

Marcus Kurth

makurth@ncsu.edu

EDUCATION

North Carolina State University, Raleigh, NC Exp. 2030

- Ph.D. in Marine, Earth, and Atmospheric Sciences, Concentration in Earth Science
- Advisor: Maggie Curry, Ph.D.

Georgia Institute of Technology, Atlanta, GA May 2025

- B.S. in Solid Earth & Planetary Sciences with Minor in International Affairs, *Highest Honors*
- **Organizations:** TECHtonics Research Group, Sigma Gamma Epsilon (National Earth Science Honors Society), Georgia Tech Tour Guides, DramaTech

RESEARCH/TECHNICAL EXPERIENCE

Research Assistant – NCSU Department of Marine, Earth, and Atmospheric Sciences August 2025-

- Advisor: Maggie Curry, Ph.D.

Research Assistant – Georgia Tech School of Earth & Atmospheric Sciences Fall 2022-Fall 2024

- Advisor: Karl Lang, Ph.D.
- Studying Raman Spectroscopy of carbonaceous materials to determine peak metamorphic temperatures and sediment provenance of sediment in New Zealand riverbeds using iterative fitting of Raman spectra (IFORS).
- Imaging fission tracks from zircon grains from various sample sources.

Arctic Field Researcher and Lab Assistant – Concord University Summer 2024

- Advisors: Joseph Allen, Ph.D., Colin Shaw, Ph.D.
- Conducted original NSF-funded research on the Ikertôq Shear Zone in western Greenland.
- Collected samples and field observations of rock units in a pseudotachylyte-bearing fault zone during a three-week field expedition to western Greenland.
- Determined mineralogy of metaigneous samples using scanning electron microscopy and XRF whole-rock geochemistry to analyze petrogenesis.

Seismometer Technician and Outreach Assistant – Georgia Tech School of Earth & Atmospheric Sciences Spring 2024 - Summer 2024

- Supervisor: Andrew Newman, Ph.D.
- Worked with Dr. Andrew Newman and his research group as a paid seismometer technician on their Raspberry Shake seismometer outreach project.
- Setup and ensured functionality of seismometers across Georgia and communicated with contacts for current and potential locations at educational institutions.

TEACHING EXPERIENCE

Teaching Assistant – Georgia Tech School of Earth & Atmospheric Sciences Spring 2023-Spring 2025

- Setup, lead, and grade supervised labs for undergraduate students taking Earth Processes.
- Developed new experiments and questions for students to complete in lab.
- Help students with learning course materials and preparing for exams in topics like rock identification, plate tectonics, and seismology.

GT1000 Team Leader (TL) – Georgia Tech Fall 2022

- Aid the instructor with planning, class activities, and student involvement.
- Provide mentorship for students new to Georgia Tech and EAS department.

PRESENTATIONS

- **Kurth, M.**, Asby, L., Allen, J., Shaw, C.: Petrological Characterization of Mafic Metaigneous Rocks at the Margin of a Pseudotachylyte-Bearing Fault Zone, Ikertôq Shear Zone, Greenland, AGU 2024, Washington D.C., 9-13 Dec 2024.
- Ashby, L., **Kurth, M.**, Allen, J., Shaw, C.: Geochemical and Petrological Understanding of Pseudotachylyte-Bearing Calc-Alkaline and Eclogite Rocks from the Ikertôq Shear Zone: An NSF REU Study, AGU 2024, Washington D.C., 9-13 Dec 2024.
- Harris, D.-A., Lang, K., Roda Boluda, D., and **Kurth, M.**: Tracing sediment source within a glaciated landscape: new observations from detrital thermochronology and Raman spectroscopy in the Southern

HONORS & AWARDS

- Goodnight Doctoral Fellowship - NCSU Spring 2025
- Outstanding Undergraduate Teaching Assistant – Georgia Tech EAS Spring 2025
- Georgia Tech Faculty Honors Spring 2024-Spring 2025
- President’s Undergraduate Research Award - Georgia Tech Summer 2023
- Georgia Tech Dean’s List 2021-2025
- Georgia Tech College of Sciences Dean’s Scholarship Fall 2021

SKILLS

Computing: Python, MATLAB, GitHub, LabQuest, Tracker, Glogscript, Excel, Digital Elevation Models (DEMs)

Instrumentation: Spectrophotometer, Confocal Microscope, Scanning Electron Microscopy (SEM),
Geophones, Proton Precession Magnetometer, GPR, GPS, Brunton Compass

Other: Sample Preparation (creating thick/thin sections, rock cutting, sanding, sediment slides, etc.), Sample
Collection, Geologic Mapping, Outdoor Skills (Camping, Backpacking, First Aid, etc.)