

# ASHLEY M. MORRIS

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## EDUCATION

University of Utah – Salt Lake City, UT	Fall 2023 – Present
PhD Student in Geology	
<u>Advisor</u> : Dr. Sarah Lambart	
University of Utah – Salt Lake City, UT	Fall 2021 – Summer 2023
Geology M.S.	
<u>Advisor</u> : Dr. Sarah Lambart	
University of Iowa – Iowa City, IA	Fall 2017 – Summer 2021
Geoscience B.S., Honors in the Major	
Environmental Sciences Minor, Geosciences Track	

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## RESEARCH SKILLS

- Petrographic analyses.
  - Electron microprobe analyses.
  - Scanning electron microscope imaging (BSE, EDS).
  - Laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) trace element and isotopic analyses.
  - Portable x-ray fluorescence (pXRF) and x-ray fluorescence core scanner (XRF-cs) analyses.
  - Heavy equipment operation, including jaw crusher, disc mill, shaker table, free fall and Barrier Frantz magnets.
  - Geothermobarometric and thermodynamic (MAGEMin, alphaMELTS) calculations.
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## RESEARCH EXPERIENCE

Research Assistant ( <i>Advisor: Dr. Sarah Lambart</i> )	Ongoing
Investigating the role of melt-rock reactions during oceanic crustal accretion with natural and experimental samples.	
Technical review of pXRF and XRF-cs analyses for basaltic hard rock cores.	
NSF Graduate Student Intern ( <i>Advisor: Dr. Sarah Lambart; Employer: Veracio</i> )	Summer 2024
Non-Academic Research Internships for Graduate Students (INTERN) Supplemental Funding Opportunity (Award #EAR-1946346). Research and development of new XRF technology for mineral exploration.	
Research Assistant ( <i>Advisor: Dr. Sarah Lambart</i> )	Fall 2021 – Summer 2023
Outlining magma mixing and emplacement history of unique sample using geochemical and petrographic analyses.	
Undergraduate Student Lab Assistant ( <i>Advisor: Dr. Bill McClelland</i> )	Fall 2019 – Spring 2021
Heavy mineral separation; extracting zircon grains using heavy machinery and chemical techniques.	
Digitizing film slides and rock hand sample collections.	
Iowa Geological Survey Intern ( <i>Advisors: Stephanie Tassier-Surine, Phillip Kerr, Dr. Emily Finzel</i> )	Spring 2020 – Fall 2020
Adapting the standard heavy mineral separation process for use on glacial till samples.	
Undergraduate Student Researcher ( <i>Advisor: Dr. David W. Peate</i> )	Spring 2018 – Spring 2021
Calculating geothermobarometric conditions of equilibrium storage depth of western Icelandic lava flows.	
Concentrating natural water samples in a clean laboratory to measure rare earth element (REE) concentrations.	
Creating meteorite pXRF database for identifying meteorites based on chemical composition.	

## Employment History

Teaching Assistant ( <i>Employer: Department of Geology and Geophysics – University of Utah</i> )	Fall 2025
Lead instructor for the laboratory sessions for optical mineralogy (GEO 3020).	
Teaching Assistant ( <i>Employer: Department of Geology and Geophysics – University of Utah</i> )	Spring 2024
Lead instructor for the laboratory sessions for petrology (GEO 3050).	
Teaching Assistant ( <i>Employer: Department of Geology and Geophysics – University of Utah</i> )	Fall 2021
Lead instructor for the laboratory sessions for optical mineralogy (GEO 3020).	
University of Iowa Housing & Dining Student Baker ( <i>Employers: Alison Kosek, Allison McDonald</i> )	Fall 2017 – Spring 2021
Working in sanitary environment on a time-sensitive schedule to produce baked goods for student population.	

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## HONORS & AWARDS

Western Association of Graduate Schools (WAGS)/ProQuest Distinguished Master's Thesis Award	Fall 2023
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Master's thesis selected from competition open to all western universities and STEM disciplines; award includes \$1000 and attendance to the annual WAGS conference. Required selection and nomination from the University of Utah.

Outstanding MS Student Award	Spring 2023
Annual University of Utah, Department of Geology and Geophysics Award. The recipient is chosen by faculty and fellow students for research efforts and departmental contributions.	
Outstanding Teaching Assistant of the Year 2022-2023	Spring 2023
Annual University of Utah, Department of Geology and Geophysics Award. Awarded based on student evaluations for the courses of the past year.	
AWG Outstanding Graduate Student	April 2023
Advisor nomination-based \$750 awarded by the Salt Lake Chapter of the Association for Women Geoscientists.	
Lowden Prize in Geoscience	Spring 2021
Annual University of Iowa, Earth & Environmental Science Department Award. \$200 award for excellence in geosciences decided on by the faculty members in the department.	
Bill Vosper Award	Spring 2020
Annual University of Iowa, Earth & Environmental Science Department Award. \$150 award based on nomination from faculty and students for major contributions in the areas of field trips, fieldwork, research, and undergraduate affairs.	

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## GRANTS & FELLOWSHIPS

AGU Chapman Conference Travel Grant - \$1975 travel grant	Fall 2024
Funding given to undergraduate, graduate students, postdoctoral researchers to support lodging, travel, and registration fees for the AGU Chapman Conference on Caldera-forming Eruptions at Basaltic Volcanoes in Hilo, HI in February 2025.	
Williamson Science Communication Fellowship 2024-2025 - \$33500	Fall 2024
Fellowship designed to increase science communications and encourage diversity in the geosciences by giving fellows the opportunity to develop a relationship with 7-12 public schools to engage students in geoscience and increase science literacy.	
AGU Lawrence A. Taylor Research Fund in Petrology & Geochemistry - \$4000 research grant	July 2024
Conducting a case study on the Atlantis Massif lower crustal rocks by performing a multi-scale petrographic analysis to quantify natural evidence of melt-rock reactions.	
GSA Graduate Student Research Grant for 2024 - \$2500 research grant	June 2024
Title: From Crystal Mush to Oceanic Crust, Quantifying Melt-Rock Reactions Using a multidisciplinary project to investigate the role of melt-rock reactions in lower crustal Atlantis Massif rocks.	
David S. & Inga M. Chapman Fund Award - \$2000 travel grant	Spring 2024
Awarded to support education and research opportunities to students in the Department of Geology and Geophysics, covering cost of attending the IODP Expedition 396 post cruise meeting and field trips in Akureyi, Iceland in June 2024.	
AWG Student Research Scholarship - \$500 scholarship	April 2023
Awarded to cover the expenses of research endeavors for young female geoscientists in Utah by the Salt Lake Chapter of the Association for Women Geoscientists.	
Graduate Student Travel Assistance Award - \$400 travel grant	January 2022
Awarded by the University of Utah, Geology & Geophysics department to graduate students to fund travel to other research institutions and facilities.	
Stokes-Eardley Fellowship - \$51441	Spring 2021
Provided in addition to Teaching/Research Assistantships and Tuition Benefit Program to support graduate students in the University of Utah, Geology & Geophysics department.	
Cedar Valley Rock & Mineral Society Scholarship - \$1000 scholarship	Spring 2021
Provided to University of Iowa, Earth & Environmental Science students enrolled in Geologic Field Analysis for outstanding performance in Geologic Field Methods.	
Hawkeye Achievement Award - \$8000 scholarship	Fall 2017
Awarded upon acceptance to the University of Iowa, based on prior achievements and high school grade point average.	

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## PUBLICATIONS

- Morris, A.M.**, Lambart, S., Alvarez Zarikian C. (**in prep**) XRF core scanning as a method for basaltic sample selection. For submission in *Scientific Drilling*.
- Cunningham E.H., Lambart S., Guo P., Chatterjee S., Tegner C., Hartley A., **Morris, A. M.**, Planke S., Berndt C., Alvarez Zarikian C., Betlem P., Brinkhuis H., Christopoulou M., Ferré E., Filina I., Frieling J., Harper D.T., Jones M.T., Longman J., Millett J.M., Mohn G.T.F, Scherer R.P., Varela N., Xu W., & Yager S.L. (under review) Evolution of

the source mineralogy and lithospheric controls on magmatism during the Northeast Atlantic continental breakup. Submitted for publication in *Geology, Geophysics, Geosystems*.

**Morris, A.M.,** Lambart, S., Stearns M.A., Bowman J.R., Jones M.T., Mohn G.T.F., Andrews G.D.M., Millet J., Tegner C., Chatterjee S., Frieling J., Guo P., Berndt C., Planke S., Alvarez Zarikian C., Betlem P., Brinkhuis H., Christopoulou M., Ferré E.C., Filina I.V., Harper D.T., Jolley D.W., Longman J., Scherer R.P., Varela N., Xu W., Yager S.L., Agarwal A., and Clementi V.J. (2024) Evidence for Low-pressure Crustal Anatexis During the Northeast Atlantic Break-up, *Geology, Geophysics, Geosystems*. dx.doi.org/10.1029/2023GC011413

**Morris, A.M.,** Lambart, S. (2023) Crust-mantle interactions during continental break-up: insights from an early Eocene dacitic unit within the Vøring Transform Margin (International Ocean Discovery Program Expedition 396). *University of Utah*, Geology Master's Thesis.

**Morris, A.M.,** Peate, D.W. (2021) Clinopyroxene geothermobarometry constraints on magma storage depths for off-rift volcanism of the Snaefellsnes Peninsula, West Iceland. *University of Iowa*, Geosciences Honors Thesis.

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## PRESENTATIONS

**Morris, A.M.,** Maza, K., Good, T., Godsey, H. (2025) Expanding the Reach of Outreach: Earth Science Exploration for 6-12 Students. **Poster**, *Geological Society of America Rocky Mountain Section Meeting*, Provo, Utah.

**Morris, A.M.** (2025) Research & Development: Finding Gold with X-ray Fluorescence. **Poster**, *Geological Society of America Rocky Mountain Section Meeting*, Provo, Utah.

**Morris, A.M.,** Lambart, S. (2025) XRF Core Scanning for Basalts; Can We Make Sample Selection Easier? **Poster**, *American Geophysical Union Chapman*, Hilo, Hawaii.

**Morris, A.M.,** Lambart, S., Stearns, M., Bowman, J., Guo P., Jones M.T., Mohn G.T.F., Andrews G., Planke S., Berndt C., Alvarez Zarikian C., Betlem P., Brinkhuis H., Chatterjee S., Christopoulou M.E., Filina I.Y., Frieling J., Harper D.T., Longman J., Millett J.M., Scherer R.P., Varela N., Xu W., Yager S.L., Agarwal A., Battacharya, J., Ferré, E., Nakaoka, R., Tegner, C., and Wang, M. (2024) Site U1570 Dacite. **Oral Presentation**, *IODP Expedition 396 Post-Cruise Meeting*, Akureyri, Iceland.

**Morris, A.M.,** Lambart, S., Stearns, M., Bowman, J., Guo P., Jones M.T., Mohn G.T.F., Andrews G., Planke S., Berndt C., Alvarez Zarikian C., Betlem P., Brinkhuis H., Chatterjee S., Christopoulou M.E., Filina I.Y., Frieling J., Harper D.T., Longman J., Millett J.M., Scherer R.P., Varela N., Xu W., Yager S.L., Agarwal A., Battacharya, J., Ferré, E., Nakaoka, R., Tegner, C., and Wang, M. (2023) Evidence for low-pressure crustal anatexis during the Northeast Atlantic break-up. **Poster**, *American Geophysical Union*, San Francisco, California.

**Morris, A.M.,** Lambart, S., Guo P., Jones M.T., Mohn G.T.F., Andrews G., Planke S., Berndt C., Alvarez Zarikian C., Betlem P., Brinkhuis H., Chatterjee S., Christopoulou M.E., Filina I.Y., Frieling J., Harper D.T., Longman J., Millett J.M., Scherer R.P., Varela N., Xu W., Yager S.L., Agarwal A., Battacharya, J., Ferré, E., Nakaoka, R., Tegner, C., and Wang, M. (2023) Crust-mantle interactions during continental breakup: Insights from an early Eocene dacitic unit within the Vøring Transform Margin (IODP Expedition 396). **Poster**, *Goldschmidt*, Lyon, France.

**Morris, A.M.,** Peate, D.W. (2018) Meteorites vs. Meteor-Wrongs. **Poster**, *University of Iowa Undergraduate Research Fair*, Iowa City, IA.

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## PROFESSIONAL DEVELOPMENT

IODP Expedition 396 Post-Cruise Meeting Field Excursions Summer 2024  
Geologist-guided tours of features related to Expedition 396 in Northern Iceland.

University of Utah RED Research Mentoring Certification Fall 2023  
A 6-week training course designed to learn how to mentor student research.

Goldschmidt Writing Scientific Papers Workshop Summer 2023  
Early career pre-conference workshop offering format suggestions and common writing mistakes.

Python Computing Language Courses Fall 2020 & Fall 2022  
Introductory level course for learning the Python computing language and graduate level course applying Python to geologic computational methodologies.

University of Iowa Geologic Field Camps Spring 2019 & Spring 2021  
Two three-week field courses (Geologic Field Methods and Field Analysis) in Dillon, MT and Sun Canyon, MT.

Geologic Field Trips Spring 2018 – Spring 2021  
Fields trips throughout my undergraduate career, varying from three days to one week, focused on identifying and observing a range of geologic settings and features. Destinations included Eastern Kentucky, Southern Missouri, Badlands NP, Bahamas, Guadalupe Mountains NP, Carlsbad Caverns NP, and Big Bend NP.

Foundations of GIS Course Spring 2020  
An undergraduate-level course focused on the ability to use and interpret geographic information systems.

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## SERVICE & OUTREACH

Department Graduate Student Representative – *University of Utah*

Spring 2025 - Present

College of Science Council Member – *University of Utah*

Fall 2024 – Spring 2025

Nominated graduate student representative for the Geology & Geophysics Department.

Student Advisory Committee – *University of Utah*

Spring 2024 & Fall 2024

Volunteered to review faculty for promotion/evaluation with two other graduate students.

Office of Undergraduate Student Research Fair Poster Evaluator

Spring 2024

Inclusive Earth Student Club – *University of Utah*

Fall 2021 – Present

Events and outreach by students dedicated to creating a welcoming community within the Geology & Geophysics department.

Undergraduate Representative – *University of Iowa*

Fall 2020 – Spring 2021

Promoted by undergraduate research advisor to provide undergraduate input and raise concerns of fellow students at Earth & Environmental Sciences faculty meetings.

Environmental Science Club – *University of Iowa*

Fall 2019 – Spring 2021

University club for members of various backgrounds interested in talking about current environmental issues and leading community projects to increase awareness and improve the environment.