Curriculum Vitae

Ramsey *Elliott* Kellner, Ph.D.
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Present
West Virginia University, Davis College of Agriculture, Natural Resources and Design, Division of Plant and Soil Sciences
West Virginia University, Institute of Water Security and Science (IWSS)
Morgantown, WV 26508

Education

University of Missouri, School of Natural Resources, Water Resources Program
Doctor of Philosophy, Natural Resources December, 2015
Dissertation: "The Long-Term Impacts of Forest Removal on Floodplain Subsurface Hydrology"

University of Missouri, Department of Forestry
Master of Science, Forestry May, 2013
Thesis: "Quantifying Urban Stormwater Suspended Sediment Particle Size Class Distribution in the Central U.S."

University of Missouri
Bachelor of Arts, Interdisciplinary Studies May, 2005

Professional Experience

West Virginia University, Davis College of Agriculture, Natural Resources and Design; Institute of Water Security and Science (IWSS)
Research Assistant Professor February, 2019 – Present
Position Description: As Chesapeake Bay Science advisor, I facilitate expert scientific guidance regarding land and water resource management in the Chesapeake Bay Watershed, and the effective targeting of conservation efforts. Specific responsibilities include coordinating inter-agency research and management activities, and the generation of original research regarding the impacts of best management practices on hydrologic regimes.

West Virginia University, Institute of Water Security and Science (IWSS)
Associate Director, Research Assistant Professor August, 2017 – February, 2019
Position Description: Primary duty is the production of original research (i.e. basic and applied) regarding surface water, groundwater, and atmospheric hydrologic regimes. Specific activities include experimental study design and implementation, field research, data analysis and interpretation, publication generation, grant proposal writing, and supervision of undergraduate and graduate research assistants in both laboratory and field

settings. Additional responsibilities include curriculum development and teaching of undergraduate and graduate courses.

West Virginia University, Institute of Water Security and Science (IWSS)
Project Management and Development Team Member January, 2016 – August, 2017
Position Description: Primary duty was assisting the IWSS Director in various activities including (but not limited to) experimental study design and implementation, grant proposal writing, institute-related event planning, field research, and supervision of undergraduate and graduate assistants.

University of Missouri, School of Natural Resources
Post-Doctoral Research Fellow January, 2016 – August, 2017
Position Description: Duties include the production of original research (i.e. basic and applied) regarding atmospheric, surface, and groundwater hydrologic regimes.

University of Missouri, School of Natural Resources, Water Resources Program
Graduate Research Assistant May, 2013 – December, 2015
Project: "Mizzou Stormwater Quality Project"

University of Missouri, Department of Forestry
Graduate Research Assistant January, 2012 – May, 2013
Project: "Water Quality Effects of Woody Biomass Production"

Publications

1. Martin, G., Dang, C., Morrissey, E., Hubbart, J., **Kellner, E.**, Kelly, C., Stephan, K., Freedman, Z. (*in submission*) Stream sediment bacterial communities exhibit temporally-consistent and distinct thresholds to land use change in a mixed-use watershed. *FEMS Microbiology Ecology* x:xx.
2. Gootman, K., **Kellner, E.**, Hubbart, J.A. 2020. A Comparison and Validation of Saturated Hydraulic Conductivity Models. *Water* 12(7): 2040.
3. Easton, Z.M., Stephenson, K., Collick, A., Fleming, P.M., **Kellner, E.**, Martin, J., Ribaudo, M., Shenk, G. 2020. Increasing Effectiveness and Reducing the Cost of Non-Point Source Best Management Practice Implementation: Is Targeting the Answer? STAC Publication Number 20-002.
4. Hubbart, J.A., **Kellner, E**., Zeiger, S. 2019. A Case-Study Demonstrating Application of the Experimental Watershed Study Design to Advance Adaptive Management of Contemporary Mixed-Use Watersheds. *Water* 11(11): 2355.
5. **Kellner, E**., Hubbart, J.A. 2018. A Method for Advancing Understanding of Streamflow and Geomorphological Characteristics in Mixed-Land-Use Watersheds. *Science of the Total Environment* 657: 634-643.
6. Petersen, F., Hubbart, J.A., **Kellner, E**., Kutta, E. 2018. Land-Use-Mediated *Escherichia coli* Regimes in an Appalachian Watershed. *Environmental Earth Science* 77(22): 754.
7. **Kellner, E.**, Hubbart, J.A., Stephan, K., Morrissey, E., Freedman, Z., Kutta, E., Kelly, C. 2018. Characterization of Sub-Watershed-Scale Stream Chemistry Regimes

in an Appalachian Mixed-Land-Use Watershed. *Environmental Monitoring and Assessment* 190(10): 586. DOI: 10.1007/s10661-018-6968-9

8. **Kellner, E**., Hubbart, J.A. 2018. Flow Class Analyses of Suspended Sediment Concentration and Particle Size in a Mixed-Land-Use Watershed. *Science of the Total Environment* 648: 973-983. DOI: 10.1016/j.scitotenv.2018.08.187
9. Hentz, A., Kinder, P., Hubbart, J.A., **Kellner, E**. 2018. Accuracy and Optimal altitude for Physical Habitat Assessment (PHA) of stream environments using Unmanned Aerial Vehicles (UAV). *Drones* 2(20): 1-15.
10. Hubbart, J.A., **Kellner, E**., Kinder, P., Stefan, K. 2017. Challenges in Aquatic Physical Habitat Assessment: Improving Conservation and Restoration Decisions for Contemporary Watersheds. *Challenges* 8: 31.
11. **Kellner, E**., Hubbart, J.A. 2017. Spatiotemporal Variability of Suspended Sediment Particle Size in a Mixed-Land-Use Watershed. *Science of the Total Environment* 615: 1164-1175. DOI: 10.1016/j.scitotenv.2017.10.040.
12. **Kellner, E**., Hubbart, J.A. 2017. Land Use Impacts on Floodplain Water Table Response to Precipitation Events. *Ecohydrology* 11: e1913. DOI: 10.1002/eco.1913.
13. **Kellner, E**., Hubbart, J.A. 2017. Advancing Understanding of the Stream Physiochemical Regime of Contemporary Mixed-Land-Use Watersheds: An Application of the Experimental Watershed Method. *Hydrology* 4 (2): 31.
14. **Kellner, E**., Hubbart, J.A. 2017. Confounded by Forgotten Legacies: Effectively Managing Watersheds in the Contemporary Age of Unknown Unknowns. *HP Today* 1-10. DOI: 10.1002/hyp.11223.
15. **Kellner, E**., Hubbart, J.A. 2017. Improving Understanding of Mixed-Land-Use Watershed Suspended Sediment Regimes: Mechanistic Progress through High-Frequency Sampling. *Science of the Total Environment* 598: 228-238.
16. Hubbart, J.A., **Kellner, E**., Hooper, L., Zeiger, S. 2017. Quantifying Loading, Toxicity and Systemic Persistence of Chloride in a Contemporary Mixed-Land-Use Watershed Using an Experimental Watershed Approach. *Science of the Total Environment* 581-582: 822-832.
17. **Kellner, E**., Hubbart, J.A. 2016. Application of the experimental watershed approach to advance urban watershed precipitation/discharge understanding. *Urban Ecosystems* 1-12.
18. **Kellner, E**., Hubbart, J.A. 2016. Continuous and Event-Based Time Series Analysis of Observed Floodplain Groundwater Flow under Contrasting Land-Use Types. *Science of the Total Environment* 566: 436-445.
19. **Kellner, E.,** Hubbart, J.A. 2016. A Comparison of the Spatial Distribution of Vadose Zone Water in Forested and Agricultural Floodplains a Century after Harvest. *Science of the Total Environment* 542: 153-161.
20. **Kellner, E.**, Hubbart, J.A. 2016. Agricultural and Forest Land Use Impacts on Floodplain Shallow Groundwater Temperatures. *Hydrological Processes* 30: 625-636.
21. Zell, C., **Kellner, E.**, Hubbart, J.A. 2015. Forested and Agricultural Land Use Impacts on Subsurface Floodplain Storage Capacity Using Coupled Vadose Zone-Saturated Zone Modeling. *Environmental Earth Science* 74(10): 7215-7228.
22. **Kellner, E.**, Hubbart, J.A., Ikem, A. 2015. A Comparison of Forest and Agricultural Shallow Groundwater Chemical Status a Century after Land Use Change. *Science of*

the Total Environment 529: 82-90.

23. Hubbart, J.A., **Kellner, E.**, Hooper, L., Lupo, A.R., Market, P.S., Svoma, B.M., Fox, N.I., Stephan, K., Guinan, P.E., Aldrich, E. 2014. Localized Climate and Surface Energy Flux Alterations across an Urban Gradient in the Central U.S. *Energies* 7: 1770-1791.
24. **Kellner, E.**, Hubbart, J.A., Smith, T. 2014. Quantifying Urban Stormwater Suspended Sediment Particle Size Class Distribution in the Central U.S. *Stormwater* March/April: 40-50.
25. Hubbart, J.A., **Kellner, E.**, Freeman, G. 2013. A case study considering the comparability of mass and volumetric suspended sediment data. *Environmental Earth Sciences* 71(9): 4051-4060.
26. Hubbart, J.A., **Kellner, E.** 2012. Bryophyte Mass to Stem Length Ratio: A Potential Metric for Eco-Physiological Response to Land Use. *Open Journal of Ecology* 3: 1-10.

Conference Presentations

1. **Kellner, E**., Hubbart, J.A., Stephan, K., Morrissey, E., Freedman, Z., Kutta, E., Kelly, C. (Oral Presentation). Contaminants of Mixed-Use Watersheds in West Virginia. *Mine Drainage Task Force Symposium,* 2019.
2. **Kellner, E**. (Oral Presentation). Introduction to Chesapeake Bay Science Advisor Program. *Appalachian Grazing Conference,* 2019.
3. **Kellner, E**., Hubbart, J.A., Stephan, K., Morrissey, E., Freedman, Z., Kutta, E., Kelly, C. (Oral Presentation). Characterization of Sub-Watershed-Scale Stream Chemistry Regimes in an Appalachian Mixed-Land-Use Watershed. *6th Interagency Conference on Research in Watersheds,* 2018.
4. **Kellner, E**., Hubbart, J.A. Forest and Agricultural Land Use Impacts on Floodplain Water Table Response to Precipitation Events. *Northeast Agricultural and Biological Engineers Conference,* 2018.
5. Hubbart, J.A., **Kellner, E**. (Oral Presentation) Managing Contemporary Mixed-Land-Use Watersheds: Resurrecting the Experimental Watershed Study Approach. *Society of American Foresters National Convention,* 2017.
6. **Kellner, E**., Hubbart, J.A. (Oral Presentation) Multiple-Land-Use Impacts on Forested Floodplain Groundwater Processes. *Society of American Foresters National Convention,* 2017.
7. **Kellner, E.**, Hubbart, J.A. (Poster Presentation) Forest and Agricultural Land Use Impacts on Floodplain Water Table Response to Precipitation Events. *Society of American Foresters National Convention,* 2017.
8. **Kellner, E.**, Hubbart, J.A. (Poster Presentation) Quantitatively Characterizing Forested and Agricultural Floodplain Shallow Groundwater Temperature Regimes. *Society of American Foresters National Convention,* 2017.
9. **Kellner, E**., Hubbart, J.A. (Oral Presentation) Advancing Understanding of Multiple-Land-Use Impacts on Urban Floodplain Groundwater Processes. *American Geophysical Union Conference,* 2016.
10. Hubbart, J.A., **Kellner, E.**, Zeiger, S. (Poster Presentation) Experimental Watershed Study Designs: A Tool for Advancing Process Understanding and Management of

Mixed-Land-Use Watersheds. *American Geophysical Union Conference*, 2016.

11. **Kellner, E.**, Hubbart, J.A. (Poster Presentation) Rural Land Use Impacts on Floodplain Shallow Groundwater Temperatures. *American Geophysical Union Conference*, 2014.
12. Hubbart, J.A., Hooper, L., Zell, C., **Kellner, E.** Floodplain Forest Restoration: Rethinking Management Legacies for Flood Mitigation and Consumptive Water Use in Flood Prone Lands. *24th IUFRO World Congress*, 2014.
13. **Kellner, E.**, Hubbart, J.A., Ikem, A. (Oral Presentation) Agricultural Land Use Impacts on Floodplain Shallow Groundwater Chemistry in a Multi-Use Watershed of the Central U.S. *Missouri Natural Resources Conference*, 2014.
14. **Kellner, E.**, Hubbart, J.A., Ward, G. (Poster Presentation) University of Missouri Stormwater Quality Monitoring Program. *Missouri Natural Resources Conference*, 2014.
15. **Kellner, E.**, Hubbart, J.A. (Oral Presentation) Agricultural Land Use Impacts on Shallow Groundwater Temperature in a Multi-Use Watershed of the Central U.S. *American Water Resource Association 2013 Spring Specialty Conference: Agricultural Hydrology and Water Quality II*. 2013.
16. **Kellner, E.**, Hubbart, J.A., Smith, T. (Oral Presentation) Quantifying Urban Stormwater Suspended Sediment Particle Size Class Distribution in the Central U.S. *Missouri Natural Resources Conference*, 2013.
17. **Kellner, E.**, Hubbart, J.A. (Oral Presentation) Agricultural Land Use Impacts on Shallow Groundwater Temperature in a Multi-Use Watershed of the Central U.S. *Missouri Natural Resources Conference*, 2013.

Courses Taught

Principles of Water Resources: (Fall Semester, 2017) a cross-listed undergraduate and graduate course presenting the basic concepts, fields of study, and management framework comprising water resource science (co-taught)

Ecohydrology Seminar: (Spring Semester, 2018) a graduate-level, special topics course, designed to develop critical reading skills for future scientific professionals (co-taught)

Environmental Water Quality: (Spring Semester, 2020) undergraduate course presenting foundational concepts and processes impacting the physical, chemical, and biological quality of water in the natural environment

Grantsmanship

Development of Wetland Water Quality Standards for West Virginia (*funded*): total requested funds equal $659,541; funding to be provided by the US Environmental Protection Agency for a period of four years (2019 – 2022); serving as Co-PI.

Mentorship

Fritz Petersen – Masters-level student in Environmental Soil and Water Science; graduation date: December, 2018; served as committee member.

Rivkah Nisan – Masters-level student in Environmental Soil and Water Science; graduation date: May, 2019; served as committee member.
Parameshwor Takache – Masters-level student in Environmental Soil and Water Science; graduation date: July, 2019; served as committee member.
Justin Earle – Masters-level student in Forestry and Natural Resources; graduation date: May, 2020; served as committee member.
Jason Horne – Masters-level student in Environmental Soil and Water Science; graduation date: August, 2020; served as committee member.
Zachary Heck – Masters-level student in Environmental Soil and Water Science; expected graduation date: December, 2020; serving as committee member.

Professional Service

Member (Alternate): Science and Technical Advisory Committee (STAC) of the Chesapeake Bay Program
Member: BMP Verification *ad hoc* Action Team for the Chesapeake Bay Program
Associate Director: West Virginia University Institute of Water Security and Science, 2018 – 2019.
Peer Reviewer: *National Science Foundation – Hydrologic Sciences Section*
Journal of Hydrology
Water Resources Research
Journal of the American Water Resources Association
Scientific Briefings-Nature
Science of the Total Environment
Hydrogeology
Ecohydrology
Water
Sustainability
Environmental Earth Science
Sustainable Water Resources Management
Applied Sciences

Professional Affiliations

American Geophysical Union
International Association of Hydrological Sciences
Society of American Foresters