Jayde N. Hirniak
School of Human Evolution and Social Change
Institute of Human Origins, Arizona State University
Email: jhirniak@asu.edu

EDUCATION

2026	Ph.D. in Anthropology, Arizona State University Committee: Dr. Curtis W. Marean, Dr. Christopher Campisano, Dr. Eugene I. Smith (deceased), and Dr. Melanie Barboni
2019	M.A. in Anthropology, Arizona State University Committee: Dr. Curtis W. Marean, Dr. Christopher Campisano, and Dr. Michael Barton
2016	Bachelor of Science in Evolutionary Anthropology, Rutgers University

RESEARCH INTERESTS

Modern human origins, impact of catastrophic events on human societies, tephrochronology, cryptotephra, geochemistry, geoarchaeology, site formation processes, paleoclimate, sedimentology, stratigraphy

EMPLOYMENT

2026-Present	**Arizona State University** Institute of Human Origins Postdoctoral Research Scholar Manager of Sediment and Tephra Preparation Laboratory
2017- 2026	**Arizona State University** Institute of Human Origins Presidential Research Assistant Graduate Research Associate Manager of Sediment and Tephra Preparation Laboratory Manager of Accessory Minerals (Apatite - Zircon) IN-Situ Geochronology/geochemistry Laboratory
2024-Present	**Mesa Community College** Adjunct Faculty
2023	**New Mexico Consortium** Archaeology Technician (GS7) Developed protocol for building training data and field methods, Built training data for AI model

2014-2017 **Rutgers Paleoenvironmental Reconstruction Lab**
Research Assistant
Hominins Sites and Paleolakes Drilling Project, Geoinformatics Project of the Turkana Basin

PEER-REVIEWED PUBLICATIONS

(4) 2025. **Hirniak, Jayde N.**, Murray, John K., and Zipkin, Andrew M. 'A microanalytical source discrimination study of South African silcrete using LA-ICP-MS', *Journal of Archaeological Sciences: Reports.* *https://doi.org/10.1016/j.jasrep.2025.105332*

(3) 2025. Gravel-Miguel, Claudine, Snitker, Grant, **Hirniak, Jayde N.,** Peck, Katherine M, Fetterhoff, Alex. 'Semantic segmentation of archaeological features on public lands – Case study of historical cotton terraces within the Piedmont National Wildlife Refuge, GA, USA', *Advances in Archaeological Practice.* *https://doi:10.1017/aap.2025.1*

(2) 2024. Kappelman, John, Todd, Lawrence C., Davis, Christopher A., […] **Hirniak, Jayde N.** […] et al. 'Middle Stone Age riverine-based foragers in the Horn of Africa during the Toba eruption and the out of Africa dispersal', *Nature.* *https://doi.org/10.1038/s41586-024-07208-3*

(1) 2020. **Hirniak, Jayde N.**, Smith, Eugene I., Johnsen, Racheal, et al. 'Discovery of cryptotephra at Middle–Upper Paleolithic sites Arma Veirana and Riparo Bombrini, Italy: a new link for broader geographic correlations', *Journal of Quaternary Science*. John Wiley & Sons, Ltd, pp. 1–14. *https://doi.org/10.1002/jqs.3158*

Submitted Chazan, Michael, Amaral, Selina, **Hirniak, Jayde N.**, Porat, Naomi, Shaw, Candice, Shaw, Matthew. 'New Perspectives on the Howiesons Poort from the site of Kathu Pan 6, South Africa', *Cambridge University Press.*

In Prep **Hirniak, Jayde N.,** Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Harris, Jacob A., Campisano, Christopher, Barboni, Melanie, Needham, Eamonn, Marean, Curtis. 'Glass geochemistry of cryptotephra identified at three new localities in South Africa', *Journal of Quaternary Science.*

In Prep **Hirniak, Jayde N.**, Needham, Eamonn, Karkanas, Panagiotis, Campisano, Christopher, Marean, Curtis W. 'Geochemical alteration of volcanic glass at archaeological sites: An experimental approach', *Chemical Geology.*

In Prep Gravel-Miguel, Claudine, Riel-Salvatore, Julien, Ghislandi, Sabina, Rellini, Ivano, **Hirniak, Jayde N.**, Snitker, Grant, Gazzo, Silvia, Negrino, Fabio. 'A refined

chronology at Arma dello Stefanin through radiocarbon dating and cryptotephra correlations', *Journal of Archaeological Sciences.*

In Prep Wurz, Sarah, Mentzer, Susan M., Smith, Eugene I., Johnsen, Racheal, **Hirniak, Jayde N.**, Ren, Minghua, Fisher, Erich C., Marean, Curtis W. 'The Youngest Toba Tuff Identified at the Klasies River Archaeological Site, South Africa', *Journal of Paleolithic Archaeology.*

OTHER PUBLICATIONS

(2) 2025. **Hirniak, Jayde N.**, *A massive eruption 74,000 years ago affected the whole planet – archaeologists use volcanic glass to figure out how people survived,* The Conversation. https://doi.org/10.64628/AAI.xfmueky3a
*Received editor's pick

(1) 2023. **Hirniak, Jayde N.,** *Geology and Dating,* IHO Becoming Human. https://becominghuman.org/pathways-to-discovery/adaptation-to-a-changeable-planet/dating-and-geology/

GRANTS

External

2025	AGeS-Grad Grant, National Science Foundation ($8,136)
2025, 2023	Geological Society of America Research Grant ($2495, $1800)
2024	ECR Travel Support for COT-INTIMATE-THM Conference ($300)
2024	SAS Student and ECR Research Support award ($1000)
2024	Paleoanthropology Society Annual Meeting Support ($100)
2023	Laura Bassi Scholarship ($500)
2023	Sigma Xi Grant in Aid of Research ($980)
2023	Philip M. Smith Graduate Student Research Grant for Cave and Karst Research ($2600)
2023	GSA Continental Scientific Drilling Division Research Grant ($660)
2021	LacCore/CSDCO Visiting Graduate Student Travel Grant ($1000)
2018	INTAV Early Career Researcher (ERC) Travel Grant, International Field Conference on Tephrochronology ($500)

Internal

2025	SHESC Summer Writing Fellowship ($8542)
2024	GPSA Publication Grant ($1200)
2018-2024	GPSA Travel Grant ($652, $730, $907, $950, $950, $950)
2018-2025	SHESC Travel Grant ($300, $130, $300, $160, $500, $650)
2023	Elizabeth H. Harmon Research Endowment Scholarship ($5000)
2021, 2023	SHESC Dissertation Research Award ($3000, $3000)
2022	Donald C. Johanson Paleoanthropological Research Endowment ($1000)
2021	GPSA Support for Gold Dissertation Writing Camp, ASU ($50)
2020	GPSA Graduate Research Grant for Independent Research ($730)
2018	GPSA Graduate Research Grant for Master's Research ($780)
2015	Bigel Scholarship ($1000)

AWARDS

2024-2025	SHESC Professional Development Award ($150, $150)
2020, 2023, 2024	Reynold Ruppé Prize in Archaeology ($500, $375, $500)
2018-2025	The College Graduate Excellence Award ($100)
2021	AACS ACerS Award for GSA Presentation ($700)
2021	SHESC Excellence in Graduate Achievement in Archaeology ($500)
2020	The College Student Leader, College of Liberal Arts and Sciences
2019	Developing International Geoarchaeology Best Paper Award ($500)
2019	GPSA Outstanding Mentor Award ($500)
2019	2nd Place, GPSA Research Grant Ceremony
2018	INTAV Best Poster Award, International Field Conference on Tephrochronology ($500)
2016	Senior Thesis High Honors, Rutgers University

INVITED TALKS

2025 **Hirniak, Jayde N.**, *The use of cryptotephra to improve age models and address big questions in archaeological research*, Deer Valley Petroglyph Preserve, Phoenix, Arizona. March 28, 2025.

2022 **Hirniak, Jayde N.** *The potential for building a late Pleistocene tephrochronological framework for archaeological sites in South Africa using cryptotephra*, GFZ German Research Centre for Geosciences, Potsdam, Germany. May 2, 2022.

2022 **Hirniak, Jayde N.**, *Challenges working in archaeological sediments,* Presentation at the UK Tephra Workshop, Royal Holloway University of London in Egham, United Kingdom. April 12, 2022.

2022 **Hirniak, Jayde N.**, Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Campisano, Chris, Marean, Curtis W., *Examining the details: The use of extremely low abundance (ELA) cryptotephra in archaeological research,* Presentation at the UK Tephra Workshop, Royal Holloway University of London in Egham, United Kingdom. April 11, 2022.

2021 **Hirniak, Jayde N.** *Constructing a late Pleistocene tephrochronological framework for archaeological sites in South Africa using cryptotephra*, Continental Scientific Drilling (CSD) Facility, University of Minnesota, Minneapolis, MN. September 8, 2021.

2018 **Hirniak, Jayde N.** *Examining the details: How cryptotephra can transform archaeology*. Arizona Museum of Natural History Archaeological Expo, Mesa, AZ. March 10, 2018.

CONFERENCE ACTIVITY (*denotes mentored undergraduate author)

2026 **Hirniak, Jayde N.,** Riel-Salvatore, Julien, Negrino, Fabio, and Gravel-Miguel, Claudine, *Advancing Cryptotephra Analysis: Volcanic Glass Detection Through AI-Assisted Microscopy,* Poster presented at the Paleoanthropology Society Meeting in Denver, Colorado.

2026 Borges-Eckert, Samantha, Murray, John K., Anderies, J. Ivan, **Hirniak, Jayde N.**, Zipkin, Andrew M., and Marean, Curits W., *A New Multi-Proxy, Non-Destructive Approach to Sourcing Silcrete in South Africa*, Poster presented at the Paleoanthropology Society Meeting in Denver, Colorado.

2026 Murray, John K., Anderies, J. Ivan, Borges-Eckert, Samantha, **Hirniak, Jayde N**., Mittleman, Alice, Hoskins, Kennedy, Zipkin, Andrew M., Pargeter, Justin, and Marean, Curtis W., *Quantitative advances in the study of silcrete heat treatment and provenance in South Africa using machine*

learning models, Paper presented at the Society for American Archaeology in San Francisco, California.

2025 **Hirniak, Jayde N.,** *The use of cryptotephra to address big questions through improved age models and inter-regional comparisons*, Invited Paper presented at the Society for American Archaeology in Denver, Colorado on April 26, 2025.

2024 **Hirniak, Jayde N.,** Karkanas, Panagiotis, Needham, Eamonn, Smith, Eugene, Campisano, Chris, Marean, Curtis, 2024, *The effects of archaeological fires on major and trace chemistry of volcanic glass shards,* Poster presented at the COT-INTIMATE-THM International Conference "Tephra: Chronology, Stratigraphy, Hazards, & Climate", Catania, Sicily, Italy on September 9, 2024.

2024 Gravel-Miguel, Claudine, Snitker, Grant, **Hirniak, Jayde N.**, Peck, Katherine, 2024, *Combining aerial LiDAR and Deep Learning to detect archaeological features in the Piedmont National Wildlife Refuge, Georgia*, Paper presented at the Society for American Archaeology in New Orleans, Louisiana on April 20, 2024.

2024 Malone, Alex, **Hirniak, Jayde N.,** Kliejunas, Mary, and Snitker, Grant, 2024, *Experimental Heat Treatment on Basalt Lithic Artifacts to Identify Wildfire Effects on Prehistoric Archaeological Sites*, Paper presented at the Society for American Archaeology in New Orleans, Louisiana on April 20, 2024.

2024 Meinhart, Ryan E.*, and Hirniak, Jayde N., 2024, *Analyzing cryptotephra to date the Arma dello Stefanin Cave Site in Liguria, Italy.* Poster presentation at the SHESC Annual Undergraduate Student Symposium on April 12, 2024.

2024 Heming, Timothy*, Needham, Eamonn, and **Hirniak, Jayde N.**, 2024, *The Power of Geochemistry in the Provenance of Pottery*. Poster presentation at the SHESC Annual Undergraduate Student Symposium on April 12, 2024.

2024 Gravel-Miguel, Claudine, Peck, Katherine, **Hirniak, Jayde N.,** and Snitker, Grant, 2024, *Developing an Airborne Laser Scanning and Deep Learning toolkit for federal cultural resource management: A case study detecting historic agricultural terraces in the Piedmont National Wildlife Refuge, Georgia, USA,* Paper presented at the International Conference on Computer Applications & Quantitative Methods in Archaeology in Auckland, New Zealand on April 11, 2024.

2024 **Hirniak, Jayde N**., Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Harris, Jacob A., Campisano, Chris, Barboni, Melanie, Needham, Eamonn, Marean, Curtis., 2024, *The potential of crypto-tephrochronology studies*

for paleoanthropological sites throughout Africa. Paper presented at Paleoanthropology Society Meeting in Los Angeles, California on March 20, 2024.

2023 **Hirniak, Jayde N.,** Karkanas, Panagiotis, Needham, Eamonn, Smith, Eugene, Campisano, Chris, Marean, Curtis, 2023, *The effects of archaeological fires on volcanic glass shards: An experimental approach,* Paper presented at The Great Scientific Exchange in Sparks, Nevada on October 9, 2023.

2023 Hartle, Kimberly* and **Hirniak, Jayde N.** 2023, *Examining sample loss in the lab: An experimental approach for processing cryptotephra*. Poster presentation at the SHESC Annual Undergraduate Student Symposium on April 14, 2023.

2022 Zipkin, Andrew, M., **Hirniak, Jayde N.,** Murray, John K., 2022, *Silcrete geological source discrimination with LA-ICP-MS for minimally destructive archaeological stone tool provenience studies*, Poster presented at The Great Scientific Exchange in Covington, Kentucky on October 3, 2022.

2022 Murray, John K., **Hirniak, Jayde N.,** Zipkin, Andrew, M., 2022, *Silcrete geological source discrimination with LA-ICP-MS for minimally destructive archaeological stone tool provenience studies*, Paper presented at The Great Scientific Exchange in Covington, Kentucky on October 3, 2022.

2022 **Hirniak, Jayde N.**, Murray, John K., Zipkin, Andrew M., 2022, *Developing an empirical calibration for elemental characterization and sourcing of South African silcrete with pXRF,* Poster presented at the Society for American Archaeology in Chicago, Illinois on March 31, 2022.

2021 **Hirniak, Jayde N.**, Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Campisano, Chris, Marean, Curtis W., *The potential for building a late Pleistocene tephrochronological framework for archaeological sites in South Africa using cryptotephra*, Geological Society of America Abstracts with Programs, v. 53, no. 6, https://doi.org/10.1130/abs/2021AM-371046, October 12, 2021.

2021 Murray, John K., **Hirniak, Jayde N.**, Zipkin, Andrew M., *Impact of heat treatment on geochemistry of three silcrete sources near Pinnacle Point, South Africa,* Geological Society of America Abstracts with Programs, v. 53, no. 6, https://doi.org/10.1130/abs/2021AM-371184, October 10, 2021.

2021 Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, **Hirniak, Jayde N.**, Fisher, Campisano, Chris, Marean, Curtis W., 2021, *Discovery of the Youngest Toba Tuff in South Africa; Challenges of Extremely Low Abundance Cryptotephra*, Paper presented at the Goldschmidt

Conference in Lyon, France, https://par.nsf.gov/biblio/10278334, July 9, 2021.

2021 **Hirniak, Jayde N.**, Murray, John K., and Zipkin, Andrew M., 2021, *Impact of heat treatment on silcrete geochemistry,* Institute for Social Science Research Poster Contest, Arizona State University, April 23, 2021.

2020 **Hirniak, Jayde N.,** Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Hodgkins, Jamie, Negrino, Fabio, Marean, Curtis W., 2020, *Tephrochronological dating of archaeological deposits using non-visible glass shards*, Virtual live paper presentation at The Great Scientific Exchange on October 13, 2020.

2020 Cabadas, Horacio*, Stroebel, Kelsi, Gravel-Miguel, Claudine, **Hirniak, Jayde N.**, 2020, *Testing the adaptability of photography methods in various archaeological contexts*, Virtual live poster presentation at the HOMER Virtual Symposium on September 11, 2020.

2019 **Hirniak, Jayde N.,** Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Fitch, Shelby, Marean, Curtis W., 2019, *Discovery of cryptotephra at Middle-Upper Paleolithic sites Arma Veirana and Riparo Bombrini, Italy: A new link for broader geographic correlations*, Paper presented at the Developing International Geoarchaeology meeting in Burnaby, Canada on June 19, 2019.

2019 **Hirniak, Jayde N.,** Smith, Eugene I., Johnsen, Racheal, Ren, Minghua, Fitch, Shelby, Marean, Curtis W., 2019, *Using cryptotephra in archaeology: precise correlations and improved age estimates*, Paper presented at the Society for American Archaeology meeting in Albuquerque, New Mexico on April 14, 2019.

2019 Butts, Clancey*, Murray, John K., **Hirniak, Jayde N.**, Keller, Hannah, Cleghorn, Naomi., 2019, *An undisturbed Earlier Stone Age locality on the southern coast of South Africa, exposed by fire*. Poster presented at the Society for American Archaeology meeting in Albuquerque, New Mexico on April 14, 2019.

2019 Smith, Eugene I., Johnsen, Racheal, **Hirniak, Jayde N.**, Marean, Curtis W., 2019 *Cryptotephra studies in Africa: a tool for precise dating and continental correlation of archaeological sites,* Paper presented at the Society for American Archaeology meeting in Albuquerque, New Mexico on April 11, 2019.

2018 **Hirniak, Jayde N.**, Smith, Eugene I., Johnsen, Racheal, Fitch, Shelby, Orr, Caley, Strait, David, Ren, Minghua, Miller, Christopher E., Negrino, Fabio, Riel-Salvatore, Julien, Peresani, Marco, Benazzi, Stefano, Gravel-Miguel, Claudine, Marean, Curtis W., Hodgkins, Jamie., 2018, *Using*

Cryptotephra to Link Neanderthal and Modern Human Middle Paleolithic Sites in NW Italy, Poster presented at the INQUA-INTAV International Field Conference and Workshop: Crossing New Frontiers in Transylvania, Romania on June 28, 2018.

2018 Smith, Eugene I., Johnsen, Racheal, **Hirniak, Jayde N.**, Fitch, Shelby, Orr, Caley, Ren, Minghua, Strait, David, Miller, Christopher, Negrino, Fabio, Riel-Salvatore, Julien, Peresani, Stefano, Gravel-Miguel, Claudine, Marean, Curtis W., Hodgkins, Jamie, 2018, *Rhyolite cryptotephra identified in Mousterian Deposits at Arma Veirana, Italy,* Poster presented at the Paleoanthropology Society Meeting in Austin, Texas on April 10, 2018.

SYMPOSIA ORGANIZED

2027 Christine S. Lane, Paul Albert, **Jayde N. Hirniak**, Angesom Resom Kidane, and Jinheum Park. "Applications of Quaternary tephrochronology across palaeoenvironmental, archaeological and volcanological research". INQUA 2027 Congress Session in February 2027.

2023 **Jayde N. Hirniak**. "Topics in Art & Archaeology: Archaeological Chemistry". The Great Virtual Scientific Exchange 2023 in Sparks, Nevada on October 9, 2023.

2022 **Jayde N. Hirniak**, Simon Blockley, and Christine Lane. "Correlating Distal Tephra: Methodological Challenges and Solutions". UK Tephra Workshop at the Royal Holloway University of London, Egham, United Kingdom on April 11-12, 2022.

2021 **Jayde N. Hirniak** and Marie Jackson. "Reading the record of volcanic tephra in geoarchaeological site studies and drill core correlations". Geological Society of America meeting in Portland, Oregon on October 10, 2021.

2021 **Jayde N. Hirniak** and Hannah Keller. "Human Origins Migration and Evolution Research Consortium Poster Symposium". Society for American Archaeology meeting in San Francisco, California on April 14, 2021.

2020 **Jayde N. Hirniak** and Andrew M. Zipkin. "Topics in Art/Archaeology/ Forensics 2: Archaeological Chemistry". The Great Virtual Scientific Exchange 2020 (Virtual version of the Great Scientific Exchange) on October 13, 2020.

2020 **Jayde N. Hirniak** and Hannah Keller. "Human Origins Migration and Evolution Research Consortium Poster Symposium". Virtual HOMER Symposium on September 11, 2020.

FIELD TRIPS ORGANIZED

2021 **Jayde N. Hirniak** and Marie Jackson. "A Volcanic Tour of Central Oregon: Newberry Volcano Geothermal Scientific Drilling and Fort Rock Geoarchaeological Sites". Geological Society of America Annual Meeting Field Trip on October 12, 2021.

TEACHING EXPERIENCE

2024-Present **Adjunct Faculty**, Mesa Community College
ASM 104: *Bones, Stones and Human Evolution (In-person)*
ASM 275: *Forensic Anthropology (Hybrid)*

2019-2024 **Teaching Assistant**, School of Human Evolution and Social Change, Arizona State University, Tempe, AZ
ASB 327: *Disaster!*
ASM 104: *Bones, Stones and Human Evolution*
ASM/BIO 403: *Evolutionary Medicine and Global Health*
ASB 100: *Introduction to Global Heath*
ASB 355: *Traditional Medicine and Healing*
ASB 305: *Poverty and Global Health*
ASB 330: *Understanding Archaeology*

2019-2023 **Graduate Instructor**, Arizona Department of Corrections Rehabilitation & Rentry, Florence, AZ
Prison Geology Education Program (Cook)
Prison Biology Education Program (Eyman)

2021-2022 **Instructor,** Division of Developmental Disabilities, Robinson Ranch, Phoenix, AZ
Foundations of Horsemanship
Horsemanship I
Horsemanship II

2016 **Teaching Assistant**, Turkana Basin Institute Origins Field School, Turkana, Kenya
GEO 303/GEO 504: *Sedimentary Geology and Geochronology*
ANP 304/ANT 505: *Ecology: Linking People and Nature*
ANP 305/ANT505: *Earth & Life Through Time*
ANP 306/ANT 506: *Human Evolution*
ANT 307/ANT 507: *Prehistoric Archaeology of Africa*

Courses ready to teach:
Bones, Stones and Human Evolution
Forensic Anthropology
Fundamentals of Geoarchaeology
Archaeological Field Methods
Introduction to Geology

UNDERGRADUATE MENTORSHIP

2019-Present **SHESC Research Apprenticeship Program**, Arizona State University

Research Project: Using volcanic glass to date and correlate archaeological and paleoenvironmental deposits
2025-2026: Lily Nunley[1]
2024-2025: Liana Alonso
2024-2025: Brandy Anderson
2024-2025: Jonel Escobar
2023-2024: Alexander Clarke
2023-2024: Chloe Hoelzel
2023-2024: Julia Curtiss[2]
2023-2024: Ophelia Messer[3]
2023-2024: Ryan Meinhart[3]
2022-2024: Timothy Heming[3]
2022-2023: Kimberly Hartle[3]
2020-2022: Felicia King

Research Project: Pilot Study: Ostrich Eggshell Use-wear
2023-2024: David Pooler
2023-2024: Anna Almeida
2021-2023: Elie Knight
2020-2022: Dwight Courtney
2020-2021: Brooke Mangum

Research Project: Mediterranean and African Volcanic Database Project
2024-2025: Amy Frei
2024-2025: Laura Pruett[2]
2024-2025: Samantha Borges-Eckert
2021-2022: Andriana Means
2020-2021: Alexander Seng

Research Project: Building high-resolution archives of archaeological sites through the production of photomosaics
2019-2020: Horacio Cabadas

2024-Present **Mesa Community College Honors Program**
2025-2026: Julia Lira
2025-2026: Givanni Gallardo Garcia

[1]Received independent funds and hired as a technician
[2]Served on Honors Thesis Committee
[3]Mentored an independent project

FIELD EXPERIENCE

2024 **Geological Survey,** Collection of geological samples from aeolianite deposits in search of Youngest Toba Tuff, Western Cape, South Africa

2024 **Field Specialist,** Collection of cryptotephra samples as a part of an Insight Grant focusing on documenting forager adaptations to dramatic climate change in Liguria (Italy)
Director(s): Claudine Gravel-Miguel, Fabio Negrino, Julien Riel-Salvatore

Caverna delle Arene Candide
Arma degli Zerbi
Arma dello Stefanin
Arma della Nina

2023 **Archaeological Technician (GS7),** Evaluation of post-fire impact on historical archaeological sites and collection of LiDAR data
Supervisor: Grant Snitker

Okanogan-Wenatchee National Forest, Winthrop, Washington, USA
Lassen National Forest, Susanville, California, USA
Plumas National Forest, Quincy, California, USA
El Dorado National Forest, Placerville, California, USA
Sequoia National Park, Tulare County, California, USA

2022 **Field Specialist,** Border Cave, KwaZulu-Natal, South Africa
Co-directors: Lyn Wadley and Lucinda Backwell

2022 **Field Specialist and Excavator,** Kathu Pan 6, Northern Cape, South Africa
Director: Michael Chazan

2022 **Field Specialist,** Boomplaas Cave, Cango Valley, South Africa
Co-directors: Dr. Justin Pargeter and Dr. Tyler Faith

2021-2022 **Independent Researcher,** Arizona State University, Ehrenberg Field Survey and Sample Collection, Chemehuevi Formation, AZ

2019	**Student**, The International Field School on Site Formation, Stratigraphy, and Geoarchaeology in the Athenian Agora, The Malcom H. Wiener Laboratory for Archaeological Sciences, Athens, Greece Supervisors: Dr. Takis Karkanas and Dr. Paul Goldberg
2019	**Student Researcher**, University of Nevada Las Vegas Field Survey, Millard County, NV
2018	**Field Specialist**, Riparo Bombrini Archaeological Project, Balzi Rossi, Italy Co-directors: Dr. Julien Riel-Salvatore and Dr. Fabio Negrino
2017-2018	**Field Specialist and Excavator**, Arma Veirana Archaeological Project, Erli, Italy Co-directors: Dr. Jamie Hodgkins and Dr. Caley Orr
2017	**Excavator,** Vleesbaai Archaeological Project, Vleesbaai, South Africa Director: Dr. Simen Oestmo
2017	**Excavator,** Pinnacle Point 5-6, South African Coast Paleoclimate, Paleoenvironment, Paleoecology, Paleoanthropology Project (SACP4), Mossel Bay, South Africa Director: Dr. Curtis W. Marean
2016, 2018	**Excavator,** Knysna Archaeological Project, Knysna, South Africa Director: Dr. Naomi Cleghorn
2015	**Student,** Turkana Basin Institute Origins Field School, Turkana, Kenya Project: The role of *Musca sorbens* and livestock in the transmission of Trachoma, Mesowear analysis of local livestock Director: Dr. Jason Lewis

RESEARCH EXPERIENCE

2019-Present	**Lab Manager,** Sediment and TEphra Preparation (STEP) Lab, Arizona State University, Tempe, AZ Director: Dr. Christopher Campisano
2025-Present	**Lab Manager,** Accessory Mineral (Apatite-Zircon) IN-situ Geochronology (AMAZING) Lab, Arizona State University, Tempe, AZ Director: Dr. Melanie Barboni
2023	American School of Classical Studies, Athens, Greece Training in Archaeological Soil and Sediment Micromorphology
2022	GFZ German Research Centre for Geosciences, Potsdam, Germany Collection of cryptotephra samples in Tswaing Crater Core

2020-2025	Accessory Mineral (Apatite-Zircon) IN-situ Geochronology (AMAZING) Lab, Arizona State University, Tempe, AZ Developed protocol for analyzing volcanic glass using LA-ICP-MS
2021	Continental Scientific Drilling (CSD) Facility, University of Minnesota, Minneapolis, MN Collection of cryptotephra samples in Lake Malawi Core
2017-2019	Cryptotephra Laboratory for Archaeological and Geological Research (CLAGR), University of Nevada Las Vegas, Las Vegas, NV Trained in preparation and analysis for cryptotephra samples Supervisor: Dr. Eugene Smith
2017-2019	South African Coast Paleoclimate, Paleoenvironment, Paleoecology, Paleoanthropology Project (SACP4) Developed image processing protocol for night photography
2015	New Jersey State Museum, Trenton, NJ Microfaunal analysis on fossiliferous material from Red Hills Road Cave in the parish of St. Andrews, Jamaica Supervisors: David C. Parris, Rodrigo Pellegrini

ACADEMIC SERVICE

2025	**Peer Reviewer** *Journal of Archaeological Sciences*
2024	**Peer Reviewer** *African Archaeological Review*
2019-2024	**Society for Archaeological Sciences** Student Ambassador
2020-2022	**GSA Continental Scientific Drilling Division** Student Representative
2018-Present	**Graduate & Professional Student Association, Arizona State University** Research Grant Reviewer (2018-Present) Publication Grant Reviewer (2020- Present)
2021-2022	**Association of All Graduate Students, Arizona State University** Vice President (2021-2022) Secretary (2020-2021) Events Committee (2020-2021) Mentor for incoming students (2018)

COMMUNITY ENGAGEMENT AND OUTREACH

2024-Present	**Institute of Human Origins Volunteer Training Program** Head Organizer
2024	**Vi Senior Living** Origins of Modern Humans Lecture
2024	**School of Human Evolution and Social Change TA/RA Training** Graduate Student Panelist
2019-Present	**Institute of Human Origins Outreach** Research Facility Tours (2021-Present) Gala Dinner (2024) Bill Kimbel Inaugural Address (2023) Human Origins Presentation for elementary students (2022, 2023) Lead tour/presentation for visiting high schools (2019)
2018- Present	**Arizona State University Open Door – Institute of Human Origins Exhibits** Human Evolution Table
2018-2022	**Arizona Museum of Natural History** Meet the Scientist Event
2021-2022	**School of Human Evolution and Social Change Mentorship Program on Canvas** Co-founder
2021	**NASA Lucy in Space Contest** Judge
2020	**Virtual Cryptotephra Journal Club** Organizer
2018-2020	**Graduate Partners in Science Education Science Club** Mentor and Lead Teacher
2019	**School of Human Evolution and Social Change Archaeology Brown Bag** Co-organizer
2017-2019	**Annual Summer Research and Fieldwork Symposium** Volunteer Presenter
2017	**Self-Development Academy** Science Fair Judge

PROFESSIONAL DEVELOPMENT

2024	Designing Your Online Course (DYOC) workshop, University of Arizona, 2-week course
2022	ASB 580: Graduate Teaching Seminar: Developed course curriculum for introduction to archaeology course
2022	Inclusive Pedagogy Workshop with Dr. Mary Mathis Burnett: 2-hour online workshop, School of Human Evolution and Social Change, Arizona State University
2022	Mentoring Undergraduates: Techniques and Best Practices for Guiding the Next Generation of Scientists: 1-hour online workshop, The National Association of Geoscience Teachers
2022	Climate Survey of the Geosciences: Disproportionate impacts on historically excluded groups: 1-hour online webinar, University of Wisconsin-Madison
2021	An Introduction to Effective Mentoring in Archaeology: 1-hour online seminar, Society for American Archaeology
2021	Pedagogy Mini short course: Teaching about Monitoring Volcanoes and Communicating Risks: 2-hour online workshop, Geodesy Tools for Societal Issues
2020	UCLA Ion Microprobe Workshop

PROFESSIONAL AFFILIATIONS

2022-Present	International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)
2019-Present	Society for Archaeological Sciences
2018-Present	Society for American Archaeology
2018-Present	Paleoanthropology Society
2023-2024	American Chemical Society, Division of Analytical Chemistry
2022-2023	New York Academy of Sciences
2019-2023	Geological Society of America
2021	European Geosciences Union
2015	Undergraduate Affiliate of Center of Human Evolutionary Studies (CHES)

MEDIA COVERAGE

In Prep	French Connection Films Youngest Toba Tuff Documentary, South Africa
2024	Press release on 'Middle Stone Age riverine-based foragers in the Horn of Africa during the Toba eruption and the out of Africa dispersal' https://news.asu.edu/20240320-science-and-technology-toba-supereruption-unveils-new-insights-early-human-migration https://www.sciencedaily.com/releases/2024/03/240320122617.htm https://www.nytimes.com/2024/03/20/science/early-humans-arrowheads-volcano.html https://shesc.asu.edu/JaydeHirniak
2024	Canadian Broadcasting Corporation Little Sapiens Documentar – Episode on Arma Veirana https://www.cbc.ca/documentaries/the-nature-of-things/prehistoric-kids-gathered-food-helped-with-hunting-cared-for-younger-siblings-and-even-had-fun-1.7142317

SKILLS

PADI certified Open Water Diver (SCUBA)
Expertise in Carlson SurvCE, ArcGIS, LightRoom, Photoshop, PTGui