

Tyler G. Smith, PhD, GIT - Curriculum Vitae

Auburn University, Department of Geosciences
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Education

- Ph.D. – Auburn University – Dept. of Geosciences August 2024
Earth System Science (Geoscience Education, Geocognition/Env. Psychology, Env. Geology)
Advisor: Karen S. McNeal, Ph.D.
Dissertation: *Interdisciplinary Interactions Between Humans and the Natural World*
- M.S. – Middle Tennessee State University (MTSU) – Dept. of Geosciences 2018
Professional Science (Environmental Geosystems concentration)
Internship: Civil & Environmental Consultants, Inc., Franklin, Tennessee
- B.S. – Middle Tennessee State University – Dept. of Geosciences 2016
Geosciences
Field Camp: Southern Utah University (2015)

Professional Experience

- Postdoctoral Scholar – Auburn College of Sciences and Mathematics Spring 2025-Present
Instructor – Auburn Dept. of Geosciences Fall 2024-Present
Concepts of Science (Introductory Science for non-majors)
Dynamic Earth (Physical Geology)
Global Systems: Land & Water (Physical Geography)
- PhD Researcher/Graduate Teaching Assistant – Auburn Dept. of Geosciences 2019-2024
Environmental Scientist 2 / Geologist – AECOM 2018-2019
Environmental Scientist – PM Environmental 2018
Graduate Student Intern – Civil & Environmental Consultants, Inc. 2018
Student Instructor, Dept. of Geosciences – MTSU 2016-2018
Introduction to Earth Science (lecture & lab)
- Tutor, Dept. of Geosciences, MTSU 2014-2018
Tasting Room Manager/Shift Manager - Arrington Vineyards & Winery, LLC 2008-2014
Environmental Field Technician – AquAeTer, Inc. 2005-2009

Courses Taught as Instructor of Record

- *Concepts of Science* (Honors lecture, Fall 2024) – SCMH 1017, Auburn
- *Global Systems: Land & Water* (lecture, Fall 2023; lab, Fall 2024) – GEOG 1030, Auburn
- *Dynamic Earth* (Honors/Majors lecture, 2022-2023; lab, Fall 2024) – GEOL 1100/1107, Auburn
- *Introduction to Earth Science* (co-taught lecture, 2017) – GEOL 1030, MTSU

Courses Taught as Graduate Teaching Assistant (GTA)

- *Geomorphology* (lab, Spring 2024) – GEOL/GEOG 5220, Auburn
- *Global Systems: Land & Water* (lab, Spring 2024) – GEOG 1030, Auburn
- *Dynamic Earth* (lab, 2022-2023) – GEOL 1100, Auburn
- *Concepts of Science* (lab, 2019-2022) – SCMH 1010, Auburn
 - Head GTA, Spring 2022
- *Geology Field Camp* (field course – Colorado, Utah, New Mexico, 2021) – GEOL 3650, Auburn
- *Introduction to Earth Science* (lab, 2016-2018) – GEOL 1030, MTSU
- *Mineralogy* (field trips – Western North Carolina, 2015-2018) – GEOL 3000, MTSU

- *Petrology and Petrography* (field trips – Southeastern Missouri, 2015-2018) – GEOL 4000, MTSU
- *Geology of the Colorado Plateau* (field course – Ariz., Colo., New Mex., Utah, 2016 & 2018) – MTSU
- *Physical Volcanology of the Cascade Range* (field course – Oregon, Washington, 2017) – MTSU

Instructional Assignments

Instructor, Dept. of Geosciences, Auburn: Instructor of record for Concepts of Science (Intro. Science for non-majors, Fall 2024), Global Systems: Land & Water (Phys. Geography, Fall 2023), and Honors Dynamic Earth (Phys. Geology, 2022-2023) lectures. For Dynamic Earth, concurrently taught one or two laboratory sections each semester. Assisted with developing and employing active learning assignments and formative assessments (iClicker) and co-led Dynamic Earth field trips to Chewacla State Park.

Teaching Assistant, Dept. of Geosciences, Auburn: In-person and online instruction of Concepts of Science laboratory (three sections per semester, 2019-2022). In-person instruction of Dynamic Earth laboratory (one section, Fall 2022; two sections each, Spring 2023 and Fall 2024) and Global Systems: Land & Water laboratory (two sections each, Spring and Fall 2024).

Instructor, Dept. of Geosciences, MTSU: Co-instructor for Introduction to Earth Science lecture and laboratory courses. Assisted with developing and implementing active learning assignments and alternative course assessment formats within lecture sections.

Teaching Assistant, Dept. of Geosciences, MTSU: Instruction of Introduction to Earth Science laboratory courses and assistance with the development of a new course format and lab manual.

Tutor, Dept. of Geosciences, MTSU: Embedded in several Introduction to Earth Science classes to tailor and provide supplemental instruction to students outside the classroom.

Service and Outreach

- Discipline-Based Education Research Group Graduate Student Liaison – Auburn, 2023-2024
- Geosciences Student Excellence & Accountability Comm. (G-SEAC) Member – Auburn, 2023-2024
 - New graduate student mentor, 2023-2024
- Graduate Student Council Senator – Auburn, 2022-2023
 - Rules Committee Member
 - University Administrative Review Committee Member
- Sigma Gamma Epsilon (SGE), National Earth Science Honors Society, 2014-present
 - Auburn Delta Beta Chapter Vice President, 2020-2021
 - Alabama “Adopt-A-Mile” Cleanup – North College St. near Sougahatchee Creek, 2020-2024
- Auburn Earth Day Extravaganza, 2022-2024
- Auburn Destination STEM (Interactive experience for 6th-9th graders), 2019, 2023 & 2024
- Auburn Geosciences Day (Recruiting event for 10th-12th graders), 2023
- American Institute of Professional Geologists, 2014-present
 - MTSU Student Chapter Vice President, 2016-2017

Training & Certifications

- Best Practices in Research Excellence Workshop, 2024
- Mobile Summer Institute on Scientific Teaching (MoSI), 2023
- MoSI Lunch & Learn Series, Fall 2023
- Geologist-In-Training (TN), ASBOG Fundamentals of Geology Exam, 2017

- 40-hour Hazardous Waste Operations and Emergency Response (HazWOpER), 2005 & 2018
 - 8-hour refresher, 2006-2008 & 2019

Honors

- Auburn Department of Geosciences Unsung Hero Award, 2024
- Auburn Geoscience Advisory Board (GAB) Outstanding Leadership Award, 2023
- Auburn Graduate Student Council Senator of the Month, Nov. 2022
- MTSU Outstanding Geology Student (Department Service Award), 2015

Publications

Smith, T.G., McNeal, K.S., 2024, Environmental risk perception related to changes in outdoor activity [Manuscript submitted for publication].

Smith, T.G., McNeal, K.S., 2024, Assessing motivations, benefits, and barriers of implementing virtual field experiences in geoscience-related disciplines: *Journal of Geoscience Education*, v. 72, no. 4, p. 438-449. doi: 10.1080/10899995.2023.2258760

Tracy, C., Driessen, E.P., Beatty, A.E., Lamb, T., Pruett, J., Botello, J., Brittain, C., Ford, Í.C., Josefson, C.C., Klabacka, R., **Smith, T.**, Steele, A., Zhong, M., Bowling, S., Dixon, L., Ballen, C.J., 2022, Why students struggle in undergraduate biology: Sources and solutions: *CBE—Life Sciences Education*, v. 21, no. 3, p. 1-14. doi: 10.1187/cbe.21-09-0289

Conference Presentations & Abstracts

Smith, T.G., Cain, C.J., Ashwood, L., Lee, M-K, McNeal, K.S., 2024, Radon contamination in fractured groundwater aquifers of the Talladega Metamorphic Belt: *Geological Society of America Southeastern Section Abstracts with Programs*, v. 56, no.2. (oral)

Smith, T.G., Cain, C.J., Ashwood, L., Lee, M-K, McNeal, K.S., 2022, Assessing the source, distribution, and attenuation of radon contamination in fractured groundwater aquifers: *Geological Society of America Abstracts with Programs*, v. 54, no. 5. (poster) doi: 10.1130/abs/2022AM-381488

Smith, T.G., McNeal, K.S., 2022, Assessing motivations, benefits, and barriers of implementing virtual field experiences: *Geological Society of America Abstracts with Programs*, v. 54, no. 5. (poster) doi: 10.1130/abs/2022AM-382660

Smith, T.G., McNeal, K.S., 2021, Environmental risk perceptions related to changes in outdoor activity during the COVID-19 pandemic: *Geological Society of America Abstracts with Program*, v. 53, no. 6. (oral) doi: 10.1130/abs/2021AM-369663

Smith, T.G., McNeal, K.S., 2020, Changes in outdoor activity and environmental risk perception during COVID-19: *Geological Society of America Abstracts with Program*, v. 52, no. 6. (poster) doi: 10.1130/abs/2020AM-356617

Cunningham, E., Corey, A., **Smith, T.G.,** Cribb, J.W., 2017, Petrographic and geochemical investigation of magmatic processes at Olallie, Pinhead, and Clear Lake Buttes, northern Oregon Cascade Range: *Geological Society of America Abstracts with Program* v. 49, no. 2. (poster) doi: 10.1130/abs/2017NE-290850

Invited Talks

MTSU Department of Geosciences Colloquium Series (Sept. 9, 2020)

History of Discipline-Based Education Research

Geological Society of America (GSA) National Conference – Portland, OR (Oct. 10, 2021)

Environmental Risk Perceptions Related to Changes in Outdoor Activity During the COVID-19 Pandemic

Funding Awarded

Travel Grant (2024) – Auburn College of Science and Mathematics Graduate Travel Award	\$500
Travel Grant (2024) – GSA-Southeastern Section	\$100
Research Grant (2022) – GSA-Southeastern Section <i>Assessing motivations, benefits, and barriers of implementing virtual field experiences</i>	\$1000
Research Grant (2022) – Auburn University GAB <i>Assessing motivations, benefits, and barriers of implementing virtual field experiences</i>	\$300
Travel Grant (2022) – Auburn University GAB	\$250
Auburn University Graduate Student Grants-In-Aid Program (2021) Alabama Water Resources Research Institute (AWRRI)/U.S. Geological Survey (USGS) <i>Assessing the source, distribution, and attenuation of radon contamination in fractured groundwater aquifers</i>	\$5000
Travel Grant (2021) – Auburn University GAB	\$460
Travel Grant (2020) – Auburn University GAB	\$25

Analytical Experience

Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

- Advanced Hydrogeology Course (MTSU), Spring 2018

X-Ray Diffraction (XRD) Analysis

- Introduction to X-Ray Powder Diffraction Course, Fall 2021

X-Ray Fluorescence (XRF) Analysis

- Introduction to X-Ray Powder Diffraction Course, Fall 2021

Lithium-Borate Flux Fusion

- Dissertation research, Summer 2023

Laser Ablation-ICP-MS (LA-ICP-MS)

- Dissertation research, Spring 2024

Professional Memberships:

- Geological Society of America (GSA), 2017-present

- National Association of Geoscience Teachers (NAGT), 2018-2021

- Association of Environmental & Engineering Geologists (AEG), 2016-present

- American Institute of Professional Geologists (AIPG), 2014-present