

# Jack “JJ” Ruse

[rusej@uga.edu](mailto:rusej@uga.edu) | (813) 606-1586 | [jjruse.wixsite.com/e-portfolio](http://jjruse.wixsite.com/e-portfolio)  
Athens, GA 30602

## Education

### Master of Science in Geology

Expected: May 2027

University of Georgia

GPA: 4.00/4.00; Specialization: Structural Geology & Tectonics, Planetary Geology

### Bachelor of Science in Geology; Bachelor of Arts in Astronomy

May 2025

University of Florida

GPA: 3.67/4.00; Honors: Cum Laude; Minor: Geography

## Academic Experience

### Graduate Research Assistant

Aug 2025 – Present

Center for Planetary Tectonics at University of Georgia, Advisor: Dr. Christian Klimczak

- Mapping and characterizing shortening landforms on Mars using ArcGIS Pro

### Post-Baccalaureate Teaching Assistant

May 2025 – Jun 2025

GeoSPACE Geoscience Field Program at University of Florida

- Helped out with course logistics, acted as a point of contact for students, and assisted in the field as needed

### Peer Tutor

Jan 2025 – May 2025

Structural Geology & Tectonics Course at University of Florida

- Increased student understanding of course topics through reinforcing classroom concepts and lab techniques

### Undergraduate Teaching Assistant

Jan 2025 – May 2025

Geology of Florida Course at University of Florida

- Assisted with class logistics and facilitated class field trips to geologically relevant features of Florida

### Undergraduate Research Assistant

Sep 2023 – May 2025

Life on the Edge Lab at University of Florida, Advisor: Dr. Amy Williams

- Investigated organic compounds in lava tube samples using spaceflight-like techniques to optimize future Mars mission instrumentation

### Undergraduate Research Assistant

Jan 2023 – Dec 2023

Neil Opdyke Paleomagnetism Lab at University of Florida, Advisor: Dr. Joseph Meert

- Used paleomagnetic data software to calculate virtual geomagnetic poles and created simulations of these poles using Python to analyze their movement over time

## Workforce Development Experience

### Imperial Barrel Award Competition Team Member

Sep 2025 - Present

University of Georgia/American Association of Petroleum Geologists

- Analyzing various datasets to make recommendations related to operations in carbon sequestration

### Geovation (Geology + Innovation) Hub Team Member

Sep 2025 - Present

University of Georgia/The Chemours Company

- Collaborating with engineers to optimize sand/heavy metal mining operations in southern Georgia

### Project Manager & Secondary Reviewer

Sep 2023 – Dec 2023

NASA Proposal Writing & Evaluation Experience Academy, NASA L'SPACE Program

- Curated important project deliverables, coordinated team meetings, and acted as a reviewer on a NASA new technology review board

### Project Manager, Scientist, & Mechanical Engineer

Jun 2023 – Jul 2023

NASA Lucy Mission Internship

- Gained 200+ hours of experience in the life cycle of scientific instrumentation and managed team deliverables by delegating tasks, communicating deadlines, and configuring required documents

## Astrogeologist

Jan 2023 – May 2023

*Mission Concept Academy, NASA L'SPACE Program*

- Found a suitable landing zone for team rover using the JMARS software and worked with the engineering team on developing a CAD model of our instrument that could efficiently traverse the Martian surface

## Field Experience

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### Rock Mechanics Course Field Project

Nov 2025

*University of Georgia*

- Determined Rock Quality Designation, Rock Mass Rating, and Geologic Strength Index of the Tallulah Falls Quartzite in Georgia for potential engineering applications

### Sedimentary Geology Course Field Trip

Nov 2024

*University of Florida*

- Analyzed the stratigraphy of Talbot Island in Jacksonville, FL to determine the lithofacies and depositional environment of the different sedimentary layers

### Structural Geology & Tectonics Course Field Trip

Apr 2024

*University of Florida*

- Investigated macro- and mesoscopic structures/fabrics in context with the tectonic development of the Appalachian mountains through field, lab, and stereonet exercises

### Geological Field Methods Course Field Trip

Oct 2023

*University of Florida*

- Gained an understanding of the formation and regional stratigraphy of the Blue Ridge province through mapping activities in eastern Tennessee, western Virginia, and northern Georgia

### GeoSPACE Geoscience Field Program

May 2023 – Jun 2023

*University of Florida*

- Studied various topics in geology through field work in northern Arizona as well as developed a proficiency in field and remote sensing techniques through research projects and assignments based on field work

## Leadership Roles & Extracurricular Involvement

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### Geology Club Member

Sep 2025 – Present

*University of Georgia*

### Graduate Student Association Member

Aug 2025 – Present

*University of Georgia*

### Club Coordinator

Sep 2024 – Apr 2025

*Astraeus Student Organization at University of Florida (Member since Fall 2024)*

### Vice President

Aug 2024 – Apr 2025

*GeoClub at University of Florida (Member since Fall 2022)*

### Treasurer

Jan 2024 – Apr 2025

*Gator Astrobiology at University of Florida (Member since Spring 2024)*

### Astronomy & Astrophysics Society Member

Jan 2022 – Apr 2025

*University of Florida*

## Outreach & Community Service

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### GeoAmbassador

Jan 2026 – Present

*Department of Geology at University of Georgia*

### Going Gator Video Participant

Jul 2025

*College of Liberal Arts & Sciences at University of Florida*

- Volunteered in the making of a geology major video for the Going Gator transfer student program

### Earth Day Open House

Apr 2025

*Department of Geological Sciences at University of Florida*

- Volunteered at planetary science tables and helped direct activities related to Mars exploration and meteorites

**Majors and Minors Fair** **Oct 2024**

*University of Florida*

- Talked to undergraduates about geology at UF, including opportunities, degree tracks, and coursework

**Fall Undergraduate Research Expo** **Oct 2024**

*University of Florida*

- Informed students about space research conducted at UF and opportunities that are available through the Astraeus Space Institute

**Can You Dig It Geology K-12 Outreach Event** **Feb 2024**

*Florida Museum of Natural History*

- Volunteered for annual geology outreach event, which included assisting the event coordinator and teaching K-12 students about groundwater geology, sedimentology, and petrography

## Conference Presentations & Abstract Acceptances

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**Ruse, J.**, Williams, A., Gant, P., Siew, E., 2025. *Lipid Biosignatures in Lava Tubes: Implications for Life Detection on Mars*. UF Spring Undergraduate Research Symposium, Gainesville, FL.

**Ruse, J.**, Williams, A., Gant, P., Siew, E., 2025. *Lipid Biosignatures in Lava Tubes: Implications for Life Detection on Mars*. Lunar and Planetary Science Conference, The Woodlands, TX.

**Ruse, J.**, Meert, J., 2024. *Using the Bayesian Statistical Framework for Testing Paleomagnetic Reconstructions*. Florida Undergraduate Research Conference, Jacksonville, FL.

**Ruse, J.**, Meert, J., 2023. *Using the Bayesian Statistical Framework for Testing Paleomagnetic Reconstructions*. UF Fall Undergraduate Research Symposium, Gainesville, FL.

## Grants, Awards, & Recognitions

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**Chevron Graduate Research Assistantship Recipient** **Aug 2025 – Present**

*Department of Geology at University of Georgia*

**Edward D. Danker Award for Outstanding Geology Undergraduate** **May 2025**

*Department of Geological Sciences at University of Florida*

**Beyond120 Experiential Scholar** **Apr 2025**

*College of Liberal Arts & Sciences at University of Florida*

**Research Excellence Program for Undergraduates Scholar** **Apr 2025**

*Center for Undergraduate Research at University of Florida*

**Student Travel Grant Recipient (\$1,600)** **Mar 2025**

*Florida Space Grant Consortium*

**University Scholar (\$1,750)** **Aug 2024 – Apr 2025**

*Center for Undergraduate Research at University of Florida*

**Dean's List** **May 2023, May 2024, Dec 2024**

*College of Liberal Arts & Sciences at University of Florida*

**Emerging Scholar (\$1,000)** **Jan 2023 – Dec 2023**

*Center for Undergraduate Research at University of Florida*

**Florida Academic Scholar** **Aug 2021 – Dec 2024**

*Bright Futures Scholarship Program*

## Relevant Coursework & Training

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**Graduate:** Advanced Topics in Sedimentary Geology, Advanced Topics in Structural Geology, Data Analysis in the Geosciences, Introduction to Rock Mechanics, Petroleum Geology, Plate Tectonics

**Undergraduate:** Artificial Intelligence Fundamentals, Astrobiology, Astronomy & Astrophysics I-II, Calculus I-III, Chemistry I, Computer Aided Graphics & Design, Elementary Differential Equations, Environmental & Engineering Geology, Exoplanets, Field Studies, Geological Field Methods, Geomorphology, Geophysics, Historical

Geology, Igneous & Metamorphic Petrology, Physical Geography, Physics I-II, Principles of Mineralogy, Radar & Satellite Meteorology, Sedimentary Geology, Structural Geology & Tectonics, Topics in Planetary Science

**Training:** Complete Carbon Capture Usage and Storage Short Course, ExxonMobil Subsurface Fluid Flow Short Course, GEMs-4 Critical Minerals Workshop, NASA Open Sciences Skills Training, Petrel Fundamentals Short Course

## **Skills**

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**Technical Skills:** ArcGIS Pro, Google Earth Pro, Adobe Illustrator, R, Python, MATLAB, Siemens NX, SolidWorks, Vectorworks, LaTeX, Microsoft Office suite, geodynamic modeling

**Field/Lab Techniques:** GPS, GPR, photogrammetry, geologic mapping, structural/compositional analysis, cross-section construction, optical mineralogy/petrography, core logging, rock mass classification, pyrolysis gas chromatography-mass spectrometry, TMAH thermochemolysis, soldering, cleanroom procedures

**Other Skills:** Project management, proposal writing, systems engineering topics, heat transfer, risk management, teaming, communication, leadership, conflict management, time management, adaptability, collaboration