

JILLIAN R. CAVELLIER

431 Squires Rd. Lexington, KY 40515

Mobile: (315)-489-0696 Website: <https://jrcavellier.wixsite.com/jilliancavellier> Email: jrca277@uky.edu

EDUCATION

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

APPOINTMENTS

- Graduate Teaching Assistant** August 2024 – Present
*Department of Earth and Environmental Sciences
University of Kentucky*
- Senior Laboratory Technician – Cementitious Materials Group** July 2022, May 2024-August 2024
*University of Kentucky's Center for Applied Energy Research
Assisted with various experimental procedures*
- Graduate Research Assistant – Cementitious Materials Group** August 2022 – May 2024
University of Kentucky's Center for Applied Energy Research
- Adjunct Professor of Mathematics** August 2021 – May 2022
*Jefferson Community College
Instructed a mathematics course to freshman and sophomore students*
- Undergraduate Teaching Assistant** January 2020 – March 2020
*Assisted with instruction and grading of an upper division course of
geologic hazards for majors and non-majors*

AWARDS, HONORS AND SERVICE

- Vice President – Graduate Geology Group – April 2024 - Present**
University of Kentucky
- Exxon Mobil Short Course – Southeast U.S. Region – Fall 2023**
*Accepted to the Exxon Mobil Geoscience Recruitment Course at the University of
Georgia*
- 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

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

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 coaters 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 (In progress)
- Graduate Stratigraphy course (In progress)
- Graduate Remote Sensing course (In progress)
- 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