

Trevor Keevil

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Research Interests

Quantitative Anthropology; Zooarchaeology; Experimental Archaeology; Human Butchery and Subsistence Strategies; Ecological Archaeology

Education

- 2020-Present **Purdue University**, West Lafayette, Indiana
- Ph.D. Candidate in Anthropology
 - *Dissertation:* A Mammoth Problem: Understanding the Extinction of North and South American Megafauna Using Bayesian Inference, Geometric Morphometrics, and Experimental Archaeology
- 2021-Present **Purdue University**, West Lafayette, Indiana
- Graduate Certificate in Applied Statistics, Statistics Department
- 2018 **M.A. Biological Anthropology**, Colorado State University, Fort Collins, Colorado
- 2015 **B.Sc. Biology, Minor in Anthropology**, University of British Columbia, Vancouver, Canada

Publications

Statistical Overview

Peer-Reviewed Publications: 6
Google Scholar Citation Data: 147 (as of 05/2023)
h-Index: 4 (as of 05/2023)

Master's Thesis Inferring Early Stone Age Tool Technology and Raw Material from Cut Mark Micromorphology Using High-Resolution 3-D Scanning with Applications to Middle Bed II, Olduvai Gorge, Tanzania

Peer-Reviewed Publications (Journals)

2023 Pobiner, B., Pante, M., **Keevil, T.** Early Pleistocene cut marked hominin fossil from Koobi Fora, Kenya. *Scientific Reports*. *In press*.

- 2022 Otárola-Castillo, E. Torquato, M.G., **Keevil, T.L.**, Stow, E., Coon, S.N., May, A.L., Rapes, J.B., Harris, J.A., Marean, C.W., Erin, M.I., Shea, J.J. A New Approach to the Quantitative Analysis of Bone Surface Modifications: The Bowser Road Mastodon and Implications for the Data to Understand Human-Megafauna Interactions in North America. *Journal of Archaeological Method and Theory*: 1-36.
- McPherron, S., Archer, W., Otárola-Castillo, E. Torquato, M.G., **Keevil, T.** Machine learning, bootstrapping, null models and why we are still not 100% sure which marks were made by crocodiles. *Journal of Human Evolution* 164: 103071
- 2019 Merritt, S.R., Pante, M.C., **Keevil, T.L.**, Njau, J.K., Blumenschine, R.J. Don't cry over spilled ink: Missing context prevents replication and creates the Rorschach effect in bone surface modification studies. *Journal of Archaeological Science* 102: 71-79.
- 2018 Pante, M.C., Njau, J.K., Hensley-Marschand, B., **Keevil, T.L.**, Martín-Ramos, C., Peters, R.F., de la Torre, I. The carnivorous feeding behavior of early *Homo* at HWK EE, Bed II, Olduvai Gorge, Tanzania. *Journal of Human Evolution* 120: 215-235.
- 2017 Pante, M.C., Muttart, M.V., **Keevil, T.L.**, Blumenschine, R. J., Njau, J.K., Merritt, S.R. A new high-resolution 3-D quantitative method for identifying bone surface modifications with implications for the Early Stone Age archaeological record. *Journal of Human Evolution* 102: 1-11.
- In Preparation* **Keevil, T.**, Otárola-Castillo, E. To Cast or Not To Cast: Assessing the Efficacy of Silicone Rubber Casting Material for Replicating Archaeological Bone Surface Modifications.

Presentations

Presenter

- 2023 **Keevil, T.L.**, Torquato, M.G., Coon, S.N., Joyce, D., Otárola-Castillo, E. Archaeological Evidence of Human Hunting and North American Megafauna Extinctions: A Statistical Reassessment of the Fenske Bone Surface Modifications. Podium Presentation at the 88th Annual meeting of Society for American Archaeology, Portland, Oregon.
- 2022 **Keevil, T.L.**, Coon, S.N., Torquato, M.G., Harris, J., Otárola-Castillo, E. Who Killed the Mammoth? Applying 3D Geometric Morphometrics, Deep Learning, and Bayesian Inference to Identify the Cause of Bone Surface Modifications. Poster Presentation at the 87th Annual meeting of Society for American Archaeology, Chicago, Illinois.

- 2021 **Keevil, T.L.**, Torquato, M., Coon, S. Harris, J., Otárola-Castillo, E. Re-evaluating Butchery Marks from a Mastodon Assemblage Using 3D Geometric Morphometrics and Experimental Archaeology. Podium Presentation at the 86th Annual meeting of Society for American Archaeology, Online.
- 2017 **Keevil, T.L.**, Pante, M.C., Reti, J.S. Inferring Early Stone Age tool type from cut marks on fossil bones using high-resolution 3-D scanning. Poster presentation at the 26th Annual Meeting of the Paleoanthropology Society, Vancouver, Canada.
- 2016 **Keevil, T.L.** Quantifying experimental cut mark micromorphology using high-resolution 3-D scanning. Poster presentation at the 2016 Colorado State University Graduate Student Showcase.
- Keevil, T. L.**, Pante, M. C. Characterizing the micromorphology of cut marks inflicted by Oldowan and Acheulean stone technologies using high-resolution 3-D scanning. Poster presentation at the 25th Annual Meeting of the Paleoanthropology Society, Atlanta, Georgia.

Collaborator

- 2022 Coon, S., Harris, J., **Keevil, T.**, Torquato, M., Otárola-Castillo, E. Morphometric Comparison of Human Butchery Evidence to Canid Modifications within a Bayesian Framework. Poster Presentation at the 87th Annual meeting of Society for American Archaeology, Chicago, Illinois.
- De La Puente-León, G., Lipps, H., Torquato, M., **Keevil, T.**, Otárola-Castillo, E. Mapping Early Archaeological Sites along the Central Coast of Peru. Poster Presentation at the 87th Annual meeting of Society for American Archaeology, Chicago , Illinois.
- Denker, E.J., **Keevil, T.L.**, Torquato, M.G., Otárola-Castillo, E. Prehistory Bites Back: Replicating Animal Bite Marks on Bone Surfaces. Poster Presentation at the 87th Annual meeting of Society for American Archaeology, Chicago, Illinois.
- Otárola-Castillo, E., Torquato, M., **Keevil, T.**, Hill, M.E. 13,000 Years of Climate Change and Food-Security Risk Management of Great Plains Foragers and Farmers. Poster Presentation at the 87th Annual meeting of Society for American Archaeology, Chicago, Illinois.

- 2021 May, A., Torquato, M., **Keevil, T.L.**, Christopher, L., Otárola-Castillo, E. The Effect of Climate Change and Human Predation on the Niche Space of North American Proboscideans. Podium Presentation at the 86th Annual meeting of Society for American Archaeology, Online.
- 2020 Mwakyoma, I.F., Pante, M.C, **Keevil, T.L.**, Njau, J., Toth, N., Schick, K. New Insights Into Pleistocene Hominin Butchery and Tool Choice from a 0.8 Ma Fossil Assemblage from the HEB site, Olduvai Gorge, Tanzania. Poster Presentation at the 29th Annual Meeting of the Paleoanthropology Society, Los Angeles, California. *COVID Meeting Cancelled.*
- 2018 Orlikoff, E.R., **Keevil, T.L.**, Pante, M.C. Quantitative analysis of the micromorphology of trampling-induced abrasion and stone tool cut marks on bone surfaces. Poster presentation at the 27th Annual Meeting of the Paleoanthropology Society, Austin, Texas.
- Pante, M., **Keevil, T.**, Muttart, M., Orlikoff, E., Tolley, A., Njau, J., Pobiner, B. The past, present, and future of bone surface modification research. Podium presentation at the 27th Annual Meeting of the Paleoanthropology Society, Austin, Texas.
- Pobiner, B., Pante, M., **Keevil, T.** Identification of possible cut marks on an early Pleistocene hominin tibia from Turkana, Kenya. Podium presentation at the 27th Annual Meeting of the Paleoanthropology Society, Austin, Texas.
- 2017 Orlikoff, E.R., **Keevil, T.L.**, Pante, M.C. A quantitative assessment of trampling-induced modification to bone surfaces. Poster presentation at the 26th Annual Meeting of the Paleoanthropology Society, Vancouver, Canada.
- 2016 Pante, M. C., Njau, J. K., **Keevil, T. L.**, Muttart, M., Blumenschine, R. J., Merritt, S. R. A quantitative reassessment of feeding trace morphology and implications for the earliest cut marked bones. Podium presentation at the 25th Annual Meeting of the Paleoanthropology Society, Atlanta, Georgia.

Awards & Grants

- 2022 Global Synergy Grant, Purdue University
- \$20,000.00
 - Project Title: *“Did Humans Kill South American Megafauna? Coupling Geometric-Morphometrics and Bayesian Deep Learning to Re-Analyze Bone Surface Modifications on Peruvian Large Mammal Fossils.”*

- PROMISE Award, Purdue University
 - \$1,500.00 (Research Grant)
- Graduate Student Professional Small Grant, Purdue University
 - \$500.00 (Travel Grant)
- 2021 Graduate Student Professional Conference Award, Purdue University
 - \$100.00 (Travel Grant)
- 2020-2021 Ross Fellowship, Purdue University
 - \$58,898.25 (Fellowship)
- 2017 Anthropology Graduate Student Society, Colorado State University
 - \$800.00 (Travel Grant)
- 2016 Paleoanthropology Society
 - \$300.00 (Travel Grant)
- Anthropology Graduate Student Society, Colorado State University
 - \$535.00 (Travel Grant)

Teaching

- 2023 **Instructor**, Purdue University
 - ANTH 204: Human Origins
 - 1 Semester
 - 2021-Present **Graduate Teaching Assistant**, Purdue University
 - ANTH 204: Human Origins
 - 4 Semesters
 - 2022 **Teaching Statistics in Anthropology Practicum**, Purdue University
 - ANTH 306: Quantitative Methods For Anthropological Research
 - 2015-2016 **Laboratory Instructor**, Colorado State University
 - ANTH 121: Human Origins and Variation Laboratory
 - 3 Semesters
 - 2015 **Field School Teaching Assistant**, Olduvai Gorge, Tanzania
 - ANTH 245C: Olduvai Geochronology and Archaeology Project Field School
 - 2014 **Peer Tutor**, University of British Columbia
 - BIOL 121: Genetics, Evolution and Ecology
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Technical Skills

- R Project for Statistical Computing
 - ArcGIS, ArcScene, QGIS
 - Adobe Photoshop
 - Microsoft Office

 - Languages: English (Fluent); Spanish (Intermediate)
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