

Biographical Sketch

Tameria (Tamie) L. Veith (ORCID: 0000-0001-7631-0214)

Education and Training:

Institution	Area	Degree	Year Awarded
Reed College, Portland, Oregon	Mathematics	B.A.	1992
University of Washington, Seattle	Statistics and multi-variate data analysis	Non-degree	1993-1995
Virginia Tech	Operations Research, Industrial and Systems Engineering	M.S.	1997
State of Virginia	Professional licensing	Engineer-in-Training	1998
Virginia Tech	Natural Resources, Biological and Systems Engineering	Ph.D.	2002

Research and Professional Training:

<i>Years</i>	<i>Position</i>
2002 – Current	Research Agricultural Engineer, USDA ARS Pasture Systems and Research Unit, University Park, PA.
2021 – 2022	Acting Research Leader, USDA ARS Pasture Systems and Research Unit, University Park, PA.
2010 – Current	Adjunct Associate Professor of Natural Resources Engineering, Department of Agricultural and Biological Engineering, The Pennsylvania State University.
2004 – 2010	Adjunct Assistant Professor of Natural Resources Engineering, Department of Agricultural and Biological Engineering, The Pennsylvania State University.
1997 – 2002	USDA National Needs Fellow in Water Science / Graduate Assistant, Department of Biological Systems Engineering, Virginia Tech.
1999	Summer Intern, Natural Resource Conservation Service, VA state office.
1996 – 1997	Graduate Research Assistant, Department of Industrial & Systems Engineering, Virginia Tech.
1992 – 1995	Technical Coordinator / Data Control Technician, Sleep and Aging Research Program, University of Washington, Seattle.

Synergistic Activities:

- Leader of 3.25 Scientific Staff Year CRIS project “Sustainable Intensification of Crop and Integrated Crop-Livestock Systems at Multiple Scales,” studying agricultural land management effects on ecosystem services and disservices at the farm, watershed, and landscape scales. (November 20, 2018 - November 19, 2023).

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- As a federal research scientist, Veith's work contributes to USDA's Long-Term Agricultural Research (LTAR) Network and Conservation Effects Assessment Project (CEAP) and is being used by USDA's Farm Services Agency and Natural Resource Conservation Service to help quantify the effectiveness of the Conservation Reserve Enhancement Program.
- Contributed to wastewater surveillance effort by H.E. Preisendanz during the COVID-19 pandemic.
- Ongoing technical transfer of research nationally (Chesapeake Bay TMDL planning groups) and internationally (Agri-Food and Biosciences Institute, Northern Ireland; EPA, Ireland)
- ARS Location lead for Croplands NRCS Conservation Effects Assessment Project, 2019-2022. ARS Co-PI for special project funded by NRCS "Assessing the Potential for the Agricultural Conservation Planning Framework to be Used in Watershed Planning Activities in the Eastern U.S."
- Team leader on EPA-funded Center for Nutrient Solutions, 2015-2019. Role: assess watershed-level nutrient loss impacts under scenarios designed to inform Chesapeake Bay TMDL.
- Member of NRCS State Technical Committee for Pennsylvania. Dec 2021-present.
- Invited collaborator of multi-organizational Baltic-Chesapeake Exchange, exploring solutions to common agricultural pollution issues across catchments. May 2016 to present.
- Invited reviewer, by the Chesapeake Bay Scientific Advisory and Technical Committee (STAC), of the Chesapeake Bay Scenario Builder/Model Input. May-August, 2016.
- Invited presentation "Evaluating the costs and benefits of alternative manure management practices," FESURV University, Rio Verde, Goias State, Brazil. November 2008.
- Keynote presentation "Determining economically viable BMPs for watershed-level nonpoint source remediation: an overview," International Symposium for COST Action 634 "On- and Off-site environmental impacts of runoff and erosion," Lublin, Poland. September 2005.
- Keynote presentation "Determining economically viable BMPs for watershed-level nonpoint source remediation: an overview," International Symposium for COST Action 634 "On- and Off-site environmental impacts of runoff and erosion," Lublin, Poland. September 2005.
- Active member of American Society of Agricultural and Biological Engineers (ASABE) since 1998; activities include Board of Trustees nominating committee, standards review, conference planning, and session development and moderating.
- Associate Editor and Special Issue Guest Editor: Applied Engineering in Agriculture, Transactions of the ASABE,
- Associate Editor: Journal of Environmental Quality. Previous Associate Editor of Agricultural & Environmental Letters. Reviewer of numerous journals, as requested.

Publications (past 5 years)

Referred Journal Articles:

Amin, M.G.M., H.D. Karsten, **T.L. Veith**, D.B. Beegle, and P.J.A. Kleinman. 2018. Conservation dairy farming impact on water quality in a karst watershed in northeastern US. *Agricultural Systems*, 165: 187-196. doi:10.1016/j.agsy.2018.06.010

Bolster, C., C. Baffaut, N. Nelson, D. Osmond, M. Cabrera, J. Ramirez-Avila, A. Sharpley, **T. Veith**, A. McFarland, and A. Senaviratne. 2018. Development of PLEAD: A Database

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Containing Event-based Runoff Phosphorus Loadings from Agricultural Fields. *Journal of Environmental Quality*, 48: 510-517. doi:10.2134/jeq2018.09.0337

Gall, H.E., D. Schultz, **T.L. Veith**, S.C. Goslee, A. Mejía, C.J. Harman, R. Cibin, and P.H. Patterson. 2018. The effects of disproportional load contributions on quantifying vegetated filter strip trapping efficiencies. *Stochastic Environmental Research and Risk Assessment*, 32: 2369-2380. doi:10.1007/s00477-017-1505-x

Liu, J., P.J.A. Kleinman, H. Aronsson, D. Flaten, R.W. McDowell, M. Bechmann, D.B. Beegle, T.P. Robinson, R.B. Bryant, H. Liu, A.N. Sharpley, and **T.L. Veith**. 2018. A review of regulations and guidelines related to winter manure application. *Ambio*, 47: 657-670. doi:10.1007/s13280-018-1012-4

Wallace, C.W., G. McCarty, S. Lee, R.P. Brooks, **T.L. Veith**, P.J.A. Kleinman, and A.M. Sadeghi. 2018. Evaluating concentrated flowpaths in riparian forest buffer contributing areas using LiDAR imagery and topographic metrics. *Remote Sensing*, 10: 614. doi:10.3390/rs10040614

Gunn K.M., M.A. Holly, **T.L. Veith**, A.R. Buda, R. Prasad, C.A. Rotz, K.J. Soder, and A.M.K. Stoner. 2019. Projected heat stress challenges and abatement opportunities for U.S. milk production. *PLoS ONE* 14, e0214665. doi:10.1371/journal.pone.0214665

Kibuye, F.A., H.E. Gall, K.R. Elkin, B. Swistock, **T.L. Veith**, J.E. Watson, and H.A. Elliott. 2019. Occurrence, concentrations, and risks of pharmaceutical compounds in private wells in Central Pennsylvania. *Journal of Environmental Quality*, 48(4): 1057-1066. doi:10.2134/jeq2018.08.0301

Kibuye, F.A., H.E. Gall, K.R. Elkin, B. Ayers, **T.L. Veith**, M. Miller, S. Jacob, K.R. Hayden, J.E. Watson, and H.A. Elliott. 2019. Fate of pharmaceuticals in a spray-irrigation system: From wastewater to groundwater. *Science of the Total Environment*, 654: 197-208. doi:10.1016/j.scitotenv.2018.10.442

Miller, M.D., H.E. Gall, A.R. Buda, L.S. Saporito, **T.L. Veith**, C.M. White, C.F. Williams, K.J. Brasier, P.J.A. Kleinman, and J.E. Watson. 2019. Load-discharge relationships reveal the efficacy of manure application practices on phosphorus and total solids losses from agricultural fields. *Agriculture, Ecosystems & Environment*, 272: 19-28. doi:10.1016/j.agee.2018.11.001

Kibuye, F.A., H.E. Gall, **T.L. Veith**, K.R. Elkin, H.A. Elliott, J.P. Harper, and J.E. Watson. 2020. Influence of hydrologic and anthropogenic drivers on emerging organic contaminants in drinking water sources in the Susquehanna River Basin. *Chemosphere*, 125583. doi:10.1016/j.chemosphere.2019.125583

Amin, M.G.M., **T.L. Veith**, J.S. Shortle, H.D. Karsten, and P.J.A. Kleinman. 2020. Addressing the spatial disconnect between national-scale total maximum daily loads and localized land management decisions. *Journal of Environmental Quality*, 49: 613-627. doi:10.1002/jeq2.20051

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Hirt, C.C., **T.L. Veith**, A.S. Collick, S.E. Yetter, and R.P. Brooks. 2020. Headwater stream condition and nutrient runoff: Relating SWAT to empirical ecological measures in an agricultural watershed in Pennsylvania. *Journal of Environmental Quality*, 49: 557-568. doi:10.1002/jeq2.20032

Karki, R., P. Srivastava, and **T.L. Veith**. 2020. Application of the Soil and Water Assessment Tool (SWAT) at the field-scale: Categorizing methods and review of applications. *Transactions of the American Society for Agricultural & Biological Engineers*, 63: 513-522. doi:10.13031/trans.13545

Jiang, F., H.E. Preisendanz, **T.L. Veith**, R. Cibin, and P. Drohan. 2020. Riparian buffer effectiveness as a function of buffer design and input loads. *Journal of Environmental Quality*, 49(6): 1599-1611. doi:10/1002/jeq2.20149

Lohani, S., C. Baffaut, A.L. Thompson, N. Aryal, R.L. Bingner, D.L. Bjorneberg, et al. 2020. Performance of the Soil Vulnerability Index with respect to slope, digital elevation model resolution, and hydrologic soil group. *Journal of Soil and Water Conservation*, 75: 12-27. doi:10.2489/jswc.75.1.12

Veith, T.L., H.E. Preisendanz, K.R. Elkin. 2020. Characterizing transport of natural and anthropogenic constituents in a long-term agricultural watershed in the northeastern United States. *Journal of Soil and Water Conservation*, 75(3): 319-329. doi:10.2489/jswc.75.3.319

Iavorivska, L., **T.L. Veith**, R. Cibin, H.E. Preisendanz, and A.D. Steinman. 2021. Mitigating lake eutrophication through stakeholder-driven hydrologic modeling of agricultural conservation practices: A case study of Lake Macatawa, Michigan. *Journal of Great Lakes Research*, 47(6): 1710-1725. doi:10.1016/j.jglr.2021.10.001

Gunn, K.M., **T.L. Veith**, A. Buda, H.E. Preisendanz, C. Kennedy, and R. Cibin. 2021. Integrating daily CO₂ emissions in SWAT-VSA to examine climate change impacts on hydrology in a karst watershed. *Transactions of ASABE*, 64(4): 1303-1318. doi:10.13031/trans.13711

Barnes, R.G., C.A. Rotz, H.E. Preisendanz, J.E. Watson, H.A. Elliott, **T.L. Veith**, C. Williams, and K.J. Brasier. 2021. Cover cropping and interseeding management practices to improve runoff quality from dairy farms in Central Pennsylvania. *Transactions of ASABE*, 64(4): 1403-1413. doi:10.13031/trans.14329

Chandler, J.W., H.E. Preisendanz, **T.L. Veith**, K.R. Elkin, H.A. Elliott, and J.E. Watson. 2021. Role of concentrated flow pathways on the movement of pesticides through agricultural fields and riparian buffer zones. *Transactions of ASABE*, 64(3): 975-986. doi:10.13031/trans.14221

Goodrich, D.C., P. Heilman, M. Anderson, C. Baffaut, J. Bonta, D. Bosch, et al. 2021. The USDA-ARS Experimental Watershed Network: Evolution, lessons learned, societal benefits, and

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moving forward. *Water Resources Research*, 57(2): e2019WR026473.
doi:10.1029/2019WR026473

Hood, R.R., G. Shenk, R.L. Dixon, S. Smith, W. Ball, J.O. Bash, et al. 2021. The Chesapeake Bay Program Modeling System: Overview and Recommendations for Future Development. *Ecological Modelling*, 456(15): 109635. doi: 10.1016/j.ecolmodel.2021.109635.

Jiang, F., P.J. Drohan, R. Cibin, H.E. Preisendanz, C. White, and **T.L. Veith**. 2021. Reallocating crop rotation patterns improves water quality and maintains crop yield. *Agricultural Systems*, 187: 103015. doi:10.1016/j.agsy.2020.103015

Preisendanz, H.E., **T.L. Veith**, Q. Zhang, and J. Shortle. 2021. Temporal inequality of nutrient and sediment transport: a decision-making framework for temporal targeting of load reduction goals. *Environmental Research Letters*, 16(1): 014005. doi:10.1088/1748-9326/abc997

Opalinski, N., D. Schultz, **T.L. Veith**, M. Royer, and H.E. Preisendanz. 2022. Meeting the moment: Leveraging temporal inequality for temporal targeting to achieve water quality load-reduction goals. *Water*, 14(7): 1003. doi:10.3390/w14071003

Hayden, K.R., H.E. Preisendanz, K.R. Elkin, L.B. Saleh, J. Weikel, **T.L. Veith**, H.A. Elliott, and J.E. Watson. 2022. Comparison of POCIS and grab sampling techniques for monitoring PPCPs in vernal pools in Central Pennsylvania. *Science of the Total Environment*, 806(2): 150607. doi:10.1016/j.scitotenv.2021.150607

Hayden, K.R., M. Jones, K.R. Elkin, M. Shreve, W.I. Clees II, S. Clark, M.L. Mashtare, **T.L. Veith**, H.A. Elliott, J.E. Watson, J. Silverman, T. Richard, A. Read, and H.E. Preisendanz. 2022. Impacts of the COVID-19 pandemic on pharmaceuticals in wastewater treated for beneficial reuse: Two case studies in central Pennsylvania. *Journal of Environmental Quality*. Accepted 5 July 2022. <https://doi.org/10.1002/jeq2.20398>

Mroczko, O., H.E. Preisendanz, C. Wilson, M.L. Mashtare, H.A. Elliott, **T.L. Veith**, K.J. Soder, and J.E. Watson. Spatiotemporal patterns of PFAS in water and crop tissue at a beneficial wastewater reuse site in central Pennsylvania. *Journal of Environmental Quality*. Accepted 9 August 2022. (In Press).

Conference Papers:

Kibuye, F.A., H.E. Gall, **T.L. Veith**, K.R. Elkin, J.P. Harper, H.A. Elliott, and J.E. Watson. 2019. Seasonal variations of emerging organic contaminants (EOCs) in drinking water sources in the Susquehanna River Basin. ASABE Paper No. 1901742. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.201901742

Jiang, F., H.E. Gall, **T.L. Veith**, C. Raj, and P.J. Drohan. 2019. Assessment of riparian buffers' effectiveness in controlling nutrient and sediment loads as a function of buffer design, site characteristics and upland loadings. ASABE Paper No. 1901516. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.201901516

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Chandler, J.W., H.E. Preisendanz, **T. L. Veith**, K.R. Elkin, H.A. Elliott, J.E. Watson, and P.J.A. Kleinman. 2020. Role of concentrated flow pathways on the movement of pesticides through agricultural fields and riparian buffer zones. ASABE Paper No. 2001630. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.2001630

Mroczko, O., H.E. Preisendanz, C. Wilson, **T.L. Veith**, M.L. Mashtare, J.E. Watson, and H.A. Elliott. 2021. Spatial and temporal patterns of PFAS occurrence at a wastewater beneficial reuse site in central Pennsylvania. ASABE Paper No. 2101035. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.202101035

Ferguson, F., K.R. Elkin, R. Stout, **T.L. Veith**, J.F. Tooker, and H.E. Preisendanz. 2022. Linking water quality stressors and macroinvertebrate diversity in central Pennsylvania using passive samplers. ASABE Paper No. 2200174. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.202200174

Ndoun, M.C., C.F. Williams, A. Knopf, H.A. Elliott, M.L. Mashtare, N. Vozenilek, S. Velegol, **T.L. Veith**, and H.E. Preisendanz. 2022. Physicochemical characterization of biochar derived from the pyrolysis of cotton gin waste and walnut shells. ASABE Paper No. 2200308. American Society of Agricultural and Biological Engineers, St. Joseph, MI. doi:10.13031/aim.202200308