

## EDUCATION

- University of Wyoming**, Laramie, WY GPA: 4.0/4.0  
M.S. Geology May 2023  
Thesis: [Deep seawater incursion and high-temperature amphibole growth along cross-cutting detachment faults at the Southwest Indian Ridge](#)
- University of North Carolina at Chapel Hill**, Chapel Hill, NC GPA: 3.7/4.0  
B.S. Geological Sciences, Distinction and Highest Honors May 2019  
Thesis: [3D-Modeling and Magnetic \(AMS\) Analysis of Mesozoic Diabase Dikes in North Carolina](#)
- University of St Andrews**, St Andrews, UK: *Geology Field Camp in Scotland* Summer 2018

## TECHNICAL SKILLS

- Python and R
- ESRI ArcGIS Pro, ArcMap, ArcScene, and QGIS
- 3D-Modeling in Pix4D
- ImageJ and Inkscape (similar to Adobe Illustrator)
- Photogrammetric drone surveys
- Scanning and Transmission Electron Microscopy
- Petrography
- X-ray powder diffraction
- Proposal and report writing
- Oral presentations
- Project management
- Data management and statistical analysis
- Geological mapping
- Field data collection and interpretation
- Rock and sediment sample preparation
- Anisotropy of magnetic susceptibility analysis

## RELEVANT EXPERIENCE

- Field Technician** September 2023–Present  
*BU Public Archaeology Facility*, Binghamton, NY
- Surveying for potential archaeological sites before construction or land development.
  - Classifying and documenting soil samples and artifacts dug from shovel test pits.
- Graduate Teaching Assistant** Fall 2019 & 2022; Spring 2023  
*University of Wyoming*, Laramie, WY  
*Capstone in Earth Science*
- Individually tutored senior-level students in scientific writing; graded weekly writing assignments.
- Structural Geology Lab*
- Created and presented weekly lectures to 24 upper-level students; graded weekly lab assignments.
  - Taught field skills: data collection, structural and petrologic interpretation, and geological mapping.
- Master's Thesis Research** August 2019–May 2023  
*University of Wyoming*, Laramie, WY
- Found geochemical evidence of hydrothermal reactions with seawater >20 km below the seafloor.
  - Analyzed the microstructure of 31 deformed fault rock samples to model deformation conditions.
  - **Created 12 balanced cross-sections** showing the step-by-step history of cross-cutting normal faults by identifying fault surfaces and measuring their slip from 60-m resolution seafloor bathymetry.
- Contract Geologist** June 2021–June 2022  
*Wyoming State Geological Survey*, Laramie, WY
- Co-led field mapping; digital field data collection using StraboSpot App and Garmin Rino 750 GPS.
  - Compiled and interpreted new field data with existing maps in ArcGIS Pro to create and **publish** the [Geological Map Series of the Phantom Lake Quadrangle, WY.](#)
  - Led petrographic study, describing 46 new thin sections and writing the Description of Map Units.
  - Analyzed and plotted major and trace element geochemical data for publication using Python.

## RELEVANT EXPERIENCE (CONTINUED)

**Geologist GS-1350-05**

June–August 2019

*United States Geological Survey (USGS), Menlo Park, CA**National Association of Geoscience Teachers – USGS Cooperative Summer Field Training Program*

- Conducted geophysical surveys using Scintrex CG5 gravimeters and Geometrics magnetometers.
- Developed joint gravity and magnetic models with Geosoft Oasis Montaj software to interpret structural settings in the Great Basin and Geysers Geothermal Field.

**Senior Honors Thesis Research**

August 2018–May 2019

*UNC Department of Earth, Marine, and Environmental Sciences, Chapel Hill, NC*

- **3D-modeled four excavated diabase dikes** using ESRI ArcScene and Pix4D. Flew five drone surveys at NC rock quarries and compiled dike location and orientation data to determine original position.
- Collaborated with M<sup>3</sup>Ore Laboratory at the *University of St Andrews* in Scotland to conduct anisotropy of magnetic susceptibility analysis on 16 oriented dike samples, using a KLY 5A Kappabridge.
- Discovered imbricated magnetic foliation indicating that dike magmas likely flowed horizontally north.

**Laboratory Research Assistant**

April 2017–May 2019

*UNC Department of Earth, Marine, and Environmental Sciences, Chapel Hill, NC***Manager of NCDOT Pea Island National Wildlife Refuge Shoreline Monitoring Project**

- Performed cleaning, sieving, and optical counting tasks on 255 sand samples per semester.
- Characterized mineral composition in 24 samples each semester with a scanning electron microscope.
- **Trained two lab assistants and four other students** in the operation of lab equipment.
- Coordinated and delegated project tasks; managed standard operating procedures.

Additional routine lab duties:

- Prepared thin section billets, grain mounts, powdered samples, and experimental furnace charges.
- Constructed **440-Megapixel** optical microscope images using an Olympus IX81 with Volocity software.

## SELECTED COURSEWORK

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| • Environmental Data Analysis (Python)  | • Numerical Geomodeling (Python) |
| • Foundations of GIS (ArcGIS Pro and R) | • Environmental Geology          |

## PROFESSIONAL ASSOCIATIONS

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Central New York Association of Professional Geologists	2023–Present
Geological Society of America	2018–Present
Association of Environmental & Engineering Geologists	2018–Present

## AWARDS AND HONORS

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GSA Graduate Student Research Grant (\$1500) and Outstanding Student Award (\$500)	May 2020
<b>Wyoming NASA Space Grant</b> Graduate Research Fellowship (\$20,000 + tuition & fees)	April 2020
Daniel Craig Pignatiello Fund for Undergraduate Research in Geological Sciences (\$4,116)	April 2018
Second Place Undergraduate Poster at the UNC Anadarko Student Research Symposium	April 2019
Walter H. Wheeler Teaching Fellowship and Award Fund (\$1,000)	April 2018
Achieved the rank of <b>Eagle Scout</b> , <i>BSA Troop 444</i>	July 2012

## COMMUNITY ACTIVITIES

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Binghamton University Masters Swimming	2023–Present
Skiers Nordic of Wyoming (UW Nordic Ski Team)	2021–2023
University of Wyoming Club Swimming, <b>Founder and President (2019–2021)</b>	Active Member 2019–2023