Jack "JJ" Ruse

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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

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

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

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

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

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

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

Technical Skills: Coding (R, Python, MATLAB), geodynamic modeling (ASPECT/Paraview), GIS (ArcGIS, JMARS), design/graphics (Adobe Illustrator, Siemens NX, SolidWorks, Vectorworks), Google Earth Pro, LaTeX, Microsoft Office suite

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