

John K. Murray

School of Human Evolution and Social Change
Institute of Human Origins, Arizona State University
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Employment

2024 – Present	Glendale Community College Limited Term Anthropology Faculty Adjunct Lecturer
2021 – 2024	Mesa Community College Adjunct Lecturer
2017 – Present	Arizona State University Graduate Research Associate Graduate Teaching Associate
2015 – 2017	University of Victoria Teaching Assistant Consultant for Anthropology Teaching Assistant

Education

2017 – Present	Arizona State University PhD in Anthropology
2017	University of Victoria MA in Anthropology Graduate Certificate in Learning and Teaching in Higher Education
2015	Johns Hopkins University Graduate Certificate in Geographic Information Systems (GIS)
2014	SUNY at Stony Brook BA in Anthropology

Peer-Reviewed Publications (*denotes student author)

- (8) 2025. Hirniak, Jayde N., **John K. Murray**, and Andrew M. Zipkin. A microanalytical source discrimination study of South African silcrete using a minimally invasive technique. *Journal of Archaeological Science: Reports*. <https://doi.org/10.1016/j.jasrep.2025.105332>

- (7) 2024. Beller, Jeremy A., **John K. Murray**, and Amer S. al-Souliman. Lithic procurement and provisioning at the Palaeolithic site of Shishan Marsh 1 in the Azraq Basin, Jordan. *Jordan Journal of History and Archaeology*. <https://jjournals.ju.edu.jo/index.php/jjha/article/view/1273>
- (6) 2023. Benitez, Robert Acio, **John K. Murray**, Susan C. Antón. Introduction to the Special Issue: Rethinking human origins with the extended evolutionary synthesis Part I. *PaleoAnthropology*. <https://paleoanthropology.org/ojs/index.php/paleo/article/view/1089>
- (5) 2022. **Murray, John K.**, Simen Oestmo, and Andrew M. Zipkin. Portable, non-destructive colorimetry and visible reflectance spectroscopy paired with machine learning can classify experimentally heat-treated silcrete from three South African sources. *PLOS One*. <https://doi.org/10.1371/journal.pone.0266389> . Data availability: <https://osf.io/3qkd2/>.
- (4) 2022. Gravel-Miguel, Claudine, Jan De Vynck, Colin D. Wren, **John K. Murray**, and Curtis W. Marean. Were prehistoric coastal sites more intensively occupied? Using an agent-based model to understand the intensity of prehistoric coastal occupation and what it means for the evolution of coastal adaptation. *Quaternary International*. <https://doi.org/10.1016/j.quaint.2022.02.003>.
- (3) 2021. Gravel-Miguel, Claudine, **John K. Murray**, Benjamin Schoville, Colin Wren, and Curtis W. Marean. Exploring variability in lithic armature discard in the archaeological record. *Journal of Human Evolution*. <https://doi.org/10.1016/j.jhevol.2021.102981>. Data availability: <https://osf.io/w2f9q/>
- (2) 2021. **Murray, John K.**, Robert Acio Benitez, and Michael J. O'Brien. The extended evolutionary synthesis and human origins: Archaeological perspectives. *Evolutionary Anthropology*. 1-4. <https://doi.org/10.1002/evan.21837>
- (1) 2020. **Murray, John K.**, Jacob A. Harris, Simen Oestmo, Miles Martin*, and Curtis W. Marean. A new approach to identify heat treated silcrete near Pinnacle Point, South Africa using 3D microscopy and Bayesian modeling. *Journal of Archaeological Science: Reports*. 34, 102622. <https://doi.org/10.1016/j.jasrep.2020.102622> Data availability: <https://osf.io/fvw2k/>

Peer-Review Manuscripts in Preparation (*denotes student author)

- (5) In prep. **Murray, John K.**, J. Ivan Anderies*, Samantha Borges-Eckert*, and Curtis W. Marean. Re-visiting the earliest evidence for silcrete heat treatment ~ 162,000 years ago at Pinnacle Point 13B, South Africa. *Journal of Human Evolution*.
- (4) In prep. **Murray, John K.**, J. Ivan Anderies*, Swanny Jurczak*, Valeria Tuka*, Jacob A. Harris, Andrew M. Zipkin, Samantha Borges-Eckert*, Nicolas Hansen, and Curtis W. Marean. A new multi-proxy approach to distinguish silcrete heat treatment strategies supported by a large-scale experimental dataset. *Journal of Archaeological Science*.

- (3) In prep. **Murray, John K.** An evolutionary perspective on the complexity of lithic heat treatment strategies. *Journal of Archaeological Method and Theory*.
- (2) In prep. Pargeter, Justin, Alastair Key, Patryk Mietlinski, **John K. Murray**, Danielle Macdonald, James W. Stemp, Michal Wieczorowski, Giuseppe Castelli, Tomasz Bartkowiak. Heat treatment technique and wood fuel density impact the geometric sharpness (edge curvature) of silcrete stone tools. *Journal of Archaeological Science: Reports*.
- (1) In prep. **Murray, John K.**, B. Patrick Fahey, and Cindy Hsin-yee Huang. Further considerations of the tip cross-section methods for determining projectile systems. *Journal of Archaeological Method and Theory – Special Issue*

Edited Volumes

- (2) 2023. Robert Acio Benitez, **John K. Murray**, and Susan Antón. Niche construction, developmental plasticity, and inclusive inheritance: Rethinking human origins with the Extended Evolutionary Synthesis. Special issue in *PaleoAnthropology*.
- (1) 2021. **Murray, John K.**, Robert Acio Benitez, and Michael J. O'Brien. The extended evolutionary synthesis and human origins: archaeological perspectives. Special issue in *Evolutionary Anthropology*.

Non-Peer-Reviewed Publications (* denotes student author)

- (5) 2025. **Murray, John K.** Was it a stone tool or just a rock? An archaeologist explains how scientists can tell the difference. *The Conversation*. <https://theconversation.com/was-it-a-stone-tool-or-just-a-rock-an-archaeologist-explains-how-scientists-can-tell-the-difference-251126>
- (4) 2022. **Murray, John K.** Conference Review: The Great Scientific Exchange (SciX) 2022. *SAS Bulletin Online*. November, 25, 2022. <http://socarchsci.blogspot.com/2022/11/conference-review-great-scientific.html>
- (3) 2020. **Murray, John K.**, and Robert Acio Benitez. Weaving environmental knowledge and oral tradition. *Anthropology News*. October 23, 2020. <https://www.anthropology-news.org/index.php/2020/10/23/weaving-environmental-knowledge-and-oral-tradition/>
- (2) 2020. Hsin-Yee Cindy Huang and **John K. Murray**. What the (prehistoric) shell? *Anthropology News*. September 29, 2020. <https://www.anthropology-news.org/index.php/2020/09/29/what-the-prehistoric-shell/>
- (1) 2020. **Murray, John K.** PhD research during a pandemic. *SAS Bulletin Online*. September 28, <http://socarchsci.blogspot.com/2020/09/phd-research-during-pandemic.html>

Symposia Organized or Chaired

- (4) 2023. **Murray, John K.** Tracking Populations, Resources, and Knowledge Across Space and Time Part I. 88th Annual Meeting of the Society for American Archaeology in Portland, Oregon from March 29 –April 22.
- (3) 2022. **Murray, John K.** Student Research in Archaeological Chemistry. The Great Scientific Exchange (SciX) Meeting in Covington, Kentucky from October 2-7.
- (2) 2020. Benitez, Robert Acio, and **John K. Murray.** The Extended Evolutionary Synthesis and Human Origins: Paleoanthropological perspectives. 89th Annual Meeting for the American Association of Physical Anthropology in Los Angeles, California. Meetings cancelled due to COVID-19 pandemic; but abstracts are published online.
- (1) 2019. **Murray, John K.,** Robert Acio Benitez. 2019. The Extended Evolutionary Synthesis and Human Origins: Archaeological Perspectives. 84th Annual Meeting for the Society for American Archaeology in Albuquerque, New Mexico.

Invited Lectures

- (16) 2025. What is Stone Age Archaeology? Keynote Speaker at the Arizona State University LEGO League: Archaeology Kick-Off Event.
- (15) 2024. How did Middle Stone Age humans heat-treat silcrete? Guest lecture in the speaker series for the Phoenix Chapter of the Arizona Archaeological Society in Tempe, Arizona.
- (14) 2024. Middle Stone Age heat treatment technology and the origins of modern human behavior. Online guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria.
- (13) 2023. Diversity in Stone Tool Production in Human Evolution (and flintknapping demonstration). Deer Valley Petroglyph Preserve.
- (12) 2023. Middle Stone Age heat treatment technology and the origins of modern human behavior. Online guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria.
- (11) 2023. Middle Stone Age Heat Treatment Technology in South Africa. Online guest speaker for Dr. Sarah Hlubik at Harvard University.
- (10) Spring and Fall 2023. Field Schools and Graduate Programs in Human Evolution. Online guest lecture for Dr. Jeremy Beller for Research Methods and Professional Development in Archaeology at the University of Victoria.

- (9) 2022. Developing a multi-proxy approach to distinguish above-ground and below-ground lithic heat treatment methods. Online guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria
- (8) 2022. Field Schools and Graduate Programs in Human Evolution. Online guest lecture for Dr. Jeremy Beller for ANTH 341 – Paleolithic Archaeology at the University of Victoria.
- (7) 2021. Middle Stone Age heat treatment technology and its implications for the origins of modern human behavior. Online guest lecture for Dr. Jeremy Beller for ANTH 341 – Paleolithic Archaeology at the University of Victoria
- (6) 2021. Developing a multi-proxy approach to distinguish above-ground and below-ground lithic heat treatment methods. Online guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria.
- (5) 2021. Method development in stone tool research. Online guest lecture for Dr. Naomi Cleghorn's course at the University of Texas – Arlington.
- (4) 2021. Middle Stone Age heat treatment technology: implications for the origins of modern human behavior. Early Career Research Brown Bag. Society for Archaeological Sciences.
- (3) 2020. Middle Stone Age heat treatment technology and the origins of modern human behavior. Online guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria.
- (2) 2019. Middle Stone Age heat treatment technology and its implications for the origins of modern human behavior. Invited guest lecture for Dr. Yin Lam's Stone Age of Africa course at the University of Victoria.
- (1) 2019. Middle Stone Age heat treatment technology and its implications for modern human behavior. Colloquium presentation at the Department of Anthropology, University of Victoria colloquium series.

Conference Presentations (* denotes student author)

- (41) 2026. **Murray, John K.**, J. Ivan Anderies*, Samantha Borges-Eckert*, Jayde N. Hirniak, Alice Mittleman*, Kennedy Hoskins*, Andrew M. Zipkin, Justin Pargeter, and Curtis W. Marean. Quantitative advances in the study of silcrete heat treatment and provenance in South Africa using machine learning models. Abstract submitted to invited session for the 92nd Annual Meeting of the Society for American Archaeology.
- (40) 2025. **Murray, John K.**, Justin Pargeter, J. Ivan Anderies*, Samantha Borgest-Eckert*, Brandy Anderson*, M. Susan Botha, Jan C. De Vynck, Colin D. Wren, Alastair Key, and Curtis W.

Marean. How does variation in fuelwood impact our ability to identify silcrete heat treatment strategies? 27th Biennial Meeting of the Society of Africanist Archaeologists, Faro, Portugal.

- (39) 2025. **Murray, John K.** A proposed comparative research strategy to investigate the heat treatment of stone raw material in northern and southern Africa. Paper presentation at the 91st Annual Meeting of the Society for American Archaeology.
- (38) 2025. Borges-Eckert, Samantha*, **John K. Murray**, Maria Eduarda Donegá*, and Curtis W. Marean. A preliminary analysis of the stone artifacts from Pinnacle Point 5-6 South, South Africa. Poster presentation at the 91st Annual Meeting of the Society for American Archaeology.
- (37) 2025. Hoelzel, Chloe*, Aaron Celestian, **John K. Murray**, and Curtis W. Marean. Using Raman spectroscopy to identify the type of process used to heat-treat silcrete lithics. Poster presentation at the 91st Annual Meeting of the Society for American Archaeology.
- (36) 2024. Cleghorn, Naomi. Ximena Villagran, Rosaria B. K. Saktura, Zenobia Jacobs, Bongekile Zwane, Irene Esteban, Sara Watson, **John K. Murray**, Benjamin Schoville, Hannah M. Keller, Dominic Stratford. Knysna Eastern Heads Cave 1 from MIS 3 through MIS 2: A unique record of intensive site use across Middle to Later Stone Age transitions on the African south coast and Palaeo-Agulhas Plain. Paper presentation at the SASQUA meetings in Oudtshoorn, South Africa.
- (35) 2024. Cleghorn, Naomi. Ximena Villagran, Rosaria B. K. Saktura, Sara E. Watson, **John K. Murray**, Benjamin Schoville, Bongekile Zwane, Irene Esteban, Erich C. Fisher, Hannah M. Keller, Dominic Stratford. From the Middle to Later Stone Age on the African south coast and Palaeo-Agulhas Plain: A detailed sequence of transitions from Knysna Eastern Heads Cave 1. Paper presentation at the Annual Meeting of the Paleoanthropology Society.
- (34) 2024. Hansen, Nicolas R., **John K. Murray**, J. Ivan Anderies*, Chloe Hoelzel*, and Curtis W. Marean. Identifying the lithic reduction strategy at Middle Stone Age Vleesbaai (south coast, South Africa) using a novel refitting approach. Poster presentation at the Annual Meeting of the Paleoanthropology Society.
- (33) 2024. **Murray, John K.**, J. Ivan Anderies*, Swanny Jurczak*, Chloe Hoelzel*, Nicolas R. Hansen, and Curtis W. Marean. How did Middle Stone Age humans heat-treat silcrete at Pinnacle Point 13B approximately 162,000 years ago? Paper presentation at the Annual Meeting of the Paleoanthropology Society.
- (32) 2024. **Murray, John K.**, B. Patrick Fahey, Cindy Hsin-Yee Huang. Further considerations of the tip cross-sectional methods for determining projectile systems. Paper presentation at the 90th Annual Meetings of the Society for American Archaeology.
- (31) 2023. Kroot, Matthew V., **John K. Murray**, Sarah Marie Konecki-Brazeal*, Chiara Umbriano*, and Cameron Gokee. Long-term changes in knapped stone economies: results of the Bandafassi Regional Archaeological Project survey. AOAA conference in Dakar, Senegal.

- (30) 2023. **Murray, John K.**, Alicia Fritz*, Bailey Goodling*, Swanny Jurczak*, Jacob A. Harris, and Andrew M. Zipkin. Re-visiting the earliest evidence for silcrete heat treatment technology at Pinnacle Point 13B, South Africa using a new multi-proxy approach. Poster at the Annual Meeting of the Paleoanthropology Society.
- (29) 2023. Goodling, Bailey*, Alicia Fritz*, Jingyu Liang*, Swanny Jurczak*, Katharine Namchek*, Dylan Myers*, Lilyann Nunley*, J. Ivan Anderies*, Chloe Hoelzel*, Hana Zainea*, Lydia-Ann Snyder*, Caroline Caito*, Alexander LaTone* and **John K. Murray**. An assemblage level comparison of silcrete flake attributes across three methods of heat treatment: preliminary results from actualistic experiments. Poster presentation at the 89th Annual Meetings of the Society for American Archaeology.
- (28) 2023. Huang, Cindy Hsin-yee, **John K. Murray**, Sydney E. James, Nicolas Hansen, Jonathan Paige, and Kathryn L. Ranhorn. Quality Control: The impact of raw material quality on inter-analyst variation and interpretation of lithic assemblages. Poster presentation at the 89th Annual Meetings of the Society for American Archaeology.
- (27) 2023. **Murray, John K.**, Jacob A. Harris, Andrew M. Zipkin, Simen Oestmo, Nicolas Hansen, Swanny Jurczak*, Bailey Goodling*, Alicia Fritz*, and Kyle S. Brown. Silcrete heat treatment technology across the MIS 5/4 transition at Pinnacle Point 5-6 and Vleesbaai, South Africa. Paper presentation at the 89th Annual Meetings of the Society for American Archaeology.
- (26) 2022. **Murray, John K.**, Jayde N. Hirniak, and Andrew M. Zipkin. 2022. Developing an empirical calibration for elemental characterization and sourcing of South African silcrete with pXRF. Paper presentation at SciX 2022 in Covington, KY.
- (25) 2022. Zipkin, Andrew M., Jayde Hirniak, **John K. Murray**. Silcrete geological source discrimination with LA-ICP-MS for minimally destructive archaeological stone tool provenience studies. Poster presentation at SciX 2022 in Covington, KY.
- (24) 2022. Jayde Hirniak, **John K. Murray**, and Andrew M. Zipkin. Developing an empirical calibration for elemental characterization and sourcing of South African silcrete with pXRF. Poster presentation at the 88th Annual Meeting of the Society for American Archaeology in Chicago, IL.
- (23) 2022. Huang, Cindy Hsin-Yee, **John K. Murray**, Sydney James, Alexa Ferrer*, Jonathan Paige, Nicolas Hansen, Kathryn Ranhorn. Sedimental Value: The effects of raw material quality on inferring lithic skill variation in stone tools. Poster presentation at the 88th Annual Meeting of the Society for American Archaeology in Chicago, IL.
- (22) 2022. Carroll, Peyton*, Miles Martin*, **John K. Murray**, and Curtis W. Marean. Comparing piece-plotted and sieved stone artifacts from the Middle Stone Age site Pinnacle Point 5-6 and its implications for interpreting human behavior. Poster presentation at the 88th Annual Meeting of the Society for American Archaeology in Chicago, IL.

- (21) 2022. **Murray, John K.**, Jacob A. Harris, Andrew M. Zipkin, Simen Oestmo, Emelia Dolson*, and Curtis W. Marean. A new multi-proxy approach to distinguish above-ground and below-ground lithic heat treatment methods. Poster presentation at the 88th Annual Meeting of the Society for American Archaeology in Chicago, IL.
- (20) 2021. **Murray, John K.**, Jayde Hirniak, and Andrew M. Zipkin. Impact of heat treatment on geochemistry of three silcrete sources near Pinnacle Point, South Africa. Online presentation at the Annual Meeting of the Geological Society of America. Portland, Oregon.
- (19) 2021. **Murray, John K.**, Emelia Dolson*, Jacob A. Harris, Andrew M. Zipkin, Simen Oestmo, and Curtis W. Marean. 2021. Developing a multi-proxy approach to distinguish above-ground and below-ground lithic heat treatment methods: preliminary results from actualistic experiments. Online presentation for the 13th International Symposium on Knappable Materials. October 4th-7th Tarragona, Spain.
- (18) 2021. Hirniak, Jayde, **John K. Murray**, and Andrew M. Zipkin. 2021. Impact of heat treatment on silcrete geochemistry. Poster at the ISSR Graduate Student Research Symposium in Tempe, Arizona.
- (17) 2021. Zipkin, Andrew, and **John K. Murray**. Visible reflectance spectroscopy paired with k-NN lazy learning for detection of heated silcrete. Online Presentation at the Australian Research Cluster for Archaeological Science (ARCAS) Virtual Conference.
- (16) 2021. **Murray, John K.**, Scott Keohane*, and Andrew M. Zipkin. Experimental identification of heat-treated silcrete using colorimetry and reflectance spectrophotometry. Poster at the virtual 86th Annual Meeting of the Society for American Archaeology.
- (15) 2021. Hansen, Nicolas*, **John K. Murray**, Alexa Ferrer*, Hanah Edington*, and Kathryn L. Ranhorn. Variation in response to heat treatment in jasper from the Perkinsville Valley, Arizona. Poster at the 86th Annual Meeting of the Society for American Archaeology in San Francisco, CA.
- (14) 2020. Martin, Miles*, **John K. Murray**, Jacob A. Harris, and Curtis W. Marean. Heat treatment of silcrete during the MIS 5 to 4 Transition at Pinnacle Point, South Africa. Poster abstract accepted at the 85th Annual Meeting of the Society for American Archaeology in Austin, Texas. **Meetings Cancelled due to COVID-19 pandemic.**
- (13) 2020. Beller, Jeremy A., April Nowell, Christopher J.H. Ames, James Pokines, Carlos Cordova, Cameron Walker, Amer Asuliman, **John K. Murray**, and Dan Stueber. Hominin survival at a Desert Refugium during the Middle Pleistocene: Results from the AMAPP excavations in Azraq, Jordan. Canadian Contributions to the Archaeology of Jordan (and Other Places): W. E. Aufrecht Occasional Workshops in Archaeology. Lethbridge, AB. January 24-26, 2020.

- (12) 2019. Huang, Cindy Hsin-yee, **John K. Murray**, Claudine-Gravel Miguel, and Andrew M. Zipkin. What the shell? An assemblage theory perspective on Middle Stone Age shell beads. Paper presented at Annual Meeting of the American Anthropological Association in Vancouver, British Columbia.
- (11) 2019. Benitez, Robert Acio, and **John K. Murray**. Rethinking the origin(s) of biocultural evolution: a niche construction perspective. Presented at the Annual Meeting of the American Anthropological Association in Vancouver, British Columbia.
- (10) 2019. **Murray, John K.**, Robert Acio Benitez, and Polly Wiessner. Weaving knowledge through stories: oral tradition as inclusive niche construction. Paper presented at the Annual Meeting of the American Anthropology Association in Vancouver, British Columbia.
- (9) 2019. Auclair, Grace*, **John K. Murray**, Jacob A. Harris, Curtis W. Marean. Comparative Analysis of stone tool cut marks to determine raw material type. Poster presented at the SHESC 8th Annual Undergraduate Student Symposium.
- (8) 2019. Huang, Cindy Hsin-yee, **John K. Murray**, Claudine Gravel-Miguel, Micah Gumaru*, and Andrew Zipkin. An experimental use-wear analysis of drilled gastropod operculum using 3D microscopy and its implications for Middle Stone Age symbolic behaviour. Poster presented at the Annual Meeting of the Paleoanthropology Society in Albuquerque, New Mexico.
- (7) 2019. **Murray, John K.**, Claudine Gravel-Miguel, Benjamin Schoville, Erik Otarola-Castillo, Jacob A. Harris, Colin D. Wren, Brian Wood, and Curtis W. Marean. An agent-based modeling approach to explain the rarity of projectile points in archaeological sites. Poster presented at the Annual Meeting of the Paleoanthropology Society in Albuquerque, New Mexico.
- (6) 2019. Benitez, Robert, and **John K. Murray**. The Coevolution of Niche Construction and Niche Adaptation in the Hominin Lineage: Toward Understanding Culture. Presented at the 84th Annual Meeting for the Society for American Archaeology in Albuquerque, New Mexico.
- (5) 2019. Butts, Clancey*, **John K. Murray**, Jayde Hirniak, Hannah Keller, and Naomi Cleghorn. An undisturbed Earlier Stone Age locality on the southern coast of South Africa, exposed by fire. Poster presented at the 84th Annual Meeting for the Society for American Archaeology in Albuquerque, New Mexico.
- (4) 2018. Martin, Miles*, **John K. Murray**, Jacob A. Harris, Simen Oestmo, Curtis W. Marean. Inter-source variation in surface roughness between heat-treated and untreated silcrete stone tools. Poster presented at the SHESC 7th Annual Undergraduate Student Symposium.
- (3) 2018. **Murray, John K.**, Jacob A. Harris, Simen Oestmo, Curtis W. Marean. Using surface roughness to identify heat treatment in lithic technology. Paper presented at the 83rd Annual Meeting of the Society for American Archaeology in Washington, DC.

- (2) 2017. **Murray, John K.**, April Nowell, and Daniel Stueber. Handaxe function at SM-1: preliminary results of an experimental use-wear analysis. Paper presented at the 82nd Annual Meeting of the Society for American Archaeology in Vancouver, British Columbia.
- (1) 2017. **Murray, John K.** Investigating handaxe function at SM-1: preliminary results of an experimental use-wear analysis. Paper presented at 3rd Annual Currents in Anthropology: A Student Research Conference. University of Victoria. Victoria, British Columbia.

Grants

External Grants

Summer 2025	Society for Archaeological Sciences (SAS) Eurofins/EAG Laboratories Pilot Research Award (\$3000)
Summer 2024	NSF/GSA Graduate Student Geoscience Grant (\$2,500)
Summer 2023	NSF Doctoral Dissertation Improvement Grant #2321951 (\$30,216)
Spring 2023	SAS ECR Support Award (\$500)

Internal Grants

2017 – Present	SHESC Graduate Research Grant (\$2,600, \$1,500, \$3,000)
2017 – Present	GPSA Travel Grant (\$950, \$856, \$920, \$950)
2017 – Present	SHESC Travel Grant (\$500, \$600, \$175)
Fall 2025	GCC Center for Teaching, Learning, and Education - Course Improvement Grant (10 hours of course design mentorship)
Fall 2025	SHESC UGF Milestone Award (\$2,125)
Spring 2022	Elizabeth H. Harmon Research Endowment (\$5,000)
Fall 2021	GPSA Publication Grant (\$900)
Spring 2021	GPSA Independent Research Grant (\$741.20)
Fall 2020	Knowledge Mobilization Spotlight Grant (\$100)
Spring 2019	Donald C. Johanson Paleoanthropological Research Endowment (\$1000)

Research Experience

Lab Experience

2024 – Present	GvJm 46 (Lukenya Hill, Kenya) Lithic Analysis
2023 – Present	Bandafassi Regional Archaeology Project Lithic Analysis
2022 – Present	Knysna Eastern Heads – 1 Lithic Analysis
2018 – Present	Pinnacle Point Lithic Analysis
2024 – 2025	Speleothem Isotope Processing (PI: Kerstin Braun/Curtis Marean)
2015 – 2017	Shishan Marsh-1 Use-Wear Analysis

Field Experience

2018 – Present	Knysna Eastern Head – 1, South Africa
2017	Mughr el-Hamamah, Jordan Rift Valley
2014 – 2015	Azraq Marshes Archaeological and Paleoecological Project, Jordan

2014 The Louis Berger Group, Inc., New York
 2013 Turkana Basin Institute Field School, Kenya

Awards

Teaching

Summer 2025 SHESC Professional Development Award (\$150)
 Fall 2024 SHESC Professional Development Award (\$150)
 Spring 2023 SHESC Graduate Student Teaching Award (\$950)
 Spring 2019 GPSA Outstanding Mentor Award (\$500)
 Spring 2017 Andy Farquharson Teaching Excellence Award for Graduate Students (\$500)

Research

Fall 2024 Nominated as a Student Leader for the College of Liberal Arts and Sciences at ASU
 Spring 2023 SHESC Excellence in Graduate Achievement in Archaeology (\$300)
 Spring 2023 Reynold Ruppé Prize in Archaeology (co-Author, \$500)
 Spring 2023 The College's Graduate Excellence Award (\$100)
 Fall 2022 2nd Place ISSR Poster Contest (co-Author, \$1000)
 Spring 2022 2nd Place ISSR Poster Contest (\$1000)
 Spring 2022 Reynold Ruppé Prize in Archaeology (\$500)
 Fall 2020 Pandemic Impact Award (\$720)
 Fall 2019 Reynold Ruppé Prize in Archaeology (\$500)
 Spring 2019 American Anthropological Association Membership Award (\$100)
 Spring 2017 Best Graduate Presentation Award at 3rd Currents in Anthropology (\$50)

Teaching Experience

2024 – Present **Glendale Community College**
Limited Term Faculty
 ASM 104 – Bones, Stones, and Human Evolution
 ASM 275 – Forensic Anthropology (In-person/Online)

Adjunct Lecturer
 ASM 104 – Bones, Stones, and Human Evolution (Hybrid)

2017 – Present **Arizona State University**
Instructor of Record
 ASB 222 – Buried Cities and Lost Tribes

Graduate Teaching Associate
 ASB 222 – Buried Cities and Lost Tribes
 ASB 223 – Aztecs, Incas, and Maya

ASB 333 – Pseudoscience and Archaeology (x2)
ASB 452 – Community Partnerships in Global Health
ASB 484 – Collections Practicum (x3)

Graduate Service Assistant

ASM 350 – Geoarchaeology
ASB 370 – Ethics of Eating

Guest Lecturer

ASB 223 – Aztecs, Incas, and Maya
ASB 335 – Southwest Archaeology (Flintknapping demonstration)
ASB 344 – Fossil Hominids (Flintknapping demonstration)
ASB 452 – Community Partnerships in Global Health (CV tips)
ASB 452 – Community Partnerships in Global Health (Grad apps)
ASB 580 – Graduate Teaching Seminar (Experiences as IOR)

2021 – 2024

Mesa Community College

Adjunct Lecturer

ASM 104 – Bones, Stones, and Human Evolution

2015 – 2017

University of Victoria

Teaching Assistant

ANTH 240 – Introduction to Archaeology Lab (x3)
ANTH 349 – Paleolithic Art
ANTH 351 – Human Origins Lab (x2)
ANTH 392 – Perishable Technologies
ANTH 393 – Drinking Culture – Anthropology of Alcohol
ANTH 394 – The Human Animal

Guest Lecturer

ANTH 100 – Introduction to Anthropology (x5)
ANTH 250 – Introduction to Biological Anthropology
ANTH 341 – Paleolithic Archaeology
ANTH 394 – The Human Animal

Teaching Observations with Feedback Letter

Nick Wees – MA Candidate in Anthropology
Gerry Gourlay – PhD Candidate in Forest Biology
Fred Mullen – LATHE Student

Mentorship

2022 – Present

Maricopa County Community College Honors Program

Fall 2022 - Blake Randall (Mesa Community College)

Fall 2025 – ShaBriel Jones (Glendale Community College)

- 2020 – Present **Barret, the Honors College, Arizona State University**
Honors Project Committee Member
Brandy Anderson – Honors title: “TBD – Later Stone Age lithic analysis of GvJM 46, Lukenya Hill, Kenya”

Chloe Hoelzel – Honors title: “Using Raman spectroscopy to differentiate silcrete heat treatment methods”

Ribhu Mukherjee – Honors title: “Design, Prototyping, and Testing of a Controllable Striker for Flintknapping Experiments”

Nicolas Hansen - Honors title: “Variance in response to heat treatment of Perkinsville Jasper”

ASB 222 Honors Contract – Variation in silcrete flake metrics
Students: Lydia-Ann Snyder, Caroline Caito, Alexander LaTone, Hana Zainea
- 2019 – Present **HOMER Field Program**
Lithic Analysis Training
Students: Miles Martin, Peyton Carroll, Chloe Hoelzel, J. Ivan Anderies, Samantha Borges Eckert, Maria Eduarda Donegá
- 2017 – Present **SHESC Research Apprenticeship Program, ASU**
Mentor (= went on to graduate school)*
Miles Martin, Lily Emery, Xavier Jenkins*, Micah Gumaru, Grace Auclair, Haylee Allen, Scott Keohane, Shyan Bannon, Emily Arellano, Michael Valenzuela, Alexa Ferrer, Hanah Edington, Emelia Dolson, Nicolas Hansen*, Lourdes Loera, Brooke Mangum, Dwight Courtney, Elie Knight, Swanny Jurczak*, Alicia Fritz, Jingyu Liang*, Hannah Holtz*, Bailey Goodling*, Dylan Myers, Katharine Namchek, Lilyann Nunley, Chloe Hoelzel, J. Ivan Anderies, Yu-Wei Huang, Ryan Meinhart, David Pooler, Anna Almeida, Kiersten Velasquez, Zoie Hardison, Aspin Ross, Jackson Francis, Samantha Borges-Eckert*, Alice Middleton, Jesse Sanchez, Valeria Tuka, Kennedy Hoskins, Brandy Anderson, Madelyn Stuckey.
- 2019 **Gary K. Herberger Young Scholars Academy, ASU**
Mentor
Emily Tenaglia (High School Student)

Leadership Activities

- 2017 – Present **Arizona State University**

Organizer of the Silent Auction for the Bill Kimbel Impact Fund at IHO

- Started a research award for undergraduate students within the Bill Kimbel Impact Fund that focuses on independent research projects, conference travel reimbursement, and field work.
- This endowment is funded through flintknapping and auctioning stone tools made by myself and fellow graduate student, Nicolas Hansen. Raised more than \$3,500 over two auctions.

Co-founder of the SHESC Graduate Mentorship Program

- As the President of the Association of All Graduate students (AAGS), I collaborated with the SHESC Diversity, Equity, and Inclusion (DEI) committee and departmental leadership to develop a new peer-to-peer, identity-based mentorship program in SHESC.
- Created a canvas training with mentorship resources for graduate student mentees and mentors.

Co-organizer of the Institute of Human Origins Journal Club

- Collaboratively led the IHO journal club with another graduate student.
- Responsible for finding new and interesting research and soliciting fellow graduate students to present on this research.
- Scheduled weekly presentations and discussions.

2015 – 2017

University of Victoria

Teaching Assistant Consultant for Anthropology Department

- Created and facilitated workshops for new and experienced TA's to help teach them important skills in teaching and professional development
- Worked on two primary goals for the 2016-2017 academic year: continue to sustain a community of practice among the department's TAs, particularly focusing on integrating biological anthropology and archaeology TAs with sociocultural TAs; and to foster the growth of basic TA skills while also raising awareness about the importance of professional development and being a self-reflective teacher
- Utilized experiential learning techniques in the workshops to inspire TAs to try to incorporate them in their tutorials (e.g., jigsaw method, role playing, creating mock lectures)
- Conducted observations of guest lectures and provided feedback letters for fellow TAs

Co-founder and President of the UVic Flintknapping Club

- Fostered interest in archaeology through hands-on learning experiences.
- Developed and co-led workshops to teach undergraduate students and the general public how to manufacture stone tools.

- Collaborated with local cub scouts to teach children between the ages of six to eight to manufacture stone tools.
- Passed off the club to the next generation of graduate students where it was reworked to the “UVic Experimental Archaeology Club” and still exists today; however, it is now run by undergraduates.

Academic Service

	Association of All Graduate Students (AAGS), ASU
2022 – 2023	Archaeology Approach Representative
2021 – 2022	President
2020 – 2021	Vice President
2018 – 2019	Archaeology Approach Representative
	Graduate & Professional Student Association (GPSA), ASU
2020 – 2023	Publication Grant Reviewer
2017 – 2023	Research Grant Reviewer
2018 – 2019	Teaching Award Reviewer
2019 – Present	Peer Reviewer
	<i>Journal of Human Evolution</i>
	<i>Proceedings of the National Academy of Sciences</i>
	<i>Archaeological and Anthropological Sciences</i>
	<i>Evolutionary Anthropology</i>
	<i>Journal of Archaeological Science: Reports</i>
	<i>Journal of Archaeological Method and Theory</i>
	<i>Journal of Paleolithic Archaeology</i>
	<i>Scientific Reports</i>

Academic and Community Engagement

2025 – Present	Letters to a Pre-Scientist
	Pen Pal Scientist
09/12/2025	IHO New Student Orientation
	Presenter
04/16/2025	Glendale Community College Social Science Cafe
	Volunteer Biological Anthropologist
01/24/2025	Arizona Museum of Natural History THRIVE Exhibit Reveal
	Flintknapping Demonstration
10/26/2024	Deer Valley Petroglyph Preserve
	Flintknapping Workshop Instructor

10/25/2024	Sky Island High School Tucson, Arizona Flintknapping Demonstration
10/24/2024	Mesa Community College Flintknapping Demonstration
10/10/2024	Tremont Elementary School Medford, New York Online Symposium about Archaeology for the 4 th Grade
08/30/2024	IHO Tour for Vi Senior Living Flintknapping Demonstration
05/20/2024	Vi Senior Living Outreach Lecture on Modern Human Origins
04/26/2024	ASU Experimental Archaeology Club Flintknapping Demonstration
02/24/2024	Glendale Community College Anthropology Club Flintknapping Demonstration
02/24/2024	ASU Open Door Flintknapping Demonstration
01/26/2024	Phoenix College ACE Program Flintknapping Demonstration
10/18/2023	Undergraduate Anthropology Association Grad Meet and Greet Graduate Student Panelist
09/02/2023	Phoenix College ACE Program Flintknapping Demonstration
08/10/2023	SHESC TA/RA Training Graduate Student Panelist
03/04/2023	AZMNH I Love Science Day Public Flintknapping Demonstration
02/25/2023	ASU Open Door – IHO Exhibits Public Flintknapping Demonstration
11/09/2022	Undergraduate Anthropology Association Virtual Event Graduate Student Panelist

09/16/2022	IHO 6th Grade Laboratory Tour Flintknapping Demonstration
09/15/2022	Unified Anthropology Association at ASU Online Event Graduate Student Panelist
11/10/2021	Undergraduate Anthropology Association Virtual Event Graduate Student Panelist
10/15/2021	AZMNH Meet the Scientist Event Volunteer Scientist
08/12/202	SHESC Early Start Program Lab Tour Flintknapping Demonstration
2021	IHO Becoming Human Article on Projectile Technology Volunteer Contributor
10/30/2021	5th Annual Summer Research and Fieldwork Symposium Volunteer Presenter
10/21/2020	Undergrad Anthropology Association Grad Panel Graduate Student Panelist
2019	SHESC Handbook Committee Editor
2019	SHESC Archaeology Brown Bag Co-Organizer
09/18/2019	Undergrad Anthropology Association Grad Panel Graduate Student Panelist
03/02/2019	AZMNH Meet the Scientist Volunteer Scientist
02/23/2019	ASU Open Door Event Flintknapping Demonstration
12/06/2018	Ask an Anthropologist, Tempe Academy of International Studies Volunteer Anthropologist
12/01/2018	AZMNH Meet the Scientist Volunteer Scientist
09/28/2018	4th Annual Summer Research and Fieldwork Symposium

	Volunteer Presenter
03/10/2018	Arizona Archaeology Expo Flintknapping Demonstration
02/24/2018	ASU Open Door Event Volunteer Scientist
02/24/2018	SHEESC Meet the Expert Volunteer Scientist
02/10/2018	AZMNH I Love Science Day Volunteer Scientist
01/06/2018	AZMNH Meet the Scientist Volunteer Scientist
11/17/2017	IHO High School Outreach Event Volunteer Presenter
09/15/2017	3rd Annual Summer Research and Fieldwork Symposium Volunteer Presenter
02/18/2017	Explore UVic Lab Guide
01/04/2017	Spring TA Conference Workshop Facilitator
09/07/2016	Fall TA Conference Workshop Facilitator

Continuing Education and Training Certificates

2021	An Introduction to Effective Mentoring in Archaeology. RPA certified online seminar from the Society for American Archaeology.
2020	Collaborative Institutional Training Initiative (CITI) Human Subjects Protection Certification, Social-Behavioral Sciences (Group 2).
2019	XRF in Archaeology: Overview of fundamental concepts and case studies. RPA certified online seminar from the Society for American Archaeology.
2016	Teaching Assistant Fundamentals Certificate. University of Victoria.

Skills and Expertise

Computer programs: ArcGIS, R, Microsoft Office, Slack.

Research Skills: Flintknapping, lithic analysis, experimental archaeology, microscopic analysis, traceology.

Media Coverage

- | | |
|------|---|
| 2023 | ASU New Article covering my NSF DDRIG research.
https://news.asu.edu/20230818-paleoanthropology-phd-candidate-receives-notable-national-science-foundation-grant |
| 2023 | The Story of Us interview giving advice about applying to graduate school and my research. https://worldofpaleoanthropology.org/2023/05/18/grad-school-and-flintknapping-with-john-murray/ |
| 2023 | ASU News Article about my research and the Ancient Technology Lab.
https://news.asu.edu/20230110-discoveries-stone-age-toolmaking-lab-rocks-asu-students |
| 2021 | Institute of Human Origins Year-End Research Review covered our JHE projectile paper.
https://iho.asu.edu/publications/annual-highlights |
| 2021 | ASU Institute of Human Origins Press Release, interview for JHE projectile paper. https://news.asu.edu/20210412-new-research-suggests-projectile-weapons-were-used-regularly-during-middle-stone-age?fbclid=IwAR1Jr42hF_ivHER3-tKE1kyEs3WQa0IcCZ9TPb_oZNther1ITDSfqO6piAo |
| 2020 | PBS Arizona, flintknapping for Dr. Kathryn Ranhorn's segment on stone tools. |
| 2016 | The Ring, interview in <i>Paleolithic Stones Snag 21st-Century Attention</i> . |
| 2016 | UVic Torch, interview about field work with April Nowell's project in <i>Stone Age Kitchenware</i> .
http://www.issuu.com/uvic_torch_alumn_magazine/docs/2016_autumn/25 |

Professional Affiliations

- | | |
|----------------|---|
| 2022 – Present | Society of African Archaeologists |
| 2019 – Present | The Society for Archaeological Sciences |

2018 – Present	PaleoAnthropology Society
2017 – Present	Society for American Archaeology
2019 – 2021	American Anthropological Association