Jeffrey Westrop, Ph.D.

Jeffrey.P.Westrop-1@ou.edu

EDUCATION

Ph.D. in Earth and Atmospheric Science (Geology), May 2021 – University of Nebraska-Lincoln
Dissertation: *Influence of Nitrate on Biogeochemical Uranium Redox Cycling in Fluvial Sediments*

M.S. in Geology, May 2015 – University of Oklahoma. Thesis: *Geochemistry of chromium in the Central Oklahoma Aquifer*

B.S. in Environmental Geology (Chemistry Minor), May 2013 – University of Oklahoma

PROFESSIONAL EXPERIENCE

Assistant Geoscientist, Nebraska Conservation and Survey Division

September 2021- Present

Postdoctoral Research Assistant, University of Oklahoma

May 2021- September 2021

- Conducted research over size dependent reactivity of hematite nanoparticles in sulfide rich spring water
- Trained and mentored undergraduate and graduate students

Graduate Research/Teaching Assistant, University of Nebraska-Lincoln

2015-2021

- Taught Intro to Geology Lab courses for 5 semesters.
- Received funding for research through grants and maintained funding by writing annual technical reports
- Recommended well modifications that led to lower groundwater arsenic levels in Wauneta, NE as part of a Nebraska DHHS project
- Completed novel research on uranium mobilization through field sampling, experimental systems and geochemical modeling using PHREEQC

Graduate Research/Teaching Assistant, University of Oklahoma

2015-2021

- Taught Intro to Geology Lab (2 semesters) and Environmental Geology Lab (1 semester)
- Identified geochemical conditions associated with high levels of groundwater Cr(VI) in through laboratory based analyses of sediment cores and analysis of published data
- Presented these results at national scientific meetings and to Norman Oklahoma Water Treatment center staff

HONORS / AWARDS

Geological Society of America, ExxonMobil Recognized Research Award (Top 10 of 785 submissions) (2017)
1st Place Poster Award, Nebraska Water Center Symposium, Lincoln, NE (2016)
Ben Hare Excellence in Geology and Geophysics award, University of Oklahoma (2015)

PUBLICATIONS

Westrop, Jeffrey P., Snow, Daniel D., and Weber, Karrie A. Mobilization of Naturally Occurring Uranium Under Intensely Managed Farmland. In *Food, Energy, and Water Nexus. A Consideration for the 21st Century*. Edited by Chittaranjan Ray, Sekhar Muddu, Sudhirendar Sharma. Springer Nature. 2021. (*in press)*

Malakar, Arindam, Singh, Rajesh, Westrop, Jeffrey P., Weber, Karrie A., Elofson, Christopher N., Kumar, Manish, Snow, Daniel D. Occurrence of arsenite in surface and groundwater associated with a perennial stream located in Western Nebraska, USA. *Journal of Hazardous Materials*, Volume 416, 2021

Manuscripts in preparation, review, or revision

Westrop, J.P., Yadav, P., Nolan, J.P., Singh, R., Bone, S.E., Chan, A.H., Kohtz, A., Pan, D., Bargar, J.R., Snow, D.D., and Weber, K.A. Microbial nitrate reduction enhances mobilization of naturally occurring uranium from subsurface sediments in the High Plains Aquifer. (*In Prep for Nature Geoscience*).

Westrop, J. P., Yadav, P., Bargar, J.H., Noel, V., Van Veelen, A., Wu, X., Chakraborty, R., Weber, K. A., Oxidation Paradox: Microbially catalyzed U(VI) reduction in response to nitrate inputs into organic rich sediments. (*In Prep for PNAS*).

RESEARCH GRANTS

American Association of Petroleum Geologists Grant, Nebraska Chapter, $1000 (2018)

Yatkola-Edwards Student Research Grant, Nebraska Geological Society. $1000 (2018)

Geological Society of America, ExxonMobil Recognized Research Award (Top 10 of 785 submissions), $5,000 (2017)

CONFERENCE PRESENTATIONS (5 of 14)

Westrop, J.P., Yadav, P., Bargar, J.H., *et al.* Influx of nitrate into reduced organic-rich sediments stimulates U(VI) reduction. 2020. AGU Annual Meeting. Virtual.

Westrop, J.P., Yadav, P., Bargar, J.H., *et al.* Uranium reduction in response to an influx of nitrate into organic-rich sediments. 2020. Goldschmidt. Virtual.

Westrop, JP., Nolan, J.P., Healy, O., *et al.* Nitrate Stimulated Uranium Mobilization into Groundwater. 2016. Nebraska Water Symposium: Managing and Essential Resource…Basin by Basin. Lincoln, NE. **1st Place Poster Presentation**.

Westrop, J.P., Weeks, B.E., Hu, Q., *et al.* Manganese bearing dolomite dissolution drives hexavalent chromium occurrence in the Central Oklahoma Aquifer. 2016. Geological Society of America Annual Meeting. Denver, CO.

Westrop, J.P., Swindle, A.L., Sexton, M.R., *et al.* Colloidal transport of nanoscale to microscale grains in the Central Oklahoma Aquifer. 2013. Geological Society of America Annual Meeting. Denver, CO.

SCIENCE COMMUNICATION AND OUTREACH

- Dinosaurs and disasters (2016-2018; 2020)
- Sunday with a Scientist (2016)
- Department of Health and Human Services, Assisted in the determination of source of Arsenic contamination in groundwater serving as drinking water source within the village of Wauneta, NE.

MEMBERSHIPS / AFFILIATIONS

Geological Society of America
American Association of Petroleum Geologists
Goldschmidt Geochemical Society

M.S. Advisor

Dr. Andrew S. Elwood-Madden, Frank and Henrietta Schultz Chair. School of Geosciences, University of Oklahoma

Ph.D. Advisor

Dr. Karrie A. Weber, Associate Professor, School of Biological Sciences and Department of Earth and Atmospheric Sciences, University of Nebraska-Lincoln