Jack "JJ" Ruse

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Athens, GA 30602

Education

Master of Science in Geology **Expected: May 2027**
University of Georgia
Areas of Specialization: Structural Geology & Tectonics, Planetary Geology
Advisor: Dr. Christian Klimczak

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

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

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

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

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

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

Student Participant/Field Researcher **May 2023 – Jun 2023**
GeoSPACE Geoscience Field Program at University of Florida
- Studied various topics in geology (sedimentary, mineralogy/petrology, volcanology, structural, planetary, and hydrology) 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

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)
- Acted as a liaison between the Astraeus Student Organization and space-related clubs

Vice President **Aug 2024 – Apr 2025**
GeoClub at University of Florida (Member since Fall 2022)
- Organized and facilitated club meetings, workshops, and other events

Treasurer **Jan 2024 – Apr 2025**
Gator Astrobiology at University of Florida (Member since Spring 2024)
- Assisted in starting up the club, helped write the club's constitution, tracked club funds, and organized monthly club meetings

Astronomy & Astrophysics Society Member **Jan 2022 – Apr 2025**
University of Florida

Outreach & Community Service

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, J., 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, J., 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

Graduate: Advanced Topics in Structural Geology, Data Analysis in the Geosciences, Introduction to Rock Mechanics

Undergraduate: Analytical Geometry & Calculus I-III, Artificial Intelligence Fundamentals, Astrobiology, Astronomy & Astrophysics I-II, Computer Aided Graphics & Design, Elementary Differential Equations, Environmental & Engineering Geology, Exoplanets, Field Studies, Geological Field Methods, General Chemistry I, Geomorphology, Geophysics, Historical Geology, Igneous & Metamorphic Petrology, Physical Geography, Physics with Calculus I-II, Principles of Mineralogy, Radar & Satellite Meteorology, Sedimentary Geology, Structural Geology & Tectonics, Topics in Planetary Science

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: Global Positioning System, Ground Penetrating Radar, photogrammetry, geologic mapping, structural/compositional analysis, cross-section construction, optical mineralogy/petrography, core logging, rock mass classification, pyrolysis gas chromatography-mass spectrometry (py-GC-MS), 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