

Siânin D. Spaur

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EDUCATION

- 2020-08 – 2022-08 **Master of Science** Geoscience | Colorado State University | Fort Collins, CO
Thesis: The hydroclimate and ecosystem response to warming in the southwestern US: A case study across the Middle Miocene Climate Optimum | Advisor: Jeremy K. Caves Rugenstein
Relevant Coursework: Carbonate Sedimentology, Shale Sedimentology, Stable Isotopes of Waters, Data Analysis for Researchers, 40Ar/39Ar Geochronology, Paleoclimate, Stable Isotopes in Paleoclimate and Paleoecology
- 2016 – 2020 **Bachelor of Science** Earth & Environmental Science | Lehigh University | Bethlehem, PA
Minor: Latin American Spanish
Honors Thesis: Age and environmental change information encoded in middle-Pleistocene paleosols exposed in buried valleys of Schuylkill Co, Pennsylvania | Advisor: Frank J. Pazzaglia
Relevant Coursework: Sedimentology and Stratigraphy, Mineralogy, Structural Geology, Hydrogeology, Geochemistry of Natural Waters, Geologic Records of Change (Paleomagnetism), Terrestrial Ecosystems, Ecology
- 2019-06 **Lehigh University Geology Field Camp** | Northern Rockies, Bighorn Basin, Tetons, Yellowstone, Montana, Idaho
6-credit course studying igneous, metamorphic and sedimentary geology and field skills including geologic mapping
- 2012 – 2016 **High School Diploma** | Marine Academy of Science and Technology | Sandy Hook, NJ
Senior Capstone Project: Horseshoe crab monitoring, tagging, and geochemical site selection research in Sandy Hook Bay with the Bayshore Regional Watershed Council and Sea Grant Consortium
- 2015-07 **Colorado Outward Bound School** | Sangre de Cristo Mountains, CO
23-day alpine backpacking course

RESEARCH / PROFESSIONAL EXPERIENCE

- 2023-01 – current **Argon Lab Associate** | New Mexico Bureau of Geology & Mineral Resources, New Mexico Institute of Mining & Technology, Socorro, NM
Lab manager of mineral separation facility associated with 40Ar/39Ar Geochronology Laboratory
Supervise and train five undergraduate student workers and all lab visitors in sample preparation
Manage, communicate with, and perform mineral separates for all client projects (~75 projects/year)
Act as technical support to main 40Ar/39Ar lab
Compile 40Ar/30Ar data and metadata for all New Mexico samples analyzed since 2010

- 2022 **Field Camp Hydrogeochemistry Teaching Assistant** | Department of Geosciences, Colorado State University, Fort Collins, CO
Supervised, taught, graded assignments focused on Hydrogeochemistry of alpine watershed
- 2022 **Graduate Research Assistant** | Department of Geosciences, Colorado State University, Fort Collins, CO | Advised by Jeremy K. Caves Rügenstein
*Calibrated, troubleshot new laboratory instruments
Measured and described section, sampled carbonates and tephras
Completed sample preparation and stable isotope analysis of all samples
Analyzed paleontological record for paleoclimatic correlations
Established new high-resolution geochronology using new $^{40}\text{Ar}/^{39}\text{Ar}$ ages, tephrochronologic correlations, and paleomagnetic data*
- 2021 **Field Camp Sedimentology and Stratigraphy Teaching Assistant** | Department of Geosciences, Colorado State University, Fort Collins, CO
Supervised, taught, graded assignments focused on measuring and interpreting marine stratigraphy near Silverton, CO
- 2020 – 2021 **Graduate Teaching Assistant** | Department of Geosciences, Colorado State University, Fort Collins, CO
Instructed and graded assignments for Introductory Geology Laboratory and Geology of Natural Resources
- 2019 – 2020 **Undergraduate Research Intern** | Department of Earth & Environmental Sciences, Lehigh University, Bethlehem, PA | Honors thesis advised by Frank J. Pazzaglia
*Completed research studying paleoenvironmental indicators in mid-Pleistocene paleosol
Used iron oxide mineral ratios as proxy for paleoprecipitation
Measured magnetic properties, TOC content, and Particle Size Distribution*
- 2019 – 2020 **Department Social Media Outreach** | Department of Earth & Environmental Sciences, Lehigh University, Bethlehem, PA
- 2017 – 2020 **Shift Supervisor** | Playa Bowls, Bethlehem, PA
Worked as food service supervisor throughout completion of undergraduate degree
- 2018 – 2019 **Undergraduate Research Intern** | Department of Earth & Environmental Sciences, Lehigh University, Bethlehem, PA | Advised by George Yasko
Effect of natural gas pipeline construction on water quality of the Monocacy Watershed, PA
*Completed lab and field analyses to establish baseline conditions of PA watershed
Modeled watershed using ArcMap and ArcHydro Tools to study potential water movement and erosion associated with construction*
- 2018 **Research Intern** | University of Georgia - Costa Rica, Monteverde, Costa Rica
Establishment of permanent forest monitoring plot to quantify rainforest recovery following deforestation | Advised by Don Morris
*Completed field work and data processing to establish new forest monitoring plot
Presented data in both English and Spanish*
- 2017 – 2018 **Undergraduate Research Intern** | Department of Earth & Environmental Sciences, Lehigh University, Bethlehem, PA | Advised by Frank J. Pazzaglia
Established plain language, geologically informative sign in popular local park

LABORATORY TRAININGS

- Troubleshooting, use, and maintenance of Argus VI multicollector mass spectrometer and Helix MC
- Troubleshooting, use, and calibration of Delta V Isotope-Ratio Mass Spectrometer coupled to GC-isolink Gas Bench
- Use and calibration of Picarro Water Isotope Analyzer for H₂O isotope measurements
- Handling of radioactive material as per New Mexico Radiation Control Bureau regulations
- Sample preparation for ⁴⁰Ar/³⁹Ar analysis | rock crushing, acid treatment, heavy mineral separation, microscope analysis of samples, crystal picking by hand
- Sample preparation for δ¹⁸O and δ¹³C analysis | mineral characterizations, sample powdering, acid injections of samples
- Use of magnetometer and other instruments associated with paleomagnetism measurements
- Particle size distribution analysis

FIELD SKILLS

Measuring, describing section	Garmin GPS	Sampling organization	Field safety
Field mapping	Search and Rescue training	Phytolith sampling	Stream sampling
Strike & dip measurements	Carbonate identification	Tephra sampling	Groundwater monitoring

DIVERSITY, EQUITY, AND INCLUSION EFFORTS

2021-2022	Initiated collaboration between Warner College of Natural Resources (Colorado State University) and Navajo Technical University for mentorship of Native American students in pursuit of graduate degrees
2020 – 2022	Created and presented documents and department statistics for Department of Geosciences (Colorado State University) with graduate student recommendations for improving recruitment, treatment, and retention of diverse students in geosciences
2021	Became member of Unlearning Racism in Geosciences (URGE) pod (at Colorado State University), a semester-long national seminar to help geoscientists develop policies that improve accessibility, diversity and inclusion in geosciences
2021	Completed Field Harassment and Discrimination Training (Office of Diversity and Inclusion, Warner College of Natural Resources, Colorado State University)

PRESENTATIONS

2023	New Mexico Geological Society Annual Spring Meeting
2022	GSA Cordilleran and Rocky Mountain Joint Section Meeting & Symposium
2020 – 2022	GeoSlam Graduate Student Presentations Colorado State University
2021	Midcontinent Paleobotanical Colloquium
2021	AGU Fall Meeting
2020	GSA Annual Meeting
2018 – 2019	Undergraduate Research Symposium Lehigh University

AWARDS

2021	Outstanding Graduate Teaching Assistant Award Colorado State University
2021	Awards for Geochronology Student Research (AGeS) Grant Recipient
2020	Eckardt Scholar Lemmon Prize for meritorious thesis
2018	Environmental Initiative Fellowship Recipient
2017 – 2019	Dean's List Lehigh University

OTHER SKILLS

Isotope geochemistry	$^{40}\text{Ar}/^{39}\text{Ar}$ dating	First Aid & CPR Training
Adobe Illustrator	ArcMap, Arc Hydro Tools	Search and Rescue training
Inkscape	RStudio	Spanish fluency
Microsoft Office suite	MATLAB	

MEMBERSHIPS

Socorro Search and Rescue | Geological Society of America | American Geophysical Union | New Mexico Geological Society