undergraduate Students
*Jay Jensen, Undergraduate, University of Utah, Advisor (2015)
*Luis Vidal, Undergraduate, University of Utah, Advisor (2015)
*Alexandre Veilleux, Undergraduate, University of Utah, Advisor (2015)
*Michael Navidomskis, Undergraduate, University of Utah, Advisor (2016)
*Anna Albertsen, Undergraduate, University of Utah, Advisor (2016)
*Brianna Milot, Undergraduate, University of Utah, Advisor (2017-2018)
*Ian Schwenker-Punnet, University of Utah, Advisor (2017)
*Jihyun Noh, University of Utah, Advisor (2017)
*Nicholas Storey, University of Utah, Advisor (2017)
*†Jessica Gallefant, University of Utah, Advisor (2018-2019)
*Sydney Boogaard, University of Utah, Advisor (2019)
Puneet Singh, University of Utah (2019)
Maloree Barbara, University of Utah, Advisor (2019-2020)
*Carrie Marsh, University of Utah, Advisor (2020)
Yvette Hastings, University of Utah, Advisor (2020)
*†#Kyra Mann, University of Utah, Co-Advisor (2020-2021)
Julie Williams, University of Utah, Advisor (2021)
*†Mary Roalstad, University of Utah, Advisor (2022)
*Jacob Berryhill, University of Utah, Advisor (2022)
Marti Sorenson, University of Utah, Advisor (2023)

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* University of Utah Undergraduate Research Opportunities Program (UROP) Fellow
† University of Utah Undergraduate Honors Thesis
# U.S. National Science Foundation (NSF) Research & Professional Experience for Post-Baccalaureate Students (REPS) Fellow

TEACHING

University of Utah
- Mentor, Wasatch Experience (2019-2020)
- Mentor, Undergraduate Research Opportunities (UROP; 2016-2023)
- Instructor, Sustainable Streams & Riparian Zones (ENVST 3390, GEOG 5/3390: Fall 2018, 2019, 2021, 2022)
- Instructor, Air, Water & Health Capstone Course (ENVST 5559: Spring 2017-2023, Fall 2022)
- Instructor, Introduction to Environmental Studies (ENVST 2100: Spring 2016)
- Instructor, Field Experience: Environment & Sustainability (ENVST 2000: Fall 2015-2018)
- Instructor, Introduction to Environmental Science, University of Utah (ENVST 2050: Fall & Spring 2014-2021, Spring 2023)

Utah State University

- Instructor, Riparian Ecology and Management in the Western U.S. (WATS 6900: Spring 2011)
- Guest Lecturer, Watershed and Stream Restoration (WATS 5660: Fall 2010)
- Instructor, Stream Restoration Principles Short Course, Intermountain Center for River Rehabilitation and Restoration (WATS 5660: July 2010)

University of New Mexico

- Organizer, IGERT Freshwater Sciences Interdisciplinary Doctoral Program Seminar, Topic: Improving communication between scientists and media/policy makers (BIOL 502: Fall 2005)
- Mentor, Plant Physiology Lab (BIOL 478L: Fall 2004)
- Mentor, NASA Summer High-School Apprenticeship Research Program, Department of Biology (Summer 2003)
- Assistant Lecturer, Limnology (BIOL 495: Spring 2003)
- Teaching Assistant, Limnology Lab (BIOL 496: Spring 2003)
- Teaching Assistant, Introductory Biology (BIOL 122: Fall 2003)
- Mentor, NSF Research Experiences for Undergraduates, Department of Civil Engineering (Summer 2002)

SYNERGISTIC ACTIVITIES

Conference Special Session Organization:

- Urban stream ecology across socioeconomic gradients, biomes, and spatial scales, Ecological Society of America Annual Meeting, Salt Lake City, UT, August 2-7, 2020
- Foundation species and terrestrial-aquatic linkages: Effects of shifting plant composition at the aquatic-riparian interface, North American Benthological Society Annual Meeting, Santa Fe, NM, June 6-11, 2010
- Solving the "running on empty" problem through collaborative learning and interdisciplinary freshwater foundations (CLIFF)", Society for Freshwater Science Annual Meeting, Sacramento, CA, May 21-26, 2016

Journal Review: AGU Journal of Geophysical Research – Biogeosciences, Aquatic Science, Biogeochemistry, Biological Invasions, BioScience, Ecohydrology, Ecological Applications, Ecological Monographs, Ecology, Ecology Letters, Ecosystems, Environmental Science & Policy, Freshwater Science, Functional Ecology, Geoderma, Global Change Biology, Hydrobiologia, Hydrologic Processes, International Review of Hydrobiology, Journal of Applied Ecology, Journal of Sustainability & the Environment, Journal of the North American Benthological Society, Limnology & Oceanography, Microbial Ecology, Nature, Nature Microbiology, PeerJ, Proceedings of the National Academy of Sciences, Restoration Ecology, River Research and Applications, Science Advances, Science of the Total Environment, Water Resources Research

Media Interviews:

- Gabrielson, P. "New Ways to Look at Stream Health", @theU, January 4, 2021. https://attheu.utah.edu/announcements/new-ways-to-look-at-stream-health/
- Oleniaz, L. "Fertilizer Runoff in Streams and Rivers Can Have Cascading Effects, Analysis Shows", NC State News Services, December 17, 2020. https://news.ncsu.edu/2020/12/fertilizer-runoff-in-streams-and-rivers-can-have-cascading-effects-analysis-shows/
- This Green Earth – July 9, 2019: Dr. Rose Smith. https://www.kpcw.org/post/green-earth-july-9-2019-dr-rose-smith#stream/0

- Gabrielson, P. “How the River Flows”, @theU, July 7, 2019. https://attheu.utah.edu/facultystaff/how-the-river-flows/
- “Where the Jordan River’s Water Comes From”, Technology.org, June 28, 2019. https://www.technology.org/2019/06/28/where-the-jordan-rivers-water-comes-from/
- Hager, R. “New Global Assessment of Decomposition in Rivers Reveals Distinct Signatures”, Utah Public Radio, February 4, 2019, 1 minute 42 seconds. https://www.upr.org/post/new-global-assessment-decomposition-rates-rivers-reveals-distinct-signatures
- Adams, B. “River Ecology on a Global Scale”, @theU newsletter, February 4, 2019. https://attheu.utah.edu/facultystaff/river-ecology-on-a-global-scale/
  Adams, B. “Shedding Light”, @theU newsletter, November 26, 2018. https://attheu.utah.edu/facultystaff/shedding-light/
- Heunemann, J. “What climate change means for leaf litter”, iUTAH newsletter, April 5, 2017. http://iutahepscor.org/news_article.php?aid=266
- Gonzalez, E. ““What climate change means for leaf litter”, Phys.org, March 30, 2017. https://phys.org/news/2017-03-climate-leaf-litter.html
- Adams, B. “What global climate change may mean for leaf litter in streams and rivers”, UNews, March 3, 2017. https://unews.utah.edu/what-global-climate-change-may-mean-for-leaf-litter-in-streams-and-rivers/
- Daniels, S. “Growing knowledge and experience through tree planting at Alta”, Sustainable Utah (University of Utah Sustainability Office), December 2016
- Ash, S. “UNM doctoral student studies mycorrhizal colonization”, Divining Rod (New Mexico Water Resources Research Institute), p. 9, Vol. XXIX, No. 3, September 2006
  - Malakoff, D. “Measuring Success of River Restorations”, Morning Edition, National Public Radio, April 29, 2005
  - Fleck, J., “River Run”, Albuquerque Journal, April 29, 2005
  - Knapp, K., “Udall: Science should aid policy”, New Mexico Daily Lobo, March 29, 2005
  - Limon, I., “Grants benefit students, state”, New Mexico Daily Lobo, January 18, 2002

Professional Society Committee Membership: Society for Freshwater Science (formerly the North American Benthological Society) – Public Information and Publicity Committee Co-Chair (2010-2013), Executive Committee (2007-2009), Ad Hoc Web Committee (2009)

Proposal Review (Ad Hoc): National Science Foundation – Ecosystem Studies (2018); Long Term Research in Environmental Biology (2015); Science, Technology, and Society (2010); Biological Databases and Infrastructure (2006)

Proposal Review (Panelist): National Science Foundation – Ecosystem Studies (2023)

Research Working Groups:
- Forecasting rates of stream leaf litter decomposition in response to inland climate change, Co-organizer, Long Term Ecological Research (LTER) Network (2011-2012)
- The Metabolic Theory of Ecology and Stream Ecosystems, Co-organizer, Long Term Ecological Research (LTER) Network (2006)
- Effects of Nitrogen-Fixers on Plant Community Diversity and Species Interactions, Co-organizer, LTER Network (2006)
- National River Restoration Science Synthesis (NRRSS) Project, Participant, National Center for Ecological Analysis and Synthesis (2002-2005)

Technical Advisory Committee (TAC) Membership: Jordan River Total Maximum Daily Load TAC (2018-2023); Folsom Corridor Daylighting TAC (2021-2023)

UNIVERSITY SERVICE

- Scholarship Review Panelist, Environmental & Sustainability Studies Program, University of Utah (2022, 2023)
- College Council Member, College of Social and Behavioral Science, University of Utah (2019-2020)
- Ecological Planning and Design Center Steering Committee, Faculty Member, University of Utah (2016-2023)
- Environmental and Sustainability Studies Program Executive Committee, University of Utah, Faculty Member (2015-2016)
- Biology Graduate Student Association, University of New Mexico, Co-President (2001-2002)

RESEARCH SUPPORT

- Global Change and Sustainability Center (GCSC) Seed Grant, University of Utah, "Landscape Lab Effects on Pollutant Loads to Red Butte Creek", $15,000 (2022), PI.
- U.S. National Science Foundation (NSF), Research Experience for Post-baccalaureate Students (REPS) Supplement: "Can green infrastructure maximize ecosystem processes related to nitrogen?", $38,515 (2021-2022), Co-PI (Lead PI: Dr. Rose Smith, School of Biological Sciences, University of Utah).
- U.S. National Science Foundation (NSF), Directorate of Environmental Biology, Ecosystems Program, "Can green infrastructure maximize ecosystem processes related to nitrogen?", $199,000 (2020-2021), Co-PI (Lead PI: Dr. Rose Smith, School of Biological Sciences, University of Utah).
- Research Instrumentation Fund, University of Utah, "Integrated H1 multi-mode plate reader and MultiFlo FX dispenser for ecological research", $62,603 (2020), PI.
- Rio Mesa Young Scholars Fund, University of Utah, "Landscape legacy influence on riparian plant communities in a changing climate", $2,500 (2018-2019), PI.
- Global Change and Sustainability Center, University of Utah, "Landscape legacy influence on riparian plant communities in a changing climate", $5,000 (2018-2019), PI.
- Teaching Grant – Group, University of Utah, "Enhancing the student research experience in an interdisciplinary lab", University of Utah, $5,400 (2018), Co-PI.
- Teaching Grant – Individual, University of Utah, "Sustainable Streams & Riparian Zones", $3,405 (2018), PI.
- Jordan River Farmington Bay Water Quality Council, "Microbial community response to energy and nutrient availability in the Jordan River, Utah", $69,690 (2016-2017), PI.
- Innovative Urban Transitions and Arid-region Hydrosustainability Network (iUTAH [NSF EPSCoR]), "Tracing nitrogen sources and transformations in the Jordan River, Utah using stable isotopes", $27,307 (2016), Co-PI (Lead PI: Dr. Rose Smith, School of Biological Sciences, University of Utah).
- College of Social and Behavioral Science Interdisciplinary Research Project, "Incentivizing interdisciplinary collaboration for excellence in sustainability research", $10,000 (2016), PI.
- Global Learning Across Disciplines Program, University of Utah, "Global Learning Integration in the Environmental and Sustainability Studies Program", $10,000 (2015-2016), Co-PI (Lead PI: Dr. Jennifer Watt, University of Utah).
- Long-Term Ecological Research (LTER) Network, "Forecasting rates of stream leaf litter decomposition in response to inland climate change", $14,000 (2011-2012), PI.
- U.S. National Science Foundation (NSF) Bioinformatics Postdoctoral Fellowship: "The Metabolic Theory of Ecology and resource saturation kinetics", $120,000 (2006-2009), PI.

- Long-Term Ecological Research (LTER) Network, "The Metabolic Theory of Ecology and Stream Ecosystems", $10,000 (2006), PI.
- Long-Term Ecological Research (LTER) Network, "Effects of Nitrogen-Fixers on Plant Community Diversity and Species Interactions", $6,000 (2006), PI.
- New Mexico Water Resources Research Institute, Student Research Grant Program: "Mycorrhizal colonization in cottonwood and salt cedar stands along the middle Rio Grande: Implications for water quality and water consumption", $3,000 (2005), PI.
- U.S. Environmental Protection Agency (EPA) Minority Academic Institution Graduate Fellowship: "Effects of flooding and nitrogen availability on riparian vegetation in arid ecosystems: Mechanisms driving non-native species invasions", $75,000 (2003-2006), PI.
- Alvin R. and Caroline G. Grove Summer Scholarship, University of New Mexico "Effects of flooding and nitrogen availability on competition between *Populus* and *Tamarix* seedlings", $2,500 (2003), PI.

FUNDED CAPSTONE STUDENT PROJECT SUPPORT

- Eccles Health Sciences Library Clean Air Space, Sustainable Campus Initiative Fund (SCIF), University of Utah, $3,221 (2022), Faculty Advisor
- Water Purification Devices for Learning Abroad Experiences, Sustainable Campus Initiative Fund (SCIF), University of Utah, $2,000 (2019), Faculty Advisor
- Sustainability Pledge for Graduating Seniors, Sustainable Campus Initiative Fund (SCIF), University of Utah, $2,250 (2019), Faculty Advisor
- Gardner Commons Solar Umbrella Table, Sustainable Campus Initiative Fund (SCIF), University of Utah, $10,000 (2018), Faculty Advisor
- Marriott Library Special Collections Lighting Retrofit, Revolving Loan Fund (RLF), University of Utah, $20,000 (2018), Faculty Advisor

PENDING EXTRAMURAL PROPOSALS

- U.S. National Science Foundation (NSF), Engines – Type 2, "Sustainability Innovation Engine for the Southwest (SIES)", $160,000,000 (2023-2028), Senior Personnel (Lead PI: D. Pataki, Global Institute of Sustainability & Innovation, Arizona State University)
- U.S. National Science Foundation (NSF), Advancing Informal STEM Learning – Type 5, "Citizen Scientists and Scientist Citizens: A Dual Capacity-Building Framework for Reciprocal Informal Science Learning through Community-Based Environmental Justice Research", $1,700,000, Senior Personnel (Lead PI: A. Cachelin, Environmental & Sustainability Studies Program, University of Utah)

UNFUNDED EXTRAMURAL PROPOSALS

- U.S. National Science Foundation (NSF), Growing Convergence Research, "RENEWEST: Regional Environmental Network Enabling Water-Equitable and Sustainable Transitions - Convergent science and practice for a transition to just and sustainable urbanizing regions", $15,000,000 (2021-2026), Senior Personnel (Lead PI: D. Pataki, School of Biological Science, University of Utah)
- U.S. National Science Foundation (NSF), Division of Engineering, Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems, "Trade-offs between nutrients and water - optimized management of multiple ecosystem services in arid urban

bioretention", $1,698,706 (2021-2024), Co-PI (Lead PI: R. Smith, School of Biological Science, University of Utah)

- U.S. National Science Foundation (NSF), Directorate of Graduate Education, NSF Research Traineeship, "NRT: Navigating Rapid Change in U.S. River Basins", $3,000,000 (2020-2024), Co-PI (Lead PI: B. Bowen, Geology & Geophysics, University of Utah)
- U.S. National Science Foundation (NSF), Division of Engineering, Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems, "Understanding the nitrogen cycle and associated greenhouse gas emissions in urban land cover and downstream ecosystems", (2020-2021), Co-PI (Lead PI: R. Goel, Civil Engineering, University of Utah)
- U.S. National Science Foundation (NSF), SBE Office of Multidisciplinary Activities (SMA), Research Experience for Undergraduates Sites, "Rio Mesa REU Site: Legacies Advancing New Directions (LAND)", $361,100 (2019-2021), Co-PI (Lead PI: M. Power, Geography, University of Utah)
- U.S. National Science Foundation (NSF), Division of Biology, Ecosystem Studies, "Linking enzymatic, metabolic, and stoichiometric theories of ecology to quantify aquatic community and ecosystem responses to climate change", $1,197,628 (2013-2016), PI.
- U.S. National Science Foundation (NSF), Division of Biology, Ecosystem Studies, "Metabolic response of stream microbial communities to increased global temperature", $789,285 (2011-2014), PI.

PUBLICATIONS

Journal Articles

1. Stegen, J.C., V.A. Garayburu-Caruso, A. Sengupta, W.K. Dodds, S.J. Fansler, R.K. Chu, R.E. Danczak, M. Garcia, A.E. Goldman, E.B. Graham, M.H. Kaufman, H. Ren, L. Renteria, D.E. Sandborn, H.-S. Song, K. Willi, M. Ross, J. Torgeson, J. Toyoda, Coastal Consortium, and **WHONRS Consortium**. *In Review*. Dissolved organic matter functional trait relationships are conserved across rivers. *Proceedings of the National Academy of Science*.

2. Costello, D. M., S.D. Tiegs, L. Boyero, C. Canhoto, K.A. Capps, M. Danger, and **CELLDEX Collaborators.** (2022). Global patterns and controls of nutrient immobilization on decomposing cellulose in riverine ecosystems. *Global Biogeochemical Cycles*, 36, e2021GB007163. https://doi.org/10.1029/2021GB007163

3. **Follstad Shah, J.J.**, R. Bares, B.B. Bowen, G.J. Bowen, D.R. Bowling, D.P. Eiriksson, B. Fasoli, R.P. Fiorella, A.G. Hallar, S.J. Hinners, J.D. Horel, A.A. Jacques, L.R. Jamison, J.C. Lin, D.L. Mendoza, L.E. Mitchell, D.E. Pataki, S.M. Skiles, R.M. Smith, M.A. Wolf, and P.D. Brooks. 2021. The Wasatch Environmental Observatory: A mountain to urban research network in the semi-arid Western US. *Hydrologic Processes,* 35(9):e14352. https://doi.org/10.1002/hyp.14352

4. Ardón, M., L.H. Zeglin, R.M. Utz, S.D. Cooper, W.K. Dodds, R.J. Bixby, A. Burdett, **J.J. Follstad Shah**, N.A. Griffiths, T.K. Harms, S.L. Johnson, J. Jones, J.S. Kominoski, W.H. McDowell, A.D. Rosemond, M.T. Trentman, D. Van Horn, A. Ward. 2021. Experimental nitrogen and phosphorus enrichment stimulates multiple trophic levels of algal and detrital-based food webs: A global meta-analysis from streams and rivers. *Biological Reviews*, 96:692-715. http://dx.doi.org/10.1111/brv.12673

5. LeRoy C.J., A.L. Hipp, K. Lueders, **J.J. Follstad Shah**, J.S. Kominoski, M. Ardón, W. K. Dodds, M.O. Gessner, N.A. Griffiths, A. Lecerf, D.W.P. Manning, R.L. Sinsabaugh, and J. R. Webster. 2019. Plant phylogenetic history explains in-stream decomposition at the global scale. *Journal of Ecology* 108: 17-35. https://doi.org/10.1111/1365-2745.13262

6. **Follstad Shah J**., Y. Jameel, R. Smith, R. Gabor, P. Brooks, and S. Weintraub. 2019. Spatiotemporal variability in water sources controls chemical and physical properties of a semi-arid urban river system. *Journal of the American Water Resources Association,* 55(3): 591-607. https://doi.org/10.1111/1752-1688.12734.

7. Tiegs, S.D. and **CELLDEX Collaborators**. 2019. Global patterns and drivers of ecosystem functioning in rivers and riparian zones. *Science Advances,* 5:eaav0486. DOI: 10.1126/sciadv.aav0486

8. **Follstad Shah, J**., M. Ardon, J. Kominoski, W. Dodds, M. Gessner, N. Griffiths, C. Hawkins, A. Lecerf, C. LeRoy, D. Manning, S. Johnson, A. Rosemond, R. Sinsabaugh, C. Swan, J. Webster, and L. Zeglin. 2017. Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers. *Global Change Biology,* 8:3064-3075. https://doi.org/10.1111/gcb.13609

9. Sinsabaugh, R.L., B.L. Turner, J.M. Talbot, B.G. Waring, J.S. Powers, C.R. Kuske, D.L. Moorhead, and **J.J. Follstad Shah**. 2016. Stoichiometry of microbial carbon use efficiency in soils. *Ecological Monographs,* 86:172-189. https://doi.org/10.1890/15-2110.1

10. Sinsabaugh, R.L., **J.J. Follstad Shah**, S.G. Findlay, K.A. Kuehn, D.L. Moorhead. 2015. Scaling microbial biomass, metabolism and resource supply. *Biogeochemistry*, 122:175-190. https://doi.org/10.1007/s10533-014-0058-z

11. Sinsabaugh, R.L., J. Belnap, S.G. Findlay, **J.J. Follstad Shah**, B.H. Hill, K.A. Kuehn, C.R. Kuske, M.E. Litvak, N.G. Martinez, D.L. Moorhead, D.D. Warnock. 2014. Extracellular enzyme kinetics scale with resource availability. *Biogeochemistry*, 121:287-304.

12. Kominoski, J.S.*, **J.J. Follstad Shah***, C. Canhoto, D.G. Fischer, D. Giling, E. González, N.A. Griffiths, A. Larrañaga, C.J. LeRoy, M.M. Mineau, Y.R. McElarney, S.M. Shirley, C.M. Swan, S.D. Tiegs. 2013. Forecasting functional implications of global changes in riparian plant communities. *Frontiers in Ecology and the Environment*, 11:423-432.
    * Authors contributed equally to the manuscript.

13. Sinsabaugh, R.L., and **J.J. Follstad Shah**. 2012. Ecoenzymatic stoichiometry and ecological theory. *Annual Review of Ecology, Evolution, and Systematics*, 43:313-343. https://doi.org/10.1146/annurev-ecolsys-071112-124414

14. Sinsabaugh, R.L., **J.J. Follstad Shah**, B.H. Hill, and C.M. Elonen. 2012. Ecoenzymatic stoichiometry of stream sediments with comparison to terrestrial soils. *Biogeochemistry*, 111:455-467. https://doi.org/10.1007/s10533-011-9676-x

15. Sinsabaugh, R.L., and **J.J. Follstad Shah**. 2011. Ecoenzymatic stoichiometry of recalcitrant organic matter decomposition: The growth rate hypothesis in reverse. *Biogeochemistry*, 102:31-43. https://doi.org/10.1007/s10533-010-9482-x

16. Sinsabaugh, R.L., D.J. Van Horn, **J.J. Follstad Shah**, and S. Findlay. 2010. Ecoenzymatic stoichiometry in relation to productivity for freshwater biofilm and plankton communities. *Microbial Ecology*, 60:885-893.

17. Sinsabaugh, R.L., and **J.J. Follstad Shah**. 2010. Integrating resource utilization and temperature in metabolic scaling of riverine bacterial production. *Ecology*, 91:1455-1465. https://doi.org/10.1890/08-2192.1

18. **Follstad Shah, J.J**., M.J. Harner, and T.M. Tibbets. 2010. Elaeagnus angustifolia alters soil inorganic nitrogen pools in riparian ecosystems. *Ecosystems*, 13:46-61.

19. Sinsabaugh, R.L., B.H. Hill, and **J.J. Follstad Shah**. 2009. Ecoenzymatic stoichiometry of microbial nutrient acquisition in soil and sediment. *Nature*, 462:795-798. doi:10.1038/nature08632

20. Harner, M.J., C.L. Crenshaw, M. Abelho, M. Stursova, **J.J. Follstad Shah**, and R.L. Sinsabaugh. 2009. Decomposition of native and nonnative leaf litter in relation to hydrology of riparian ecosystems. *Ecological Applications*, 19:1135-1146.

21. **Follstad Shah, J.J.** and C.N. Dahm. 2008. Flood regime and leaf fall determine soil inorganic nitrogen dynamics in semiarid riparian forests. *Ecological Applications*, 18:771-788.

22. **Follstad Shah, J.J.**, C.N. Dahm, S.P. Gloss, and E.S. Bernhardt. 2007. River and riparian restoration in the Southwest: Results from the National River Restoration Science Synthesis Project. *Restoration Ecology*, 15(3):550-562.

23. Bernhardt, E.S., E.B. Sudduth, M.A. Palmer, J.D. Allan, J.L. Meyer, G. Alexander, **J. Follstad Shah**, B. Hassett, R. Jenkinson, R. Lave, J. McFall, and L. Pagano. 2007. Restoring rivers one reach at a time: Results from a survey of U.S. river restoration practitioners. *Restoration Ecology*, 15(3): 482-493.

24. Jenkinson, R.G., K.A. Barnas, J.H. Braatne, E.S. Bernhardt, M.A. Palmer, J.D. Allan, and the National River Restoration Science Synthesis Team (G. Alexander, S. Brooks, J. Carr, S. Clayton, C. Dahm, **J. Follstad Shah**, D. Galat, S. Gloss, P. Goodwin, D. Hart, B. Hassett, G. M. Kondolf, P. S. Lake, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, and E. Sudduth). 2006. Stream restoration databases and case studies: a guide to information resources and their utility in advancing the science and practice of restoration. *Restoration Ecology*, 14(2):177-186.

25. Bernhardt, E.S., M.A. Palmer, J.D. Allan, G. Alexander, K. Barnas, S. Brooks, J. Carr, C. Dahm, **J. Follstad Shah**, D. Galat, S. Gloss, P. Goodwin, D. Hart, B. Hassett, R. Jenkinson, S. Katz, G. M. Kondolf, P. S. Lake, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, B. Powell, and E. Sudduth. 2005. Synthesizing U.S. river restoration efforts. *Science*, 308:636-637.

26. Palmer, M.A., E.S. Bernhardt, J.D. Allan, P.S. Lake, G. Alexander, S. Brooks, J. Carr, S. Clayton, C.N. Dahm, **J.J. Follstad Shah**, D.L. Galat, S. Gloss, P. Goodwin, D.D. Hart, B. Hassett, R. Jenkinson, G.M. Kondolf, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, and E. Sudduth. 2005. Standards for ecologically successful river restoration. *Journal of Applied Ecolo*gy, 42(2):208-217.

Trade Press Articles

1. **Follstad Shah, J.J**., C.N. Dahm, and S.P. Gloss. 2006. Lessons learned from restoration practitioners in the Southwest. *Southwest Hydrology* 5(3):10-11.

2. **Follstad Shah, J.J**., C.N. Dahm, and S.P. Gloss. 2006. River restoration efforts compared among Four Corners states. *Southwest Hydrology* 5(2):10-11.

3. **Follstad Shah, J.J**., C.N. Dahm, and S.P. Gloss. 2006. The National River Restoration Science Synthesis Project in the Southwest. *Southwest Hydrology* 5(1):10-11.

Databases

1. Zeglin, L., M. Ardón, R. Utz, S. Cooper, W. Dodds, R. Bixby, A. Burdett, **J. Follstad Shah**, N. Griffiths, T. Harms, S. Johnson, J. Jones, J. Kominoski, W. McDowell, A. Rosemond, M. Trentman, D. Van Horn, and A. Ward. 2020. Synthesis of stream ecosystem responses to nutrient enrichment at multiple trophic levels ver 1. *Environmental Data Initiative*. https://doi.org/10.6073/pasta/b674589d1a67589adadcb7762d928bba (Accessed 2020-12-17).

2. LeRoy C.J., A.L. Hipp, K. Lueders, **J.J. Follstad Shah**, J.S. Kominoski, M. Ardón, W. K. Dodds, M.O. Gessner, N.A. Griffiths, A. Lecerf, D.W.P. Manning, R.L. Sinsabaugh, and J. R. Webster. 2019. Plant phylogenetic history explains in-stream decomposition at the global scale. *Journal of Ecology* 00: 1– 20. https://doi.org/10.1111/1365-2745.13262. https://github.com/andrew-hipp/decomposition-phylogeny-2019

3. Waterisotopes Database. 2019. Project ID 00117. http://waterisotopes.org (Contributed 2019-03-05, Query: Project_ID = '00117')

4. Tiegs, S.D. and **CELLDEX collaborators**. 2019. Global patterns and drivers of ecosystem functioning in rivers and riparian zones. *Science Advances* 5:eaav0486. https://github.com/dmcostello/CELLDEX2018

Book chapters

1. **Follstad Shah, J.J**. 2021. Individual and interacting effects of elevated CO_2, warming, and hydrologic intensification on leaf litter decomposition in streams. Chapter 12 in *The Ecology of Plant Litter Decomposition in Streams and Rivers*, Swan, C.M., Canhoto, C., and Boyero, L. (eds.), Springer, New York, USA. p. 237-271.

2. Kominoski, J.S., S.K. Chapman, W.K. Dodds, **J.J. Follstad Shah**, and J.S. Richardson. 2021. Causes and consequences of changes in riparian vegetation for plant litter decomposition throughout river networks. Chapter 13 in *The Ecology of Plant Litter Decomposition in Streams and Rivers*, Swan, C.M., Canhoto, C., and Boyero, L. (eds.), Springer, New York, USA. p. 273-296.

PUBLICATIONS IN PREPARATION

1. Follstad Shah, J.J, Y.D. Hastings, R. Goel, D. Pataki, and R. Smith. Evolution of soil microbial communities and ecosystem function in a nascent arid-ecosystem green infrastructure facility. In preparation for *Ecological Engineering*.

2. Hastings, Y.D., K.A. Mann*, S.J. Hinners, R. Smith, D. Pataki, R. Goel, and **J.J. Follstad Shah**. Experimental precipitation pulses promote greater nitrogen retention in green infrastructure with greater plant diversity. In preparation for submission to *Water*.

3. **Follstad Shah, J.J**., J. Gallafent*, J.S. Kominoski, M. Ardón, A. Lecerf, and M. Gessner. The temperature sensitivity of leaf litter breakdown is invariant with respect to lotic ecosystem trophic status. In preparation for submission to *Freshwater Science*.

4. **Follstad Shah, J.J**., Y.D. Hastings*, D. Costello, and S.D. Tiegs. The temperature sensitivity of organic matter decomposition in lotic ecosystems varies amongst Earth's biomes. In preparation for submission to *Global Change Biology*.

5. Kettenring, K., B. Duncan, K. Veblen, and **J.J. Follstad Shah**. Cattle grazing suppresses Phragmites growth with no effect nutrient mobilization from soils in wetlands of the Great Salt Lake. In preparation for submission to *Wetlands*.

6. **Follstad Shah, J.J**., S. Weintraub, R. Gabor, and R. Smith. Microbial community response to fluctuating carbon and nutrient supply in an arid-ecosystem urban river. In preparation for submission to *Freshwater Science*.

7. Smith, R., **J.J. Follstad Shah**, R. Gabor, S. Weintraub, P. Brooks, and. M. Navidomskis*. Nutrient loads and processing in an arid-ecosystem urban river. In preparation for submission to *Freshwater Science*.

* Undergraduate student

PRESENTATIONS

Invited Oral Presentations

Follstad Shah, J. 2022. WEO^2: Using the Wasatch Environmental Observatory to engage in water resource research, education & outreach. GROW Seminar Series, Department of Geography, University of Utah, December 2, 2022.

Follstad Shah, J. & Affiliated WEO Scientists. 2022. WEO^2: Using the Wasatch Environmental Observatory to engage in water resource research, education & outreach. University of Utah Global Change & Sustainability Center Seminar Series, March 1, 2022.

Follstad Shah J.J. 2019. Sensitivity of leaf litter breakdown to global changes. Invited seminar, University of British Columbia, February 6, 2019.

Follstad Shah J.J. 2015. Temperature sensitivity of ecosystem processes in streams and rivers. Invited seminar, Evergreen State College, May 29, 2015.

Follstad Shah. J.J. 2013. Ecological responses to stream warming, Invited seminar given to the Department of Watershed Sciences, Utah State University, April 23, 2013.

Follstad Shah, J.J., M.J. Harner & T.M. Tibbets. 2005. Conservation of native Rio Grande cottonwoods: The role of seasonal flooding and non-native species invasion. Invited oral presentation to the Ecosystem Dynamics Division, USGS Fort Collins Research Center, March 30, 2005.

Follstad Shah, J.J. and C.N. Dahm. 2004. Soil nitrogen cycling in riparian forests: Driver of non-native plant invasion? Invited poster presentation at the 2004 US Environmental Protection Agency STAR Graduate Fellowship Conference: Next Generation Scientists, Next Opportunities, Washington, D.C.

October 11-13, 2004.

Follstad Shah, J.J. 2004. A survey of river and riparian research along the middle Rio Grande. An invited oral presentation given to the Sierra Club Sevilleta National Wildlife Refuge Service Trip participants, Sevilleta National Wildlife Refuge, NM. February 24, 2004.

Follstad Shah, J.J., M. Palmer, J.D. Allan, E. Bernhardt, and NRRSS Working Group. 2004. The National Riverine Restoration Science Synthesis: Bridging the science and practice of restoration in riverine corridors. An invited oral presentation at the Freshwater Sciences Interdisciplinary Doctoral Program Annual Workshop, Sevilleta National Wildlife Refuge, NM. January 28-31, 2004.

Follstad Shah, J.J. and J.A. Cherry. 2003. A tale of two restoration projects: Monitoring vegetative succession in the presence and absence of flooding. Invited oral presentation at the University of Alabama, Department of Biological Sciences, Tuscaloosa, AL. August 29, 2003.

Conference/Symposium Presentations (since 2005)

Y.D. Hastings, K.A. Mann, R. Smith, and J. Follstad Shah. Green infrastructure microbial community response to simulated storm events in semi-arid environments. Poster presentation at the Salt Lake County Annual Watershed Symposium, Salt Lake City, UT, November 17, 2022.

Y.D. Hastings, K.A. Mann, R. Smith, and J. Follstad Shah. Green infrastructure microbial community response to simulated storm events in semi-arid environments. Poster presentation at the Joint Aquatic Sciences Annual Meeting, Grand Rapids, MI, May 18, 2022.

K.A. Mann, Y.D. Hastings, R. Smith, and J. Follstad Shah. Diverse vegetation and simulated storm events stimulate short-term N retention in semi-arid bioswales. Poster presentation at the Joint Aquatic Sciences Annual Meeting, Grand Rapids, MI, May 18, 2022.

Follstad Shah, J., Y.D. Hastings, K.A. Mann, D. Pataki, R. Goel, and R. Smith. Plant selection, climate & site age drive biophysical patterns in experimental green infrastructure facilities. Joint Aquatic Sciences Annual Meeting, Grand Rapids, MI, May 16, 2022.

Y.D. Hastings, K.A. Mann, R. Smith, and J. Follstad Shah. Green infrastructure microbial community response to simulated storm events in semi-arid environments. Poster presentation at the Intermountain Sustainability Summit at Weber State University, Ogden, UT, March 23, 2022.

Follstad Shah, J., M. Ardón, J. Kominoski, A. Lecerf, and M. Gessner, 2021. Temperature invariance of leaf litter breakdown amongst taxonomic groups and streams varying in trophic status. Society of Freshwater Science Annual Meeting, Virtual Conference, May 25, 2021.

Follstad Shah, J. and affiliated WEO scientists. 2021. Stable isotopes & hydrochemistry reveal controls on the supply & quality of water resources along wildland to urban land use gradients within the Wasatch Environmental Observatory. CUASI Catchment Science Virtual Seminar Series, March 24, 2021.

Brooks, P.D., J. Ehleringer, B. Bowen, D.R. Bowling, J. Follstad Shah, S. Hinners, J. Lin, D. Pataki, S.M. Skiles, J. Steenberg D.K. Solomon, C. Strong, S. Burian, and D. Eiricksson. 2019. PA13B-1004 Red Butte Creek and the Wasatch Environmental Observatory: A Mountain to Urban Research Facility in the Semi-arid Western US. Poster presentation at the American Geophysical Union Annual Meeting, San Francisco, CA, December 9, 2019.

Follstad Shah, J. 2019. Biophysical patterns of streams & riparia along wildland to urban gradients: Partnerships, community science, & student projects. Poster presentation at the Salt Lake County Watershed Symposium, Salt Lake City, UT, November 13, 2019.

Boogaard, S., J. Follstad Shah, Z. Lundeen, and K. Grady. 2019. Population-level genetics influences Populus fremontii success more than antecedent climate regime at Rio Mesa research garden. Poster presentation at the Science and Management of the Colorado Plateau 15th Biennial Conference, September 11, 2019.

Follstad Shah, J., Z. Lundeen, K. Grady, T. Roberts, B. Milot, and S. Boogaard. 2019. Influence of landscape legacies on riparian plant communities in a changing climate. Science and Management of the Colorado Plateau 15th Biennial Conference, September 10, 2019.

Follstad Shah, J., S. Weintraub, R. Smith, R. Gabor, and Y. Jameel. 2019. Microbial community response to shifting water quantity and quality in an arid urban river ecosystem. Special Session: Novel stressors and novel ecosystems: Ecological processes in freshwaters of the built environment, Society for Freshwater Science Annual Meeting, May 21, 2019.

Follstad Shah, J., Y. Jameel, R. Smith, R. Gabor, and S. Weintraub. 2018. Linking water quantity to water quality in the Jordan River, Utah. Salt Lake County Watershed Symposium, Salt Lake City, UT, November 14-15, 2018.

Jameel, Y., Follstad Shah, J., R. Gabor, R. Smith, and S. Weintraub. 2018. Spatiotemporal variability in hydrologic connectivity controls the physicochemical properties of a semi-arid urban river system. American Geophysical Union Fall Meeting, San Francisco, CA, December 12, 2018.

Follstad Shah, J., R. Gabor, Y. Jameel, R. Smith, and S. Weintraub. 2017. Evidence of groundwater connectivity in the Jordan River despite flow regulation and groundwater inputs. Salt Lake County Watershed Symposium, Salt Lake City, UT, November 15-16, 2017.

Smith, R., J. Follstad Shah, R. Gabor, Y. Jameel, M. Navidomskis. 2017. Nutrient cycling in the Jordan River: seasonal and spatial variation. Salt Lake County Watershed Symposium, Salt Lake City, UT, November 15-16, 2017.

Follstad Shah, J., S. Weintraub, R. Gabor, R. Smith, Y. Jameel, M. Navidomskis. 2017. Microbial community response to energy and nutrient flows within a semi-arid, effluent dominated urban river system. American Water Resources Association Conference, Salt Lake City, UT, May 1-3, 2017.

Gabor, R.S., M. Barnes, G.J. Bowen, W. Brazelton, P.D. Brooks, D. Eiriksson, A. Gelderloos, S.J. Hall, Y. Jameel, M. Millington, M. Navidomskis, B.T. Neilson, J. Follstad Shah, R. Smith, T. Stout, H. Tennant, C. Thornton, S. Weintraub. 2017. Microbes, nutrients and organic matter in urban-impacted rivers. American Chemistry Society 253rd National Meeting, San Francisco, CA, April 2-6, 2017.

Navidomskis, M., J. Follstad Shah, R. Smith, and R. Gabor. 2016. Sources and cycling of nitrogen in the Jordan River. Salt Lake County Watershed Symposium, Salt Lake City, UT, November 15-16, 2016.

Follstad Shah, J.J., R. Gabor, R. Smith, Y. Jameel, M. Navidomskis, and S. Weintraub. 2016. Do microbes of the Jordan River yo-yo diet? Oral presentation at the Salt Lake County Watershed Symposium, Salt Lake City, UT, November 15-16, 2016.

Follstad Shah, J.J., C.L. Crenshaw, M.J. Harner, T.M. Tibbets, D. McDonnell, and L.H. Zeglin. 2016. Cliff Dahm's leadership influence on the Freshwater Sciences Interdisciplinary Doctoral Program. Oral presentation at the Society for Freshwater Science Annual Meeting, Sacramento, CA, May 21-26, 2016.

R.L. Sinsabaugh, J.J. Follstad Shah, S.G. Findlay, K.A. Kuehn, D.L. Moorhead. 2015. Macroscale analysis of microbial community homeostasis. Oral presentation at the Ecological Society of America Annual Meeting, Baltimore, MD, May 9-14, 2015.

Follstad Shah, J., M. Ardon, J. Kominoski, W. Dodds, M. Gessner, N. Griffiths, A. Lecerf, C. LeRoy, D. Manning, S. Johnson, A. Rosemond, R. Sinsabaugh, C. Swan, J. Webster, and L. Zeglin. 2015. Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers. Oral presentation at the Society for Freshwater Science Annual Meeting, Milwaukee, WI, May 17-21, 2015.

Follstad Shah, J. 2012. Quantitative synthesis of leaf decomposition in streams. Poster presentation at the Long Term Ecological Network All Scientists Meeting, Estes Park, CO, August 2012.

Follstad Shah, J., M. Ardon, J. Kominoski, W. Dodds, M. Gessner, N. Griffiths, A. Lecerf, C. LeRoy, D. Manning, S. Johnson, A. Rosemond, C. Swan, J. Webster, and L. Zeglin. 2012. MASS LOSS: A quantitative synthesis of leaf decomposition in streams and rivers. Oral presentation at the Society for Freshwater Science Annual Meeting, Louisville, KY, May 20-24, 2012.

R.L. Sinsabaugh and J.J. Follstad Shah. 2012. Ecoenzymatic stoichiometry of soils, sediments and plankton. Oral presentation at the 2nd International Enzymes in the Environment RCN Workshop, Fort Collins, Colorado, May 15-18, 2012

Follstad Shah, J.J., E.S. Bernhardt, B. Roberts, P. Mulholland, and R.L. Sinsabaugh. 2011. Forcasting effects of increased temperature on whole-stream metabolism. Oral presentation at the North American Benthological Society Annual Meeting, Providence, RI, May 22-26, 2011.

Follstad Shah, J.J., M.H. Harner, and T.M. Tibbets. 2010. Conversion of foundation species in semiarid to arid riparian ecosystems and effects on N cycling and retention. Special session oral presentation at the North American Benthological Society Annual Meeting, Santa Fe, NM, June 6-11, 2010.

Kominoski, J.S. and Follstad Shah, J.J. 2010. Foundation species and terrestrial-aquatic linkages: Effects of shifting plant composition at the aquatic-riparian interface. Special session oral presentation at the North American Benthological Society Annual Meeting, Santa Fe, NM, June 6-11, 2010.

Sinsabaugh, R.L. and Follstad Shah, J.J. 2010. Microbial ecoenzymatic activity in relation to stoichiometric and metabolic theory. Special session oral presentation at the North American Benthological Society Annual Meeting, Santa Fe, NM, June 6-11, 2010.

Follstad Shah, J.J., M.J. Harner, T.M. Tibbets, and R.L. Sinsabaugh. 2009. Flood regime versus plant species effects on soil N cycling along the Rio Grande, New Mexico (USA). Oral presentation at the Ecological Society of America Annual Meeting, Albuquerque, NM, August 2-7, 2009.

Sinsabaugh, R. and J. Follstad Shah (presenting author). 2009. Integrating resource utilization and temperature in metabolic scaling of riverine bacterial production. Oral presentation at the North American Benthological Society Annual Meeting, Grand Rapids, MI, May 16-23, 2009.

Follstad Shah, J., E. Bernhardt, R. Hall, A. Huryn, P. Mulholland, B. Roberts, R. Sinsabaugh, and H. Valett. 2008. Challenges and opportunities presented by stream ecosystems for testing and refining metabolic theory. Oral presentation at the North American Benthological Society Annual Meeting, Salt Lake City, UT, May 25-30, 2008.

Follstad Shah, J.J., C.N. Dahm, and R.L. Sinsabaugh. 2007. Native Populus deltoides ssp. wislizeni and non-native Tamarix chinensis are functionally similar regarding soil nitrogen resource acquisition and allocation. Poster presentation at the Ecological Society of America Annual Meeting, San Jose, CA, August 5-10, 2007.

Follstad Shah, J.J., E.S. Bernhardt, A. Huryn, M.H. Valett. 2007 The metabolic theory of ecology: Insights from stream ecosystems. Oral presentation at the North American Benthological Society Annual Meeting, Columbia, SC, June 3-8, 2007.

Tibbets, T.M., M.J. Harner, and J.J. Follstad Shah. 2007. Potential alteration of riparian ecosystem function by Elaeagnus angustifolia, a non-native nitrogen fixer. Poster presentation at the 2007 American Society of Limnology and Oceanography Annual Aquatic Sciences Meeting, Santa Fe, NM, February 4-9, 2007.

Follstad Shah, J.J. and C.N. Dahm. 2006. Soil nitrogen dynamics in stands of Populus deltoides ssp. wislizeni and Tamarix chinensis with differing flood regimes. Oral presentation at the Tamarix Conference, Ft. Collins, CO, October 3-4, 2006.

Follstad Shah, J. J., C.N. Dahm, S. Gloss, and E.S. Bernhardt. 2006. River and riparian restoration in the Southwest: Results of the National River Restoration Science Synthesis Project. Oral presentation at the North American Benthological Society Annual Meeting, Anchorage, AK, June 4-9, 2006.

Follstad Shah J.J., T.M. Tibbets, M.J. Harner, C.L. Crenshaw, R.L. Sinsabaugh, and C.N. Dahm. 2005. The effects on soil N cycling by invasive species in semi-arid riparian ecosystems. Oral presentation at the 2005 Soil Ecology Society Meeting, Chicago, IL, May 22-25, 2005.

Follstad Shah, J.J. and C.N. Dahm. 2005. Nitrogen availability in riparian forests. Oral presentation at the Northern Arizona University 3rd Annual Cottonwood Symposium, Flagstaff, AZ, March 14-16, 2005.

Follstad Shah, J.J. and C.N. Dahm. 2005. Soil nitrogen cycling in riparian forests: Driver of non-native plant invasion? Oral presentation at the 2005 American Society of Limnology and Oceanography Annual Aquatic Sciences Meeting, Salt Lake City, UT, February 20-25, 2005.