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Educational and Professional History

1. Higher Education

Penn State University, University Park, PA
Doctorate of Philosophy in Civil Engineering, 2011
Graduate Minor in Geosciences
Graduate School Teaching Certificate
Teaching with Technology Certificate
Advisor: Michael N. Gooseff

Michigan State University, East Lansing, MI
Professional Certificate in Watershed Management, 2007

Michigan Technological University, Houghton, MI
Masters of Science in Civil Engineering, 2006
Advisor: David W. Watkins, Jr.

Michigan Technological University, Houghton, MI
Bachelor of Science in Civil Engineering, 2005
Minor in Enterprise
Summa cum laude

2. Academic and Professional History

2019-Current	Associate Professor, O'Neill School of Public and Environmental Affairs, Indiana University, USA
2017-Current	Adjunct Professor, Intelligent Systems Engineering, School of Informatics and Computing, Indiana University, USA
2015-Current	Adjunct Professor, Dept. of Earth and Atmospheric Sciences, Indiana University, USA
2014-2019	Assistant Professor, O'Neill School of Public and Environmental Affairs, Indiana University, USA
2011-2015	Assistant Professor, Department of Earth & Environmental Science, University of Iowa, USA
2011-2015	Associate Research Engineer, IIHR-Hydroscience and Engineering, University of Iowa, USA
2009-2011	Graduate Research Assistant, Penn State University, USA
2009	Instructor, Penn State University, USA
2008-2009	Graduate Teaching Assistant, Penn State University, USA
2005-2008	Design Engineer, Spicer Group, Inc., USA

2003 Engineering Technician, Performance Engineering, Inc., USA

3. Awards and Honors

1. Fulbright Fellow & Fulbright-University of Birmingham Scholar, Fulbright Foundation & Univ. of Birmingham. 2021.
2. Trustees Teaching Award, Office of the Vice Provost for Faculty and Academic Affairs, Indiana University. 2021.
3. Exemplary achievement during a pandemic. O'Neill School of Public and Environmental Affairs. 2021.
4. Selected for Recently Tenured Working Group, Indiana University, 2020.
5. Editor's Choice Award. Water Resources Research publication *Exploring tracer information and model framework trade-offs to improve estimation of stream transient storage processes*, 2019.
6. Inaugural Fischer Faculty Fellows, O'Neill School of Public and Environmental Affairs, Indiana University. 2019-2022.
7. Top 10% most-downloaded paper within 12 months of publication. *Woody debris is related to reach-scale hotspots of lowland stream ecosystem respiration under baseflow conditions* at Ecohydrology. 2019.
8. Outstanding Junior Faculty Award, Vice Provost for Faculty and Academic Affairs, Indiana University. 2018.
9. Vanguard Fellow. Institute of Advanced Studies, University of Birmingham. 2018.
10. Editor's Choice: Aquatic Photochemistry for Environmental Science: Processes & Impacts publication *A field analysis of lampricide photodegradation in Great Lakes tributaries.* 2017.
11. Cover feature article. Environmental Science: Processes & Impacts. *A field analysis of lampricide photodegradation in Great Lakes tributaries.* 2017.
12. Top 10% of publications for Environmental Science: Processes & Impacts publication *A field analysis of lampricide photodegradation in Great Lakes tributaries.* 2017.
13. Outstanding Graduate Teaching Award, School of Public and Environmental Affairs, Indiana University. 2017.
14. Trustees Teaching Award, Office of the Vice Provost for Faculty and Academic Affairs, Indiana University. 2016.
15. Nomination for Outstanding Young Alumnus/a Award, Michigan Technological University. 2015.
16. Cover feature article. Water Resources Research publication *Identifiability of transient storage model parameters along a mountain stream.* Volume 49, Issue 9. 2013.
17. Editor's Choice Award. Water Resources Research publication *Hydrologic and geomorphologic control on hyporheic exchange during baseflow recession in a headwater mountain stream*. 2013.
18. Distinguished Mentor Award, Iowa Center for Research by Undergraduates, University of Iowa. 2013.
19. Editor's highlight. Water Resources Research publication *Hydrologic and geomorphologic control on hyporheic exchange during baseflow recession in a headwater mountain stream*. 2012.
20. Research Spotlight in the American Geophysical Union's *EOS.* Water Resources Research publication *Hydrologic and geomorphologic control on hyporheic exchange during baseflow recession in a headwater mountain stream*. 2012.
21. *Best Presentation Emphasizing Methodology.* Student Presentation Award, North American Benthological Society. 2010.

22. *Harold F. Martin Graduate Assistant Outstanding Teaching Award*. The Graduate School & Office of the V.P. and Dean for Undergraduate Education, Penn State University. 2010.
23. *Outstanding Student Paper Award in Hydrology*. American Geophysical Union, Fall 2009 Meeting. Awarded by the American Geophysical Union
24. *First Place, Hydrograf(x) competition for Visualization in the Hydrologic Sciences.* Consortium of Universities for the Advancement of Hydrologic Science, Inc. 2009.
25. *Best Presentation Emphasizing Methodology.* Student Presentation Award, North American Benthological Society. 2009.
26. *First Place Presentation.* Graduate Exhibition, Engineering Division, Penn State University. 2009.
27. *Outstanding Academic Achievement.* Dept. of Civil and Environmental Engineering, Michigan Technological University. 2005.
28. *Student Leadership Award.* Michigan Technological University Student Foundation. 2004.
29. Awards received by advisees:
    a. Tyler Balson. HydroInformatics Fellow, Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. 2021.
    b. Paige Becker. Graduate Fellow, Dept. of Energy Office of Science Graduate Student Research. 2021.
    c. Molly Cain. NOAA John A. Knauss Marine Policy Fellowship Program. 2021.
    d. Molly Cain. AGU Horton Research Grant. 2020.
    e. Molly Cain. Top 10% most-downloaded paper within 12 months of publication. *Ecohydrologic separation alters interpreted hydrologic stores and fluxes in a headwater mountain catchment* at Hydrological Processes. 2020.
    f. Veda Koraganji and Vakar Ahmed. Indiana University Cheng Wu Innovation Challenge winers. 2020.
    g. Molly Cain. Invited participant in Borlaug Summer Institute on Global Food Security. 2018.
    h. Molly Cain. Best presentation award, Association of SPEA Ph.D. Students Annual Conference. 2017.
    i. Tyler Balson. Best presentation award, Association of SPEA Ph.D. Students Annual Conference. 2017.
    j. Kerry Neil. Best M.S. Poster, Crossroads Geology Conference, Indiana University. 2016.
    k. Kaycee N. Reynolds. *Second Place in Graduate Student Poster Competition*. The Future of Big Data: From Data to Knowledge. University of Nebraska-Lincoln. 2014.
    l. Colleen Brehm. *Distinguished Student Poster,* Fall Undergraduate Research Festival, University of Iowa. 2013.
    m. Mary Weber. *Commended Student Poster*, Spring Undergraduate Research Festival, University of Iowa. 2013.
    n. Vanessa Baratta*. Best Student Poster Presentation.* Geological Society of America North-Central Section Meeting. 2013
    o. Benjamin Green, Joseph Honings, Vincent Schrock, and Joseph Wyckoff. *India Scholar Award*, India Development Service, Second Midwest Conference on Sustainable Development in India. 2013.

4. Professional Memberships

1. American Geophysical Union
2. Geological Society of America
3. Association of State Floodplain Managers

4. Society for Freshwater Scientists (formerly North American Benthological Society)
5. U.S. Green Building Council
6. American Institute of Hydrology

5. Licensure and Certification

1. Professional Engineer, State of Pennsylvania. Since 2011. License Number: PA078807
2. Professional Hydrologist, American Institute of Hydrology. Since 2013. License Number: 13-H-5007
3. Association of State Floodplain Managers: Certified Floodplain Manager. Since 2008. License Number: US-08-03297
4. U.S. Green Building Council: Leadership in Energy and Environmental Design Accredited Professional (LEED-AP). Since 2007.

<u>Scholarship</u>

1. Publications

a. Refereed Publications (n = 62 published, 13 in review/revision, 6 in prep)

Published:

1. Zipper, SC, JC Hammond, M Shanafield, M Zimmer, T Datry, CN Jones, KE Kaiser, SE Godsey, RM Burrows, JR Blaszczak, MH Busch, AN Price, KS Boersma, AS Ward, K Costigan, GH Allen, CA Krabbenhoft, WK Dodds, MC Mims, JD Olden, SK Kampf, AJ Burgin, DC Allen. 2021. Pervasive changes in stream intermittence across the United States. *Environmental Research Letters* 16(084033).
2. Kim, J, NE Blair, AS Ward, K Goff. 2021. Storm-Induced Dynamics of Particulate Organic Carbon in Clear Creek, Iowa: An Intensively Managed Landscape Critical Zone Observatory Story. *Frontiers in Water,* 2(578261).
3. Blair, NE, EA Bettis III, TR Filley, JA Moravek, ANT Papanicolaou, AS Ward, CG Wilson, N Zhou, B Kazmierczak, J Kim. 2021. The spatiotemporal evolution of storm pulse particulate organic carbon in a low gradient, agriculturally dominated watershed. *Frontiers in Water,* 3(600649).
4. Danczak, RE, AE Goldman, RK Chu, JG Toyoda, VA Garayburo-Carusa, N Tolić, EB Graham, HW Morad, L Renteria, JR Wells, SP Herzog, AS Ward, JC Stegen. 2021. Ecological theory applied to environmental metabolomes reveals composisiontal divergence despite conserved molecular properties. *Science of the Total Environment*, 788(147409).
5. Hammond, JC, MA Zimmer, M Shanafield, K Kaiser, SE Godsey, MC Mims, SC Zipper, RM Burrows, SK Kampf, W Dodds, CN Jones, CA Krabbenhoft, KS Boersma, T Datry, JD Olden, GH Allen, AN Price, K Costigan, R Hale, AS Ward, DC Allen. 2020. Spatial patterns and drivers of nonperrenial flow regimes in the contiguous United States. *Geophyscial Research Letters*. 48(2) e2020GL090794.
6. Allen, DC, T Datry, KS Boersma, MT Bogan, AJ Boulton, D Bruno, MH Busch, KH Costigan, WK Dodds, KM Fritz, SE Godsey, JB Jones, T Kaletova, SK Kampf, MC Mims, TM Neelson, JD Olden, AV Pastor, NL Poff, BL Ruddell, A Ruho, G Singher, P Vezza, AS Ward, MA Zimmer. 2020. River ecosystem conceptual models and non-perennial rivers: A critical review. *WIREs Water*. 7:e1473
7. Busch, MH, KH Costigan, KM Fritz, T Datry, CA Krabbenhoft, JC Hammond, MA Zimmer, JD Olden, RM Burrows, WK Dodds, KS Boersma, M Shanafield, SK Kampf, MC Mims, MT Bogan, AS Ward, M Perez Rocha, SE Godsey, GH Allen, JR Blaszczak, CN Jones, DC Allen. 2020. What's in a Name? Patterns, Trends, and Suggestions for Defining Non-Perennial Rivers and Streams. *Water*, 12(1980).

8. Zimmer, MA, KE Kaiser, JR Blaszczak, SC Zipper, JC Hammond, KM Fritz, KH Costigan, J Hosen, SE Godsey, GH Allen, S Kampf, RM Burrows, CA Krabbenhoft, W Dodds, R Hale, JD Olden, M Shanafield, AG DelVecchia, AS Ward, MC Mims, T Datry, MT Bogan, KS Boersma, MH Busch, CN Jones, AJ Burgin, DC Allen. 2020. Zero or not? Causes and consequences of zero-flow stream gage readings. *WIREs-Water.* e1435. 25 pp.
9. Yoder, L, AS Ward, S Spak, KE Dalrymple. 2020. Local Government Perspectives on Collaborative Governance: A Comparative Analysis of Iowa's Watershed Management Authorities. *Policy Studies Journal*. doi: 10.1111/psj.12389.
10. Comer-Warner, S, JLA Knapp, P Blaen, M Klaar, F Shelley, JP Zarnetske, J Lee-Cullin, S Folego, M Kurz, J Lewandowski, J Harvey, AS Ward, C Mendoza-Lera, S Ullah, T Datry, N Kettridge, D Gooddy, J Drummond, E Marti, A Milner, D Hannah, S Krause. 2020. The method controls the story - Sampling method impacts on the detection of pore-water nitrogen concentrations in streambeds. *Science of the Total Environment*, 709, 136075.
11. Ward, AS, SM Wondzell, NM Schmadel, SP Herzog. 2020. Climate Change Causes River Network Contraction and Disconnection in the H.J. Andrews Experimental Forest, Oregon, USA. Frontiers in Water, 2(7).
12. Herzog, SP, AS Ward, SM Wondzell. 2019. Multiscale Feature-feature Interactions Control Patterns of Hyporheic Exchange in a Simulated Headwater Mountain Stream. *Water Resources Research*, 55, 10976– 10992.
13. Drummond, JD, NM Schmadel, CA Kelleher, AI Packman, AS Ward. 2019. Improving predictions of fine particle immobilization in streams. *Geophysical Research Letters*, 46. 9 pp. doi: 10.1029/2019GL085849
14. Ward, AS, JP Zarnetske, V Baranov, PJ Blaen, N Krekenfeld, R Cju, R Derelle, J Drummond, J Fleckenstein, V Garayburu-Caruse, E Graham, D Hannah, CJ Harman, S Herzog, J Hixson, JLA Knapp, S Krause, MJ Kurz, J Lewandowski, A Li, E Marti, M Miller, AM Milner, K Neil, L Orsini, AI Packman, S Plont, L Renteria, K Roche, T Royer, NM Schmadel, C Segura, J Stegen, J Toyoda, J Wells, NI Wisoski, SM Wondzell. 2019. Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th-order mountain stream network, Oregon, USA, *Earth System Science Data*, 11, 1567–1581
15. Ward, AS, SM Wondzell, NM Schmadel, S Herzog, JP Zarnetske, V Baranov, PJ Blaen, N Krekenfeld, R Cju, R Derelle, J Drummond, J Fleckenstein, V Garayburu-Caruse, E Graham, D Hannah, CJ Harman, J Hixson, JLA Knapp, S Krause, MJ Kurz, J Lewandowski, A Li, E Marti, M Miller, AM Milner, K Neil, L Orsini, AI Packman, S Plont, L Renteria, K Roche, T Royer, C Segura, J Stegen, J Toyoda, J Wells, NI Wisoski. 2019. Spatial and temporal variation in river corridor exchange across a 5th-order mountain stream network, *Hydrology and Earth Systems Science*, 23, 5199–5225.
16. Ward, AS, MJ Kurz, NM Schmadel, JLA Knapp, PJ Blaen, CJ Harman, JD Drummond, DM Hannah, S Krause, A Li, E Marti, A Milner, K Neil, S Plont, AI Packman, NI Wisnoski, SM Wondzell, JP Zarnetske. 2019. Solute Transport and Transformation in an Intermittent, Headwater Mountain Stream with Diurnal Discharge Fluctuations. *Water*, 11, 2208.
17. Lewandowski, J, S Arnon, E Banks, O Batelaan, A Betterle, T Croecker, C Coll, JD Drummond, J Gaona Garcia, J Galloway, J Gomez-Velez, RC Grabowski, SP Hersog, R Hinkelmann, A Höhne, J Hollender, MA Horn, A Jaeger, S Krause, A Löchner Prats, C Magliozzi, K Meinikmann, BB Mojarrad, BM Mueller, I Peralta-Maraver, AL Poipp, M Posselt, A Putschew, M Radke, M Raza, J Riml, A Roberston, C Rutere, J: Schaper, M Schirmer, H Schultz, M Shanafield, T Singh, AS Ward, P Wolke, A Wörman, L Wu.

2019. Is the Hyporheic Zone Relevant beyond the Scientific Community? *Water*, 11, 2230.
18. Herzog, SP, WA Eisenstein, BN Halpin, AC Portman, NJM Fitzgerals, AS Ward, CP Higgins, JE McCray. 2019. Co-Design of Engineered Hyporheic Zones to Improve In-Stream Stormwater Treatment and Facilitate Regulatory Approval. *Water*, 11, 2543.
19. Walsh, R and AS Ward. 2019. Redefining Clean Water Regulations Reduces Protections for Wetlands and Jurisdictional Uncertainty. *Frontiers in Water*, 1(1): 1-6. doi: 10.3389/frwa.2019.00001
20. Cain, MR, AS Ward, M Hrachowitz. 2019. Ecohydrologic separation alters interpreted hydrologic stores and fluxes in a headwater mountain catchment. *Hydrological Processes*, 33: 2658– 2675. doi: 10.1002/hyp.13518
21. Czuba, JA, SR David, DA Edmonds, AS Ward. 2019. Dynamics of Surface-Water Connectivity in a Low-Gradient Meandering River Floodplain. *Water Resources Research,* 55: 1849-1870. doi: 10/1029:/2018WR023527
22. Yoder, L, AS Ward, K Dalrymple, S Spak, R Lave. 2019. An analysis of conservation practice adoption studies in agricultural human-natural systems. *Journal of Environmental Management*, 236: 490-498. doi: 10.1016/j.jenvman.2019.02.009
23. Kelleher, C, AS Ward, JLA Knapp, PJ Blaen, MJ Kurz, JD Drummond, JP Zarnetske, DM Hannah, C Mendoza-Lera, NM Schmadel, T Datry, J Lewandowski, AM Milnter, S Krause. 2019. Exploring tracer information and model framework trade-offs to improve estimation of stream transient storage processes. 2019. *Water Resources Research*, 55, 3481– 3501. https://doi.org/10.1029/2018WR023585
24. Ward, AS and AI Packman. 2019. Advancing our predictive understanding of river corridor exchange. *WIREs-Water*, 6(1) e1327. doi: 10.1002/wat21327
25. Ward, AS, J Morgan, T Royer, J White. 2018. Streambed restoration to remove fine sediment alters reach-scale transient storage in a low-gradient 5th order river, Indiana, USA. *Hydrological Processes,* 32(12) 1786-1800 doi: 10.1002/hyp.11518
26. Kumar, P, PVV Lee, ANT Papanicolaou, BL Rhoads, AM Anders, A Stumpf, CG Wilson, EA Bettis III, N Blair, AS Ward, R Filley, H Lin, L Keefer, D Keefe, Y Lin, M Muste, TV Royer, E Foufula-Georgiou, P Belmont. 2018. Critical Transition in Critical Zone of Intensively Managed Landscapes. *Anthropocene*, 22 10-19 doi: 10.1016/j.ancene.2018.04.002
27. Ward, AS, NM Schmadel, SM Wondzell. 2018. Time-variable transit time distributions in the hyporheic zone of a headwater mountain stream. *Water Resources Research. 54: 20pp. doi: 10.1002/2017WR021502*
28. Ward, AS, NM Schmadel, SM Wondzell. Simulation of dynamic expansion, contraction, and connectivity in a mountain stream network. 2018. *Advances in Water Resources.* 104: 64-82. Doi: 10.1016/j.advwatres.2018.01.01
29. Blaen, PJ, MJ Kurz, JD Drummond, JLA Knapp, C Mendoza-Lera, NM Schmadel, MJ Klaar, A Jäger, S Folegot, J Lee-Cullin, AS Ward, JP Zarnetske, T Datry, AM Milner, J Lewandowski, DM Hannah, S Krause. 2018. Woody debris is related to reach-scale hotspots of lowland stream ecosystem respiration under baseflow conditions. *Ecohydrology* 11(5) e1952: 9pp. doi: 10.1002/eco.1952
30. Folegot, S, DM Hannah, SJ Dugdale, MJ Kurz, JD Drummond, MJ Klaar, JC Lee-Cullin, T Keller, E Marti, JP Zarnetske, AS Ward, S Krause. 2018. Low-flow controls on stream thermal dynamics. *Limnologica,* 68, 157-167.
31. Loecke, TD, AJ Burgin, DA Riveros-Iregui, AS Ward, SA Thomas, CA Davis, MA St. Clair. 2017. Weather whiplash in agricultural regions drives deterioration of water quality. *Biogeochemistry*. 133(1) 7-15. doi:10.1007/s10533-017-0315-z

32. McConville, MB, NM Cohen, SM Nowicki, SR Lantz, JL Hixson, AS Ward, CK Remucal. 2017. A field analysis of lampricide photodegradation in Great Lakes tributaries. *Environmental Science: Processes and Impacts,* 19, 891-900.
33. Ward, AS, NM Schmadel, SM Wondzell, MN Gooseff, K Singha. 2017. Dynamic hyporheic and riparian flow path geometry through base flow recession in two headwater mountain stream corridors. *Water Resources Research*. 53(5) 3988-4003. doi: 10.1002/2016WR019875
34. Schmadel, NM, AS Ward, SM Wondzell. 2017. Hydrologic controls on hyporheic exchange in a headwater mountain stream. *Water Resources Research.* 53(7) 6260-6278. doi:10.1002/2017WR020576
35. Kurz, MJ, JD Drummond, E Marti, JP Zarnetske, J Lee-Cullin, MJ Klaar, S Folegot, T Keller, AS Ward, HJ Fleckenstein, T Datry, DM Hannah, S Krause. 2017. Impacts of water level on metabolism and transient storage in vegetated lowland rivers - insights from a mesocosm study. *Journal of Geophysical Research: Biogeosciences.* 122(3) 628-644. doi: 10.1002/2016JG003695
36. Ward, AS, CA Kelleher, SJK Mason, T Wagener, N McIntire, BL McGlynn, R Runkel, R. Payn. A software tool to assess uncertainty in transient storage model parameters using Monte Carlo simulations. 2017. *Freshwater Science.* 36(1) 195-217. doi: 10.1086/690444
37. Russell, J., S Van Horne, AS Ward, EA Bettis III, J Gikonyo. Variability in Students' Evaluating Processes in Peer Assessment with Calibrated Peer Review. 2017. *Journal of Computer Assisted Learning.* 33(2) 178-190. doi: 10.1111/jcal.12176
38. Harman, C, AS Ward, A Ball. 2016. How does reach-scale stream-hyporheic transport vary with discharge? Insights from rSAS analysis of sequential tracer injections in a headwater mountain stream. *Water Resources Research.* 52 7130-7150. *doi:10.1002/2016WR018832.*
39. Reynolds, KN, TD Loecke, AJ Burgin, CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, M St. Clair. 2016. High-frequency nitrate sampling to determine uncertainty of monitoring strategies in agricultural watersheds. *Environmental Science & Technology.* 50(12) 6406-6414. doi:10.1021/acs.est.5b05423
40. Malzone, J, CS Lowry, AS Ward. 2016. Response of the hyporheic zone to transient groundwater fluctuations on the annual and storm event time scales. *Water Resources Research*. 52 1-20. doi:10.1002/2014WR015716
41. Schmadel, NM, AS Ward, MJ Kurz, JH Fleckenstein, JP Zarnetske, DM Hannah, T Blume, T Datry, M Vieweg, C Schmidt, PH Blaen, MJ Klaar, J Knapp, P Romeijn, T Keller, S Folegot, A Marruedo, S Krause. Stream solute tracer timescales changing with discharge and reach length confound process interpretation. 2016. *Water Resources Research*. 52 1-19. doi:10.1002/2015WR018062
42. Schmadel, NM, AS Ward, CS Lowry, J Malzone. Hyporheic exchange controlled by hydrologic boundary conditions. 2016. *Geophysical Research Letters*. 1-10. doi:10.1002/2016GL068286
43. Ward, AS, NM Schmadel, SM Wondzell, C Harman, MN Gooseff, K Singha. 2016. Hydrogeomorphic controls on hyporheic and riparian transport in two headwater mountain streams during base flow recession. *Water Resources Research*. 52(2) 1479-1497. doi:10.1002/2015WR018225
44. Russell, J., S Van Horne, AS Ward, EA Bettis III, M Sipola, MK Rocheford, M Colombo. 2016. Large Lecture Transformation: Adopting Evidence-based Practices to Increase Student Engagement and Performance in an Introductory Science Course. *Journal of Geoscience Education.* 64(1) 37-51. doi: 10.5408/15-084.1

45. Smidt, SJ, JA Cullin, AS Ward, J Robinson, MA Zimmer, LK Lautz, TA Endreny. 2015. A comparison of hyporheic transport at a cross-vane structure and natural riffle feature, West Branch Owego Creek, New York, USA. *Groundwater.* 53(6) 859-871. doi: 10.1111/gwat.12288
46. Ward, AS. 2015. The evolution and state of interdisciplinary hyporheic research. *WIREs-Water*. 3(1) 83-103. doi: 10.1002/wat2.1120 *(Invited monograph).*
47. Ausland, H, AS Ward, L Licht, C Just. 2015. Enhanced Vadose Zone Nitrogen Removal by Poplar During Dormancy. *International Journal of Phytoremediation.* 17(8) 729-736. doi**:** 10.1080/15226514.2014.987371
48. Ward, AS, DM Cwiertny, EP Kolodziej, CC Brehm. 2015. Coupled reversion and stream-hyporheic exchange processes increase environmental persistence of trenbolone metabolites. *Nature Communications.* 6. doi: 10.1038/ncomms8067. 10 pp.
49. González-Pinzón, R., AS Ward, CE Hatch, AN Wlostowski, K Singha, MN Gooseff, R Haggerty, JW Harvey, OA Cirpka, and J Brock. 2015. A field comparison of multiple techniques to quantify surface water–groundwater interactions. *Freshwater Science*. 34(1) 139-160.
50. Davis, CA, AS Ward, D Schnoebelen, L Weber, A Burgin, T Loecke, D Riveros-Iregui, M St. Clair, S Thomas, C Just. 2014. Antecedent moisture controls on stream nitrate flux in an agricultural watershed, Clear Creek, Iowa. *Journal of Environmental Quality.* 43(4) 1494-1503. doi:10.2134/jeq2013.11.0438
51. Ward, AS, MN Gooseff, M Fitzgerald, TJ Voltz, K Singha. 2014. Spatially distributed characterization of hyporheic solute transport during baseflow recession in a headwater mountain stream. *Journal of Hydrology.* 517, 362-377. doi: 10.1016/j.hydrol.2014.05.036
52. Menichino, GT, AS Ward, ET Hester. 2014. Macropores as preferential flow paths in meander bends. *Hydrological Processes.* 28(3) 482-495. doi: 10.1002/hyp.9573
53. Kelleher, CA, T Wagener, BL McGlynn, AS Ward, MN Gooseff, RA Payn. 2013. Identifiability of transient storage model parameters along a mountain stream. *Water Resources Research.* 49(9), 5290-5306. doi:10.1002/wrcr.20413
54. Ward, AS, MN Gooseff, TJ Voltz, M Fitzgerald, K Singha, JP Zarnetske. 2013. How does rapidly changing discharge during storm events affect transient storage and channel water balance in a headwater mountain stream? *Water Resources Research.* 49(9) 5473-5486. doi:10:1002/wrcr.20434
55. Ward, AS, RA Payn, MN Gooseff, BL McGlynn, KE Bencala, CA Kelleher, SM Wondzell, T Wagener. 2013. Variation in surface water – groundwater interactions along a headwater mountain stream: Comparisons between transient storage and water balance analyses. *Water Resources Research,* 49(6), 3359-3374. doi: 10.1002/wrcr.20148
56. Voltz, TJ, MN Gooseff, AS Ward, K Singha, M Fitzgerald, T Wagener. 2013. Riparian hydraulic gradient and stream water exchange dynamics in steep headwater valleys. *Journal of Geophysical Research – Earth Science,* 118(2), 953-969. doi: 10.1002/jgrf.20074
57. Ward, AS, MN Gooseff, K Singha. 2013. How does subsurface characterization affect prediction of hyporheic exchange? *Ground Water,* 51(1), 14-28. doi: 10.1111/j.1745-6584.2012.00911.x
58. Ward, AS, M Fitzgerald, MN Gooseff, TJ Voltz, A Binley, K Singha. 2012. Correction to "Hydrologic and geomorphic controls on hyporheic exchange during baseflow recession in a headwater mountain stream", *Water Resources Research*, doi:10.1029/2012WR012663

59. Ward, AS, M Fitzgerald, MN Gooseff, TJ Voltz, A Binley, K Singha. 2012. Hydrologic and geomorphic controls on hyporheic exchange during baseflow recession in a headwater mountain stream, *Water Resources Research*, doi:10.1029/2011WR011461
60. Ward, AS, MN Gooseff. PA Johnson. 2011. How can subsurface modifications to hydraulic conductivity be designed as stream restoration structures? Analysis of Vaux's conceptual models to enhance hyporheic exchange. *Water Resources Research.* 47(8), W08512, 13pp. doi: 10.1029/2010WRR010028
61. Ward, AS, MN Gooseff, K Singha. 2010. Imaging Hyporheic Zone Solute Transport Using Electrical Resistivity. *Hydrological Processes*. 24(7), 948-952. doi: 10.1002/hyp.7672
62. Ward, AS, MN Gooseff, K Singha. 2010. Characterizing hyporheic transport processes - Interpretation of electrical geophysical data in coupled stream-hyporheic zone systems during solute tracer studies. *Advances in Water Resources: Groundwater - Surface Water Interactions Special Issue*. 33, 1320-1330. doi: 10.1016/j.advwatres.2010.05.008

In Press and Accepted:
(none at this time)

In Review or Revision:
1. David, SR, JA Czuba, DA Edmonds, AS Ward. The Influence of Floodplain Channel Connectivity on Flood Hydrodynamics. *In revision for Water Resources Research.*
2. Brekenfeld, N, T Blume, N Kettridge, DM Hannah, K Bishop, H Laudon, H Schulz, AS Ward, and S Krause. A Robust, Low-Cost Conductance Sensor for High Resolution Real-Time Monitoring of Streambed Pore Water Dynamics. *In revision for Water Resources Research.*
3. Krause, S., et al., Organizational principles of hyporheic exchange flow and biogeochemical cycling across scales. *In review at Water Resources Research.*
4. Hannah, D. et al. Illuminating the 'invisible water crisis' to address global water pollution challenges. *In review at Nature Geoscience.*
5. Ward, AS and RL Walsh. A quantitative history of the U.S. Clean Water Act's Jurisdiction. *In revision for WIREs-Water.*
6. Ward, AS et al. Advancing river corridor science beyond disciplinary boundaries with an inductive approach to hypothesis generation. *In review at Hydrological Processes.*
7. Hixson, JL, et al. Diurnal patterns in transport and transformation in stream-hyporheic systems. *In revision for Hydrological Processes.*
8. Cain, MR, et al. Antecedent conditions control thresholds of tile-runoff generation and nitrogen export in intensively managed landscapes. *In review at Water Resources Research.*
9. Wondzell, SM and AS Ward. The channel source hypothesis: empirical evidence for in-channel sourcing of solutes to explain hysteresis in a headwater mountain stream. *In revision for Hydrological Processes.*
10. Krabbenhoft, C, et al. Assessing placement bias of the global river gauge network. *In review at Nature Geoscience.*
11. Emanuelson, K, et al. Conservative solute transport processes and associated transient storage mechanisms: A comparison of streams with contrasting channel morphologies, land use, and land cover. *In review at Hydrological Processes.*

12. Ward, AS, et al. Holistic Evaluation of Research in the Hydrologic Sciences. *In review at Water Resources Research.*
13. Balson, T, et al. Machine learning network design to enable water quality forecasting. *In review at Hydrological Processes.*

In Preparation (status indicates a complete draft is available upon request):

1. Ward, AS, et al. Reach-to-network scaling of solute tracers in river corridors. *In preparation for Water Resources Research.*
2. Ward, AS et al. Hydrology for a changing world: essential scientific foundations for a global understanding of water resources. *In preparation for WIREs-Water.*
3. Hixson, J, et al., Hardware configuration for a low-cost fluorometer. *In preparation for Sensors.*
4. Wade, J. et al., Evaluation of changing WOTUS jurisdictions for New York's water resources. *In preparation for Journal of Hydrology.*
5. Herzog, SP, et al. Surface-subsurface architecture combine to optimize hyporheic water quality performance. *In preparation for ES&T.*
6. Becker, P, et al. Testing our Assumptions of Representativeness in River Corridor Exchange Studies. *In preparation for Water Resources Research.*

b. Non-refereed Publications (public articles, theses, conference proceedings, solution manuals, technical reports)

1. CUAHSI Board of Directors and Officers. Statement on Holistic Evaluation of Research in Hydrologic Sciences (with consideration of COVID-19 pandemic impacts). *HydroShare*. doi: 10.4211/hs.21e61fe839004fd399439a2a3391a763. Ward is one of five primary authors, noted in acknowledgements.
2. Herzog, S, AH Howell, AS Ward. 2020. English Translation of Chappuis (1946) "A new biotope of aquatic underground fauna". *HydroShare*. doi: 10.4211/hs.d28c7b2d81a644bfba15762074230988
3. Ward, A. S., and R. Walsh. 2020. New Clean Water Act rule leaves U.S. waters vulnerable, *Eos, 101,* https://doi.org/10.1029/2020EO140022. Published on 11 February 2020.
4. Zimmer, MA, KE Kaiser, JR Blaszczak, SC Zipper, JC Hammond, KM Fritz, KH Costigan, J Hosen, SE Godsey, GH Allen, S Kampf, RM Burrows, CA Krabbenhoft, W Dodds, R Hale, JD Olden, M Shanafield, AG DelVecchia, AS Ward, MC Mims, T Datry, MT Bogan, KS Boersma, MH Busch, CN Jones, AJ Burgin, DC Allen. 2020. Is the river really dry? Scientific interpretations of zero flow readings. Advanced Science News. *https://www.advancedsciencenews.com/is-the-river-really-dry-scientific-interpretations-of-zero-flow-readings/*
5. Yoder, L. and AS Ward. 2019. Watershed governance to protect communities from flood risks and water quality degradation. Bloomington, Indiana: Indiana University Public Policy Institute. *https://policyinstitute.iu.edu/doc/watershed-brief.pdf*
6. Sullivan, PL et al.. New opportunities for critical zone science. White-paper resulting from the June 2017 Arlington Critical Zone Observatory (CZO) All Hands Meeting. Co-authored with 50 meeting attendees. 2017.
7. Geologic and Water Survey, Iowa Department of Natural Resources. 2012. Geological and Geophysical Field Investigation of Deer Creek Lake, Plymouth County, Iowa. Technical report prepared for Lake Restoration Section, Iowa Department of Natural Resources.

8. Ward, AS. 2011. Characterizing solute transport in coupled stream-hyporheic systems using electrical resistivity imaging. Ph.D. Dissertation. Department of Civil and Environmental Engineering, Penn State University, University Park, PA.
9. Ward, AS, LR Kump, RL Slingerland. 2011. Instructor's Manual to Mathematical Modeling of Earth's Dynamical Systems. *Princeton University Press*. Princeton, NJ.
10. Hagarty, J, AS Ward, K Singha, MN Gooseff. Electrical Resistivity Imaging to Explore Solute Transport in a Stream System. Symposium on the Application of Geophysics to Engineering and Environmental Problems. 2010.
11. Ward, AS, KA Sawicz, PC Kerr, RA Slingerland. Mechanics of flood tidal delta formation and channel bifurcation. *College of Engineering Research Symposium Proceedings, 6th Annual College of Engineering Research Symposium,* Penn State University. 2009.
12. Schwartz, M and AS Ward. Portable Incubator Design, Construction, Validation, and Case Study. *Technical Reference developed by Kettering University Chapter of Engineers Without Borders*. 2008.
13. Ward, AS, E Chollet, D Suggit, and AJ Lee. 2004. Septic Design and Site Layout for the Centro de Hasta Crecer Ninos, Monterro, Bolivia. International Senior Design Symposium, MTU.
14. Ward, AS. 2007. Paw Paw Lakes and Watershed Management Study. Prepared for the Paw Paw Lake Foundation by Spicer Group, Inc.
15. Ward, AS and TA Inman. 2007. Gilkey Creek Flood Control Study. Prepared for the Genesee County Drain Commissioner by Spicer Group, Inc.
16. Ward, AS. A Review of the Practice of Low Impact Development: Biodetention Design, Analysis, and Life Cycle Assessment. 2006. M.S. Report, Department of Civil ad Environmental Engineering, Michigan Technological University, Houghton, Michigan.
17. Ward, AS and RA Beaubien. 2006. Upper Saginaw Watershed Management Plan. Prepared for the Saginaw Area Storm Water Authority by Spicer Group, Inc.
18. Ward, AS and RA Beaubien. Lower Cass Watershed Management Plan. 2006. Prepared for the Saginaw Area Storm Water Authority by Spicer Group, Inc.
19. Ward, AS and RA Beaubien. 2006. Lower Tittabawassee Watershed Management Plan. Prepared for the Saginaw Area Storm Water Authority by Spicer Group, Inc.
20. Ward, AS, MM Trahan, S Bulberson, A Krevinghaus, G Lefevre. 2005. Hydrologic Model of the Silver River Watershed. Prepared for the Haestad Methods National Hydrologic Modeling Competition by Aqua Terra Tech Enterprise. First place award winner. Michigan Technological University, Houghton, Michigan.
21. Ward, AS, E Chollet, D Suggit, and AJ Lee. 2004. Septic Design and Site Layout for the Centro de Hasta Crecer Ninos, Monterro, Bolivia. Capstone Design Report, Civil Engineering, Michigan Technological University, Houghton, Michigan.

c. Book chapters

1. Wondzell, SM, MN Gooseff, AS Ward, SP Herzog. (accepted) 60010: Geomorphic Controls on Hyporheic Exchange Across Scales - Watersheds to Particles. Treatise in Fluvial Geomorphology.
2. Zlotnik, V, AS Ward, L Lautz, P Brunner, DO Rosenberry, J Harvey. 2016. Chapter 33. Groundwater – Surface Water Interactions. In *Handbook of Groundwater Engineering, 3rd Ed.,* (eds. J.H. Cushman & D.M. Tartakovsky). CRC Press. Boca Raton, Florida, USA.

3. Ward, AS, LR Kump, RL Slingerland. 2011. Instructor's Manual to Mathematical Modeling of Earth's Dynamical Systems. *Princeton University Press*. Princeton, NJ.

d. Refereed conference papers

1. Dennis, HEB, AS Ward, T Balson, Y Li, R Henschel, S Slavin, S Simms, H Brunst. High Performance Computing Enabled Simulation of the Food-Water-Energy System: Simulation of Intensively Managed Landscapes. *PEARC17: Proceedings of the Practice and Experience in Advanced Research Computing 2017 on Sustainability, Success and Impact.* 2017.
2. Ward, AS, MN Gooseff, RY Toto, SE Zappe. Higher-Order Learning Through Virtual Laboratories in Fluid Mechanics: Lessons Learned. *Proceedings of the Mid-Atlantic American Society for Engineering Education*, 2010.

2. Grants Funded

a. External Competitive Grants

1. *Fulbright-University of Birmingham Scholar Award*
   Principal Investigator(s): Adam S. Ward
   Funding Source(s): US-UK Fulbright Commission
   Total Award: £23,625 (about $32,500 US)
   Award Period: 2021-2022

2. *LTER: Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER8)*
   Principal Investigator(s): Michael Paul Nelson (Oregon State Univ.), David M. Bell (USDA), Matthew G. Betts (Oregon State Univ.), Sherri L. Johnson (USDA), Julia A. Jones (Oregon State Univ.).
   Funding Source(s): NSF Long Term Ecological Research (LTER) Program
   Total Award: $7,126,200 US
   Award Period: 2020-2026

3. *Participatory Farmer Monitoring on Nitrate Loss: Using Farm-Scale Data to Improve Nutrient Management and Water Quality*
   Principal Investigator(s): Landon Yoder (Indiana Univ.), Todd Royer (Indiana Univ.), Adam S. Ward, Hans Schmitz (Purdue University)
   Funding Source(s): Sustainable Agriculture Research and Education (SARE)
   Total Award: $237,311 US
   Award Period: 2020-2022

4. *RAPID: Collaborative Research: Increased Access to Infrastructure for Distance Education in Hydrologic Science*
   Principal Investigator(s): Adam S. Ward, Rebecca T. Barnes (Colorado College), Nandita Basu (Univ. of Waterloo), Anne Jefferson (Kent State Univ.), Steven P. Loheide III (Univ. of Wisconsin-Madison), Jerad D. Bales (Consortium of Universities for the Advancement of Hydrologic Science, Inc.), Matthew R. Ross (Colorado State Univ.), Tim P. Covino (Colorado State Univ.)
   Funding Source(s): NSF Hydrologic Sciences

Total Award: $89,782 US
Award Period: 2020-2021

5. *Mapping the Spatial and Temporal Distribution of Cover Crops to Model Water Quality Outcomes*
   Principal Investigator(s): Landon Yoder (Indiana Univ.), Mallory Barnes (Indiana Univ.) Adam S. Ward
   Funding Source(s): Indiana Water Resources Research Center
   Total Award: $14,996 US
   Award Period: 2020-2021

6. *The role of hyporheic exchange in the environmental fate of lampricides*
   Principal Investigator(s): Christine Remucal (Univ. of Wisconsin Madison), Adam Ward (Indiana Univ.)
   Funding Source(s): Great Lakes Fishery Commission
   Total Award: $299,372 ($107,284 to Ward)
   Award Period: 2019-2022

7. *Biogeochemical transformation at critical interfaces in a mercury perturbed watershed science focus area (Oak Ridge National Laboratory Science Focus Area Phase II)*
   Principal Investigator(s): Eric Pierce (Oak Ridge National Laboratory), Scott Brooks (Oak Ridge National Laboratory), Baohua Gu (Oak Ridge National Laboratory), Dwayne Elias (Oak Ridge National Laboratory), Jerry Parks (Oak Ridge National Laboratory), Scott Painter (Oak Ridge National Laboratory)
   Funding Source(s): Department of Energy
   Total Request: $3,185,000 ($120,000 subcontract to Ward as external partner)
   Award Period: 2018 - 2021

8. *RCN: Intermittent River Research Coordination Network (IRRCN): Integrating Intermittent River Ecology and Hydrology*
   Principal Investigator(s): Daniel Allen (Univ. of Oklahoma), Katie Costigan (Univ. of Louisiana - Lafayette)
   Funding Source(s): National Science Foundation Research Coordination Networks (NSF 18-510)
   Total Award: $499,955 ($0 to Ward as Senior Personnel - funds support administration and meeting of an international collaborative network)
   Award Period: 2018-2022

9. *Advancing predictive understanding of hydrologic exchange in the river corridor*
   Principal Investigator(s): Adam S. Ward (Indiana University), Steven M. Wondzell (U.S. Forest Service)
   Funding Source(s): Department of Energy Subsurface Biogeochemical Research (DE-FOA-0001724)
   Total Award: $200,000 ($188,040 to Ward)
   Award Period: 2018 - 2020

10. *Measuring nutrient exports in response to cover crops and climate*
    Principal Investigator(s): Adam Ward (Indiana Univ.), Todd Royer (Indiana Univ.)
    Funding Source(s): Fleming Family Farms LP
    Total Award: $45,000

Award Period: 2018-2020

11. *CAREER: Advancing predictive understanding of hydrologic exchange in the river corridor (2016)*
    Principal Investigator(s): Adam Ward
    Funding Source(s): NSF Hydrologic Sciences
    Total Award: $716,530
    Award Period: 2017-2022

12. *HiFREQ: Smart high-frequency environmental sensor networks for quantifying nonlinear hydrological process dynamics across spatial scales*
    Principal Investigator(s):
        Univ. of Birmingham: S. Krause, N. Kettridge, P. Blaen, A. Milner, R. Bartlett
        SILIXA, Ltd.: A. Chalari, F. Ciocca, M. Mondanos
        RS Hydro: R. Stevens, K. Khamis
        CNRS Rennes Environment Observatory: G. Pinay, Z. Thomas, A. Crave, D. Lague, O. Bour, L. Longuevergne, J. dr Dreuzy, L. Aquilina
        Consejo Superior de Investigaciones Científicas: E. Marti, S. Bernal, M. Ribot
        Naturalea conservació s.l.: C. Latorre, A. Sorolla
        Luxembourg Institute of Science and Technology: L. Pfister, P. Matgen, N. Martinez-Carreras, A. Krein, H. Cauchie
        Swedish University of Agricultural Sciences: H. Laudon, A. Ågren, K. Bishop, K. Eklöf
        Leibniz-Institute of Freshwater Ecology and Inland Fisheries: J. Lewandowski
        GFZ German Research Centre for Geosciences: T. Blume
        HydroReserach: P. Sjödahl, S. Johansson, S. Berglund
        New Mexico Institute of Mining and Technology: J. Gomez-Velez
        Northwestern Univ.: A. Packman
        UVDyne, Ltd: G. Hine, R. Da Campo, G. Bell, Y. Ramachers
        Indiana Univ.: Adam S. Ward
        New Zealand National Institute of Water and Atmospheric Research: S. Larned, R. Davies-Colley, R. Stott, C. Zammit, L. McKergow, M. Srinivasan
        IsardSAT: B. Martines, M. Escorihuela
        EVVOS: S. Nokolov
        Flinders Univ.: O. Batelaan, M. Shanafield, E. Banks
        SETUR: G. Carfantan
    Funding Source(s): Marie Skłodowska-Curie Research and Innovation Staff Exchange (European Commission)
    Total Award: €2,335,500 (€31,500 to Ward as collaborator external to the E.U.). Values represent approximately $2.6M total award and $35,500 to Ward.
    Award Period: 2016-2021

13. *The impact of climate variability and land management practices on water quality in Iowa at the watershed scale*
    Principal Investigator(s): Andy VanLoocke (Iowa State University Agronomy), Adam S. Ward (IU SPEA), Kristie Franz (Iowa State University Geological and Atmospheric Sciences), Emily Heaton (Iowa State University Agronomy), Dave Muth (AgSolver, Inc.), Lisa Schulte Moore (Iowa State University Natural Resources Ecology and Management), Sotirios Archontoulis (Iowa State University Agronomy)

Funding Source(s): U.S. Dept. of Housing and Urban Development via Iowa Nutrient Research Center's Iowa Watershed Approach fund
Total Award: $65,000 ($0 to Ward as co-PI)
Award Period: 2016-2018

14. *Transport and Transformation of Nitrogen, Phosphorus, and Carbon in Intermittent Streams*
Principal Investigator(s): Adam Ward, Todd Royer (Indiana University)
Funding Source(s): Indiana Water Resources Research Center
Total Award: $14,998
Award Period: 2015-2016

15. *Demonstration of the Photodegradation of Lampricides to form benign products during in situ dosing*
Principal Investigator(s): Christina Remucal (Univ. of Wisconsin-Madison), Terrance Hubert (USGS)
Funding Source(s): Great Lakes Fisheries Commission
Total Award: $173,775 US ($0 to Ward as Senior Researcher)
Award Period: 2014-2016

16. *WSC Category 1 - Collaborative Research: Decision processes, climate change, and water resources in the Agricultural Midwest*
Principal Investigator(s): Adam Ward, Kajsa Dalrymple (Univ. of Iowa), Scott Spak (Univ. of Iowa)
Funding Source(s): NSF Water Sustainability and Climate
Total Award: $599,383 US (approx. $200,000 to Ward)
Award Period: 2014-2017

17. *Where rivers, groundwater, and disciplines meet: a hyporheic research network*
Principal Investigator(s): Stefan Krause (Univ. of Birmingham), Jay Zarnetske (Yale University), Adam S. Ward, Scott Larned (National Institute of Water and Atmospheric Research), Thibault Datry (National Research Institute of Science and Technology for Environment and Agriculture), Eugenia Marti (Center for Advanced Studies of Blanes, National Research Council), Jan Fleckenstein (Helmholtz Centre for Environmental Research)
Funding Source(s): Leverhulme Trust
Total Award: £108,574 (approx. $177,000 US; approx. $25,000 to Ward)
Award Period: 2014-2016

18. *University of Iowa Biomass Energy Sustainability Index: A Decision-Making Tool for the University of Iowa Biomass Partnership Project*
Principal Investigator(s): Liz Christiansen (Univ. of Iowa), Ingrid Gronstal Anderson (Univ. of Iowa), Ferman Milster (Univ. of Iowa), Emily Heaton (Iowa State University), Lisa Schulte Moore (Iowa State University), Richard Hall (Iowa State University), John Tyndall (Iowa State University), Adam Ward, Eric Tate (Univ. of Iowa), Tyler Priest (Univ. of Iowa)
Funding Source(s): Leopold Center for Sustainable Agriculture
Total Award: $30,000 US ($0 to Ward)
Award Period: 2014

19. *Water Quality Implications of Unique Transformation Processes of Synthetic Steroids*
    Principal Investigator(s): Edward Kolodziej (Univ. of Nevada-Reno), Chris Jeffrey (Univ. of Nevada-Reno), David Cwiertny (Univ. of Iowa), Adam S. Ward
    Funding Source(s): USDA-Agricultural and Food Research Initiative Competitive Grants Program
    Total Award: $500,000 (approx. $98,190 to Ward as subcontract from Univ. of Nevada-Reno)
    Award Period: 2013-2016

20. *Critical Zone Observatory Network for Intensively Managed Landscapes*
    Principal Investigator(s): Praveen Kumar (Univ. of Illinois – Urbana Champaign), Alison Anders (Univ. of Illinois – Urbana Champaign), E. Art Bettis (University of Iowa), Timothy Filley (Purdue University), Thanos Papanicolaou (University of Iowa)
    Funding Source(s): NSF Critical Zone Observatories
    Total Award: about $5,700,000 US ($257,946 to Ward as Senior Personnel)
    Award Period: 2013-2020

21. *Iowa Nutrient Research Center*
    Principal Investigator(s): Larry J. Weber (University of Iowa), Douglas J. Schnoebelen (University of Iowa), Adam S. Ward
    Funding Source(s): State of Iowa
    Total Award: $1,033,282 US (approx. $294,000 to PI Ward)
    Award Period: 2013-2015

22. *Iowa NSF EPSCoR: Harnessing Energy Flows in the Biosphere to Build Sustainable Energy Systems*
    Principal Investigator(s): Robert C. Brown (Iowa State University), Patrick B. Butler (University of Iowa), Kevin R. Nordmeyer (Iowa State University)
    Funding Source(s): NSF EPSCoR & Iowa Power Fund
    Total Award: $20,000,000 ($449,241 to Ward as Senior Personnel)
    Award Period: 2012-2016

23. *RAPID: Using a drought-enhanced nitrate pulse to understand stream N retention and processing*
    Principal Investigator(s): Amy J. Burgin (Univ. of Nebraska – Lincoln), Terrance D. Locke (Univ. of Nebraska – Lincoln), Diego A. Riveros-Iregui (Univ. of Nebraska – Lincoln), Martin A. St. Clair (Coe College), Adam S. Ward, Steven A. Thomas (Univ. of Nebraska – Lincoln)
    Funding Source(s): NSF - Ecosystem Science
    Total Award: $197,568 ($56,655 to Ward)
    Award Period: 2012-2013

24. *Geophysical Characterization of the Deer Creek Lake Dam and Embankment*
    Principal Investigator(s): Adam S. Ward
    Funding Source: Iowa Department of Natural Resources
    Total Award: $8,100 US
    Award Period: 2012-2013

25. *Techniques to Quantify Stream-Groundwater Exchange and Shallow Transport*

Principal Investigator(s): Michael N. Gooseff (Penn State University), Kamini Singha (Penn State University), Adam S. Ward (University of Iowa), Roy Haggerty (Oregon State University), Christine Hatch (University of Massachusetts – Amherst)
Funding Source(s): Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI)
Total Award: $14,530 US (Approximately $2,500 to Ward)
Award Period: 2012

26. *Use of Electrical Resistivity Imaging to Characterize Hyporheic Flow through Macropores.*
Principal Investigator(s): Erich T. Hester (Virginia Tech.), Adam S. Ward (University of Iowa), Garrett T. Menichino (Virginia Tech.), Michael N. Gooseff (Penn State University), Kamini Singha (Penn State University)
Funding Source(s): Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI)
Total Award: $2,000 US (Approximately $1,400 to Ward)
Award Period: 2011

27. *Developing a Virtual Laboratory for Fluid Mechanics.*
Principal Investigator(s): Adam S. Ward, Michael N. Gooseff (Penn State University)
Funding Source(s): Schreyer Institute for Teaching Excellence, Penn State University
Total Award: $1,000 US
Award Period: 2009-2010

28. *Engineering: Designing Possibilities.*
Principal Investigator(s): Katie Blansett (Penn State University), Adam S. Ward
Funding Source(s): Women in Science and Engineering Institute, Penn State University
Total Award: $1,208 US
Award Period: 2009

29. *Phosphorus Removal and Residence Time Impacts of Best Management Practices in Agricultural Streams.*
Principal Investigator(s): Adam S. Ward, Michael N. Gooseff (Penn State University)
Funding Source(s): Ingham County Drain Commissioner
Total Award: $19,000 US
Award Period: 2009-2012

b. Internal Grants, Contracts

1. *Emergency research support to study the Holiday Fire Response at the H.J. Andrews Experimental Forest*
Principal Investigator(s): Adam S. Ward
Funding Source(s): Vice Provost for Research, O'Neill School
Total Award: $52,250 US
Award Period: 2020-2021

2. *Advancing integrated study of hydrologic and social systems*
Principal Investigator(s): Adam S. Ward
Funding Source(s): Fischer Faculty Fellowship, Indiana University
Total Award: $60,000 US
Award Period: 2019-2022

3. *Data as an eco-social feedback: Connecting farmers, actions, and outcomes through water quality monitoring and modeling*
   Principal Investigator(s): Adam S. Ward, Landon Yoder (Indiana Univ.), Rebecca Lave (Indiana Univ.), Todd Royer (Indiana Univ.)
   Funding Source(s): Indiana Univ. Prepared for Environmental Change RFP
   Total Award: $59,104 US
   Award Period: 2019-2021

4. *Historical to modern management of Indiana's River Corridors*
   Principal Investigator(s): Rebecca Lave (Indiana Univ.), Adam S. Ward, John Baeten (Indiana Univ.)
   Funding Source(s): Indiana Univ. Prepared for Environmental Change RFP
   Total Award: $99,035 US
   Award Period: 2019-2021

5. *Innovative Instructional Technologies & Interdisciplinary Perspectives on Sustainability in Environmental Engineering*
   Principal Investigator(s): Adam S. Ward (Indiana University)
   Funding Source(s): IU Summer Instructional Development Fellowship
   Total Request: $8,000
   Status: 2018-2019

6. *High performance water quality instrumentation for environmental and ecological research*
   Principal Investigator(s): Todd Royer (Indiana University), Adam Ward
   Funding Source(s): Indiana University Office of the Vice Provost for Research, Research Equipment Fund
   Total Award: $97,548
   Award Period: 2018-2019

7. *Climate change and nutrient losses on Indiana farms*
   Principal Investigator(s): Adam Ward (Indiana University), Todd Royer
   Funding Source(s): Faculty Fellows Program, Indiana University Public Policy Institute
   Total Award: $137,718.50
   Award Period: 2018-2021

8. *Outstanding Junior Faculty Award*
   Principal Investigator(s): Adam Ward (Indiana University)
   Funding Source(s): Vice Provost for Faculty and Academic Affairs, Indiana University
   Total Award: $15,000
   Award Period: 2018

9. *Faculty Fellowship Proposal: Spatial and temporal evolution of the Clean Water Act in Indiana (2017)*
   Principal Investigator(s): Adam Ward (Indiana University)
   Funding Source(s): Faculty Fellows Program, Indiana University Public Policy Institute
   Total Award: $25,000
   Award Period: 2017-2018

10. *Prepared for Environmental Change: Resilient Ecosystem, Livable Communities, and Healthy Hoosiers (2016)*
    Principal Investigator(s): Ellen Ketterson (Indiana University)
    Funding Source(s): Indiana University Grand Challenges Initiative
    Total Award: $55,000,000 ($100,000 to A. Ward and R. Lave)
    Award Period: 2017-2022

11. *Innovative Instructional Technologies to Promote Interdisciplinary Thinking in Water Quality Modeling* (2016)
    Principal Investigator(s): Adam S. Ward
    Funding Source(s): IU Summer Course Development Fellowship
    Total Award: $8,000
    Award Period: 2016

12. *Integrating Sustainability Themes & Innovative Instructional Technologies in Water Quality Modeling* (2016)
    Principal Investigator(s): Adam S. Ward
    Funding Source(s): IU Sustainability Course Development Fellowship
    Total Award: $5,000
    Award Period: 2016-2017

13. *Hydrological and Geological Controls on Hyporheic Exchange* (2015)
    Principal Investigator(s): Adam Ward
    Funding Source(s): Indiana University Faculty Research Support Program – External Resubmission
    Total Award: $46,003
    Award Period: 2015-2016

14. *Expanding International Partnerships with IRRAD*
    Principal Investigator(s): Adam S. Ward, Marian Muste (Univ. of Iowa)
    Funding Source(s): International Programs, University of Iowa
    Total Award: $2,500 ($2,500 to Ward)
    Award Period: 2013

15. *Economic trade-offs between surface water quality and groundwater level for municipal drinking water supplies*
    Principal Investigator(s): Aaron Strong (University of Iowa), Adam S. Ward
    Funding Source(s): Water Sustainability Initiative
    Total Award: $5,756 ($0 to Ward)

16. *Distinguished Mentor Award*
    Principal Investigator(s): Adam S. Ward
    Funding Source(s): Iowa Center for Research by Undergraduates, University of Iowa
    Total Award: $2,000 ($2,000 to Ward)
    Award Period: 2013-2014

17. *Large Lecture Transformation: Introduction to Environmental Science*
    Principal Investigator(s): Adam S. Ward, E. Arthur Bettis, III (University of Iowa)
    Funding Source(s): ITS-Instructional Services, University of Iowa
    Total Award: $56,770.73 US ($29,898.35 to Ward)

Award Period: 2013-2014

18. *Groundwater sustainability in agriculturally dominated watersheds: A case-study in Mewat District, Haryana, India*
    Principal Investigator(s): Adam S. Ward, Marian Muste (University of Iowa)
    Funding Source(s): Center for Global & Regional Environmental Research
    Total Award: $29,897 US ($29,897 to Ward)
    Award Period: 2013-2014

19. *Predicting the transport and fate of emerging contaminants using multi-tracer characterization of reactive pathways*
    Principal Investigator(s): Adam S. Ward, David M. Cwiertny (University of Iowa), Dana W. Kolpin (USGS)
    Funding Source(s): Center for Health Effects of Environmental Contamination
    Total Award: $29,127 US ($29,127 to Ward)
    Award Period: 2013-2014

20. *Engaging undergraduates in STEM laboratories using emerging technologies for teaching and learning*
    Principal Investigator(s): Adam S. Ward, E. Arthur Bettis (University of Iowa), Anthony Castronovo (University of Iowa)
    Funding Source(s): Innovations in Teaching with Technology, University of Iowa
    Total Award: $36,827 US ($35,951 to Ward)
    Award Period: 2013-2014

21. *Seismic Refraction Equipment for the Department of Geoscience*
    Principal Investigator(s): Adam S. Ward
    Funding Source(s): CLAS Instructional Equipment, University of Iowa
    Total Award: $28,435 US
    Award Period: 2012-2013

22. *Environmental transport and fate of endocrine-disrupting compounds*
    Principal Investigator(s): Adam S. Ward, David M. Cwiertny (University of Iowa)
    Funding Source(s): Water Sustainability Initiative
    Total Award: $9,300 US ($9,300 to Ward)
    Award Period: 2012

23. *What's a Watershed? Engaging Iowa Communities in Sustainable Water Behaviors*
    Principal Investigator(s): Kajsa E. Dalrymple (University of Iowa), Adam S. Ward
    Funding Source(s): Water Sustainability Initiative
    Total Award: $2,550 US ($0 to Ward)
    Award Period: 2012

24. *Creating self-healing streams: Applying industrial catalytic processes to environmental remediation*
    Principal Investigator(s): Adam S. Ward, Rachel B. Getman (Clemson University)
    Funding Source(s): Obermann Center for Advanced Studies, University of Iowa
    Total Award: $12,000 US ($6,000 to Ward)
    Award Period: 2011-2012

25. *A Field-based Course in Hydrological Science*
Principal Investigator(s): Adam S. Ward
Funding Source(s): Council on Teaching, University of Iowa
Total Award: $4,360 US
Award Period: 2011-2012

3. Funding Proposals Pending Decisions After Deliberations

1. *SRS RN Planning Grant (Track 2): Assessing the Robustness of Nutrient Management Approaches in Integrated Socio-Environmental and Urban-Rural Systems*
Principal Investigator(s): Adam S. Ward, Benjamin Kravitz, Aaron Deslatte, David Koniski
Funding Source(s): NSF Sustainable Regional Systems RFP
Total Award: $147,396 US
Award Period: 2021-2023

4. Funding Proposals Submitted But Not Funded

1. *Detection, prevention, management, and scalable technologies for harmful algal bloom reduction.*
Principal Investigator(s): Todd Royer, Roni Khardon, Lantao Liu, Adam Ward, Trisha Spinbauer
Funding Source(s): US Army Corps of Engineers Funding Opportunity No: W81EWF-20-SOI-0017
Not invited for full proposal.

2. *Network Cluster: Advancing our predictive understanding of river corridors in Earth's Critical Zone*
Principal Investigator(s): Adam S. Ward, Amy J Burgin (Univ. of Kansas), Diana L. Karwan (Univ. of Minnesota), Andrew C. Wilcox (Univ. of Montana), Adam Wymore (Univ. of New Hampshire)
Funding Source(s): NSF Critical Zone Collaborative Networks RFP
Total Award: $11,016,226 US
Award Period: 2020-2025

3. *The Eco-Social Legacy of Agricultural Drainage Constrains Sustainable Water Management in the Wabash River Basin*
Principal Investigator(s): Landon Yoder (Indiana Univ.), Rebecca Lave (Indiana Univ.), Adam S. Ward
Funding Source(s): NSF Geography and Spatial Sciences
Total Award: $339,467 US
Award Period: 2020-2023

4. *Yesterday's conservation and today's nutrient crisis: investigating the eco-social feedbacks degrading water quality in the agricultural Midwest*
Principal Investigator(s): Rebecca Lave (Indiana Univ.), Adam S. Ward, Landon Yoder (Indiana Univ.), John Baeten (Indiana Univ.)
Funding Source(s): NSF Geography and Spatial Sciences
Total Award: $482,679 US
Award Period: 2019-2022

5. *INFEWS/T2: Food-Energy-Water system solutions through cyber-enhanced community engagement*
   Principal Investigator(s): Kristie Franz (Iowa State Univ.), Emily Heaton (Iowa State Univ.), Amy Kaleita (Iowa State Univ.), Linda Shenk (Iowa State Univ.), Dara Wald (Iowa State Univ.).
   Funding Source(s): NSF Innovations at the Nexus of Food, Water, and Energy Systems
   Total Award: $2,500,000 US
   Award Period: 2019-2023

6. *REU Site: EcoInformatics Summer Institute (EISI) - 2018*
   Principal Investigator(s): Desiree Tullos (Oregon State Univ.), Rebecca Hutchinson (Oregon State Univ.)
   Funding Source(s): CNS - CISE - Research Experiences for Undergraduates Sites (Computer Sci. & Eng.)
   Total Request: $288,278
   Status: Not selected for funding

7. *Innovative Instructional Technologies & Interdisciplinary Perspectives on Sustainability in Environmental Engineering*
   Principal Investigator(s): Adam S. Ward (Indiana University)
   Funding Source(s): IU Sustainability Course Development Fellowship
   Total Request: $8,000
   Status: Not selected for funding

8. *Applying the Social-Ecological Systems Framework to intensively managed landscapes of the agricultural Midwestern U.S (2017)*
   Principal Investigator(s): Adam S. Ward (Indiana University), Kristie Franz (Iowa State University)
   Funding Source(s): National Socio-environmental Synthesis Center (SESYNC)
   Total Request: Funds support travel and meeting facilitation
   Status: Not selected for funding, resubmission encouraged

9. *INFEWS/T1: Dynamic decisions in the food energy water nexus: an agent-based assessment of system feedbacks, uncertainties and tradeoffs in the Midwest (2017)*
   Principal Investigator(s): Kristie J. Franz (Iowa State University), J. Gordon Arbuckle (Iowa State University), Lisa S. Schulte (Iowa State University), Andrew VanLooke (Iowa State University), Adam S. Ward (Indiana University)
   Funding Source(s): National Science Foundation - Innovations at the Nexus of Food-Energy-Water Systems
   Total Request: $1,184,434 ($56,509 subcontract to PI Ward from Iowa State University)
   Status: Not selected for funding

10. *Collaborative Research: Does subsurface heterogeneity and structure control river corridor exchange in mountain stream networks? (2017)*
    Principal Investigator(s): Adam Ward
    Funding Source(s): NSF Hydrologic Sciences
    Total Request: $49,939
    Status: Not selected for funding

11. *Co-evolution of human and natural systems in Indiana (1700-Present) (2016)*

Principal Investigator(s): Adam Ward, Rebecca Lave (Indiana University)
Funding Source(s): Indiana Water Resources Research Council
Total Request: $30,000
Status: Not selected for funding

12. *Shaping Our Future: Knowledge, Science, and Governance for Sustainable Water Resources (2016)*
Principal Investigator(s): Todd Royer (Indiana University). Ward is a member of the research team.
Funding Source(s): Indiana University Grand Challenges
Total Request: $47,502,500
Status: Not selected for funding

13. *How does non-stationarity expose FEW system tipping points in the agricultural Midwest? (2016)*
Principal Investigator(s): Kristie Franz, William Gutowski, Chris Rehmann, Leigh Tesfatsion, Andrew VanLooke
Funding Source(s): NSF INFEWS
Total Request: $696,877 ($33,845 to Ward as Senior Personnel)
Status: Not selected for funding

14. *BD Spokes: SPOKE : MIDWEST: Collaborative: Big Data Community for the Nexus of Food, Energy, and Water Systems (BDC-FEWS)* (2016)
Principal Investigator(s): Shashi Shekhar, Rabi Mohtar, Shaoween Wang, Aaron Packman, Luis Rodriguez
Funding Source(s): NSF Big Data Regional Initiative Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)
Total Request: $999,735 ($24,546 to Ward as Senior Personnel)
Status: Not selected for funding

15. *CAREER: An integrated research and education plan to assess stream-hyporheic-riparian dynamics from the flowpath to network scales* (2015)
Principal Investigator(s): Adam s. Ward
Funding Source(s): NSF Hydrologic Sciences
Total Request: $604,991
Status: Not selected for funding

16. *Ecological and biogeochemical responses to experimental browning of headwater streams* (Preliminary Proposal, 2015)
Principal Investigator(s): Todd Royer, Natalie Griffiths, Adam Ward
Funding Source(s): DSF Division of Environmental Biology – Ecosystem Studies
Total Request: n/a (pre-proposal)
Result: Not invited for full proposal

17. *Designing a data-driven state strategic water plan for Indiana* (2014)
Principal Investigator(s): Sally Letsinger, Bill Blomquist, Tracy Branam, Shawn Naylor, Douglas Noonan, Adam Ward, Durnell Fischer, Mark Lawrance
Funding Source(s): Indiana University Collaborative Research Grants
Total Request: $75,000
Result: Not selected for funding

18. *Hydrological and geological controls on riparian hydrodynamics* (2014)
    Principal Investigator(s): Christopher Lowry (SUNY-University at Buffalo), Adam Ward
    Funding Source(s): NSF Hydrologic Sciences
    Status: In Review
    Total Request: $598,683 US (approx. $287,131 to Ward)
    Result: Not selected for funding. Reviews 1 Very Good, 3 Good.

19. *CAREER: An integrated research and teaching plan to advance the use of electrical geophysics in quantifying hyporheic exchange across multiple scales* (2014)
    Principal Investigator(s): Adam Ward
    Funding Source(s): NSF Hydrologic Sciences
    Status: In Review
    Total Request: $580,922 US
    Result: Not selected for funding. Reviews of 3 Excellent, 1 Very Good/Good, 1 Fair.

20. *WSC Category 2 - Collaborative Research: A high-resolution watershed data synthesis network (WDSN) for predicting agricultural nutrient loads and sustainable management practices under changing climate conditions* (2013)
    Principal Investigator(s): Jerry Schnoor (Univ. of Iowa), Larry Weber (Univ. of Iowa), David Bennett (Univ. of Iowa), Adam Ward (Univ. of Iowa), Doug Schnoebelen (Univ. of Iowa)
    Funding Source(s): NSF Water Sustainability and Climate
    Status: In Review
    Total Request: $3,999,630 US (approx. $500,000 to Ward)
    Result: Not selected for funding. Reviews of 3 Very Good, 1 Good, 1 Good/Fair.

21. *How do climate and land management interact to produce a range of outcomes in agricultural landscapes* (2013)
    Principal Investigator(s): Adam S. Ward, Scott Spak (Univ. of Iowa)
    Funding Source(s): Iowa Water Center
    Status: In Review
    Total Request: $59,987 US (approx. $30,000 to Ward)
    Result: Not selected for funding

22. *UrbanH2O* (2013)
    Principal Investigator(s): Philippe Van Cappelen (University of Waterloo), Adam S. Ward, Aaron Strong (University of Iowa), Eric Tate (University of Iowa), Jerry Schnoor (University of Iowa), Nandita Basu (University of Iowa) and 43 other PIs across a total of 30 institutions
    Funding Source(s): NSF (as a partner in the Belmont Forum and G8 Research Councils Initiative)
    Total Request: €2,102,000 Overall; $424,919 US to University of Iowa (approx. $84,000 to Ward)
    Result: Not selected for funding (6 of 72 submittals were funded)

23. *Collaborative Research: Quantifying hyporheic flowpath dynamics as a function of stream restoration structure design and dynamic hydrologic forcing* (2013)
    Principal Investigator(s): Adam S. Ward, Jennifer S. Mueller Price (Rose-Hulman University)

Funding Source(s): NSF-CBET Environmental Sustainability
Total Request: $351,036 US ($281,786 to Ward)
Result: Not selected for funding. Reviews: 1 Very Good, 2 Very Good / Good.

24. *NSF-STEP Type 1: The Sustainable STEM Academy* (2012)
Principal Investigator(s): Craig L. Just (University of Iowa), Saba R. Ali (University of Iowa), Malik S. Henfield (University of Iowa), Tonya L. Peeples (University of Iowa), Adam S. Ward
Funding Source(s): NSF STEP
Total Request: $2,481,371 (approx. $81,000 to Ward)
Result: Not selected for funding.

25. *Center for Nutrient Management: Science-based Solutions for Sustainable Agricultural Landscapes* (2013)
Principal Investigator(s): Catherine Kling (Iowa State University), Matthew Helmers (Iowa State University), Thomas Isenhard (Iowa State University), Larry Weber (University of Iowa), Douglas Schnoebelen (University of Iowa), Mark David (Iowa State University), Gregory McIsaac (University of Illinois – Urbana-Champaign)
Funding Source(s): USEPA
Total Request: $2,500,000 US (approx. $213,300 to Ward)
Result: Not selected for funding.

26. *Iowa Water Sustainability Workshop* (2012)
Principal Investigator(s): Adam S. Ward, Kajsa Dalrymple (University of Iowa)
Funding Source(s): CLAS Excellence and Innovation Program
Total Request: $12,179 US
Result: Encouraged to submit as an Ida Beam Visiting Professorship

27. *Using a drought-enhanced nitrate pulse to understand stream nitrogen retention and processing* (2012)
Principal Investigator(s): Adam S. Ward, Caroline A. Davis (University of Iowa)
Funding Source(s): Iowa Water Center
Total Request: $59,124 US ($59,124 to Ward)
Result: Not selected for funding. Only 1 new proposal was funded from this call; encouraged to resubmit for funding during following calls. Review panel summary in comparison to the one funded proposal from this call: "*your average scores were within a point of each other; the advisory board felt his proposal most closely matched the RFP focus for this year out of all the top ranked proposals*".

28. *Predicting the transport and fate of emerging contaminants in stream networks* (2012)
Principal Investigator(s): Adam S. Ward
Funding Source(s): Mathematical and Physical Sciences Funding Program, University of Iowa
Total Request: $24,717 US
Result: Not selected for funding.

29. *How will anthropogenic alterations of the hydrologic cycle affect groundwater dependent riparian ecosystems in the water-rich Great Lakes Region (USA).* (2012)
Principal Investigator(s): Adam S. Ward, Christopher Lowry (SUNY – University at Buffalo)

Funding Source(s): NSF Hydrologic Science
Total Request: $623,357 US ($331,125 to Ward)
Result: Not selected for funding. 7 reviews total across 2 panels (3 "fair", 2 "good", 1 "good/very good", 1 "very good"). Recommended to revise and resubmit by Hydrologic Science panel.

30. *PRE-PROPOSAL: Quantification of ecosystem process response to climate change across the aquatic-terrestrial-atmosphere continuum (2012)*
Principal Investigator(s): Adam S. Ward, Christopher Lowry (SUNY – University at Buffalo), Diego Riveros-Iregui (University of Nebraska – Lincoln)
Funding Source(s): Terrestrial Ecosystem Science, Department of Energy
Total Request: $1,017,374 US ($338,998 to Ward)
Result: Not invited for full proposal.

31. *PRE-PROPOSAL: Rapid Screening of Metal Catalysts for Emerging Contaminant Removal* (2012)
Principal Investigator(s): Adam S. Ward, Rachel Getman (Clemson University), David Cwiertny (University of Iowa)
Funding Source(s): Water Environment Research Foundation
Total Request: $236,390 US ($103,455 to Ward)
Result: Not invited for full proposal.

32. *How will a changing climate effect groundwater dependent riparian ecosystem in water-rich states?* (2012)
Principal Investigator(s): Adam S. Ward
Funding Source(s): University of Iowa Mathematical and Physical Sciences Funding Program
Total Request: $20,107 US
Result: Not selected for funding. Recommend resubmit for a more general audience.

33. *IGERT: Flood Hazards.* (2012 – UI WINS)
Principal Investigator(s): A. Allen Bradley (University of Iowa), Kajsa Dalrymple, (University of Iowa), Witwold Krajewski (University of Iowa), Eric Tate (University of Iowa), Adam S. Ward
Funding Source(s): NSF IGERT
Total Request: $3.3M US
Result: Not selected by UI WINS

34. *Endocrine Disruptors: Economic, Social, and Environmental Impacts.* (2012)
Principal Investigator(s): Adam S. Ward, David M. Cwiertny (University of Iowa), Nandita B. Basu (University of Iowa)
Funding Source(s): Obermann Center for Advanced Studies, University of Iowa
Total Request: $1,000 US
Result: Not selected for funding. Recommend resubmit with letters of commitment from additional participants.

35. *Development and laboratory-scale testing of catalysts as a nitrate remediation strategy for surface- and groundwaters.* (2011)
Principal Investigator(s): Adam S. Ward, Rachel B. Getman (Clemson University)
Funding Source(s): Center for Health Effects of Environmental Contamination

Total Request: $29,941 US
Result: Not selected for funding.

36. *PRE-PROPOSAL: Spatiotemporal dynamics of groundwater-surface water interactions control contaminant mobilization from the subsurface to the stream.* (2011)
Principal Investigator(s): Adam S. Ward, Kenneth E. Bencala (US Geological Survey), Scott C. Brooks (Oak Ridge National Laboratory)
Funding Source(s): U.S. Department of Energy (DE-FOA-0000555)
Total Request: $1,318,239 US
Result: Program cancelled prior to full proposal submittal.

37. *Can electrical resistivity imaging of solute transport confirm hypotheses of 2-D flow fields derived from distributed temperature sensors?* (2011)
Principal Investigator(s): Adam S. Ward, Laura K. Lautz (Syracuse University)
Funding Source(s): Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI)
Total Request: $2,172 US
Result: Suggested revise and resubmit with more narrow scope and/or preliminary numerical modeling results

38. *Restoration design to promote groundwater-surface water interactions: Quantifying hyporheic flowpath dynamics under variable hydrologic conditions.* (2012)
Principal Investigator(s): Adam S. Ward, Jennifer Mueller Price (Rose-Hulman University)
Funding Source(s): NSF CBET Environmental Sustainability
Total Request: $310,547 US ($244,861 to Ward)
Result: Reviews were "Very Good", "Very Good", and "Good". Encouraged to resubmit with modifications to methods, streamlined hypotheses.

5. Funding Awarded to Advisees

1. *John A. Knauss Marine Policy Fellowship*
Advisee: Molly Cain
Funding Source(s): NOAA Sea Grant Knauss Fellows program
Total Award: $84,000
Award Period: 2020-2022

2. *Science Graduate Student Research Grant*
Advisee: Paige Becker
Funding Source(s): Dept. of Energy
Total Award: $30,000
Award Period: 2021-2022

3. *An open-source, community toolbox for stream solute tracer interpretation*
Advisee: Tyler Balson
Funding Source(s): CUAHSI
Total Award: $5,000
Award Period: 2021

4. *Dynamic hydrologic connectivity controls transport of water and solutes*
Advisee: Molly Cain

Funding Source(s): American Geophysical Union
Total Award: $20,000
Award Period: 2020-2021

5. *Triaging urban stream systems for the future: Hyporheic restoration.*
   Advisee: Skuyler Herzog
   Funding Source(s): The Nature conservancy
   Total Award: $44,200
   Award Period: 2019-2021

6. *Characterizing Reach-Scale Processes: Relating Environmental Transport Spanning Instantaneous and Chronic Releases of Pharmaceuticals in Streams (2018)*
   Advisee: Jase Hixson
   Funding Source(s): Sustainability Research Development Grant, Indiana University
   Total Award: $10,000
   Award Period: 2018-2019

7. *Replumbing the Midwest: How human modification to agricultural drainage has changed hydrologic timescales and fluxes* (2017)
   Advisee: Molly Cain
   Funding Source(s): Sustainability Research Development Grant, Indiana University
   Total Award: $10,000
   Award Period: 2017

8. *Open access publication fee for Antecedent Moisture Controls on Stream Nitrate Flux in an Agricultural Watershed* (2014)
   Advisee: Caroline Davis
   Funding Source(s): UIowa Provost / Libraries Fund for Open Access
   Total Award: $1400
   Award Period: 2014

9. *Presentation at Fall 2013 Geological Society of America, Society for Freshwater Science, Geological Society of America conferences* (2013)
   Advisee: Samuel Smidt
   Funding Source(s): Center for Global & Regional Environmental Research - Graduate Student Travel for Conferences, Department of Earth and Environmental Sciences, Executive Council of Graduate and Professional Studies
   Total Award: $2021
   Award Period: 2013

10. *Presentation at Fall 2013 American Geophysical Union, 2013 Society for Freshwater Science conferences* (2013)
    Advisee: Joseph Cullin
    Funding Source(s): Center for Global & Regional Environmental Research - Graduate Student Travel for Conferences, Department of Earth and Environmental Sciences
    Total Award: $1936
    Award Period: 2013

11. *Presentation at Fall 2013 American Geophysical Union, Geological Society of America conferences* (2013)

Advisee: Matthew Even
Funding Source(s): Center for Global & Regional Environmental Research - Graduate Student Travel for Conferences, Department of Earth and Environmental Sciences
Total Award: $900
Award Period: 2013

12. *Analysis of Soils at the Ciha Fen Site* (2013)
Advisee: Matthew Even
Funding Source(s): Department of Earth and Environmental Sciences
Total Award: $500
Award Period: 2013

13. *Can a Limited Suite of Tracers be used to Predict Fate and Transport of Emerging Contaminants?* (2012)
Advisee: Joseph Cullin
Funding Source(s): Center for Global & Regional Environmental Research, Graduate Student Travel for Field Research
Total Award: $1,930
Award Period: 2012-2013

6. Lectures and Conference Presentations

a. International (University, Agency, Community Lectures)

1. Ward, AS. Advancing our predictive understanding of river corridor exchange. Institute for Global Initiatives Seminar Series, University of Birmingham. 2020.
2. Ward, AS. Advancing Predictive Understanding of River Corridor Exchange. Global Water Futures Seminar Series, University of Saskatchewan. 2018.
3. Ward, AS. The emerging threat of synthetic hormones and their persistence in environmental waters. Institute for Advanced Studies Seminar Series, University of Birmingham. 2018.
4. Muste, MVI, AS Ward. International perspectives in water resources science and management. Indian Institute of Technology - Delhi. Delhi, India. 2013.
5. Browne, S, B Cooks, T Fender, B Green, J Honings, W Klingner, N Lamkey, V Schrock, J Wyckoff, MVI Muste, AS Ward. Toward a sustainable water resources management strategy for Mewat District, Haryana, India. Gurgaon, India. 2013.
6. Ward, AS. Beyond the black box: In-situ quantification of subsurface solute transport using electrical geophysics. University of Birmingham. Birmingham, UK. 2012.

b. International (Invited presentations with published abstracts)

1. Ward, AS, NM Schmadel, SM Wondzell, MN Gooseff, K Singha, C Harman, R Haggerty. An inductive model of hyporheic flowpath geometry and dynamics during baseflow recession. European Geosciences Union General Assembly. 2016.
2. Kurz, M, C Schmidt, P Blaen, J Knapp, J Drummond, E Marti, J Zarnetske, AS Ward, S Krause, and the Leverhulme Hyporheic Zone Network. Attempting to link hydro-morphology, transient storage, and metabolism in streams: insights from reactive tracer experiments. European Geosciences Union General Assembly. 2016.
3. Krause, S, AS Ward, JP Zarnetske, E Martí Roca, S Larned, A Milner, T Datry, JH Fleckenstein, C Schmidt, P Blaen, MJ Kurz, MJ Klaar, JD Drummond, J Knapp, S Folegot, DM Hannah, P Romeijn, T Blume, J Lewandowski, A Maruedo, M Ledger, JA Cullin, M O'Callaghan, T Keller, M Vieweg**.** Unraveling the drivers of spatial and temporal

variability in biogeochemical cycling at aquifer-river interfaces - The LEVERHULME hyporheic zone research network (abstract #98) HydroEco 2015 Vienna Austria.
4. Ward, AS, M Fitzgerald, TJ Voltz, MN Gooseff, K Singha. Geophysical imaging to inform hyporheic solute transport dynamics. European Geosciences Union General Assembly, Austria, 2012.
5. Singha, K, M Fitzgerald, KE Gerecht, TJ Voltz, AS Ward, MN Gooseff. An Exploration of Stream-Riparian Groundwater Exchange During Baseflow Recession: Integration of Hydrologic and Geophysical Data. River Corridor Restoration Conference, Switzerland, 2011.

c. International (contributed abstracts)

1. Ward, AS, J Drummond, A Li, A Lupon, M Kurz, JP Zarnetske, J Stegen, E Marti, V Ouellet, N Brekenfeld, F Mao, E Graham, S Bernal, S Krause, D Hannah. An inductive approach to characterize physical, chemical, and biological system interactions in a 5th order river basin. European Geosciences Union General Assembly. 2020.
2. Brekenfeld, N, N Kettridge, T Blume, AS Ward, H Laudon, K Bishop, D Hannah, S Krause. A small, low-cost, robust and reliable new electrical conductivity sensor for the improved quantification of hyporheic travel times and exchange processes. European Geosciences Union General Assembly. 2019.
3. Krause, S., S Comer, N Brekenfeld, P Blaen, S Ullah, N Kettridge, D Hannah, P Romeijn, B Bonnet, D Gooddy, J Drummond, E Marti, M Kurz, C Mendoza-Llera, V Baranov, J Lewandowski, AS Ward, J Zarnetske. Quantifying microbial metaboloic activity by the Resazurin/Resorufin smart tracer system from plot to catchment scales. European Geosciences Union General Assembly. 2018.
4. Ward, AS NM Schmadel, SM Wondzell. Dynamic network expansion, contraction, and connectivity in the river corridor of a mountain stream network. HydroEco. 2017.
5. Zarnetske, JP, S Plont, AS Ward, NM Schmadel. Spatial stream flow intermittency influences carbon quantity and quality in a headwater mountain stream. HydroEco. 2017.
6. Folegot, S, DM Hannah, SJ Dugdale, MJ Kurz, J Drummond, MJ Klaar, J Lee-Cullin, T Keller, E Marti, JP Zarnetske, AS Ward, S Krause. Low flow controls on stream micro-thermal dynamics. HydroEco. 2017.
7. Lowry, C, J Malzone, NM Schmadel, AS Ward. Hyporheic expansion and contraction due to hydrologic forcing. European Geosciences Union General Assembly. 2017.
8. Ward, AS, DM Cwiertny, EP Kolodziej, C Brehm. Product-to-parent reversion increases ecosystem exposure to and environmental persistence of 17alpha-trenbolone. European Geosciences Union General Assembly. 2016.
9. Blaen, P, M Kurz, J Knapp, C Mendoza-Lera, J Lee-Cullin, M Klaar, J Drummond, A Jaeger, J Zarnetske, J Lewandowski, E Marti, AS Ward, J Fleckenstein, T Datry, S Larned, S Krause. Mulit-scale controls on spatial variability in biogeochemical cycling. European Geosciences Union General Assembly. 2016.
10. Cain, M, AS Ward, N Schmadel, J Hixson. Multi-scale observation of time-variable surface and subsurface interactions of an intermittent urban stream. European Geosciences Union General Assembly. 2016.
11. Blaen, P, M Kurz, J Knapp, C Mendoza-Lera, J Lee-Cullin, M Klaar, J Drummond, A Jaeger, J Zarnetske, J Lewandowski, E Marti, AS Ward, J Fleckenstein, T Datry, S Larned, S Krause. Geomorphic and substrate controls on spatial variability in river solute transport and biogeochemical cycling. European Geosciences Union General Assembly. 2016.
12. Krause, S, et al. Scale dependent importance of spatial heterogeneity in biogeochemical cycling at aquifer-river interfaces. European Geosciences Union General Assembly.

2016.

13. Blair, N, Ward, AS, Moravek, J, Zeng, Y, Cooperberg, D, Bettis III, EA, Prior, K, Davis, C. Landscape Response to a Storm Event in the Clear Creek, IA watershed. Goldschmidt Conference, Prague, Czech Republic. 2015.
14. Kurz, MJ C Schmidt, JH Fleckenstein, T Keller, S Krause, P Romeijn, P Blaen, MJ Klaar, D Hannah, J Knapp, AS Ward, S Larned, JP Zarnetske. Spatial and temporal dynamics of hyporheic respiration under variable discharge conditions (abstract #153) HydroEco Conference, Vienna, Austria. 2015.

d. Domestic (University, Agency, Community Lectures)

1. Ward, AS. Advancing our predictive understanding of river corridor exchange. Department of Biological and Ecological Engineering, Oregon State University. 2021.
2. Ward, AS. The rapidly evolving Waters of the U.S. regulations and court cases: What does this mean for watershed managers? Indiana Lake Management Society Annual Meeting, 2020.
3. Ward, AS and R Walsh. The evolution and modern boundaries of the Clean Water Act. SPEA Master's Program Office Spring 2020 Recruitment Open House, Indiana University. 2020.
4. Ward, AS. Scientific engagement with the regulatory process. Featured speaker and workshop leader, Univ. of Texas Graduate Student Council. (workshop cancelled due to COVID-19 pandemic).
5. Ward, AS. Advancing our predictive understanding of river corridor exchange. Civil & Environmental Engineering Seminar Series, Univ. of Colorado-Boulder. 2019.
6. Ward, AS and R Walsh. The evolution and modern boundaries of the Clean Water Act. SPEA Master's Program Office Spring 2019 Recruitment Open House, Indiana University. 2019.
7. Ward, AS. Advancing Predictive Understanding of River Corridor Exchange. Environmental Science Seminar Series, Indiana University. 2018.
8. Ward, AS. The Emerging Threat of Synthetic Hormones and Their Persistence in Environmental Waters. SPEA Master's Program Office Spring 2018 Recruitment Open House, Indiana University. 2018.
9. Ward, AS, R Walsh. The evolving jurisdiction of the Clean Water Act: Past expansions and current challenges. Environmental Policy Seminar Series, School of Public and Environmental Affairs, Indiana University. 2018.
10. Ward, AS. How variable is exchange in the river corridor through space and time? Environmental Engineering Seminar Series, Northwestern University. 2017.
11. Ward, AS. Coupled reversion and stream-hyporheic exchange processes increase environmental persistence of synthetic hormones used in cattle production. Department of Geography, Geology, and the Environment Seminar Series. Illinois State University. 2017.
12. Ward, AS. The OTHER hockey stick wars: Nitrogen fertilizer, land use, and climate change interactions in the agricultural Midwest. Environmental Policy Seminar Series, School of Public and Environmental Affairs, Indiana University. 2017.
13. Ward, AS. How does river corridor exchange respond to dynamic hydrological forcing? Department of Geology Seminar Series, Michigan State University. 2017.
14. Ward, AS. The Emerging Threat of Synthetic Hormones and Their Persistence in Environmental Waters. SPEA Master's Program Office Spring 2017 Recruitment Open House, Indiana University. 2017.

15. Ward, AS. The Emerging Threat of Synthetic Hormones and Their Persistence in Environmental Waters. SPEA Master's Program Office Fall 2016 Recruitment Open House, Indiana University. 2016.
16. Ward, AS. Dynamic hydrological forcing as a control on transport and fate in streams and their valley bottoms. Department of Biological and Ecological Engineering, Oregon State University. 2016.
17. Ward, AS. The Emerging Threat of Synthetic Hormones and Their Persistence in Environmental Waters. SPEA Master's Program Office Spring 2016 Recruitment Open House, Indiana University. 2016.
18. Ward, AS. Coupled reversion and stream-hyporheic exchange processes increase environmental persistence of synthetic hormones used in cattle production. SPEA Master's Program Office Fall 2015 Recruitment Open House, Indiana University. 2015.
19. Ward, AS. Coupled reversion and stream-hyporheic exchange processes increase environmental persistence of synthetic hormones used in cattle production. Department of Geography Seminar Series, Indiana University. 2015.
20. Ward, AS. Advancing the use of electrical geophysical techniques to characterize hyporheic and riparian transport. Department of Geological Sciences Seminar Series, Indiana University. 2015.
21. Ward, AS. From the front lines: Science-based nutrient management in Iowa. Indiana Water Monitoring Council meeting. 2015.
22. Ward, AS. Coupled reversion and stream-hyporheic exchange processes increase environmental persistence of trenbolone metabolites. Prairie Research Institute, University of Illinois at Urbana-Champaign. 2015.
23. Ward, AS. Stream-hyporheic spiraling increases environmental persistence of Trenbolone metabolites. SPEA Dean's Research Workshop, Indiana University. 2014.
24. Ward, AS. Flood and drought-enhanced variations in streamwater nitrate flux in an agricultural watershed. Environmental Science Seminar Series, Iowa State University. 2014.
25. Ward, AS. Peering into the Black Box: Quantifying solute transport through stream-hyporheic systems using electrical geophysics. Department of Geology, SUNY University at Buffalo. 2014.
26. Ward, AS. Peering into the Black Box: Quantifying solute transport through stream-hyporheic systems using electrical geophysics. School of Public and Environmental Affairs, Indiana University. 2014.
27. Ward, AS. Peering into the Black Box: Quantifying solute transport through stream-hyporheic systems using electrical geophysics. Department of Geology, University of Illinois at Urbana-Champaign. 2013.
28. Ward, AS. How does hydrology control the mobilization, transport, and fate of solutes in agroecosystems? Nelson Institute Center for Sustainability and the Global Environment, University of Wisconsin-Madison. 2013.
29. Ward, AS. Dynamics of transport and fate of solutes in hydrologic landscapes. Department of Civil and Environmental Engineering Seminar Series, Northwestern University. 2013.
30. Ward, AS. Perspectives on industry and academic career opportunities for Civil and Environmental Engineers. Fundamentals of Environmental Engineering Guest Lecturer, Department of Civil and Environmental Engineering, Northwestern University. 2013.
31. Browne, S, B Cooks, T Fender, B Green, J Honings, W Klingner, N Lamkey, V Schrock, J Wyckoff, MVI Muste, AS Ward. Toward a sustainable water resources management strategy for Mewat District, Haryana, India. IIHR-Hydroscience and Engineering Seminar, University of Iowa. 2013.

32. Ward, AS. Dynamics of transport and fate of solutes in hydrologic landscapes. Spring Water Seminar Series, University of Nebraska – Lincoln. 2013.
33. Browne, S, B Cooks, T Fender, B Green, J Honings, W Klingner, N Lamkey, V Schrock, J Wyckoff, MVI Muste, AS Ward. Toward a sustainable water resources management strategy for Mewat District, Haryana, India. Annual Student-led India Winterim Conference, University of Iowa. 2013.
34. Browne, S, B Cooks, T Fender, B Green, J Honings, W Klingner, N Lamkey, V Schrock, J Wyckoff, MVI Muste, AS Ward. Toward a sustainable water resources management strategy for Mewat District, Haryana, India. Department of Geoscience Seminar Series, University of Iowa. 2013.
35. Ward, AS. Hydrologic controls on solute transport and fate in Watersheds. Environmental Engineering Seminar Series, Department of Civil and Environmental Engineering, University of Iowa. 2012.
36. Ward, AS. Hydrologic controls on solute transport and fate in Watersheds. Environmental Chemistry Seminar Series, Department of Chemistry, University of Iowa. 2012.
37. Ward, AS. Hydrologic controls on solute transport and fate in watersheds. Kohn Colloquium, Department of Geography, University of Iowa. 2012.
38. Ward, AS. Time-series analysis of electrical resistivity and in-stream breakthrough curve data. Techniques to quantify stream-groundwater exchange and shallow transport: A hands-on workshop. 2012.
39. Ward, AS. Helping streams heal themselves: Reconnecting streams and their aquifers. Iowa Ground Water Association Annual Meeting, 2011.
40. Ward, AS. How do solutes move through streams and riparian zones? Using geophysical tools to understand stream-groundwater interactions. Department of Earth Science Seminar Series, University of Northern Iowa, 2011.
41. Ward, AS. Peering into the black box: Quantifying subsurface solute transport using electrical geophysics. University of Iowa Water Sustainability Seminar Series, 2011.
42. Ward, AS. Peering into the black box: Quantifying subsurface solute transport using electrical geophysics. IIHR-Hydroscience and Engineering Seminar Series, 2011.
43. Ward, AS. Using hydrogeophysics to characterize subsurface solute transport: prospects and limitations. Department of Civil and Environmental Engineering Seminar Series, Virginia Tech, 2011.
44. Ward, AS. Peering into the black box: Quantifying subsurface solute transport using electrical geophysics. SUNY-University at Buffalo Geology Seminar Series, 2011.
45. Ward, AS and MM Ward. How the Path Influences the Destination: Service Learning Impacts Beyond the University Walls. d80 Conference on International Development and Sustainability. 2008.

e. Domestic (Invited presentations)

1. Ward, AS. River corridor science and the changing U.S. regulatory landscape. CUAHSI 2020 Biennial. (Note that talk was accepted but not presented – conference cancelled due to COVID-19 pandemic).
2. Ward, AS, J Drummond, A Packman, A Li, A Lupon, M Kurz, JP Zarnetske, J Stegen, E Marti, V Ouellet, N Brekenfeld, F Mao, E Graham, M Klaar, S Bernal, S Krause, D Hannah. How and why do physical, chemical, and biological characteristics (co)vary through space in a 5th order river basin? American Geophysical Union Fall Meeting. 2019.
3. Ward, AS, CJ Harman, NM Schmadel, MJ Kurz, P Blaen, SM Wondzell, JD Drummond, DM Hannah, JLA Knapp, S Krause, A Li, E Marti, M Miller, A Milner, K Neil, S Plont, K Roche, AI Packman, N Wisnoski, JP Zarnetske. How do evapotranspiration-driven discharge

fluctuations alter reach-scale ecosystem function? American Geophysical Union Fall Meeting. 2018.

4. Ward, AS, N Schmadel, S Wondzell, S Johnson. How has climate change altered network connectivity in a mountain stream network? 8th International Symposium on Environmental Hydraulics, Notre Dame University. 2018.
5. Ward, AS, SM Wondzell, NM Schmadel. Seasonal and long-term trends in network expansion, contraction, and connectivity. HJ Andrews Experimental Forest monthly all-hands meeting. 2018.
6. Wondzell, SM, AS Ward, NM Schmadel. Subsurface Flow Paths and Summer Low Flows: Simulating Network Dynamics & Flow Permanence. US Forest Service Summer Low Flows in Western Oregon: Processes, Trends, Uncertainties, and Management Implications workshop. 2018.
7. Remucal, C, AS Ward. The role of hyporheic exchange in the environmental fate of lampricides. Great Lakes Fisheries Commission annual meeting. 2018.
8. Ward, AS. Nutrient export from intensively managed landscapes integrates human and natural forcing. Annual meeting of AFRI Water for Agriculture, AFRI Foundational BNRE, National Integrated Water Quality, and NSF/NIFA Water Sustainability and Climate project directors. Washington, DC. 2018.
9. Ward, AS, NM Schmadel, SM Wondzell. Dynamic network expansion, contraction, and connectivity in the river corridor of mountain stream network. American Geophysical Union Fall Meeting. 2017. Abstract H53M-08.
10. Ward, AS, NM Schmadel, SM Wondzell, MN Gooseff, K Singha. An inductive model of hyporheic flowpath geometry and dynamics during baseflow recession. American Geophysical Union Fall Meeting. 2016. Abstract H41H-01.
11. Ward, A.S. Food-Energy-Water Attitudes and Outcomes in the agricultural Midwest. 10th Agro-IBIS Workshop, University of Wisconsin-Madison. 2016.
12. Ward, A.S., K Prior, CA Davis, AJ Burgin, TD Loecke, DA Riveros-Iregui, DJ Schnoebelen, CL Just, SA Thomas, LJ Weber, MA St. Clair, SN Spak, KE Dalrymple. In-stream Nitrogen Processing and Dilution in an Agricultural Stream Network. Society for Freshwater Science. 2015.
13. Ward, AS, CA Davis, A Burgin, T Loecke, D Riveros-Iregui, D Schnoebelen, C Just, S Thomas, L Weber, M St. Clair, S Spak, K Dalrymple, Y Li, K Prior. In-stream nitrate responses integrate human and climate systems in an intensively managed landscape. American Geophysical Union Fall Meeting. 2014. (Abstract H42C-02)
14. Gooseff, MN, A Wlostowski, K Singha, AS Ward, BL McGlynn, W Burgos. Quantifying Stream-Groundwater Interactions and Biogeochemical Cycling at Several Spatial and Temporal Scales. Goldschmidt Conference. 2014. (Abstract 841).
15. Burgin, AJ, TD Loecke, CA Davis, AS Ward, M St. Clair, D Riveros-Iregui, SA Thomas. Drought-induced enrichment of soil nitrogen leads to record high nitrate loading to agricultural river networks. American Geophysical Union Fall Meeting. 2013. (Abstract B32B-02).
16. Wagener, TA, CA Kelleher, BL McGlynn, AS Ward, MN Gooseff, RA Payn. Understanding uncertainty in the characterization of transient storage zone processes in rivers. American Geophysical Union Fall Meeting. 2013. (Abstract B24B-08).
17. Ward, AS. How does hydrology control the mobilization, transport, and fate of solutes in agroecosystems. 9th Agro-IBIS Workshop, University of Wisconsin-Madison. 2013.
18. Browne, S, B Cooks, T Fender, B Green, J Honings, W Klingner, N Lamkey, V Schrock, J Wyckoff, MVI Muste, AS Ward. Toward a sustainable water resources management strategy for Mewat District, Haryana, India. 2nd Midwest Student Conference on Sustainable Development in India; India Development Service. 2013.

19. Singha, K, M Fitzgerald, MN Gooseff, R Swanson, TJ Voltz, AS Ward. Electrical Identification of Parameters Controlling the Good, the Bad and the Ugly of Solute Transport. The Symposium for the Application of Geophysics to Environmental and Engineering Problems (SAGEEP). 2013.
20. Ward, AS, MN Gooseff, K Singha. Time series analysis of geophysical images to quantify subsurface transport of solute plumes. American Geophysical Union Fall Meeting. 2012. (Abstract H53B-1526).
21. Gooseff, MN, MN Taptich, AN Wlostowski, K Gerecht, RA Payn, AS Ward, WB Bowden, M Fitzgerald, BL McGlynn, K Singha, WM Wollheim. Connecting Streams to Watersheds Through Stream-Groundwater Exchange as Determined from the Channel. American Geophysical Union Fall Meeting. 2012. (Abstract PA53A-2077).
22. Ward, AS, MN Gooseff, TJ Voltz, MR Fitzgerald, K Singha. How does valley-bottom hydrology control stream-aquifer interactions in a headwater mountain stream? American Geophysical Union Fall Meeting. 2011. (Abstract H54F-01).
23. Gooseff, MN, AS Ward, RA Payn, TJ Voltz, ED Bernzott; MR Fitzgerald, BL McGlynn, KE Bencala, SM Wondzell, K Singha, DM McKnight. Stream-Groundwater Interactions in Streams Wetting Up and Drying Down. American Geophysical Union Fall Meeting. 2011. (Abstract H53P-03).
24. Singha, K, MR Fitzgerald, KE Gerecht, TJ Voltz, AS Ward, MN Gooseff. An Exploration of Stream-Riparian Groundwater Exchange During Baseflow Recession: Integration of Hydrologic and Geophysical Data. Ground Water Summit & Ground Water Protection Spring Meeting, National Ground Water Association, 2011.
25. Ward, AS, MR Fitzgerald, TJ Voltz, MN Gooseff, K Singha. Geophysical imaging to inform hyporheic flow and solute transport dynamics in 2- and 3-dimensions. American Geophysical Union Fall Meeting. 2010. (Abstract H21K-03).
26. Gooseff, MN, KE Bencala, BL McGlynn, RA Payn, K Singha, AS Ward, AN Wlostowski, WM Wollheim. Observations and Conceptual Models are Primary Controls on Interpretations of Temporal and Spatial Scales of Stream-Groundwater Interactions. American Geophysical Union Fall Meeting. 2010. (Abstract H33J-01).

f. Domestic (Contributed presentations)

1. Helgemore, BJ, PJ Francissen, CK Remucal, AS Ward. 2021. The role of hyporheic exchange in the environmental fate and transport of the lampricide 3-trifluoromethyl-4-nitrophenol. American Chemical Society Spring Meeting.
2. Becker, PS, AS Ward, SP Herzog, SM Wondzell. 2021. Challenging current norms and assumptions in river corridor science. Association of O'Neill PhD Students conference.
3. Herzog, SP, AS Ward, J Bales, RT Barnes, NB Basu, TP Covino, EH Habib, SP Loheide, J Maertens, L Yoder, J Masterman, M Ross. Assessing distance learning in the hydrologic sciences: key takeaways from student and instructor surveys during and after the transition to online teaching. American Geophysical Union Fall Meeting. 2020.
4. Hammond, JC, MA Zimmer, M Shanafield, S Godsey, KE Kaiser, M Mims, R Burrows, C Krabbenhoft, SC Zipper, SK Kampf, AN Price, T Datry, DC Allen, CN Jones, WK Dodds, GH Allen, KH Costigan, AS Ward, M Bogan, RL Hale, KS Boersma, JD Olden, J Hosen. Assessing spatial patterns and drivers of intermittent flow in the contiguous U.S. American Geophysical Union Fall Meeting. 2020.
5. Allen, GH, JD Olden, C Krabbenhoft, P Lin, M Shanafield, KM Fritz, CN Jones, WK Dodds, C Franklin, RL Hale, SC Zipper, AS Ward, T Datry, H Beck, JC Hammond, AJ Burgin, S Godsey, R Burrows, MA Zimmer, KH Costigan, M Mims, A Ruhi, AG DelVecchia, DC Allen. Is our finger on the pulse? Assessing placement bias of the global river gauge network. American Geophysical Union Fall Meeting. 2020.

6. Ferin, K, T Balson, S Liess, AS Ward, TE Twine, A VanLoocke. The Impact of Climate Variability and Land Management Practices on Water Quality in Iowa at the Watershed Scale. American Geophysical Union Fall Meeting. 2020.
7. Ward, AS, MN Gooseff, KE Bencala, TP Covino, SP Herzog, BL McGlynn, RA Payn, NM Schmadel, SM Wondzell. What information from reach-scale tracer experiments can be effectively upscaled to represent longer study reaches? American Geophysical Union Fall Meeting. 2020.
8. Herzog, SP, SM Wondzell, SP Serchan, AS Ward, R Gonzalez-Pinzon, JLA Knapp. Seasonal shifts in dissolved oxygen, carbon dynamics, and resazurin transformation along a 12-m long artificial hyporheic flowpath. American Geophysical Union Fall Meeting. 2020.
9. Becker, PS, AS Ward, SP Herzog, SM Wondzell. How Transferable are River Corridor Exchange Metrics Across Geologies and Scales and What are the Associated Uncertainties of Studying Representative Reaches? American Geophysical Union Fall Meeting. 2020.
10. Krause, S, BW Abbott, VA Baranov, S Bernal, P Blaen, T Datry, J Drummond, JH Fleckenstein, JD Gomez-Velez, DM Hannah, JLA Knapp, MJ Kurz, J Lewandowski, E Marti, C Mendoza-Lera, A Milner, AI Packman, G Pinay, AS Ward, JP Zarnetske. The quest for understanding the organizational principles of hyporheic exchange flow and biogeochemical cycling across scales. American Geophysical Union Fall Meeting. 2020.
11. Avalleneda, PM, T Balson, AS Ward, TV Royer. Temporal Variation in Nitrate Leaching Across Watersheds of the Mississippi River Basin. American Geophysical Union Fall Meeting. 2020.
12. Cain, MR, D Woo, AS Ward, P Kumar. Thresholds of tile runoff generation and nitrogen transport in intensively managed landscapes. American Geophysical Union Fall Meeting. 2020.
13. Ward, AS and R Walsh. Trends in WOTUS and why we continue to see litigation on the U.S. Clean Water Act. American Geophysical Union Fall Meeting. 2020.
14. Ward, AS, and A Packman. Current challenges and future directions for the study of river corridor exchange. American Geophysical Union Fall Meeting. 2019.
15. Ward, AS. Student learning, student satisfaction, and lessons learned from implementing a flipped classroom approach to Water Quality Modeling. American Geophysical Union Fall Meeting. 2019.
16. Becker, PS, AS Ward, S Herzog. How do within- and between-site comparisons limit the transferability of river corridor studies across geologies and scales? American Geophysical Union Fall Meeting. 2019.
17. Cain, MR and AS Ward. Threshold changes in tile drain storm runoff controlled by antecedent conditions. American Geophysical Union Fall Meeting. 2019.
18. Brekenfeld, N, S Comer-Warner, N Kettridge, T Blume, AS Ward, H Laudon, KH Bishop, DM Hannah, S Krause. Measurement of Hyporheic Flowpaths and Residence Times at High Spatial and Temporal Resolution: A Field Application of a Newly Developed, Small and Inexpensive Electrical Conductivity Sensor. American Geophysical Union Fall Meeting. 2019.
19. Stegen, J, RE Danczak, VA Garayburo-Caruso, L Renteria, J Wells, EB Graham, RK Cho, N Tolic, J Toyoda, SM Wondzell, AS Ward, AE Goldman, S Herzog. Deterministic processes drive thermodynamics of stream corridor metabolites. American Geophysical Union Fall Meeting. 2019.
20. Ward, AS and M Kurz. Coupled investigation of hyporheic transport and transformation dynamics in headwater streams: Preliminary findings and experimental design. Department of Energy SBR Program Annual PIs Meeting. 2019.

21. Wondzell, SM and AS Ward. Linking predictions of hydrologic exchange with biogeochemical reaction rates to estimate processing of DOC in a headwater mountain stream corridor. Department of Energy SBR Program Annual PIs Meeting. 2019.
22. Allen, D, T Datry, A Boulton, K Costigan, K Fritz, A Pastor, B Ruddell, E Bernhardt, K Boersma, M Busch, M Bogan, D Bruno-Collados, W Dodds, S Godsey, J Jones, K Tatiana, S Kampf, M Mims, T Neeson, J Olden, L Poff, A Ruhi, G Singer, A Uzan, P Vezza, AS Ward, M Zimmer. The river drying concept: A new ecohydrological perspective and conceptual model for stream networks of the antropocene. Society for Freshwater Science Annual Meeting. 2019.
23. Cain, MR and AS Ward. Dynamic hydrologic connectivity controls transport of water and solutes through Midwest landscapes. Intensively Managed Landscapes Critical Zone Observatory Annual Meeting. 2019.
24. Tchounwou, H, AS Ward. Comparison of Commercial Research Equipment to Low-cost DIY Alternatives. IU MSI STEM Summer Scholars Annual Meeting. 2019.
25. Blasio, P, S Sankari, MR Cain, AS Ward. Tracking the photolysis of pharmaceuticals within the environment. Holland STEM Summer Research Program. 2019.
26. Ward, AS, S Herzog, SM Wondzell, NM Schmadel, CJ Harman, MJ Kurz, P Blaen, SM Wondzell, JD Drummond, DM Hannah, JLA Knapp, S Krause, A Li, E Marti, M Miller, A Milner, K Neil, S Plont, K Roche, AI Packman, N Wisnoski, JP Zarnetske. Spatial and temporal relationships between hydrologic forcing, geologic setting, and river corridor exchange in a mountain stream network. American Geophysical Union Fall Meeting. 2018.
27. Kurz, MJ, SH Ledford, AS Ward, L Toran. Point Source Nutrient Effects on Metabolic Activity and Reactive Solute Transport in an Urban Stream. American Geophysical Union Fall Meeting. 2018.
28. Herzog, S and AS Ward. Strange (stream)bed fellows: How does feature-scale hyporheic exchange depend on neighboring features? American Geophysical Union Fall Meeting. 2018.
29. Schubert, JT, C Schrading, J Kennedy, JA Czuba, S David, DA Edmonds, AS Ward. The Role of Topographic Variability on River-Floodplain Connectivity across Several Floodplains. American Geophysical Union Fall Meeting. 2018.
30. David, SR, JA Czuba, DA Edmonds, AS Ward. How does topography and river-floodplain connectivity influence flooding processes? American Geophysical Union Fall Meeting. 2018.
31. Blair, NE, AS Ward, EA Bettis III, T Papanicolaou, CG Wilson. The Anatomy of a Storm Pulse: An Example from the Clear Creek, IA Site of the Intensively Managed Landscape – Critical Zone Observatory (IML-CZO) American Geophysical Union Fall Meeting. 2018.
32. Ward, AS, S Herzog, S Wondzell, N Schmadel, P Blaen, S Krause, M Kurs, A Li, E Marti, M Miller, A Milner, K Neil, S Plont, K Roche, AI Packman, N Wisnoski, J Zarnetske. How do hydrologic forcing and geologic setting control river corridor exchange in a 5th order mountain stream network? Geological Society of America Annual Meeting. 2018.
33. Herzog, S and AS Ward. Multi-scale hyporheic interactions in pool-step-riffle sequences: Implications for field studies and stream restoration. Geological Society of America Annual Meeting. 2018.
34. Hixon, J and AS Ward. Predicting the environmental fate of photolytic compounds through site-specific characterization. Geological Society of America Annual Meeting. 2018.
35. Ward, AS, NM Schmadel, SM Wondzell, S Johnson. How as climate change altered network connectivity in a mountain stream network? Geological Society of America Annual Meeting. 2018.

36. Cain, MR, AS Ward, M Hrachowitz. Ecohydrologic separation alters interpreted hydrologic stores and fluxes in a headwater mountain catchment. Geological Society of America Annual Meeting. 2018.
37. Rhoads, BL, E Lindroth, JA Czuba, DA Edmonds, I Gunerlap, C Castillo, MR Cain, AS Ward. Reconsidering the concept of bankfull flow: do single-thread meandering river overtop their banks at a distinct bankfull stage? Geological Society of America Annual Meeting. 2018.
38. Anand, S and AS Ward. Application of machine learning techniques to predict nitrogen levels in the Mississippi River basin. Geological Society of America Annual Meeting. 2018.
39. Cain, MR, AS Ward, M Hrachowitz. Accounting for ecohydrologic separation alters interpretations of catchment hydrology. 8th International Symposium on Environmental Hydraulics, Notre Dame University. 2018.
40. Cain, M, AS Ward. Testing the two water worlds hypothesis in a mountain stream basin. Crossroads Geology Conference, Indiana University. 2018.
41. Miller, M, AS Ward, TV Royer. Extracellular enzymatic activity trends in a headwater stream network. Crossroads Geology Conference, Indiana University. 2018.
42. Ward, AS, S Spak, T Balson, Y Li, K Dalrymple. Nutrient export from intensively managed landscapes integrates human and natural forcing (Poster). Annual meeting of AFRI Water for Agriculture, AFRI Foundational BNRE, National Integrated Water Quality, and NSF/NIFA Water Sustainability and Climate project directors. Washington, DC. 2018.
43. Yoder, L, AS Ward, R Lave, K Dalrymple, S Spak. Farmer characteristics or governance process? Reviewing the literature on farmer adoption of conservation practices. Annual meeting of AFRI Water for Agriculture, AFRI Foundational BNRE, National Integrated Water Quality, and NSF/NIFA Water Sustainability and Climate project directors. Washington, DC. 2018.
44. Ward, AS, NM Schmadel, SM Wodnzell, S Johnson. How has climate change altered network connectivity in a mountain stream network? American Geophysical Union Fall Meeting. 2017. Abstract EP52A-04.
45. Blair, NE, AS Ward, EA Bettis, N Zhou, BM Kazmierczak. Particulate Organic Carbon (POC) and Particulate N (PN) behaviors in Response to Storm Events in the Clear Creek, IA Site of the Intensively Managed Landscape – Critical Zone Observatory (IML-CZO). American Geophysical Union Fall Meeting. 2017. Abstract B43E-2175.
46. Hixson, J, AS Ward, M McConville, C Remucal. Controls on the Environmental Fate of Compounds Controlled by Coupled Hydrologic and Reactive Processes. American Geophysical Union Fall Meeting. 2017. Abstract H23D-1689.
47. Cain, MR, AS Ward, M Hrachowitz. Accounting for Ecohydrologic Separation Alters Interpreted Catchment Hydrology. American Geophysical Union Fall Meeting. 2017. Abstract H23H-1775.
48. Ward, AS, S Spak, T Balson, Y Li, K Dalymple. Nutrient export from intensively managed landscapes integrates human and natural forcing. U.S. Critical Zone Observatories All-hands Meeting. 2017.
49. Balson, T, Y Li, AS Ward, HEC Dennis, R Henschel, H Brunst, S Simms, S Slavin. Scaling parallel modeling of agroecosystems with Lustre. Lustre User Group Conference. 2017.
50. Ferin, KM, A VanLoocke, AS Ward. The impact of climate variability and land management practices on water quality in Iowa at the watershed scale Iowa Water Conference. 2017.
51. Kumar, P, AM Anders, EA Bettis, NE Blair, TR Filley, DA Grimley, PV Le, H Lin, YF Lin, DA Keefer, LL Keefer, M Muste, AI Packman, T Papanicolaou, BL Rhoads, M Richardson, DJ Schnoebelen, A Stumpf, AS Ward, CG Wilson, D Woo, Q Yan, AE Goodwell. Anthropogenic

Reorganization of Critical Zone in Intensively Managed Landscapes. American Geophysical Union Fall Meeting. 2016. Abstract EP42B-08.

52. Spak, S, AS Ward, Y Li, KE Dalrymple. Influences of historical and projected changes in climate and land management practices on nutrient fluxes in the Mississippi River Basin, 1948-2100. American Geophysical Union Fall Meeting. 2016. Abstract H13D-1401.
53. Hixson, J, AS Ward, NM Schmadel, M McConville, C Remucal. Interaction of Physical and Chemical Processes Controlling the Environmental Fate and Transport of Lampricides Through Stream-Hyporheic Systems. American Geophysical Union Fall Meeting. 2016. Abstract H23A-1537.
54. Kurz, MJ, JD Drummond, E Marti Roca, JP Zarnetske, JA Lee-Cullin, M Klaar, S Folegot, T Keller, AS Ward, JH Fleckenstein, T Datry, DM Hannah, S Krause. Impacts of Water Level on Metabolism and Transient Storage in Vegetated Lowland Rivers - Insights from a Mesocosm Study. American Geophysical Union Fall Meeting. 2016. Abstract H31B-1355.
55. Ward, AS. What have we done? The evolution and state of hyporheic research. American Geophysical Union Fall Meeting. 2016. Abstract H43D-1466.
56. Schmadel, NM, AS Ward. Stream Discharge and Groundwater Inflow as Controls on Hyporheic Exchange Mediated by Heterogeneous Morphology. American Geophysical Union Fall Meeting. 2016. Abstract H43D-1478.
57. McConville, M, T Hubert, AS Ward, C Remucal. Photochemical fate of lampricides in tributaries of the great lakes. Gordon Research Conference – Environmental Science: Water. 2016.
58. Jackson, L, D McKnight, AS Ward. How do pollutants move through streams? Indiana University Holland Summer Scholars Research Program Conference. 2016.
59. Ward, AS. Human and climate drivers of in-stream nutrient loads in agricultural landscapes. SPEA – IIT Bombay Meeting and Workshop, Indiana University. 2016.
60. Neil, K., AS Ward. How comparable are nutrient spiraling experiments in space and time? Crossroads Geology Conference, Indiana University. 2016.
61. Remucal, CK, M McConville, AS Ward. Evidence of lampricide photodegradation during field applications to tributaries of the Great Lakes. American Chemical Society National Meeting. 2016. Abstract ENVR 553.
62. McConville, M, AS Ward, CK Remucal. Evidence of lampricide photodegradation during field applications to tributaries of the Great Lakes. Midwest Chapter of the Society of Environmental Toxicology and Chemistry, 24th Annual Meeting. 2016.
63. Ward, AS and KE Dalrymple. Food-Energy-Water Attitudes and Outcomes in the agricultural Midwest. Water Sustainability and Climate Annual Meeting, National Science Foundation. 2016.
64. Ward, AS, NM Schmadel, S Wondzell, C Harman, M Gooseff, K Singha. Hyporheic transport in headwater mountain streams is time-invariant in locations where geologic controls dominate hydrologic forcing. American Geophysical Union Fall Meeting. 2015. Abstract H31K-05.
65. Hixson, J, AS Ward, N Schmadel. Multi-scale Observation of Time-Variable Interactions of a Stream and its Valley Bottom During a Storm Event. American Geophysical Union Fall Meeting. 2015. Abstract H33C-1601.
66. Schmadel, NM, AS Ward, MJ Kurz, S Krause, JH Fleckenstein, JP Zarnetske, DM Hannah, T Blume, T Datry, M Vieweg, C Schmidt, PJ Blaen, MJ Klaar, J Knapp, P Romeijn, T Keller, S Folegot, Amaia Marruedo. Solute tracer transport does not vary systematically with stream discharge or geomorphology. American Geophysical Union Fall Meeting. 2015. Abstract H31K-04.

67. O'Donnell, B, S Wondzell, S Serchan, R Haggerty, AS Ward, NM Schmadel. Channel and Catchment Morphology, Spatial Intermittency, and Carbon Chemistry of a Headwater Stream. American Geophysical Union Fall Meeting. 2015. Abstract H33C-1618.
68. Malzone, JM, CS Lowry, AS Ward. Numerically Modeling temporal hyporheic zone dynamics with the Brinkman-Darcy equation. Geological Society of America Annual Conference. 2015.
69. Wisnoski, NI, AS Ward, JT Lennon. *Bacterial metacommunity structure across a stream network*. LTER All Scientists Meeting. 2015.
70. Ward, AS. *Hydrological and geological controls on nitrate storm responses in Iowa.* Concentration-Discharge working group meeting, U.S. Critical Zone Observatory Network. 2015.
71. Penmetcha, P, I Smith, AS Ward, T Royer. Water quality in the Jordan River. Indiana University Holland Summer Scholars Research Program Conference. 2015.
72. I Smith, P Penmetcha, AS Ward, T Royer. Transport and transformation in the Jordan River. Indiana University Holland Summer Scholars Research Program Conference. 2015.
73. Yitna, MT, AS Ward, M Cain, NM Schmadel. Water exchange between streams and groundwater under storm and base-flow conditions. Indiana University STEM Summer Scholars Institute. 2015.
74. *Reynolds, KN, TD Loecke, AJ Burgin, *CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, MA St. Clair. *High-frequency Nitrate Monitoring to Quantify Uncertainties of Sampling Strategies in Agricultural Watersheds.* School of Natural Resources Graduate Student Association Poster Contest. Lincoln, Nebraska. 2015.
75. *Reynolds, KN, TD Loecke, AJ Burgin, *CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, MA St. Clair. *Water Quality in Agricultural Watersheds: Exploring Patterns, Fluxes and Uncertainties of Nitrate Using High-Resolution Data.* Invited Seminar: Coe College. Cedar Rapids, IA. 2015.
76. *Reynolds, KN, TD Loecke, AJ Burgin, *CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, MA St. Clair. *High-Frequency Nitrate Sampling to Determine Sufficient Monitoring Strategies in Agricultural Watersheds.* Society for Freshwater Science Annual Meeting. Milwaukee, WI. 2015.
77. Ward, AS, DM Cwiertny, EP Kolodziej, *CC Brehm. Transport vs. transformation of steroidal hormones in stream-hyporheic systems. NSF Site Visit to IML-CZO. 2015.
78. *Prior, K, AS Ward, *CA Davis, AJ Burgin, TD Loecke, DA Riveros-Iregui, SA Thomas, MA St. Clair. In-stream nitrogen processing and dilution in an agricultural stream network. NSF Site Visit to IML-CZO. 2015.
79. *Davis, CA, AS Ward, AJ Burgin, TD Loecke, DA Riveros-Iregui, DA Schnoebelen, CL Just, SA Thomas, LJ Weber, MA St. Clair. Antecedent moisture conditions control mobilization of nutrient in Clear Creek watershed. NSF Site Visit to IML-CZO. 2015.
80. *Leonard, M, AS Ward. Storm nitrogen dynamics in Iowa agricultural watersheds. NSF Site Visit to IML-CZO. 2015.
81. *Reynolds, KN, TD Loecke, AJ Burgin, CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, MA St. Clair. *High-frequency Nitrate Monitoring to Quantify Uncertainties of Sampling Strategies in Agricultural Watersheds.* NSF Site Visit to IML-CZO. 2015.
82. Blair, NE, AS Ward, J Moravek, Y Zeng, D Cooperberg, K Dutta, EA Bettis, K Prior, C Davis, *Landscape response to a storm event in the Clear Creek, IA Watershed.* NSF Site Visit to IML-CZO. 2015.
83. Gold, A, D Riveros-Iregui, CA Davis, AS Ward, AJ Burgin, TD Loecke, SA Thomas, MA St. Clair. *Hydrologic and morphologic controls of nitrate concentrations in Iowa, USA.* Climate Change Symposium, University of North Carolina at Chapel Hill. 2015.

84. Ward, AS, KE Dalrymple, SN Spak. *In-stream nitrate responses integrate human and climate systems in an intensively managed landscape.* Water Sustainability and Climate Annual Meeting, National Science Foundation. 2015.
85. Dalrymple, KE, J Krajewski, AS Ward, SN Spak. *We are what we drink: Examining public perceptions of water quality in the agricultural Midwest.* Water Sustainability and Climate Annual Meeting, National Science Foundation. 2015.
86. Ball, AE, C Harman, AS Ward*. A novel approach to in- and near-stream transport for transient flows across spatial scales*. Northeastern Section Meeting of the Geological Society of America. 2015.
87. Ward, AS, DM Cwiertny, EP Kolodziej. *Product-to-parent reversion processes: Stream-hyporheic spiraling increases ecosystem exposure and environmental persistence.* American Geophysical Union Fall Meeting. 2014. (Abstract H23R-02)
88. Ward, AS, EA Bettis, J Russell, S Van Horne, MK Rocheford, M Sipola, MR Colombo *Improved student engagement, satisfaction, and learning outcomes in a "flipped" large-lecture setting.* American Geophysical Union Fall Meeting. 2014. (Abstract ED11A-3382)
89. Weber, M, AS Ward, and M Muste. *Modeling groundwater quality in an arid agricultural environment in the face of an uncertain climate: the case of Mewat District, India.* American Geophysical Union Fall Meeting. 2014. (Abstract H13A-1050)
90. Prior, K, AS Ward, CA Davis, AJ Burgin, TD Loecke, DA Riveros-Iregui, SA Thomas, MA St. Clair. *In-stream Nitrogen Processing and Dilution in an Agricultural Stream Network.* American Geophysical Union Fall Meeting. 2014. (Abstract H11B-0877)
91. Gonzalez-Pinzon, R, AS Ward , C Hatch , AN Wlostowski , K Singha , MN Gooseff , R Haggerty , JW Harvey , OA Cirpka and JT Brock. *A field comparison of techniques to quantify surface water – groundwater interactions.* American Geophysical Union Fall Meeting. 2014. (Abstract H21J-01)
92. Bettis EA, AS Ward, J Russell, S Van Horne, MK Rocheford, M Sipola, MR Colombo. *Implementing Calibrated Peer Review in a Large-lecture Science Course.* American Geophysical Union Fall Meeting. 2014. (Abstract ED11A-3393)
93. Ball, A, CJ Harman, and AS Ward. *Modeling hyporheic exchange and in-stream transport with time-varying transit time distributions.* American Geophysical Union Fall Meeting. 2014. (Abstract H31B-0602)
94. Kurz, MJ, C Schmidt, J Knapp, P Blaen, T Keller, P Romeijn, S Krause, AS Ward, J Fleckenstein, S Larned, J Zarnetske, E Martí Roca, T Datry, and the LEVERHULME Hyporheic Zone Network. *Spatial and Temporal Dynamics of Hyporheic Respiration Under Variable Discharge Conditions.* American Geophysical Union Fall Meeting. 2014. (Abstract H24D-03)
95. Reynolds, KN, TD Loecke, AJ Burgin, CA Davis, D Riveros-Iregui, SA Thomas, AS Ward, M St. Clair. High-frequency Water Quality Monitoring to Quantify Uncertainties of Sampling Strategies in Agricultural Watersheds. The Future of Big Data: From Data to Knowledge, November 6-7, 2014 at Nebraska Innovation Campus Conference Center.
96. Russell, J, S Van Horne, AS Ward, EA Bettis III, M Colombo, J Gikonyo, M Sipola. Nurturing writing and critical thinking skills with Calibrated Peer Review (CPR) in a large lecture environmental science course. 11th annual Conference of the International Society for the Scholarship of Teaching and Learning. 2014.
97. Weber, M, AS Ward, M Muste. Simulation of potential futures to explore sustainable water management strategies in Mewat District (Haryana, India). Department of Earth and Environmental Sciences Research Expo. University of Iowa. 2014.
98. Filley, T, K Crooker, AS Ward. Sourcing organic matter input from subsurface tile drainage and overland flow in a Midwestern agricultural watershed. All Hands Meeting for the National Critical Zone Observatory Network. 2014.

99. Cullin, JA, AS Ward, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, LE Hubbard. Field predictions of the fate and transport of a photolytic contaminant of emerging concern at Fourmile Creek in Ankeny, Iowa. EmCon 2014: Fourth International Conference on Occurrence, Fate, Effects, & Analysis of Emerging Contaminants in the Environment. 2014.
100. Ward, AS, JA Cullin, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, LE Hubbard. Reach-scale predictions of the fate and transport of contaminants of emerging concern at Fourmile Creek in Ankeny, Iowa. EmCon 2014: Fourth International Conference on Occurrence, Fate, Effects, & Analysis of Emerging Contaminants in the Environment. 2014.
101. Ward, AS, DM Cwiertny, EP Kolodziej, CC Brehm. Product-to-parent reversion of Trenbolone: Stream-hyporheic spiraling increases ecosystem exposure and environmental persistence. EmCon 2014: Fourth International Conference on Occurrence, Fate, Effects, & Analysis of Emerging Contaminants in the Environment. 2014.
102. Ball, A, C Harman, AS Ward. Applied time-varying transit time distributions for understanding hyporheic exchange. CUAHSI Fourth Biennial Colloquium on Hydrologic Science and Engineering. 2014.
103. Bainbridge, S, AS Ward. Inter- and Intra-annual Nitrate Dynamics in Clear Creek During 2012 and 2013. Summer Undergraduate Research Conference. 2014.
104. Davis, CA, AS Ward, D Schnoebelen, L Weber, AJ Burgin, TD Loecke, DA Riveros-Iregui, MA St. Clair, SA Thomas, C Just. Antecedent moisture controls on stream nitrate flux in an agricultural watershed, Clear Creek, Iowa. Joint Aquatic Sciences Meeting. 2014.
105. Burgin, AK, TD Loecke, DA Riveros-Iregui, SA Thomas, AS Ward, CA Davis, MA St. Clair. Weather whiplash in agricultural regions creates unforeseen changes in water quality. Joint Aquatic Sciences Meeting. 2014.
106. Adams, CJ, AJ Burgin, TD Loecke, SA Thomas, MA St. Clair, CA Davis, KN Reynolds, AS Ward, DA Riveros-Iregui. The effect of stream flow on phosphorus loading to the Iowa-Cedar River Basins. Joint Aquatic Sciences Meeting. 2014.
107. Reynolds, KN, TD Loecke, DA Riveros-Iregui, AJ Burgin, SA Thomas, AS Ward, CA Davis, MA St. Clair. Using a high frequency monitoring network to quantify optimal sampling strategies in agricultural watersheds. Joint Aquatic Sciences Meeting. 2014.
108. Smidt, SJ, JA Cullin, AS Ward, J Robinson, MA Zimmer, LK Lautz, TA Endreny. A comparison of hyporheic exchange at a stream restoration structure and a natural feature. College of Engineering Research Open House, University of Iowa. 2014.
109. Even, MJ, AS Ward, EA Bettis III, CS Lowry. How resilient are vegetation communities to climate change at the Ciha Fen (Johnson County, IA, USA)? College of Engineering Research Open House, University of Iowa. 2014.
110. Cullin, JA, AS Ward, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, L Hubbard. Reach-scale predictions of the fate and transport of contaminants of emerging concern at Fourmile Creek in Ankey, Iowa. College of Engineering Research Open House, University of Iowa. 2014.
111. Smidt, SJ, AS Ward. Using electrical resistivity tomography to quantify hyporheic exchange. 16th Annual J.F. Jakobsen Graduate Conference, University of Iowa. 2014.
112. Even, MJ, AS Ward, EA Bettis III, CS Lowry. How resilient are vegetation communities to climate change at the Ciha Fen (Johnson County, IA, USA)? 16th Annual J.F. Jakobsen Graduate Conference, University of Iowa. 2014.
113. Cullin, JA, AS Ward, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, L Hubbard. Reach-scale predictions of the fate and transport of contaminants of emerging

concern at Fourmile Creek in Ankey, Iowa. 16th Annual J.F. Jakobsen Graduate Conference, University of Iowa. 2014.

114. Brehm, C, AS Ward, DM Cwiertny, EP Kolodziej. How does product-to-parent reversion affect the transport and fate of Trenbolone in stream networks? 16th Annual J.F. Jakobsen Graduate Conference, University of Iowa. 2014.
115. Smidt, SJ, AS Ward. Electrical resistivity tomography as a hydrogeophysical tool for characterizing surface water-groundwater interactions. 126th Annual Meeting of the Iowa Academy of Science. 2014.
116. Ward, AS. What do stream tracers actually measure? Parameterization of stream transport models with geophysics-based transit time distributions. American Geophysical Union Fall Meeting. 2013. (Abstract H41C-1247).
117. Cullin, JA, AS Ward, SM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, LE Hubbard. Reach-scale predictions of the transport and fate of contaminants of emerging concern using a multi-tracer injection at Fourmile Creek (Ankeny, Iowa). American Geophysical Union Fall Meeting. 2013. (Abstract H33C-1379).
118. Smidt, SJ, AS Ward. Quantifying the controls of discharge and regional hydrogeologic gradients on hyporheic exchange. American Geophysical Union Fall Meeting. 2013. (Abstract H33F-1450).
119. Even, M, AS Ward, EA Bettis III, C Lowry. How resilient are vegetation communities to climate change at the Ciha Fen (Johnson County, IA, USA)? American Geophysical Union Fall Meeting. 2013. (Abstract H21F-1126).
120. Brehm, C, AS Ward, DM Cwiertny, EP Kolodziej. How does product-to-parent reversion affect the transport and fate of Trenbolone in stream networks? Fall Undergraduate Research Festival, University of Iowa. 2013.
121. Weber, M, AS Ward, M Muste. Simulation of potential futures to explore sustainable water management strategies in Mewat District (Haryana, India). Homecoming Exposition, Department of Earth and Environmental Sciences, University of Iowa. 2013.
122. Smidt, SJ, AS Ward, JA Cullin, J Robinson, TA Endreny, LK Lautz, MA Zimmer. 2013. Do stream restoration structures create hyporheic zones that are comparable to those at natural features? Homecoming Exposition, Department of Earth and Environmental Sciences, University of Iowa. 2013.
123. Even, MJ, AS Ward, EA Bettis III, CS Lowry. How resilient are vegetation communities to climate change at the Ciha Fen (Johnson County, IA, USA)? Geological Society of America Annual Meeting and Exposition. 2013.
124. Smidt, SJ, AS Ward. Quantifying the controls of discharge and regional hydrogeologic gradients on hyporheic exchange. Geological Society of America Annual Meeting and Exposition. 2013.
125. Ward, AS. What do stream tracers actually measure? Mapping temporal concepts onto spatial domains. Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Gordon Research Conference. 2013.
126. Burgin, A, CA Davis, T Loecke, D Riveros-Iregui, D Schnoebelen, M St. Clair, S Thomas AS Ward, L Weber. Flood and drought-enhanced variations in streamwater nitrate flux in an agricultural watershed, Clear Creek, Iowa. Ecological Society of America. 2013.
127. Haines, B, C Davis, AS Ward, D Schnoebelen, L Weber. Quantifying Iowa's spring 2013 nitrate export with high frequency in-situ monitoring. Student Poster Session, Iowa NSF EPSCoR Annual Meeting, University of Northern Iowa. 2013.
128. Brehm, C, AS Ward, N Basu. How much model complexity is required to accurately represent reactive transport of estrone and 17β-estradiol in stream networks? Spring Undergraduate Research Festival, University of Iowa. 2013.

129. Weber, M, AS Ward, M Muste. Simulation of potential futures to explore sustainable water management strategies in Mewat District (Haryana, India). Spring Undergraduate Research Festival, University of Iowa. 2013.
130. Smidt, SJ, AS Ward, JA Cullin, J Robinson, TA Endreny, LK Lautz, M Zimmer. Do stream restoration structures create hyporheic zones comparable to those at natural features? Society for Freshwater Science. 2013.
131. Cullin, JA, AS Ward, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, L Hubbard. Using a multi-tracer injection to characterize reactive pathways in a wastewater effluent-dominated stream. Society for Freshwater Science. 2013.
Baratta, VM, EA Bettis III, AS Ward, F Weirich. The effects of freeze-thaw cycles and stormwater runoff input on three biosoil mixtures. Geological Society of America North-Central Section Meeting . 2013.
132. Cullin, JA, AS Ward, DM Cwiertny, LB Barber, DW Kolpin, PM Bradley, SH Keefe, L Hubbard. Using a multi-tracer injection to characterize reactive pathways in a wastewater effluent-dominated stream. Jakobsen Conference, University of Iowa. 2013.
133. Smidt, S, AS Ward. Experimental design for quantifying the role of stream gradient and discharge on hyporheic exchange. Jakobsen Conference, University of Iowa. 2013.
134. Even, MJ, AS Ward, EA Bettis III, C Lowry. Designing a field and numerical experiment to evaluate the resilience of vegetation communities to climate change at the Ciha Fen (Johnson County, IA, USA). Jakobsen Conference, University of Iowa. 2013.
135. Ward, AS, J Robinson, TA Endreny, J Cullin, S Smidt, LK Lautz, MA Zimmer. Do stream restoration structures create hyporheic zones that are comparable to those at natural features? American Geophysical Union Fall Meeting. 2012. (Abstract H12B-06).
136. Kelleher, CA, T Wagener, BL McGlynn, AS Ward, MN Gooseff, RA Payn. Stream characteristics determine the importance of transient storage processes. American Geophysical Union Fall Meeting. 2012. (Abstract H11E-1240).
137. Mallakpour, I, AS Ward, NB Basu. Understanding the Spatial and Temporal Variations in Hormone Transport within the Stream Ecosystem. American Geophysical Union Fall Meeting. 2012. (Abstract H13E-1403).
138. Zhou, T, AS Ward, BL O'Connor, TA Endreny. Floodplain Hyporheic Response under Dam Release Hydrographs. American Geophysical Union Fall Meeting. 2012. (Abstract H11D-1217).
139. Smith, C, AS Ward, CA Kelleher. A comparison between stream tracer analysis methods. Brownbag seminar series, Department of Geoscience, University of Iowa. 2012.
140. Ward, AS, MN Gooseff, K Singha, M Fitzgerald, TJ Voltz. How do short- and long-term storage change during storm events in a headwater mountain stream? Geological Society of America Annual Meeting and Exposition. 2012. (Paper No. 143-3).
141. Ward, AS. Clear Creek BAER Site & Hydrological Controls on Solute Transport and Fate. Iowa EPSCoR Subject Expert Review, Iowa State University. 2012.
142. Singha, KS, and AS Ward. Inverse modeling electrical resistivity data. Techniques to quantify stream-groundwater exchange and shallow transport: A hands-on workshop. 2012.
143. Singha, KS, and AS Ward. Electrical geophysical methods. Techniques to quantify stream-groundwater exchange and shallow transport: A hands-on workshop. 2012.
144. Ward, AS, MN Gooseff, KE Bencala, RA Payn, SM Wondzell, CA Kelleher, T Wagener. How does transient storage change as a function of valley position and flow rate? American Geophysical Union Fall Meeting. 2011. (Abstract H44D-07).
145. Menichino, GT, AS Ward, D Scott, ET Hester. Macropore Effects on Stream Hydrology at Multiple Scales. American Geophysical Union Fall Meeting. 2011. (Abstract H44D-08).

146. Ward, AS, MN Gooseff, AM Binley, MR Fitzgerald, TJ Voltz, K Singha. How do solutes move through hyporheic zones? Using 3-dimensional geophysical imaging to quantify transport processes in headwater streams. North American Benthological Society Meeting, Providence, Rhode Island. 2011.
147. Ward, AS, MN Gooseff, PA Johnson. Design of subsurface stream restoration structures. ASCE EWRI World Environmental & Water Resources Congress, 2011.
148. Sickling, VG, GT Menichino, AS Ward, ET Hester. Characterizing the Effects of Macropores on Hyporehic Zone Hydraulics in Meander Bends. Geological Society of America Meeting. Minneapolis, Minnesota. 2011.
149. Ward, AS, MN Gooseff, PA Johnson. Subsurface structures as a novel stream restoration strategy. College of Engineering Research Symposium, Penn State University. 2011.
150. Ward, AS, TJ Voltz, MR Fitzgerald MN Gooseff, K Singha. How do storm dynamics change solute transport and transient storage in headwater streams? American Geophysical Union Fall Meeting. 2010. (Abstract H31J-04).
151. Voltz, TJ, AS Ward, MR Fitzgerald, MN Gooseff, K Singha, T Wagener. How do relative magnitudes of down- and cross-valley hydraulic gradients vary with flow dynamics? Analysis of daily, storm, and seasonal baseflow recession timescales. American Geophysical Union Fall Meeting. 2010. (Abstract H31J-03).
152. Ward, AS, MN Gooseff, MP Miller, EW Boyer, CP Ferreri. Hyporheic Response to Streambed Clogging: A Field and Numerical Study. North American Benthological Society Meeting, Santa Fe, New Mexico. 2010.
153. Ward, AS, MN Gooseff, RY Toto, SE Zappe. Higher-Order Learning Through Virtual Laboratories in Fluid Mechanics: Lessons Learned. Proceedings of the Mid-Atlantic American Society for Engineering Education, 2010.
154. MR Fitzgerald, AS Ward, TJ Voltz, MN Gooseff, K Singha. Does electrical resistivity imaging mesh with solute transport data obtained from tracer studies in hyporheic zones? American Geophysical Union Fall Meeting. 2010. (Abstract H11E-0853).
155. Ward, AS, and MN Gooseff. Hydrostatic pumping as a mass transport mechanism during storm events and diel flow cycles. Consortium of Universities for the Advancement of Hydrologic Science. Biennial Colloquim. 2010.
156. Ward, AS, MN Gooseff, A Lightbody, S Johnson, J Sayers. How do hyporheic flowpaths change as a result of in-channel restoration structure installation? Consortium of Universities for the Advancement of Hydrologic Science. Biennial Colloquim. 2010.
157. Ward, AS, and MN Gooseff. Ecosystem Services of Stream-Aquifer Interactions. Groundwater and Surface Water: A Single Resource. Pennsylvania Water Symposium. 2010.
158. Ward, AS, MN Gooseff, K Singha. Temporal Moment Analysis to Inform Stream-Hyporheic Solute Transport Processes. College of Engineering Research Symposium - Penn State University. 2010.
159. Ward, AS, and MN Gooseff. Ecosystem Services of Stream-Aquifer Interactions. 2010 Keystone Coldwater Conference. 2010.
160. Hagarty, J, AS Ward, K Singha, MN Gooseff. Electrical Resistivity Imaging to Explore Solute Transport in a Stream System. *Symposium on the Application of Geophysics to Engineering and Environmental Problems Conference Proceedings*. 2010.
161. Ward, AS, K Singha, MN Gooseff. Characterization of hyporheic solute transport during tracer tests using electrical geophysics. North American Benthological Society Meeting, May 17-22, Grand Rapids, Michigan. 2009.

162. Ward, AS, MN Gooseff, K Singha. Imaging Hyporheic Solute Transport Using Electrical Resistivity. American Geophysical Union Fall Meeting. 2009. (Abstract H43C-1039).
163. Ward, AS, MN Gooseff, R Toto. Virtual Laboratories to Achieve Higher-Order Learning in Fluid Mechanics. American Geophysical Union Fall Meeting. 2009. (Abstract ED23A-0526).
164. Sayers, J, AS Ward, P Nevison, K Kramarczuk, J Theissen, and A Lightbody. Using Tracer Injection of NaBr and KNO_3 to Detect Subsurface Temporal Response in the Outdoor Streamlab. St. Anthony Falls Laboratory (University of Minnesota) Summer Research Symposium. 2009.
165. Ward, AS, MN Gooseff, K Singha. Assessment of Stream-Aquifer Interactions using Electrical Geophysics. 7th Annual Pennsylvania Land and Water Conservation Conference. 2009.
166. Ward, AS, MN Gooseff, K Singha. Characterization of Hyporheic Solute Transport During Tracer Tests using Electrical Geophysics. Graduate Research Exhibition - PSU Graduate School. 2009.
167. Ward, AS and MN Gooseff. What Have we Done? The State of Hyporheic Characterization. American Geophysical Union Fall Meeting. 2008. (Abstract H11B-0733).
168. Schwartz, M and AS Ward. Development of a Low-cost, Rugged, Portable Incubator for Rural Field Work Applications. d80 Conference on International Development and Sustainability. Michigan Technological University, 2008.
169. Ward, AS, MH Durfee, DR Shonnard, DW Watkins. Life Cycle Assessment as a Tool to Compare Storm Water Infrastructure Alternatives. Sustainable Futures Institute Poster Session, Michigan Technological University, 2008.

Service

1. Profession

2021

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Maintained Transient Storage Model list-serv.
- Panelist and co-organizer for AGU Hydrology Student (H3S) seminar series about applying for and beginning an academic career
- Editorial Duties:
    - Water Resources Research, Associate Editor
    - Eos, Hydrology section editor

2020

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Maintained Transient Storage Model list-serv.
- Session organizer and convener for American Geophysical Union Fall 2020 Sessions:
    - Online Hydrology Education: Lessons Learned from Designed and Impromptu Remote Instruction
    - Groundwater–Surface Water Interactions: Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales
- Panelist for Navigating an Academic Career: Tips, Stories, and Strategies on How to Land a Faculty Position (AGU Fall 2020 session TH032).
- Supported transition to online education for colleagues by catalyzing sharing of educational resources, creating a guest-lecture database, and publishing an open-access asynchronous course on stream solute tracers via HydroLearn.
- Editorial Duties:
    - Water Resources Research, Associate Editor
    - Eos, Hydrology section editor

2019

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Maintained Transient Storage Model list-serv.
- Editorial Duties:
    - Water Resources Research, Associate Editor
    - Groundwater, Associate Editor
    - Eos, Hydrology section editor
- American Geophysical Union Hydrology Section coordinator for centennial activities.
- Session organizer and convener for American Geophysical Union Fall 2019 Sessions:
    - Centennial Session: Current advances and future challenges in hydrologic science
    - Building and Evaluating Floodplain Socio-Ecological Resilience
    - Groundwater–Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales

2018

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Maintained Transient Storage Model list-serv.
- Associate editor:
    - Water Resources Research

    - Groundwater
- Reviewer for Hydrological Processes, Journal of Geophysical Research: Biogeosciences, Journal of Hydrology, River Research and Applications, Scientific Reports, Science of the Total Environment, Water Resources Research, National Science Foundation Hydrologic Science program
- Session organizer and convener for Geological Society of America 2018 conference session *Measuring and modeling fluxes across the surface water/groundwater interface* with A. Brookfield and G. Macphearson
- American Geophysical Union Hydrology Section coordinator for centennial activities.
- Session organizer and convener for American Geophysical Union Fall 2018 Sessions:
    - Coupled Dynamics of Physical, Biological, Geomorphic, Hydrologic, and Chemical Processes in the Hyporheic Zone over a Range of Spatial and Temporal Scales
    - Centennial Session: 100 Years of Progress in Hydrologic Science
    - Groundwater–Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales

2017

- Co-authored a letter to the incoming director of National Science Foundation's Earth Sciences directorate on behalf of early career researchers in the critical zone observatory program.
- Nominated for Ecological Processes and Effects Committee of the Environmental Protection Agency's Science Advisory Board.
- HydroEco 2017 Conference. International Advisory Board, session convener.
- Co-convener for 2017 AGU Fall Meeting Session entitled Groundwater – Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Processes (with J. Drummond, R. Gonzales-Pinzon, P. Blaen)
- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Maintained Transient Storage Model list-serv.
- Associate editor:
    - Water Resources Research
    - Groundwater
- Reviewer for Advances in Water Resources, Ecological Engineering, Freshwater Science, Groundwater, Nature Communications, Water Resources Research, Hydrological Processes, Ecological Indicators, Science of the Total Environment, American Fisheries, Journal of environmental Quality
- Review panelist for:
    - National Science Foundation Innovations at the Nexus of Food-Energy-Water Systems (INFEWS) panel (Spring 2017)
    - National Science Foundation Hydrologic Sciences panel (Fall 2017)
    - IU internal reviewer for promotion of one associate scientist

2016

- Co-convener for 2016 AGU Fall Meeting Session entitled Integrating Surface Geophysical Methods into Multiscale Investigations of Surface and Groundwater Connectivity Posters (with Martin Briggs, Erasmus Oware)
- Coordinated organization of 2016 AGU Fall Meeting Session entitled Groundwater-Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Processes across Scales (with Stefan Krause, Susa Stonedahl, Daniele Tonina, Marie Kurz)
- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.

- Associate Editor for *Groundwater*
- Maintained Transient Storage Model list-serv.
- Reviews
    - NSF External Reviewer
        - Hydrologic Science (4)
        - Computer and Information Science and Engineering (1)
    - Ground Water (3)
    - Water Resources Research (4)
    - Journal of Hydrology (4)
    - Hydrological Processes (2)
    - Canadian Water Resources Journal (1)
    - Freshwater Science (1)
    - Hydrological Sciences Journal (1)
    - Journal of Environmental Quality (1)

2015

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Co-convener for 2015 AGU Fall Meeting Session entitled Groundwater – Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Processes (with Jay Zarnetske, Jan Fleckenstein, Christine Hatch)
- Review panelist for Department of Energy's Environmental System Science funding opportunity (Office of Biological and Environmental Research and Climate and Environmental Sciences Division)
- Associate Editor for *Groundwater*
- Maintained Transient Storage Model list-serv.
- Review panelist for National Science Foundation Hydrologic Sciences panel
- Reviews
    - Water Resources Research (3)
    - Ground Water (1)
    - Hydrological Processes (3)
    - Journal of Hydrology (1)

2014

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Co-convener for 2014 AGU Fall Meeting Session entitled Groundwater – Surface Water Interactions: Physical, Biological, and Chemical Relevance (with Martin Briggs, James Best, Audrey Sawyer)
- Associate Editor for *Groundwater*
- Maintained Transient Storage Model list-serv.
- Reviews:
    - Geophysical Research Letters (2)
    - Water Resources Research (1)
    - NSF Hydrologic Science (3)
    - Environmental Science & Technology (3)
    - Hydrological Processes (1)
    - Journal of Hydrology (1)
    - Groundwater (1)

2013

- Convener for Consortium of Universities for the Advancement of Hydrologic Science, Inc. CyberSeminar Series (Spring 2013), *Complimentary Methods and Models.*
- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Co-convener for 2013 AGU Fall Meeting Session entitled Groundwater – Surface Water Interactions: Physical, Biological, and Chemical Relevance (with Ricardo Gonzales-Pinzon, Daniele Tonina, Christine Hatch)
- Maintained Transient Storage Model list-serv.
- Reviews:
    - Hydrological Processes (2)
    - Water Resources Research (3)
    - Nature (1)
    - Freshwater Science (1)
    - NSF EAR Hydrologic Science (2)
    - UIowa Center for Global and Regional Environmental Research (1)

2012

- Secretary for Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- Editorial Board for: *Open Journal of Modern Hydrology*
- Planning Committee Member for 2012 Biennial Conference, Consortium of Universities for the Advancement of Hydrologic Science, Inc. Co-convener and organizer for the graduate student program in conjunction with the meeting (with Jay Zarnetske).
- Organized three complimentary sessions on Groundwater – Surface Water interactions and social event for researchers in the discipline at 2012 AGU Fall Meeting
- Co-convener for:
    - 2012 AGU Fall Meeting Session entitled *Groundwater-Surface Water Interactions: Three Decades of Transient Storage Analysis to Understand River Transport and Watershed Connections* (with Jud Harvey, Roy Haggerty)
    - 2012 GSA Annual Meeting Session entitled *Riparian Ecohydrology and Stream-Aquifer Interactions: Fluxes across the Surface-Subsurface Interface* (with Steven Loheide, Laurel Larsen, Christopher Lowry, Eric Booth)
- Convener for Consortium of Universities for the Advancement of Hydrologic Science, Inc. CyberSeminar Series (Fall 2012), *Exploring Cutting Edge Techniques and Advances in Instrumentation.*
- Established and maintained Transient Storage Model list-serv.
- Reviews:
    - NSF EAR Hydrologic Science (4)
    - Water Resources Research (7)
    - Nature (1)
    - Vadose Zone (2)
    - Journal of Hydrology (1)
    - Ecological Engineering (1)
    - UIowa Center for Global and Regional Environmental Research (1)
    - UIowa Obermann Center (grant review panel member)

2011

- Editorial Board for *Open Journal of Modern Hydrology*
- Organized three complimentary sessions on Groundwater – Surface Water interactions at 2011 AGU Fall Meeting.

- Co-convener for 2011 AGU Fall Meeting Session entitled *Groundwater-Surface Water Interactions: Experimental Tracers, Monitoring, and Modeling Techniques* (with Stefan Krause, Gabriel Rau)
- Reviews:
    - Geomorphology (1)
    - Hydrological Processes (2)
    - Journal of Hydrology (2)
    - Water Resources Research (2)
    - NSF-EAR Hydrologic Science (1)

2010

- Co-convener for:
    - 2010 AGU Fall Meeting Session entitled *Groundwater-Surface Water Interactions: Linking physical and biogeochemical processes in modeling and management frameworks* (with Audrey Sawyer, Wilfred Wollheim, Diane McKnight, Alex Mayer, Howard Reeves).
    - 2010 ASLO/NABS Joint Meeting Special Session: *Recent Breakthroughs in Stream Solute Studies: Identifying New Methods, Applications, and Limitations for Tracing Ecosystem and Catchment Processes.* (with Steve Wondzell, Jay Zarnetske, Bob Hall).
- Invited Panelist. *How to Succeed in an Academic Career*. Short course organized by Jeff McDonnell. San Francisco, CA. 2010.
- Group recorder. Recommended Practices for Assessment and Dissemination of Innovations in Engineering Education. National Science Foundation Workshop. 2010.
- Planning Committee Member, Moderator for 2010 Biennial Conference, Consortium of Universities for the Advancement of Hydrologic Science, Inc. Responsible for development and delivery of a graduate student program in conjunction with the meeting.
- Reviews:
    - Water Resources Research (1)
    - Hydrological Processes (1)

2009

- Co-convener for 2009 AGU Fall Meeting Session entitled Remote Sensing and Hydrogeophysics Applications for Modeling of Land Surface Hydrological Processes (with Jennifer Jacobs, Dongryeol Ryu, Christoph Rudiger). H51F Posters, H53L Orals.

2. University and School

2021

- University committee service
    - General Education committee for Natural and Mathematical Sciences
- O'Neill School committee service
    - Teaching Peer Observation Committee
    - Budgetary Affairs Committee
    - Environmental Science Ph.D. Program Committee
    - Personnel Committee
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.
- Undergraduate minor in Water Science, Policy, and Management
    - Leader of team to develop and gain approval
    - Chair of curriculum and advisory committee
- Masters of Science in Environmental Science & Intelligent Systems Engineering

    - Leader of team to develop and gain approval for dual degree
    - Chair of curriculum and advisory committee
- O'Neill Strategic Planning co-chair for research
- Judge for undergraduate honors program research competition
- Chaired O'Neill panel to define excellence in research awards for 2021

2020
- Mentor for Youth Environment Leadership Summit (Spring 2020)
- Panelist for National Science Foundation CAREER award discussion hosted by Indiana University Office of the Vice Provost for Research.
- University committee service
    - General Education committee for Natural and Mathematical Sciences
- SPEA committee service
    - Teaching Peer Observation Committee
    - Environmental Science Ph.D. Program Committee
    - Undergraduate Programs Advisory Committee (chair)
    - Personnel Committee
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.
- Undergraduate minor in Water Science, Policy, and Management
    - Leader of team to develop and gain approval
    - Chair of curriculum and advisory committee
- Masters of Science in Environmental Science & Intelligent Systems Engineering
    - Leader of team to develop and gain approval for dual degree
    - Chair of curriculum and advisory committee
- Organized a series of rapid response seminars to help faculty transition to online teaching methods
- Organized a summer working group to support faculty transitioning Fall 2020 courses to online delivery.

2019
- University committee service
    - General Education committee for Natural and Mathematical Sciences
- SPEA committee service
    - Teaching Peer Observation Committee
    - Environmental Science Ph.D. Program Committee
    - Undergraduate Programs Advisory Committee (chair)
    - Personnel Committee
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.
- Undergraduate minor in Water Science, Policy, and Management
    - Leader of team to develop and gain approval
    - Chair of curriculum and advisory committee
- Masters of Science in Environmental Science & Intelligent Systems Engineering
    - Leader of team to develop and gain approval for dual degree
    - Chair of curriculum and advisory committee
- Hosted a one-day experience for the Jim Holland Research Initiative in STEM Education (RISE) program, focused on high-school students from underrepresented populations.
- Advised two high-school students in the IU Holland Summer Scholar Research Program.
- Advised one ungraduated student in the IU Minority Serving Institutions STEM Summer Scholars program.

- Advised one undergraduate student via the Center for Excellence for Women and Technology's Emerging Scholars Research Experience for Undergraduate Women program.
- Established Indiana University's Environmental Sensing and Sampling lab
- Mentor for Youth Environment Leadership Summit (Fall 2019)

2018
- University committee service
    - General Education committee for Natural and Mathematical Sciences
- SPEA committee service
    - Teaching Peer Observation Committee
    - Environmental Science Ph.D. Program Committee
    - Dual-Degree Curriculum Committee
- Session convener for 2018 Association of SPEA Ph.D. Students (ASPS) annual conference.
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.
- Panelist for National Science Foundation CAREER award discussion hosted by Indiana University Office of the Vice Provost for Research.
- Led the development of undergraduate minor in Water Science, Policy, and Management with collaborators across IU-Bloomington campus.
- Mentor for Youth Environment Leadership Summit (Spring 2018)

2017
- Committee service
    - Teaching peer observation Committee (2017-18 academic year)
    - Environmental Science Ph.D. Program Committee (2016-17, 17-18 academic years)
    - Dual-Degree Curriculum Committee (2016-17, 17-18 academic years)
- Advising at 2017 Masters Student Orientation, Fall 2017 advising meetings
- Panelist for SPEA Masters' Spring Visit Day Environmental Science faculty panel. 2017.
- Made recruitment phone calls and discussions with MSES applicants. 2017.
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.
- Hosted a one-day experience for the Jim Holland Research Initiative in STEM Education (RISE) program, focused on high-school students from underrepresented populations.
- Maintained Water@IU website and associated listserv.
- Attended "Faculty Men Allies for Gender Equity Workshop" by the Center of Excellence for Women in Technology, Indiana University.

2016
- Member of SPEA MSES Admissions Committee
- Member of SPEA Environmental Science Ph.D. Program Committee
- Member of Masters of Environmental Management ad-hoc committee
- Member of Dual-degree Curriculum Committee
- Maintained Water@IU website and associated listserv.
- Advised two high-school students in the IU Holland Summer Scholar Research Program.
- Institutional Coordinator and Academic Advisor for TU Delft exchange program.

2015
- Attended Pizza with the Profs event for Environmental Science
- Member of SPEA MSES Admissions Committee

- Member of SPEA Environmental Science Ph.D. Program Committee
- Member of Masters of Environmental Management working group
- Member of exploratory group for SPEA partnership with IIT-Bombay
- Established and maintained "Water@IU" website and associated listserv.
- Informal luncheon presentation about career development and trajectory to the IU STEM Summer Program Mentoring
- Informal presentation to the Women in STEM Living-Learning community about Environmental Science and SPEA.
- Actively collaborating with Sustainability Office and T. Royer to monitor water quality and quantity in the Jordan River on campus.
- Advised one undergraduate student in the IU STEM Summer Scholars Initiative program.
- Co-advised two high-school students in the IU Holland Summer Scholar Research Program with T. Royer.
- Leadership role in crafting the Grand Challenge pre-proposal *Shaping Our Future: Knowledge, Science, and Governance for Sustainable Water Resources*
- Developed recruitment brochure for the water-focused MSES and MPA/MSES concentrations.
- Panel discussant: SPEA Distinguished Alumni Council

2014

- Member of SPEA MSES Admissions Committee
- Member of SPEA Environmental Science Ph.D. Program Committee
- Member of exploratory group for SPEA partnership with IIT-Bombay
- Platform party member for Spring 2014 commencement at University of Iowa
- Member of University of Iowa Undergraduate Fellowships Committee
- Member of Iowa Initiative for Sustainable Communities Board of Directors
- Student poster judge for College of Engineering Research Open House at University of Iowa
- Established and maintained water research list-serv for the Indiana University community
- Constructed *Water@IU* website to organize water-related research efforts on the Bloomington campus
- Panel discussant: SPEA Research Retreat panel on synergies in environmental science and policy

2013

- Service on hiring committee for Assistant Professor of Geophysics
- Wrote description for proposed near-surface/exploration geophysics hire
- Recruited 3 of top 10 applications for Fall 2013 graduate admission
- Service on Sustainability Committee, Geochemistry Committee
- Wrote letters of support for Bass Dye, Maijsa Sipola, Joe Cullin, Sam Smidt
- Wrote letter of support for Tawny Tibbits' nomination for Outstanding Teaching Assistant award
- Hosted Christopher Lowry (University at Buffalo - SUNY) for departmental seminar series (Spring 2013).
- Hosted Ciaran Harman (Johns Hopkins University) for departmental seminar series (Fall 2013).
- Guest lecture for Water Resources (GEOG 3540 / 044:109)
- Member of University of Iowa Undergraduate Fellowships Committee
- Member of Iowa Initiative for Sustainable Communities Board of Directors

- Peer reviewer for University of Iowa Center for Global and Regional Environmental Research seed grant program

2012

- Wrote description for proposed Geophysics hire (2011/12 academic year)
- Co-authored description for proposed Geophysics cluster hire (2012/13 academic year)
- Wrote letters of support for Ben Green, Bethany Murphy
- Management of Department of Geoscience Facebook Profile
- Guest lecture for Environmental Science Seminar (159:100)
- Assisted in development of surface water lab for Introduction to Earth Science (GEOS 1030 / 012:003)
- Recruited 4 of top 10 applications for Fall 2012 graduate admission
- Hosted *MatLab Boot-camp* (14 total attendance by faculty and graduate students)
- Hosted alumnus Dr. Indroyone Soesilo for special seminar "Global Climate Change: Role of Indonesian Archipelago and Global Challenges"
- Hosted Fall 2012 Environmental Geology Brown-bag Research Session, featuring two undergraduate research presentations and "pop-ups" by four graduate students.
- Service on Sustainability Committee, Geochemistry Committee
- Hosted Diego Riveros Iregui (University of Nebraska – Lincoln) for departmental seminar series (Fall 2012).
- Hosted Susa Stonedahl (St. Ambrose University) for departmental seminar series (Spring 2012).
- Guest lecture for Water Resources (GEOG 3540 / 044:109)
- Guest lecture for Field Measures for Water Quantity and Quality (CEE 4301 / 053:103)
- Peer reviewer for University of Iowa Center for Global and Regional Environmental Research seed grant program
- Water Sustainability Initiative
    - Participant in administrative meetings and academic activities
    - Developed, revised, and finalized 5-year plan
- Volunteered for OnIowa orientation "Coffeeshop Crawl"
- Contribution of example activity to TILE teaching database

2011

- Service on Departmental Sustainability Committee, Geochemistry Committee
- Guest lecture for Earth Surface Processes (GEOS 3020 / 012:102)
- Guest lecture for Environmental Science Seminar (159:100)
- University of Iowa Open House (2 sessions)
- Contributed to description for Sedimentary Geologist hiring committee
    - Updated CUAHSI informational listing for University of Iowa (used as a recruitment tool for students in the hydrological sciences)
    - Water Sustainability Initiative
    - Participant in planning and organization process
    - Lecture at Water Sustainability Seminar Series

3. Public

2021

- Hydrology expert for Indiana Envirothon competition
- Panelist for O'Neill Environmental Management expert panel discussion

2020

- Guest speaker on hydrology and earth science for Binford Elementary School's 4th grade curriculum.
- Volunteer coach for Rogers Elementary robotics club, mentoring students in STEM.
- Production of personal protective equipment (PPE) using 3-D printers and laser cutter in support of rapid response to COVID-19 pandemic.
- Technical advisor to two start-up companies: The Bee Corps, Modular 3D-Printed Elastomeric Prosthetics

2019

- Offered expert testimony to the State of Indiana's Stormwater Task Force
- Technical advisor to The Bee Corps
- Research featured by The Economist: America's natural kidneys need more protection, not less

2018

- Led session focused on water merit badge for local Brownies troop.
- Consulted with landowners on drainage, flooding, and slope stability plans on their property.

2017

- Responded to citizen inquiry related to phosphorus loads from the agricultural Midwest to the Gulf of Mexico.
- Interviewed for WFIU segment: "Nutrient Runoff In Indiana Causes Environmental Problems Far South"

2016

- Panelist for Bloomington Food Policy Council's public forum on Water Quality and Risks in Community Food Production.

2015

- Collaborated with WonderLab to host Fluid Mechanics students (SPEA-E 555) for study and presentation of the fundamental fluid mechanics concepts operating in their exhibits.
- Informally consulted with legal team regarding litigation related to in-stream nitrate concentrations and their sources, with relation to legal action No. 5:15-cv-04020 in the US District Court for the Northern District of Iowa Western Division

2014

- Advised Indiana residents on potential stormwater runoff and groundwater contamination issues related to development near the Indianapolis Airport

2013

- Conducted ongoing monitoring for bioswale performance at Iowa City's Eastside Recycling Center
- Partnered with the City of Iowa City to install a volunteer stream gauging network in local streams

- Conducted hydrological monitoring and analysis of soils at Ciha Fen preserve through an ongoing partnership with the Johnson County Conservation Board.
- Interviewed by KRUI for a 20-minute segment on record nitrate levels observed in 2013.
- Research featured in The Environmental Monitor, a professional publication by Fondreist Environmental, Inc., as "SUNY ESF / Syracuse U. study finds in-stream restoration structures effective", published 30-July-2013.
- Interviewed by the Cedar Rapids Gazette for "Farm fertilizer wreaking havoc", published 04-August-2013.
- Partnered with the City of Dubuque as part of the Iowa Initiative for Sustainable Communities, integrating project work in Field Methods in Hydrologic Science (GEOS 4680) with the program to provide data required for the City of Dubuque's NPDES Phase II permit and ongoing watershed management activities in Catfish Creek.
- Student poster session judge for Iowa NSF EPSCoR annual meeting.

2012

- Conducted ongoing monitoring for bioswale performance at Iowa City's Eastside Recycling Center
- Partnered with the Johnson County Conservation Board to establish a study at the Ciha Fen preserve.
- Conducted geophysical study at Deer Creek Lake and contributed to writing report summarizing findings and recommending future work by the State of Iowa.
- Joined Iowa NSF EPSCoR Bioenergy Platform, Biomass Production Plank

2011

- Development of monitoring plan for bioswale performance and proposal for meteorological and water quality informational station at Iowa City's Eastside Recycling Center
- Volunteered for the University of Iowa's Book of Experts, making expertise available for state legislators

Teaching

1. Teaching Assignments

	Semester	Course	Course No.	Students Enrolled	Credits per Student
Indiana University	Fall 2020	Advanced Studies in Hydrologic Science	SPEA-E 710	7	1-3
		Environmental Engineering	SPEA-E 552	26	3
	Summer 2020	Water Quality Modeling	SPEA-E502	12	3
	Spring 2020	Fluid Mechanics	SPEA-E 470/555	11	3
	Fall 2019	Environmental Engineering	SPEA-E 552	64	3
		Advanced Studies in Hydrologic Science	SPEA-E 710	7	1-3
		Independent Study	SPEA-E 625	1	3
	Spring 2019	Introduction to Water Resources	SPEA-E 260	24	3
	Fall 2018	Water Quality Modeling	SPEA-E 400/555	16	3
		Environmental Engineering	SPEA-E 552	62	3
		Advanced Studies in Hydrologic Science	SPEA-E 710	5	1-3
	Spring 2018	Independent Study	INFO-I 669	1	1
	Fall 2017	Water Quality Modeling	SPEA-E 400/555	24	3
		Fluid Mechanics	SPEA-E 470/555	11	3
		Independent Study	INFO-I 669	1	1
	Spring 2017	Introduction to Environmental Science	SPEA-E 272	63	3
	Fall 2016	Water Quality Modeling	SPEA-E 400/555	27	3
		Readings in Environmental Science	SPEA-E 597	1	3
	Fall 2015	Water Quality Modeling	SPEA-E 400/555	27	3
		Fluid Mechanics	SPEA-E 470/555	10	3
	Spring 2015	Introduction to Environmental Science	SPEA-E 272	58	3
		Independent Research	SPEA-E 625	1	3
	Fall 2014	Water Quality Modeling	SPEA-E 400/555	7	3
Univ. Of Iowa	Spring 2014	Introduction to Environmental Science (Lecture Lab)	EES 1080	152	4
		Introduction to Environmental	EES 1090	11	1

	Semester	Course	Course No.	Students Enrolled	Credits per Student
		Science (Lab Only)			
		Environmental Seminar	EES 5250	7	3
	Fall 2013	Directed Study	EES 3190	4	3
	Spring 2013	Directed Study	EES 3190	2	3
		Field Methods in Hydrologic Science	GEOS 4680	19	3
		Introduction to Environmental Science (Lecture Lab)	EES 1080	257	4
		Introduction to Environmental Science (Lab Only)	EES 1090	11	1
	Winter 2012	International Perspectives in Water Sciences and Management	CEE 4385	9	3
	Fall 2012	Engineering Geology	GEOS 4790	20	3
		Practicum in College Teaching	GRAD 7400	1	1
		Directed Study	EES 3190	1	3
	Spring 2012	Introduction to Environmental Science (Lecture Lab)	EES 1080	277	4
		Introduction to Environmental Science (Lab Only)	EES 1090	9	1
	Fall 2011	Engineering Geology	GEOS 4790	18	3
Penn State Univ.	Summer 2009	Fluid Mechanics	CE 360	12	3

2. Students Supervised

Degree Objective	Student Name	Years	Outcome
a. Ph.D. candidates	Jase Hixson	2015 – current	(ongoing)
	Molly Cain	2015 – current	(ongoing)
	Tyler Balson	2016 – current	(ongoing)
	Paige Becker	2018 – current	(ongoing)
b. Master's candidates	Joseph Cullin	2012 - 2014	M.S. (2014)
	Samuel Smidt	2012 - 2014	M.S. (2014)
	Matthew Even	2012 - 2014	M.S. (2014)
	Mary Weber	2013 - 2015	M.S. (2015)
	Kara Prior	2013 - 2015	M.S. (2015)
c. Post doctoral researchers *(outcomes reported as position upon leaving Ward group)*	Caroline Davis, Ph.D.	2012 – 2013	Research Scientist, Univ. of Iowa
	Yuwei Li, Ph.D.	2013 – 2015	Private Industry
	Noah Schmadel, Ph.D.	2015 – 2017	Researcher at U.S.G.S.
	Landon Yoder, Ph.D.	2017 - 2019	Faculty at

	Skuyler Herzog, Ph.D. Pedro Avellaneda, Ph.D.	2018 - 2021 2020 - current	Indiana University Faculty at Oregon State Univ. Cascades Campus --
d. Undergraduate students	Cheryl Smith (directed study) Mary Weber (directed study) Colleen Brehm (directed study)	Fall 2012 Spring 2013 2013 - 2014	B.S. (2012) B.S. (2013) B.S. (2014)
e. Honors students			

3. Other Contributions to Instructional Programs

a. Undergraduate Researchers Supervised
Ari Feldman (B.S. Environmental Science, SPEA, 2016)
Samantha Starkey (B.S. Environmental Science, SPEA, 2018)

b. M.S. Researchers Supervised
Kristen Berger (M.S. Environmental Science, SPEA, 2014-2016)
Amanda Nurre (M.S. Environmental Science, SPEA, 2015-2016)
Micky Leonard (M.S. Environmental Science, SPEA, 2014-2015).
Kerry Neil (M.S. Environmental Science, SPEA, 2014-2016)
Leigh Stevenson (M.S. Environmental Science, SPEA, 2015-2016)
L. Roy Fillaw (M.S. Environmental Science, SPEA, 2016-2017)
Thomas Miller (M.S. Environmental Science, SPEA, 2016-2018)
Melinda Miller (M.S. Environmental Science, SPEA, 2016-2018)
Maya Rao (M.S. Environmental Science, SPEA, 2017-2018)
Riley Walsh (M.S. Environmental Science, SPEA, 2017-2019)
Amelia Brumbaugh (M.S. Environmental Science, SPEA, 2018-2019)
Danila Kourkoulin (M.S. Environmental Science, SPEA, 2019-2020)
Peter Francissan (M.S. Environmental Science, SPEA, 2019-current)
Gabrielle Pastore (M.S. Environmental Science, SPEA, 2020-2021)

c. M.S. Committees
Vanessa Baratta (M.S. Geoscience, Univ. of Iowa, 2013)
Jeff Matzke (M.S. Geoscience, Univ. of Iowa, 2013)
Anna Starks (M.S. Environmental Science, Indiana Univ., 2021)
James McClain (Ph.D., Public Health, Indiana University, M.S. awarded 2019)

d. Ph.D. Committees
Andrew Nelson (Ph.D. Human Toxicology, Univ. of Iowa, 2016)
Nathan Wisnoski (Ph.D., Biology, Indiana University, 2020)
Elena Solohein (Ph.D., Environmental Science, Indiana University, expected 2021)
Elizabeth Oliver (Ph.D., Geological Sciences, Indiana University, awarded, 2020)
Kelsie Ferin (Ph.D., Agronomy, Iowa State University, expected 2021)
Michael Lee (Ph.D., Environmental Science, Indiana University, expected 2022)
Aurora Le (Ph.D., Public Health, Indiana University, expected 2022)

Lienne Sethna (Ph.D., Environmental Science, Indiana University, expected 2022)

4. Teaching Training

a. Peer Observation Workshop. School of Public and Environmental Affairs, Indiana University. 2017.
b. Participant in the Indiana University Sustainability Community of Practice. Office of Sustainability, Indiana University. 2015.
c. TILE Spaces to Transform, Interact, Learn, and Engage training workshop. Univ. of Iowa. 2012.
d. Course in College Teaching. Schreyer Institute. Penn State University. 2010.