Sarah E. Johnson, Ph.D., P.G.

University of Kentucky
Department of Earth and Environmental Sciences
Kentucky Geological Survey
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EDUCATION

Ph.D., Geology, University of Kentucky, 2023

M.S., Geology, Purdue University

B.S., *summa cum laude,* Geology, City College of New York

ACADEMIC EXPERIENCE

Research Assistant Professor, Earth and Environmental Sciences and the Kentucky Geological Survey, University of Kentucky. January 2025 – present

- Co-lead the planning and installation of slope monitoring equipment in southeastern Kentucky as part of the NSF EPSCoR Climbs project.
- PI of the Landscape Hazard Research Lab (LazR) with equipment and methodology for UAV-based and handheld lidar surveying, photogrammetric surveying, remote sensing, slope monitoring, field mapping, geomorphological and soil characterization.
- Collaborate on geohazards research, proposals and manuscripts.
- Work with the landslides and engineering geology research team at the Kentucky Geological Survey

Visiting Assistant Professor & Senior Lecturer, Earth and Environmental Sciences, University of Kentucky. August 2023 – December 2024

- Teach graduate and undergraduate courses Landforms, Fundamentals of Geology II, Earthquakes and Volcanoes, Environmental Geology
- Modernized the curriculum for Fundamentals of Geology II to utilize lidar data, photogrammetry, and other remote sensing data.
- Developed field trip and student-led projects on the geomorphology of Red River Gorge with student poster presentations for the community.
- Collaborated on landslide research and the development of new proposals.
- Served on curriculum committee and helped develop new syllabi for engineering geology and geologic hazards.

Senior Lecturer in Geology, Northern Kentucky University, Department of Physics, Geology and Engineering Technology. 2002 – 2023

- Taught undergraduate geoscience courses including Geoscience Applications of GIS, Geomorphology, Geologic Field Methods, Ecology and Geology of Coral Reefs, Economic Geology, Structural Geology, and Careers in Geoscience.
- Conducted research with undergraduate students.
- Advised and mentored geology students.
- Planned and led field trips in Kentucky, Ohio, Pennsylvania, Virginia, Colorado, and Belize.

- Served on department search committees, seminar committee, university budget committee, and recruitment and retention committees.
- Collaborated on research with faculty in geology, biology, and computer science.

Geology Program Director, Northern Kentucky University, Department of Physics, Geology and Engineering Technology. 2018 – 2020

- Represented the geology program in interactions with students, faculty, staff, and the public.
- Recruited new geology majors and minors.
- Connected geology students with internship, research and employment opportunities.
- Interviewed, hired, prepared and mentored adjunct faculty.
- Scheduled courses and the faculty to teach them.
- Managed course fees and the program budget.

PROFESSIONAL EXPERIENCE

Engineering Geologist, H.C. Nutting (now Terracon), Cincinnati, 2000 – 2002

- Worked in the geotechnical engineering group on landslide remediation, stream bank stabilization, tunnel feasibility, subsurface characterization, rock cut slope and retaining wall design.
- Performed proposal writing, permitting, field work, soil and rock classification, slope stability and hydrologic modeling, writing final reports, and performing inspections during construction.

Marine Geophysicist, Schlumberger, Houston, TX, 1998 – 2000

- Worked on seismic vessels to process 2D and 3D seismic data for clients.
- Assisted with seismic equipment maintenance, deployment and recovery of seismic equipment, work boat operations, safety drills and training.

REFEREED PAPERS PUBLISHED

Johnson, S., Zhu, Y., Dortch, J. M., and Haneberg, W. C., 2026. Quantifying landslide strain localization phenomena using tensor analysis of multi-temporal lidar data. *Landslides.* doi.org/10.1007/s10346-026-02724-x

Johnson, S.E., Haneberg, W. C, 2024, Machine Learning for Surficial Geologic Mapping, Earth Surface Processes and Landforms, *Earth Surface Processes and Landforms,* December, esp.6032 doi.org/10.1002/esp.6032.

Dilworth, J.R., McGlue, M.M, Thigpen, R.J., Brown, S.J., Yeager, K.M., Woolery, E.W., **Johnson**, **S.E**., Whitehead, S.J., Cortese, C.J., and Matocha, C., 2024, "Holocene Paleoenvironmental History of Jackson Lake (Grand Teton National Park, USA) Deduced from CHIRP Seismic Reflection and Radiocarbon-Dated Sediment Cores." *Quaternary Science Reviews* 336: 108748. doi.org/10.1016/j.quascirev.2024.108748.

Johnson, S.E., Haneberg, W.C, Crawford, M., Bryson, S., 2023, Measuring ground surface elevation changes in a slow-moving colluvial landslide using combinations of regional airborne lidar, UAV lidar, and UAV photogrammetric surveys. *Quarterly Journal of Engineering Geology and Hydrogeology.* doi.org/10.1144/qjegh2022-078.

McGlue, M.M., Dilworth, J.R., Johnson, H.L., Whitehead, S.J., Thigpen, R., Yeager, K.M., Woolery, E.W., Brown, S.J., **Johnson, S.E.**, Cearley, C.S., Clark, G., Dixon, T.S., Goldsby, R., Helfrich, A.L., Hodelka, B.N., Lo, E.L., Domingos Luz, L., Powell, N.E., Rasbold, G.G., Swanger, W.R., 2023, Dam emplacement and water level changes affect sublacustrine geomorphology and recent sedimentation in Jackson Lake, Grand Teton National Park (Wyoming, USA), *Earth Systems Science and Society*, doi.org/10.3389/esss.2023.10066.

Johnson, S., 2023, "Applications of Digital Terrain Modeling to Address Problems in Geomorphology and Engineering Geology." *University of Kentucky Libraries*. doi.org/10.13023/ETD.2023.167.

Johnson, S. E., Swallom, M. L., Thigpen, J. R., McGlue, M. M., Dortch, J. M., Gallen, S., Woolery, E. W., Yeager, K., 2022, The influence of glacial topography on fluvial efficiency in the Teton Range, Wyoming (USA). *Earth and Planetary Science Letters* 592 (117643), doi.org/10.1016/j.epsl.2022.117643.

Haneberg, W.C., **Johnson, S.E**., Gurung, N., 2021, Response of the Laprak, Nepal, landslide to the 2015 M_w 7.8 Gorkha earthquake. *Natural Hazards* 111*,* 567-584, doi.org/10.1007/s11069-021-05067-z.

Johnson, S.E., 1997, 1996 Tumalt Creek debris flows and debris avalanches in the Columbia River Gorge east of Portland, Oregon, in Chen, Cheng-lung, editor, *First International Conference on Debris-flow Hazards Mitigation; Mechanics, Prediction and Assessment*. American Society of Civil Engineers, New York, NY, 395-404.

REFEREED PAPERS SUBMITTED OR IN PROGRESS

Swallom, M., Goldsby, R., Thigpen, R., **Johnson, S**. **E.**, Dortch, J., Brown, S., Woolery, E., McGlue, M., Yeager, K., Linking the crustal-scale Teton and East Gallatin faults across the Yellowstone hotspot track and implications for "erasing" mountain topography. *Accepted, Tectonics*.

O'Leary, N., Bryson, S., **Johnson, S**., Dortch, J., Developing a Real-Time and Forecast Visualization Tool for Shallow Colluvial Landslides in Eastern Kentucky. *In Review.*

Chen, B., Bryson, S. Crawford, M., **Johnson, S**., and Gong, W., A continental hierarchy of rainfall-triggered landslide predictability in the United States, *In Review.*

PROPSALS AND FUNDING

2026 NSF CLaSH, $39,958, in review
Debris flow initiation during Hurricane Helene in western North Carolina (PI)

2026 NASA, $498,638, in review
Prithvi-enabled multi-hazards infrastructure risk assessment in Appalachia (Co-I)

2025 USGS, $182,961, funded
Landslide inventory and susceptibility mapping for Cincinnati and northern Kentucky: improving hazard assessment in a landslide-prone urban region (PI)

2025 NSF, $498,363, not funded
NSF R2I2: Southern Appalachian Mountain Flood and Geohazard Resilience Incubator (Co-I)

2024 NASA, submitted $879,634, not funded
Quantitative Landslide Risk Assessment and Risk-Informed Decision Support for Eastern Kentucky using NASA Earth Observations (Co-I)

2024 NASA, submitted $804,833, not funded
Community-Centric Approach for Landslide Risk Assessment and Mitigation in the Face of Climate Stressors using NASA Earth Observations (Co-I)

2024 NSF EPSCoR Track-1, $24,000,000, funded.
Climate Resilience through Multidisciplinary Big Data Learning, Prediction & Building Response Systems (CLIMBS). (Senior Personnel)

2021 NKU University Research Council Distinguished Fellowship, not funded.
Measuring Landslide Movement in Northern Kentucky Using Unmanned Aerial Vehicles and Structure from Motion (SfM) Photogrammetry. (PI)

2019 Kentucky-NASA EPSCoR, $52,504, not funded.
Research capacity building in radar remote sensing for natural disaster management: A machine learning approach (Co-PI).

2019 NKU Center for Integrated Science and Math (CINSAM), $12,304, funded.
IMAGE- Integrated modeling and geophysical evaluations of floods in Kentucky (Co-PI).

2019 NKU Center for Integrated Science and Math (CINSAM), $11,800, not funded.
Mapping landslide displacements in northern Kentucky using Structure from Motion (SfM) and image correlation from Unmanned Air Vehicles (UAVs) (PI).

2018 NKU Center for Integrated Science and Math (CINSAM), $13,240, funded.
Using sequential LiDAR to identify & catalog landslides in Kenton and Campbell counties (PI).

2018 NKU Collaborative Faculty Student Project Award (CFSPA), $4,720, funded.
Using LiDAR to identify & catalog landslides in Kenton and Campbell counties (PI).

2015 NKU Undergraduate Research Council Award for Student Research & Creative Activity Abroad, $2000, funded.
Examining the complex interaction between the geological structure and ecological health of coral reefs in Belize (Co-PI).

PUBLISHED CONFERENCE ABSTRACTS

Portwood, A., McGlue, M.M., Thigpen, R., **Johnson, S**., Woolery, E.W., Brown, S.J., Dilworth, J., and Rasbold, G.G., 2025, A Novel High-Resolution Holocene Record of Environmental Change from Grand Teton National Park, Wyoming, *Geological Society of America Abstracts with Programs*, 57(5), doi.org/10.1130/abs/2025RM-409710.

Zach, T., Thigpen, R., Goldsby, R., Grove, R., Hoar, R.M., Swallom, M., **Johnson, S**., Woolery, E.W., McGlue, M.M., and Brown, S.J., 2025, Reconstructing the Paleozoic-Miocene Paleo-topography of the Northern Teton Range with Implications for the Paleo-Teton Collapse Hypothesis: New Insights from Detailed Geologic mapping of the Survey Peak 7.5' Quadrangle, *Geological Society of America Abstracts with Programs*, 57(5), doi.org/10.1130/abs/2025RM-410204.

Thigpen, R., Brown, S., Gallen, S., Prince, P., **Johnson, S**., McGlue, M., Dortch, J., O'Dell, M., Where hurricanes go to die: long-term denudation of southern Appalachian topography punctuated by

major erosional pulses during catastrophic weather events, 2024 AGU Fall Meeting, abstract NH11D-09.

Thigpen, R., McGlue, M., Cortese, C., Woolery, E., Dilworth, J., Rasbold, G., Yeager, K., Whitehead, S., Brown, S., **Johnson, S.**, Teton fault paleoseismology: new seismic reflection and long-core evidence for late Quaternary earthquakes from Jackson Lake, Wyoming, USA, 2024 AGU Fall Meeting, abstract NH51F-2472.

Johnsons, S. E., Haneberg, W. C., 2023, Machine learning for mapping surficial geology in Kentucky, *AEG News* Vol. 66 No.4 (Annual Meeting Program with Abstracts), p. 87.

McGlue, M., Thigpen, J.R., Yeager, K., Rasbold, G.G., Dilworth, J.R., J**ohnson, S**., Schweitzer, S., Woolery, E.W., Brown, S. J., Woller, K., Cortese, C., Whitehead, S.J., The case for a long scientific borehole in Jackson Lake, Grand Teton National Park (Wyoming, USA), 2023, *Geological Society of America Abstracts with Programs*, 55(6), doi.org/ 10.1130/abs/2023AM-391896

Dilworth, J.R., McGlue, M., Thigpen, J.R., Yeager, K., Woolery, E.W., J**ohnson, S**., Woolery, E.W., Whitehead, S.J., Cortese, C., 2023, Paleoenvironmental dynamics of Grand Teton National Park (Wyoming) deduced from CHIRP seismic reflection and sediment cores from Jacks Lake, *Geological Society of America Abstracts with Programs*, 55(6), doi.org/10.1130/abs/2023AM-394668

Goldsby, R., Swallom, M., Thigpen, R., **Johnson, S.E**., Dortch, J., Brown, S., Woolery, E., McGlue, M., Yeager, K., 2022, Linking Teton and East Gallatin fault motion across the Yellowstone hotspot track, Wyoming USA: Implications for ongoing extension beneath Yellowstone and the northern continuation of the active Teton fault. *Geological Society of America Abstracts with Programs* (54)5, doi.org/10.1130/abs/2022AM-381527

Haneberg, W.C., **Johnson, S. E**., Gurung, N., 2022, Laprak revisited: Understanding the response of a large Himalayan landslide to the 2015 Gorkha earthquake. *AEG News* 65(4), 74.

Johnson, S. E., Haneberg, W.C., 2021, Elevation change detection thresholds in a slow-moving colluvium landslide in the Cincinnati area using combinations of regional LiDAR, structure from motion photogrammetry, and UAV-LiDAR. 2021 AGU Fall Meeting, abstract NH33A-09.

Johnson, S., Swallom, M.L., Thigpen, J.R., McGlue, M.M., Woolery, E.W., Dortch, J., Gallen, S., Yeager, K. 2021, Post-glacial fluvial inefficiency. *Geological Society of America Abstracts with Programs* 53(6), doi.org/10.1130/abs/2021AM-371378

McGlue, M., Dilworth, J.R., Johnson, H., Yeager, K., Thigpen, J.R., Woolery, E.W., Brown, S.J., Cearley, C.S., Clark, G., Dixon, T.S., Goldsby, R., Helfrich, A.L., Hodelka, B.N., J**ohnson, S**., Domingos Luz, L., Powell, N.E., Rasbold, G.G., Swanger, W., Whitehead, S.J., 2021, Sublacustrine geomorphology and deepwater chemostratigraphy reveal effects of dam installation at Jackson Lake (Wyoming, USA). *Geological Society of America Abstracts with Programs* 53(6), doi.org/10.1130/abs/2021AM-365379

Johnson, S., and Haneberg, W.C., 2020, Documenting decadal scale landslide movement using sequential LiDAR and structure from motion digital elevation models in the Cincinnati and Northern Kentucky metropolitan area. 2020 AGU Fall Meeting, abstract NH009-0004

Johnson, S., Swallom, M., Thigpen, J.R., McGlue, M.M., and Woolery, E.W., 2020. A comparison of post-glacial sediment volumes from source to sink in Moran and Snowshoe Canyons, Teton Range, Wyoming. *Geological Society of America Abstracts with Programs* 52(6), doi.org/10.1130/abs/2020AM-356159

Helfrich, A.L., Swallom, M., **Johnson, S.**, Thigpen, J.R., McGlue, M.M., Woolery, E.W., Brown, S. J., McQuarrie, N., 2019, Utilizing apatite (U-Th)/He analysis, landscape and kinematic modeling to examine the relative efficacy of climatic and tectonic forcing in an active tectonic system, Teton Range, WY. *Geological Society of America Abstracts with Programs* 51(5), doi.org/10.1130/abs/2019AM-338520

Johnson, S., Thigpen, J. R., McGlue, M. M., Woolery, E.W., 2019. Preliminary quantification of sediment storage in Moran and Avalanche Canyons in Grand Teton National Park, Wyoming, USA. *Geological Society of America Abstracts with Programs* 51(3), doi.org/10.1130/abs/2019SE-327584

Johnson, S., Edwards, T.*, Johnson, M.*, Brown, C.*, Peterson, C.*, 2018, Landslide inventory of Northern Kentucky using differential elevation maps derived from sequential LiDAR surveys. *Geological Society of America Abstracts with Programs* 50(6), doi.org/10.1130/abs/2018AM-323773

Roenker, B.*, Olson R.*, Faller, T.*, Ivey, Z.*, **Johnson, S**., Wang, H., 2018, Using sequential LiDAR data to identify and landslides in Kenton and Campbell counties in Northern Kentucky, *Geological Society of America Abstracts with Programs* 50(3), doi.org/10.1130/abs/2018SE-312623

Haneberg, W. C., **Johnson, S**., 2017, Double gaussian filtering to suppress noise and improve identification of new landslides on DEM difference maps. *Geological Society of America Abstracts with Programs* 49(6), doi.org/10.1130/abs/2017AM-305313

Johnson, S., Olson R.*, Roenker, B.*, 2017, Using sequential LiDAR to monitor and catalog recently active landslides in Kenton and Campbell counties in Northern Kentucky. *Geological Society of America Abstracts with Programs* 49(6), doi.org/10.1130/abs/2017AM-306512

Johnson, S., Amundsen, J.*, 2011, Identification and delineation of previously unreported landslides in Cincinnati and Northern Kentucky using LiDAR-derived maps. *AEG News* 54 (Annual Meeting Program with Abstracts), p. 88.

Brackman, T., **Johnson, S.,** Rouse, K.*, Pullammanappallil, S., 2011, Using LiDAR and ReMi for location and delineation of landslides in northern Kentucky. *AEG News* 54 (Annual Meeting Program with Abstracts), p. 68.

Amundsen, J.*, **Johnson, S.,** 2009, Improving approximations of the Mohr-Coulomb failure envelope. *Geological Society of America Abstracts with Programs* 41(7), p. 673.

Engel N.*, Johnson S., 2005, The Quaternary geology and geomorphology of Big Bone Lick State Park, Kentucky", poster presented at the Geological Society of America National Meeting, Salt Lake City, UT. *Geological Society of America Abstracts with Programs* 37(7), p. 427.

Johnson, S., Andrews, W.M., 2005, Inter-disciplinary cooperative investigations at Big Bone Lick State Park, northern Kentucky. *Geological Society of America Abstracts with Programs* 37(5), p.14.

* undergraduate research student

OTHER PRESENTATIONS

Johnson, S., Establishing a slope monitoring network in southeastern Kentucky, European Association of Geoscientists and Engineers Landslide Workshop, September 17, 2025

Johnson, S., Crawford, M., Ramsey, R., Bibbins, E., Koch, H., 2025, Slope Monitoring for Landslide Hazard Mitigation in Southeastern Kentucky, poster presented at the Kentucky Geological Survey Annual Seminar, June 2025.

Johnson, S., and Haneberg, W.C., 2021. Documenting decadal scale landslide movement using sequential LiDAR and structure from motion digital elevation models in the Cincinnati and Northern Kentucky Metropolitan Area, poster presented at the Kentucky Geological Survey Annual Seminar, May 20, 2021.

Dortch, Jason M., Hammond, M., **Johnson, S.**, and Koch, H., 2021. LASTiff, what is it and why do I need it?, Kentucky Geological Survey Seminar Series, January 15, 2021.

Johnson, S. 2019. Using LiDAR, unmanned aerial vehicles and structure from motion to detect and monitor landslides in Kentucky. Presented at the Geoscience Alumni Research Symposium, University of Kentucky, October 3, 2019.

Johnson, S., 2014 Coral Reefs: Exercises integrating geomorphology and sedimentary geology, invited presentation at the National Association of Geoscience Teachers conference "Innovative Approaches to Teaching Sedimentary Geology, Geomorphology, and Paleontology", June 16-20, 2014, St. Paul, MN.

Johnson, S., 2011, Landslide detection using LiDAR, presentation for the AEG Ohio River Valley section meeting.

Johnson, S., 2010, Tumalt Creek, Oregon debris flows revisited, invited speaker, University of Cincinnati Geology Colloquium Series, February, 2010.

SELECTED UNDERGRADUTE STUDENT PRESENTATIONS SUPERVISED

Nelson, M., 2021, "Modeling Carter Caves: Structure-from-Motion Photogrammetry", NKU CINSAM Celebration of Student Research and Creativity.

Peterson, C., Kim K., Correa, E., 2020, "Modeling methods of X-Cave system using stereo depth sensor data", NKU CINSAM Celebration of Student Research and Creativity.

Owens, J., Peterson, C., 2019, "Integrated modeling and geophysical evaluations of floods in Kentucky"; NKU CINSAM Celebration of Student Research and Creativity.

Peterson, C., 2019, "Creation of digital elevation models using scanning airborne laser altimetry (LiDAR)", Kentucky Academy of Science, Berea, KY, Poster won 3rd place in student competition.

Olivan, L., Martin D., Groeschen, J., 2018, "Mapping X-Cave in the Carter Caves system", 2018 NKU CINSAM Celebration of Student Research and Creativity.

Iles, D., 2017, "Using LiDAR to gage stream restoration over time" 2017 NKU CINSAM Celebration of Student Research and Creativity.

Ollier, K., 2015, "Coral and algae distribution along the Belize Barrier Reef" 2015 NKU Heather Bullen Celebration of Student Research and Creativity. Co-supervised with Dr. Denice Robertson.

Cole, H., 2015 "Comparison of living coral and algal growth in the Belize Barrier Reef system", 2015 NKU Heather Bullen Celebration of Student Research and Creativity. Co-supervised with Dr. Denice Robertson.

Vogelpohl, B., 2015, “Identification of landslide failure planes through varying geophysical methods” 2015 NKU CINSAM Celebration of Student Research and Creativity.

Rouse, K., 2011, “Landslide detection using LiDAR data, Kenton and Campbell County, Kentucky”, 2011 NKU CINSAM Celebration of Student Research and Creativity.

Williams, L., 2010, “Surface and groundwater connections in heavily mined communities derived from chemical analysis of water samples”, KAS 2010 annual meeting, poster won best geology poster in student competition.

Glassmeyer, M., 2009, “Depositional environment of the Split Rock Conglomerate”, KAS 2009 annual meeting.

Webster, J.; Robertson, D.; Johnson, S., 2009, “The ecology and geology of coral reefs: changes since the 1970s”, KAS annual meeting. Co-supervised with Dr. Denice Robertson.

O’Brian, Alice, Johnson, S., 2009, “Soil and landslide hazard map for Split Rock Conservation Park”, NKU CINSAM Celebration of Student Research and Creativity.

LICENCES AND CERTIFICATIONS

Licensed Professional Geologist in Kentucky (#260854)
FAA Part 107 Remote Pilot Certificate (#4320067)

ADDITIONAL CONFERENCES AND COURSES

2025, “Weather and Landslides Workshop: Anticipating the Hazard – Communicating the Threat – Preparing for the Event” Asheville, September 3-4, 2025

2017, Kentucky Geological Survey “Kentucky Landslides”, Somerset, KY

2015, KY-AIPG Professional Development Conference "Geophysical Techniques and Applications - Non-Invasive Methods for Subsurface Characterization and Interpretation", Lexington, KY

2014, National Association of Geoscience Teachers Cutting Edge Workshop “Innovative Approaches to Teaching Sedimentary Geology, Geomorphology, and Paleontology” in St. Paul, MN

2004, Chautauqua Course “Contrasting Volcanism at Mount Shasta and the Medicine Lake Volcano”, College of the Siskiyous, Weed, CA

SELECTED CONSULTING PROJECTS

Johnson, S., Rome, B., 2002-2003, “Biostabilization of Twin Creek channel at North Warren County Wellfield, Warren County, OH”.

Johnson, S., Mathis, H., 2002, “Cut slope recommendations, KY 1274 Menifee County”.

Johnson, S., Gilb, S., 2002, “Slope stability analysis and segmental retaining wall design”, Hillside Ave. and Anderson Ferry.

Johnson, S., Rome B., 2002, “Hydraulic modeling for proposed biostabilization of Little Miami Creek in Milford, OH”.

Johnson, S., Zhou, S., Gilb, S., 2000, "Geotechnical study of proposed mine access tunnels Liter's Quarry, Oldham County, KY".

Johnson, S., Webb, G., 2000, "Peak particle velocity (ppv) monitoring near high pressure gas mains during blasting at AA highway and Thelma Lee Drive".

SOFTWARE

Geographic Information Systems: ESRI ArcPro, GRASS, ENVI
Coding: MATLAB, Python, Mathematica
UAV lidar processing: DJI Terra, DJI Modify, Yellowscan CloudStation, Applanix POSPac
Photogrammetry & Structure from Motion: Agisoft Metshape, Cosi-CORR
UAV Operations: UgCS, DroneDeploy, DJIGo, AirMap
Landscape Modeling: Landlab, GeoPAT
Synthetic Aperture Radar: SNAP
Publishing: Adobe Illustrator, Adobe Lightroom, Adobe After Effects

ACADEMIC SCHOLARSHIPS & HONORS

2019-2021, University of Kentucky, KGS-EES Commonwealth Research Assistantship in Earth and Environmental Sciences
2020-2021 University of Kentucky, Earth & Environmental Sciences Department, Ferm grant in support of graduate research
2019-2021 University of Kentucky, Earth & Environmental Sciences Department Brown McFarland grant in support of graduate travel to professional meetings
1996 Michael C. Gardener Memorial Award, in support of graduate research
1996 Cedric J. Newby Scholarship, in support of graduate research
1996 Linda Horn Memorial Fund Scholarship, in support of graduate research
1993 Award for Best Calculus Final at City College of New York
1993 Undergraduate Teaching Assistantship, City College of New York
Phi Beta Kappa

TEACHING EXPERIENCE

Graduate
- Geomorphology – 2024

Upper Level
- Fundamentals of Geology II - 2024
- Careers in Geoscience, 2020 - 2022
- Earth Science Applications of GIS, 2015 - 2022
- Geomorphology, 2004 - present
- Ecology and Geology of Coral Reefs, taught in Belize, 2007 - present
- Geologic Field Methods, taught in Colorado, 2011 - 2017
- Structural Geology, 2004 - 2018
- Economic Geology, 2011- 2022

Introductory Level

Earthquakes and Volcanoes - 2024
Environmental Geology, online and in-person - 2024
This Dangerous Earth, online and in-person, 2007 - 2020
Earth Science with lab, 2002 – 2016, 2022
Rainforests to Reefs: Ecology and Geology of Australia, 2024-25

FIELD TRIPS LED

Introduction to geologic field methods in Colorado, 2 weeks, co-leader
Ecology and geology of coral reefs in Belize, 9 days, co-leader
Structural geology, Virginia and Pennsylvania, 3-4 days, co-leader
Karst geology of Carter Caves, Kentucky 1-2 day
Glacial and coastal geology of northern Ohio and Kelly's Island, 2 days
Landslides in northern Kentucky, 1 day
Glacial geomorphology of southern Ohio and northern Kentucky, 1 day
Geology of Red River Gorge, 1-2 days
Kentucky River Fault, 1 day
MVT sulfide deposits, Kentucky, 1 day

MEMBERSHIPS

AGU – American Geophysical Union
GSA – Geological Society of America
AWG – Association for Women Geoscientists

ACADEMIC SERVICE

Reviewer for AWG scholarships 2025
7 NKU search committees (4 tenure-track, 2 non-tenure track renewable, 1 staff)
Chair of department seminar committee (2020-2021)
NKU College of Arts and Sciences budget committee (2021)
NKU STEM recruitment and retention committee
Department of Physics, Geology and Engineering Technology scholarship committee (2020, 2022)
NKU Faculty Student Collaborative Grant reviewer (2018)
Student Publication and Presentation Award reviewer (2019-2021)
Editor of the department newsletter (2010-2016)
Designed and maintained department web pages (2004-2018)

OUTREACH ACTIVITIES

2025 Red River Gorge field trip for the climbing community, co-lead
2024 Rocktoberfest, Red River Gorge, led guided field trip to Natural Bridge State Park
2024 Powell County, student projects on the geomorphology of Red River Gorge
2019 NKU Mayerson Student Philanthropy Project (Ecology and Geology of Coral Reefs)

2016 and 2014 NKU summer STEM Camp

2009-2012 Co-organized Science Night at Parker Woods Montessori, a Cincinnati Public School

2002-2010 Faculty Coordinator for the Northern Kentucky Earth Space Science Alliance

MEDIA

2025 UK landslide research expands to Northern Kentucky and Cincinnati, Frazier, R., UKNow, Dec. 16, 2025, uknow.uky.edu/research/uk-landslide-research-expands-northern-kentucky-and-cincinnati

2025 “Flooding could end southern Appalachia: the scientists on an urgent mission to save lives”, Lakhani, N., and Cherry, J., The Guardian, May 29, 2025, www.theguardian.com/us-news/2025/may/29/appalachia-kentucky-floods-research-trump-cuts

2025 Kentucky Geological Survey landslides and engineering geology team monitors landslides in the commonwealth with an eye towards developing a weather driven landslide forecasting model, KGS, May 14, 2025, kygs.uky.edu/news/kentucky-geological-survey-landslides-and-engineering-geology-team-monitors-landslides-in-the-commonwealth-with-an-eye-towards-developing-a-weather-driven-landslide-forecasting-model

2024 “Unstable Ground: Exploring Engineering Geology”, Big Blue Rock Podcast, Episode 29, April 26, 2024, podcasts.apple.com/jm/podcast/ep-29-unstable-ground-exploring-engineering-geology/id1607853673?i=1000653712179

2019 “STEM Like a Girl”, NKU Magazine