



Julie Weitzman

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Bio

EDUCATION AND CERTIFICATIONS

- Ph.D., The Pennsylvania State University , Soil Science & Biogeochemistry
- M.S., The Pennsylvania State University , Soil Science
- B.A., Franklin & Marshall College , Environmental Science

Publications

PUBLICATIONS

- **A Lecithin Liposome Stimulates Soil Microbial Respiration and Nitrate Immobilization.** *ACS agricultural science & technology*
Butkus, C. R., Weitzman, J. N., Mohammadzadeh, A., Dunn, P. J., Kaye, J. P., Gilbertson, L. M., Little, S. R., Elliott, E. M.
2025; 5 (12): 2509-2518
- **Geochemical and sediment dynamics during an experimental high flow pulse event on the Allegheny River: Lessons for river system management** *BIOGEOCHEMISTRY*
Elliott, E. M., Sinon, H., Yancy, A. J., Butkus, C. R., Zuccolotto, G., Weitzman, J. N., Bain, D. J., Oezpolat, E., Ayo-Bali, A., Zidar, K., Whitmire, S. L.
2025; 168 (4)
- **A Liposomal Carrier to Reduce Leaching of Ionic Nutrient Loads in Agricultural Soils.** *Environmental science & technology*
Dunn, P. J., Mohammadzadeh, A., Pamuru, S. T., Butkus, C. R., Weitzman, J. N., Tian, Q., Yonet Tanyeri, N., Dalton, L. E., Elliott, E. M., Little, S. R., Gilbertson, L. M.
2025
- **Vadose zone flushing of fertilizer tracked by isotopes of water and nitrate** *VADOSE ZONE JOURNAL*
Weitzman, J. N., Brooks, J., Compton, J. E., Faulkner, B. R., Peachey, R., Rugh, W. D., Coulombe, R. A., Hatteberg, B., Hutchins, S. R.
2024
- **Unearthing a stream-wetland floodplain system: increased denitrification and nitrate retention at a legacy sediment removal restoration site, Big Spring Run, PA, USA.** *Biogeochemistry*
Forshay, K. J., Weitzman, J. N., Wilhelm, J. F., Hartranft, J., Merritts, D. J., Rahnis, M. A., Walter, R. C., Mayer, P. M.
2022; 161 (2): 171-191
- **Deep soil nitrogen storage slows nitrate leaching through the vadose zone** *AGRICULTURE ECOSYSTEMS & ENVIRONMENT*
Weitzman, J. N., Brooks, J., Compton, J. E., Faulkner, B. R., Mayer, P. M., Peachey, R. E., Rugh, W. D., Coulombe, R. A., Hatteberg, B., Hutchins, S. R.
2022; 332: 1-13
- **Drivers of Hot Spots and Hot Moments of Denitrification in Agricultural Systems** *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*
Weitzman, J. N., Groffman, P. M., Adler, P. R., Dell, C. J., Johnson, F. E., Lerch, R. N., Strickland, T. C.
2021; 126 (7)

- **Coupling the dual isotopes of water ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) and nitrate ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$): a new framework for classifying current and legacy groundwater pollution** *ENVIRONMENTAL RESEARCH LETTERS*
Weitzman, J. N., Brooks, J., Mayer, P. M., Rugh, W. D., Compton, J. E.
2021; 16 (4): 1-45008
- **Ecosystem Nitrogen Response to a Simulated Ice Storm in a Northern Hardwood Forest** *ECOSYSTEMS*
Weitzman, J. N., Groffman, P. M., Campbell, J. L., Driscoll, C. T., Fahey, R. T., Fahey, T. J., Schaberg, P. G., Rustad, L. E.
2020; 23 (6): 1186-1205
- **Susquehanna Shale Hills Critical Zone Observatory: Shale Hills in the Context of Shaver's Creek Watershed** *VADOSE ZONE JOURNAL*
Brantley, S. L., White, T., West, N., Williams, J. Z., Forsythe, B., Shapich, D., Kaye, J., Lin, H., Shi, Y., Kaye, M., Herndon, E., Davis, K. J., He, et al
2018; 17 (1)
- **Nitrogen Budget and Topographic Controls on Nitrous Oxide in a Shale-Based Watershed** *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*
Weitzman, J. N., Kaye, J. P.
2018; 123 (6): 1888-1908
- **Weathering of rock to regolith: The activity of deep roots in bedrock fractures** *GEODERMA*
Hasenmueller, E. A., Gu, X., Weitzman, J. N., Adams, T. S., Stinchcomb, G. E., Eissenstat, D. M., Drohan, P. J., Brantley, S. L., Kaye, J. P.
2017; 300: 11-31
- **Nitrate retention capacity of milldam-impacted legacy sediments and relict A horizon soils** *SOIL*
Weitzman, J. N., Kaye, J. P.
2017; 3 (2): 95-112
- **Variability in Soil Nitrogen Retention Across Forest, Urban, and Agricultural Land Uses** *ECOSYSTEMS*
Weitzman, J. N., Kaye, J. P.
2016; 19 (8): 1345-1361
- **Potential nitrogen and carbon processing in a landscape rich in milldam legacy sediments** *BIOGEOCHEMISTRY*
Weitzman, J. N., Forshay, K. J., Kaye, J. P., Mayer, P. M., Koval, J. C., Walter, R. C.
2014; 120 (1-3): 337-357