

JILLIAN R. CAVELLIER

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EDUCATION

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| Doctor of Philosophy, Geoscience Department of Earth and Environmental Sciences University of Kentucky, Lexington, KY GPA: 3.88 | Expected August 2028 |
| Master of Science, Geoscience Department of Earth and Environmental Sciences University of Kentucky, Lexington, KY GPA: 4.00 | August 2024 |
| Bachelor of Science, Geology, Minor in Mathematics State University of New York (SUNY) at Oswego, Oswego, NY GPA: 3.56 | August 2020 |
| Associates of Mathematics and Science, Science Concentration Jefferson Community College, Watertown, NY GPA: 3.68 | May 2018 |

CURRENT APPOINTMENT

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| Graduate Research Assistant Department of Earth and Environmental Sciences University of Kentucky | August 2025 – Present |
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TEACHING EXPERIENCE

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| Enviropods Instructor Department of Earth and Environmental Sciences University of Kentucky Teach middle school students about earth and environmental hazards | May 2025 – August 2025 |
| Graduate Teaching Assistant Department of Earth and Environmental Sciences University of Kentucky Courses taught: Petrology (2025), Oceanography (Online, 2025), Physical Geology (2024) | August 2024 – May 2025 |
| Adjunct Professor of Mathematics Jefferson Community College Courses taught: Math Competency – designed for students with pre-college mathematical skills | August 2021 – May 2022 |
| Undergraduate Teaching Assistant Courses taught: Earth's Fury (2020) | January 2020 – March 2020 |

PAST APPOINTMENTS

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| Senior Laboratory Technician – Cementitious Materials Group University of Kentucky's Center for Applied Energy Research Assisted with various experimental procedures | July 2022, May 2024-August 2024 |
| Graduate Research Assistant – Cementitious Materials Group University of Kentucky's Center for Applied Energy Research | August 2022 – May 2024 |

AWARDS, HONORS AND SERVICE

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| Vice President – Graduate Geology Group – April 2024 – April 2025 University of Kentucky | |
| ERDC Scholars Program Award – August 2022 and August 2023 United States Army Core of Engineers and University of Kentucky Center for Applied Energy Research | |
| President – Graduate Geology Group – April 2023 – April 2024 University of Kentucky | |
| Recruitment Alumni Development Diversity Equity and Inclusivity (RADDEI) | |
| Graduate Student Representative - Graduate Geology Group – August 2022-April 2023 Department of Earth and Environmental Sciences, University of Kentucky | |
| Boone Fellowship – August 2022, 2024 Department of Earth and Environmental Sciences, University of Kentucky | |
| Pioneer Graduate Excellence Scholarship – August 2022, 2024 | |

Department of Earth and Environmental Sciences, University of Kentucky
Outstanding Geology Graduate of 2020 – May 2020
Department of Atmospheric and Geologic Sciences, State University of New
York at Oswego
Gary Forstoff Field Award – May 2020
Department of Atmospheric and Geologic Sciences, State University of New
York at Oswego
Secretary - Geology Club – August 2019 - May 2020
State University of New York at Oswego

RESEARCH EXPERIENCE

Current Ph.D. Research

Metamorphic and igneous controls on REE accessory phase genesis

Master's Research

Thesis Title: "Thermal Alteration of the Mineralogy of Calcium
Sulfoaluminate Cements: Implications for the Performance of Rapid Repair
Materials"

Undergraduate Research

Analyzed fracture systems of the Black River and Trenton Groups
in Jefferson County, NY

PRESENTATIONS AND WORKSHOPS

PRESENTATIONS

UK EES ReSEES Symposium, 2025. Investigating Fault Motion History of the
Brevard Fault Zone from Rosman, NC to the AL-GA Border.

UK EES ReSEES Symposium, 2024. Evolution of CSA Cement Mineralogy
Heated to 400°C shown via X-Ray Diffraction.

UK EES ReSEES Symposium, 2023. Blast Effects on the Mineralogy of
Calcium Sulfoaluminate (CSA) Cements.

Rast-Holbrook Seminar Series, UK EES. 2022. Blast Effects on the
Mineralogy and Interstitial Transition Zone in Calcium Sulfoaluminate
(CSA) Cement Applications.

WORKSHOPS

Exxon Mobil Short Course – Southeast U.S. Region – Fall 2023

Accepted to the Exxon Mobil Geoscience Recruitment Course at the University of
Georgia

PROFESSIONAL ASSOCIATIONS

Geological Society of America

Sigma Gamma Epsilon

ANALYTICAL SKILLS

Characterization Methods:

- Scanning Electron Microscope (SEM)
- X-Ray Diffraction (XRD)
- TGA (Thermal Gravimetric Analysis) technologies
- Fourier Transform Infrared Spectroscopy (FTIR)
- Cilas 1090 particle size analyzer
- Polarized light and reflected light microscopy
- Heavy Liquid Separation utilized in Zircon and Monazite
Geochronology
- Production of petrographic thin sections

Software:

- Microsoft Office 365
- MATLAB and C++ programming languages
- ArcGIS Pro
- Adobe Photoshop and Illustrator
- Surfer and Canvas programs

- Operation of both Gold and Carbon coatiers for increasing conductivity of SEM
samples
- Operation of Instron High-Capacity Universal Testing Systems for Compression
- Operation of Instron Drop Weight Impact Tester
- Operation of Magnetic Separator for sediment processing
- Construction of geologic maps and cross sections
- Writing of geological technical reports
- Website design

FIELD SKILLS

- Electrical Resistivity Tomography (ERT)
- Electromagnetic induction (EM)

- Magnetism (Magnetometer)
- Ground Penetrating Radar (GPR)
- Spontaneous Potential (SP)

RELATED COURSEWORK

- Graduate Fundamentals of Geophysics
- Graduate Principles of Physical Chemistry
- U/Pb Geochronology of Detrital Zircons in the Appalachian Basin
– project being conducted with other geology graduate students
- Graduate Stable Isotopes
- Graduate Petroleum course
- Graduate Geochronology course
- Graduate Low Temperature Geochemistry
- Graduate Quantitative Methods for Environmental Science
- Graduate Environmental Chemistry
- Graduate Scientific Communications
- Graduate Tectonics
- Hydrogeology
- Structural Geology
- Igneous and Metamorphic Petrology
- Sedimentology and Stratigraphy
- Volcanology
- Exploration Geology
- Mineralogy
- Graduate Paleo-hazards course
- Graduate Stratigraphy course
- Graduate Remote Sensing course
- Geographic Information Systems (GIS)
- Field Geology
- Historical Geology
- Physical Geology
- Calculus I
- Calculus II
- Calculus III
- Calculus Based Statistics
- Ordinary Differential Equations
- Matrix Algebra
- Engineering Mathematics
- Mathematical Modelling
- General Physics I
- Science and Engineering Physics I (Calculus Based)
- General University Physics II (Calculus Based)
- General Chemistry I and II
- Principles of Biology I and II