Dr. James L. Berglund
Assistant Professor of Geology

University of Wisconsin – Platteville
Department of Civil and Environmental Engineering
Platteville, WI 53818

PROFESSIONAL EXPERIENCE

2022-present **Assistant Professor**: University of Wisconsin - Platteville, Department of Civil and Environmental Engineering, Platteville, WI, USA

2019-2022 **Research Hydrogeologist/Assistant Professor**: Montana Bureau of Mines & Geology/Montana Technological University, Butte, MT, USA

2019 **Field Camp Faculty Instructor**: Indiana University Judson Mead Geologic Field Station, Hydrology Concentration, Cardwell, MT, USA

2015-2019 **Graduate Research & Teaching Assistant**: Temple University, Department of Earth and Environmental Science, Philadelphia, PA, USA

2012-2015 **Hydrologist**: Minnesota Department of Health, Drinking Water Protection Section, Saint Paul, MN, USA

2010-2012 **Graduate Teaching Assistant**: Missouri State University, Department of Geography, Geology, and Planning, Springfield, MO, USA

2009 **GIS Research Assistant**: Costa Rica Travel Study Program, Winona State University, Geoscience Department, Winona, MN, USA

2008-2010 **Undergraduate Teaching Assistant & Tutor**: Winona State University, Geoscience Department, Winona, MN, USA

2008-2010 **Observatory Support Specialist**: Winona State University, Geoscience Department, Winona, MN, USA

EDUCATION

2019 **Ph.D. Geoscience**, Temple University, Philadelphia, PA, USA
Dissertation: *Karst Aquifer Recharge and Conduit Flow Dynamics from High-Resolution Monitoring and Modeling in Central Pennsylvania Springs*

2012 **M.S. Geospatial Science in Geology**, Missouri State University, Springfield, MO, USA
Thesis: *An Applied Karst Study of the Ward Branch Watershed near the James River Freeway/South Campbell Interchange*

2010 **B.S. Geology**, **Aviation Science Minor**, Winona State University, Winona, MN, USA
Undergraduate Project: *Light Pollution Aerial Survey and Analysis of Winona, Minnesota*

TEACHING EXPERIENCE

2024-	**Course Instructor**	ENVENG 4310 – **Groundwater Hydrology** (UW-P)
2024-	**Course Instructor**	GEO 1690 – **Environmental Geology** (UW-P-Baraboo)
2024-	**Course Instructor**	GEO 3430 – **Hydrogeology** (UW-P)
2022-	**Course Instructor**	GEO 3130 – **Geology for Engineers** (UW-P)
2022-	**Course Instructor**	GEO 1140 – **Physical Geology** (UW-P)
2019-2019	**Faculty Instructor**	EAS X429 – **Field Camp Hydrology** (IUGFS)
2018-2019	**Graduate TA**	EES 3021 – **Groundwater Hydrology** (TU)
2018-2019	**Graduate TA**	EES 3011 – **Remote Sensing and GIS** (TU)
2017-2018	**Course Assistant**	EES 8421 – **Groundwater Modeling** (TU)

2015-2016	**Graduate TA**	EES 2001 – **Physical Geology** (TU)
2015-2016	**Graduate TA**	EES 0854 – **Geology of the National Parks** (TU)
2010-2012	**Graduate TA**	GLG 110 – **Principles of Geology** (MSU)
2009-2010	**Undergraduate TA**	GEOS 316 – **Geographic Information Systems** (WSU)
2008-2010	**Undergraduate TA**	GEOS 120 – **Dynamic Earth** (WSU)
2008-2010	**Tutor**	GEOS 102 – **Resources of the Earth** (WSU)
2008-2010	**Tutor**	GEOS 113 – **Natural Disasters** (WSU)
2008-2010	**Tutor**	PHYS 200 – **Fundamentals of Aviation** (WSU)

PUBLICATIONS

Berglund, J.L., Bobst, A., Gebril, A., & D. Snyder, (2024). A Groundwater Flow Model for the East Flathead Valley, Flathead County, Montana. *Montana Bureau of Mines & Geology*, Research Investigation.

Larson, E., Dornak, L., Underwood, C., Gronewald, C., **Berglund, J.L.**, Schmitz, R., and B. Mandernack (2024). Tree Rings and Aerial Imagery Illustrate a Multi-Century Trend from Open Lands to Closed Forest at Eagle Valley, Southwest Wisconsin, USA. *Natural Areas Journal,* 44(4), p. 223-239.

Bobst, A., Rose, J., & **Berglund, J.L.**, (2022). An Evaluation of the Unconsolidated Hydrogeologic Units in the South-Central Flathead Valley, Montana. *Montana Bureau of Mines and Geology,* Open-File Report 752.

Berglund, J.L., Toran, L., & E.K. Herman (2020). Can Karst Conduit Models be Calibrated? A Dual Approach using Dye Tracing and Temperature. *Ground Water*.

Berglund, J.L., Toran, L., & E.K. Herman (2019). Deducing Flow Path Mixing by Storm-induced Bulk Chemistry and REE Variations in Two Karst Springs: With Trends Like These Who Needs Anomalies? *Journal of Hydrology* 571.

Toran, L., Herman, E.K., & **J.L Berglund** (2018). Advances in Monitoring to Understand Flow Paths in Karst: Comparison of Historic and Recent Data from the Valley and Ridge of Pennsylvania. The Handbook of Environmental Chemistry, Karst Water Environment: Advances in Research, Management and Policy, vol. 68, Springer International Publishing.

Berglund, J.L., Toran, L., & E.K. Herman (2017). Using Stable Isotopes to Distinguish Sinkhole and Diffuse Storm Infiltration in Two Adjacent Springs. *15th Sinkhole Conference Proceedings*, National Cave and Karst Research Institute Symposium.

Gouzie, D., **Berglund, J.L.**, & K. Mickus (2015). The application of fluorescent dye tracing to evaluate karst hydrogeologic response to varying recharge conditions in an urban area. *Environmental Earth Science* 74: 3099-3111.

Berglund, J.L., Mickus, K., & Gouzie, D. (2014). Determining the Relationship between a Newly Forming Sinkhole and Former Dry Stream using Electrical Resistivity Tomography and very low-frequency electromagnetics in an Urban Karst Setting. *Interpretation* 2:3, SF17-SF27.

ABSTRACTS

Berglund, J.L., and M. Foster (2024). Wading into the Driftless: Temperature and Water Chemistry Patterns of Karst Springs in Southwest Wisconsin. *University of Wisconsin-Platteville College of Engineering, Mathematics, and Science Engineering Seminar Series*, Platteville, WI.

Berglund, J.L., (2022). From Winona State University and Beyond – the Career Path and Research Experiences of a Hydrogeologist. *Winona State University Geoscience Department EarthTalks Speaker Series,* Winona, MN.

Berglund, J.L. (2022). The Many Hats of a Hydrologist: Career Experiences of an Industry-to-Academia Millennial. Geological Society of America Connects 2022 Meeting, Denver, CO.

Berglund, J.L., & A. Bobst. (2022). Improving a Hydrogeologically Complex Aquifer Model using Transient Groundwater Levels, East Flathead Valley, Montana. Geological Society of America Connects 2022 Meeting, Denver, CO.

Berglund, J.L., Snyder, D., & A. Bobst (2021). Spatiotemporal patterns of groundwater levels in the East Flathead Valley aquifer system: insights into recharge and groundwater use. American Water Resources Association Meeting, Montana Chapter, Missoula, MT.

Berglund, J.L. (2020). On Hollowed Grounds: A Dive into the Subterranean World of Caves, Sinkholes, and Springs. Lewis & Clark Caverns Friday Summer Speaker Series, Cardwell, MT

Berglund, J.L. & L. Toran (2019). You Con-duit! Modeling Conduit Flow and Geometry using High-Resolution Temperature Monitoring and Dye Tracing. American Water Resources Association Meeting, Montana Chapter, Red Lodge, MT.

Berglund, J.L., Toran, L., & E.K. Herman (2018). Characterizing Transient Conduit-Matrix Interaction and Flow Diversion using High-Resolution Temperature Loggers, Dye Tracing, and FEFLOW Modeling. American Geophysical Union Conference, Washington, D.C.

Berglund, J.L., Toran, L., & E.K. Herman (2018). Ca/Zr Ratios and REE Patterns as Tracers for Karst Flow Paths. National Geological Society of America Conference, Indianapolis, IN.

Berglund, J.L., Toran, L., & E.K. Herman (2018). Sensitivity Analysis of a Karst Conduit Flow and Heat Transport Model with Variable Recharge and Temperature using FEFLOW. *EuroKarst Conference*, Karst Commission of the International Association of Hydrogeology, Besançon, France.

Berglund, J.L., Toran, L., & E.K. Herman (2018). Using Stable Isotopes to Distinguish Sinkhole and Diffuse Storm Infiltration in Two Adjacent Springs. *15th Sinkhole Conference*, National Cave and Karst Research Institute Symposium, Shepherdstown, WV.

Berglund, J.L., Toran, L., & E.K. Herman (2017). From Sink to Spring: Interpreting Local Recharge and Conduit Flow using High-Resolution Data Loggers and a Finite Element Heat-and-Mass Transport Fracture Flow Model FEFLOW. National Geological Society of America Conference, Seattle, WA.

Berglund, J.L., Toran, L., Herman, E., & J. Barna (2017). Rare Earth Element Patterns in Central Pennsylvania Karst Springs. Pennsylvania Groundwater Symposium, State College, PA.

Berglund, J.L., Toran, L., & E.K. Herman (2017). Monitoring Thermal and Geochemical Differences of Two Adjacent Springs. Northeastern/North-Central Geological Society of America Conference, Pittsburgh, PA.

Toran, L, **Berglund, J.L.**, Crowley, R., Herman, E.K. & J. Barna (2016). Revisiting Spring Classification Using Continuous Data Loggers (**Invited Presentation**). Geological Society of America Annual Meeting, Denver Colorado, 25-26 September, Abstracts with Programs. Vol. 48, No. 7

Barna, J., Fink, M.S., Toran, L., **Berglund, J.L.** & E.K Herman (2016). CO2 Storm Hysteresis in Karst Springs. Geological Society of America National Meeting Denver Colorado, 25-26 September, Abstracts with Programs. Vol. 48, No. 7.

Berglund, J.L., Toran, L., Herman, E., & D. Vesper (2016). Variations in REE Signatures as Indicators of Recharge Area and Flow Path Length in Karst Springs, National Geological Society of America Meeting, Denver, CO.

Berglund, J.L., Blum, J.L., & E. Berquist (2016). Protecting the Karstic Corner: A Challenge to Minnesota's Drinking Water. Karst Waters Institute Meeting: Karst, Groundwater Contamination, & Public Health: Moving Beyond Case Studies. San Juan, PR.

Berglund, J.L., & T. Alvarez (2014). Measuring Hydrostratigraphy in two Minnesota Bedrock Wells; a Case Study of Methods for Better Understanding Ground-water/Surface-water Interaction, Water Quality, and Well Productivity. 9th National Water Quality Monitoring Conference, Cincinnati, OH.

Berglund, J.L., Gouzie, D., & K. Mickus (2012). Conceptualizing Flow Interaction and Conduit Geometry in Near-surface Karst Bedrock with Quantitative Dye Tracing. North-Central Geological Society of America Conference, Dayton, OH.

Berglund, J.L., Mickus, K., & D. Gouzie (2012). Studying Urban Karst Features using Near-surface Geophysics in Springfield, Missouri; a Comparison of Applied Methods. North-Central Geological Society of America Conference, Dayton, OH.

Berglund, J.L., Mickus, K., & D. Gouzie (2011). Resistance is Not Futile: Geophysical Surveys of Karst Features using Electrical Resistivity. Annual Geological Society of America Conference, Minneapolis, MN.

Berglund, J.L., Gouzie, D., & K. Mickus (2011). Double-injection Dye Tracing and Concentration Sampling: a Method for Detecting Flow Variations in Karst Bedrock. Annual Geological Society of America Conference. Minneapolis, MN.

Berglund, J.L., Mickus, K., & D. Gouzie (2011). Geophysical Investigation of Near-surface Fractures and Conduits in a Thinly Mantled Karst Setting; a Concern for the US-60/160 Interchange in Springfield, Missouri. Northeastern/North-Central Geological Society of America Conference, Pittsburgh, PA.

Berglund, J.L., & J.L.B. Anderson (2010). When Night Becomes Day: Light Pollution in Winona. Winona State University CLASP Lecture Series, Winona, MN.

Berglund, J.L., & J.L.B. Anderson (2010). Light Pollution Survey and Analysis of Winona, MN. North-Central/South-Central Geological Society of America Conference, Branson, MO.

AWARDS, HONORS, AND GRANTS

2025 **Early Career Faculty Award for Teaching Excellence**, UW-Platteville

2019 **Pathfinder Fellowship Research Grant**, $3,038, Consortium of Universities for the Advancement of Hydrologic Science, Inc (CUAHSI)

2018 **Richard Valentino Award for Excellence in Teaching and Student Mentoring**, Temple University Department of Earth and Environmental Science

2012 **Clayton H. Johnson Best Geology Paper**, Missouri Academy of Science

2011 **Outstanding Student Research Award**, Geological Society of America

2011 **Diverging Diamond Fellowship**, $10,000, Missouri Department of Transportation

2011 **Undergraduate Research Grant**, $500, Geological Society of America

2010 **Diane Suchomel Award**, Winona State University Geoscience Department

2007 **Larry Lunda Aviation Scholarship**, $3,000, Winona State University

PROFESSIONAL DEVELOPMENT AND OUTREACH

2024 **Session Organizer**. STEM EXPO, Rocks, Fossils, Minerals Activity. UW-Platteville
2023 **Local Geology Consultant**. Potosi Driftless Information Center, Potosi, WI
2023 **Guest Speaker**: Friends of Belmont Mound State Park, Platteville, WI
2023 **Workshop Participant**: Springboard to Success Workshop, Platteville, WI
2023 **Workshop Participant**: Early Career Geoscience Faculty Workshop, St. Paul, MN
2023 **Event Participant**: Wisconsin Science Olympiad Regional Tournament, Belleville, WI
2022 **Session Chair**: Advances in Simulating Groundwater Flow and Transport, National Geological Society of America Conference, Denver, CO
2021 **Earth Talk Seminar Planner**: Montana Tech/Montana Bureau of Mines & Geology
2020 **Brown Bag Seminar Planner**: Montana Tech/Montana Bureau of Mines & Geology
2020 **Virtual Field Trip Co-Creator**: Carbonate Critical Zone Research Coordination Network https://www.youtube.com/watch?v=loMFVAcipBQ
2020 **Workshop Participant**: Carbonate Critical Zone Research Coordination Network
2020 **NSF Graduate Grant Reviewer**: Graduate Research Fellowship Program
2018 **Outreach Volunteer**: GEAR UP, Promoting Geoscience to High Schools in Philadelphia
2017 **Session Organizer**: Springs: Providing Insights on Critical Groundwater Quality and Quantity Issues, National Geological Society of America Conference, Seattle, WA
2017 **Session Organizer**: Karst from the Appalachians to the Mid-Continent, Northeastern/ North-Central Geological Society of America Conference, Pittsburgh, PA
2017 **President**: Sigma Gamma Epsilon Earth Science Honor Society, Temple University
2012 **Event Judge**: Ozarks High Science & Engineering Fair, Springfield, MO
2012 **Event Volunteer**: Region 7 High School Science Olympiad, Springfield, MO
2009 **President:** Astronomy Club, Winona State University
2008 **President**: Aviation Club, Winona State University

TECHNICAL SKILLS

Software

MODFLOW (GMS, Groundwater Vistas), FEFLOW, ArcMap, RockWorks, Trimble Pathfinder, PHREEQC, EarthImager 2D, Voxler 2, ENVI, MLAEM, Oneka, Split, DJI Pilot, Microsoft Office

Field Equipment

DJI Drone Systems, SonTek M9 RiverSurveyor, Cyclops-7 fluorometer logger, Manta2 pH logger HOBO temperature/pressure dataloggers and rain gauges, SUNA nitrate logger, Trimble GPS, EXO1 data logger, ARES 2D/3D resistivity system, ISCO 3700 and Hach Sigma 900 auto-samplers, Topcon AT-G7 auto level, Abem WADI VLF system, Mala GPR system, Geotech Water Level Meter, ProActive Monsoon groundwater pump, SonTek flow meters, YSI and Extech water parameter meters, Thermo Scientific Orion pH meter, FLIR thermal cameras, Meade RCX400 and Celestron telescopes

Lab Equipment

Hitachi F-2500 spectrofluorometer, Thermo Scientific iCAP 7200 ICP-OES, Dionex IC analyzer, HANNA pH meter

CERTIFICATES & SHORT COURSES

2021 Model Calibration with PEST and Groundwater Vistas, ESI

2020 Using MODFLOW-USG and MODFLOW 6 in Groundwater Vistas, ESI
2019 MODFLOW Solvers, Speed, Convergence, and Robustness, GSI Environmental
2016 **Remote Drone Pilot Certificate**, Federal Aviation Administration
2016 Analytic Solutions and AEM for Solving Groundwater Problems, Strack Consulting
2013 AutoCAD Civil 3D Fundamentals, Managed Design
2008 **Private Pilot Certificate**, Federal Aviation Administration

PROFESSIONAL SERVICE AND MEMBERSHIPS

2024-present **Secretary**, Geologic Society of America – North-Central Section
2024 **Search Committee**, UW-Platteville CEE Department, Enviro Engineering
2023-present **Member**, Commencement Committee, UW-Platteville
2024 **Search Committee**, UW-Platteville CEE Department, Structural Engineering
2023-present **Member/Treasurer**, Platteville Airport Commission
2022-present **Member**, American Water Resources Association, Wisconsin Chapter
2019-2020 **Member**, American Water Resources Association, Montana Chapter
2009-present **Member**, Geological Society of America
2012-2015 **Member**, Minnesota Groundwater Association
2010-2012 **Member**, Association of Missouri Geologists
2010-2014 **Member**, National Ground Water Association

RESEARCH STUDENT FUNDING, HONORS, and PRESENTATIONS

2024 Undergraduate Research, Scholarly and Creative Activities Scholarship; Margaret Foster
2024 Foster, M., & **J. L. Berglund**. Poster: *Seasonal Water Temperature and Chemistry Variations of Selected Driftless Area Springs, SW Wisconsin,* Pioneer Creative Activities and Research Day.

Updated 1/7/2025