

Martin Hughes Welker

EDUCATION

- 2018 Ph.D. in Anthropology, The Pennsylvania State University, State College, PA.
2015 M.A. in Anthropology, The Pennsylvania State University, State College, PA.
2013 B.S. magna cum laude in Anthropology with Departmental Honors and Certificate in Museum Studies, Utah State University, Logan, UT.

PROFESSIONAL APPOINTMENTS

Arizona State Museum

- 2025-Present Associate Curator of Zooarchaeology & Manager of the Stanley J. Olsen Laboratory of Zooarchaeology
2019-2025 Assistant Curator of Zooarchaeology & Manager of the Stanley J. Olsen Laboratory of Zooarchaeology

University of Arizona

- 2026-Present Affiliate, Lovejoy Center for Bridging Biodiversity, Conservation Science, and Policy
2025-Present Associate Professor of Anthropology, School of Anthropology
2020-2025 Assistant Professor of Anthropology, School of Anthropology

The Pennsylvania State University

- 2018-2019 Postdoctoral Scholar, Department of Anthropology

RESEARCH INTERESTS

Applied Zooarchaeology and Conservation, Zooarchaeological Identification Processes, Methods Development, Human-Environmental Interactions, Environmental Modification, Dietary Patterning, Domestication, Colonization Events, Animal Translocation, Animal Management, Skeletal Morphometrics, Human Behavioral Ecology

PEER-REVIEWED PUBLICATIONS (*student/volunteer author)

- Submitted Ebert, C. E., A. Smith, B. Meyer, I. Roa, **M. H. Welker**, J. B. Davis, C. Freiwald, N. Stanchly, D. Stricklin, J. P. Walden, J. A. Hoggarth, & J. J. Awe. The Social Lives of Dogs in Maya Society. *Science Advances*.
Submitted Royle, T. C. A., D. L. Buss,... **M. H. Welker**[14], & J. H. Barrett. Zooarchaeological Meta-Analysis Provides Insights into Changing Fish use in the Chesapeake Bay, USA, During the Historic Period. *Historical Archaeology*.
Submitted **Welker, M. H.** & M. Price. Homeward Bound: Exploring Decisions Involving Shelter and Transport. *Evolutionary Human Sciences*.
In Press **Welker, M. H.** & J. E. Hughes*. Military Provisioning at the Fortress of Louisbourg, Cape Breton, Canada: Animal Bone from the King's Bastion Barracks. *Northeast Historical Archaeology*.
2026 Clay, A.*, A. Manin, **M. H. Welker**, & A. T. Lin. A Cultural and Evolutionary History of Dogs in the Americas. In: Rupprecht, C. E. (ed.). *History of Rabies in the Americas: From the Pre-Columbian to the Present*. Vol. 2. Springer. Pp:49-80.
2026 Kremer, M.*, & **M. H. Welker**. Oh Deer, What are You? Differentiating White-tailed and Mule Deer Post Cranial Skeletons. *Archaeological and Anthropological Sciences*. 18(3):49.

- 2026 **Welker, M. H.**, S. Needs-Howarth, & E. M. Quintana Morales. Swimming Upriver? Exploring the Sources of Freshwater and Marine Fish in Military Diets in Sixteenth- to Nineteenth-Century Northeastern North America. *International Journal of Osteoarchaeology*. 36(4):984-1012.
- 2025 **Welker, M. H.** and R. Breslawski. Barreled Meat: Examining Decisions at the Intersection of Butchery, Storage, and Transport. *American Antiquity*. 90(4):683-704.
- 2025 **Welker, M. H.**, J. R. Bratten, & E. Guiry. Exploring the Arrival of Domestic Cats in the Americas. *American Antiquity*. 90(2):263-281.
- 2025 **Welker, M. H.** & D. A. Byers. Age, Sex, Captivity, and Tooth Crowding in North American Canids. *Journal of Archaeological Science: Reports*. 63:105086.
- 2025 **Welker, M. H.** The Vertebrate Fauna from Powers Ranch Ruin. In *Mimbres Far from the Heartland: Identity and Function of the Powers Ranch Site in East-Central Arizona* edited by P. Gilman and M. Whisenhunt. Anthropological Papers of the University of Arizona, Tucson. Pp: 93-102.
- 2024 Guiry, E., R. Kennedy,... **M. H. Welker**[21]. The Ratting of North America: A 350-year Retrospective on Rattus Species Compositions and Competition. *Science Advances*. 10(14):eadm6755.
- 2024 Byers, D. A., **M. H. Welker**, A. Semanko*, D. Itie*, S. Noe*, J. Vasquez*, I. Holland-Lulewicz, & S. B. McClure. Cranial Variability in North American Domestic and Wild Canids. *Journal of Archaeological Science: Reports*. 57:104590.
- 2023 **Welker, M. H.** & N. M. Mathwich. An Army Marches on Its Stomach: Comparing Military Provisioning across North American Eighteenth- and Nineteenth Century Forts. *American Antiquity*. 88(2):207-226.
- 2023 **Welker, M. H.**, A. Foster, & E. Tourigny. Pioneering Poultry: A Morphometric Investigation of Domestic Chickens (*Gallus gallus*) in Seventeenth- to Early Twentieth Century Eastern North America. *International Journal of Historical Archaeology*. 27:458-479.
- 2023 **Welker, M. H.** & A. Semanko*. Revisiting Harold S. Colton's Analysis of Dogs in the Southwest. *Kiva*. 89(3):403-421.
- 2022 McClure, S. B., E. Podrug, J. Jović, S. Monroe, H. D. Radde*, N. Triozzi*, **M. H. Welker**, & E. Zavodny. The Zooarchaeology of Neolithic Farmers: Herding and Hunting on the Dalmatian Coast of Croatia. *Quaternary International* 643:27-37.
- 2022 **Welker, M. H.** & E. M. Quintana Morales. Meta-Analysis of the North American Cod Fisheries: The Zooarchaeology of the 16th-19th Century Trans-Atlantic Cod Trade. *Journal of Island and Coastal Archaeology*. 19(2):269-291.
- 2022 **Welker, M. H.**, & J. E. Hughes*, & S. B. McClure. Cooperation and Cattle Herding in 18th Century Acadie: Implications for Prehistoric Agropastoralism. *Journal of Ethnobiology*. 42(1):69-85.
- 2022 **Welker, M. H.**, E. Zavodny, E. Podrug, J. Jovic, D.J. Kennett, & S.B. McClure. A Wolf in Sheep's Clothing: The Development of Livestock Guarding Dogs in the Adriatic Region of Croatia. *Journal of Archaeological Science: Reports*. 42:103380.
- 2021 **Welker, M. H.**, D. A. Byers, & S. B. McClure. "I Wanna Be Your Dog": Evaluating the Efficacy of Univariate and Multivariate Methods for

- Differentiating Domestic and Wild Canids in North America. *International Journal of Osteoarchaeology* 31(2):196-206.
- 2021 **Welker, M. H.** *Travois* Transport and Field Processing: The Role of Dogs in Intermountain and Plains Food Transport. *Human Ecology* 49:721-733.
- 2020 Welker, D., B. Crowley*, J. Evans, **M. Welker**, J. Broadbent, R. Roberts, & D. Mills. Transformation of *Lactobacillus plantarum* and *Lactobacillus kunkeei* is Influenced by Vector Replicon, DNA Methylation and Recipient Cell Growth Temperature. *FEMS Microbiology Letters* 175:105967.
- 2019 Stephens, L., D. Fuller, N. Boivin, [...], **M. H. Welker [106]**. Archaeological Assessment Reveals Earth's Early Transformation Through Land Use. *Science* 365(6456):897-902.
- 2019 Lambert, P.M. & **M. H. Welker**. Revisiting Traumatic Injury Risk and Agricultural Intensification: Fracture Frequency at Cerro Oreja, Peru. *American Journal of Physical Anthropology* 169(37):143-151.
- 2019 **Welker, M. H.** & R. Dunham. Exploring the Introduction of European Dogs to North America Through Shoulder Height. *International Journal of Osteoarchaeology*. 29(2):325-334.
- 2019 Zavodny, E., S. B. McClure, **M. H. Welker**, B. J. Culleton, J. Balen, & D. J. Kennett. Stable Isotope Markers of Herd Management and the Development of Transhumance in Bronze-Iron Age Lika. *Journal of Archaeological Science: Reports* 23:1055-1065.
- 2019 **Welker, M. H.** & D. A. Byers. The Birch Creek Canids and Dogs as Transport Labor in the Intermountain West. *American Antiquity*. 84(1):88-106.
- 2018 **Welker, M. H.**, S.M. Billings*, J.A. Burns, & S.B. McClure. Roads and Military Provisioning During the French and Indian War (1754-1763): The Faunal Remains of Fort Shirley, PA in Context. *Open Context* 4(1).
- 2017 McClure, S. B. & **M. H. Welker**. Farming with Animals: The Cardial Neolithic and the Role of Domesticated Animals in the Western Mediterranean. In *Times of Neolithic Transition along the Western Mediterranean*. Springer Book.
- 2017 Lambert, P. M. and **M. H. Welker**. Traumatic Injury Risk and Agricultural Transitions: A View from the American Southeast and Beyond. *American Journal of Physical Anthropology* 162(1):120-142.

PUBLICATIONS IN PREPARATION (*Student/volunteer author)

- In Prep **Welker, M. H.**, Thomas, A., Fisher, A., Hill, M., & Dombrosky, J. What Lovely Teeth You Have: Dental Anomalies in Native North American Domestic Dogs.
- In Prep. Delsol, N., J. C. Jaramillos, **M. H. Welker**, S. Noël, I. Grau, H. C. Küchelmann, P. Migaud, C. Duval, E. Tourigny, S. Noe, S. Pleuger-Dreibrodt, & E. Reitz. Cattle Morphometrics in the Modern Atlantic World.
- In Prep. Royle, T. C. A., D. L., Buss, J. R., Kennedy,... **M. Welker[24]**, & J. H. Barrett. Long-term Trends in Pre- and Post-Columbian Northeastern North American Fisheries Revealed by Zooarchaeological Meta-analysis.

NON-PEER REVIEWED PUBLICATIONS

- 2026 **Welker, M. H.** Dog's and Transport: Ripe for Further Study. *Archaeology Southwest Magazine*.

GRANTS AND FELLOWSHIPS – Total: \$20,590

2025	Welker, M. H. Allen Borgan Fund for Archaeological Research. Arizona State Museum. “Re-evaluating Non-Macaw Parrot Identifications in the Southwest” (\$2,205).
2024	Welker, M. H. Allen Borgan Fund for Archaeological Research. Arizona State Museum. “Splitting Hares: Developing Methods for Reliably Differentiating Lagomorph Species” (\$2,205).
2022	Jolie, E., & M. H. Welker. Dogs as Sources of Fiber in the Prehispanic Southwest: Expanding Faunal and Artifactual Datasets. Alan Borgan Research Endowment Grant (\$3,065).
2021	Welker, M. H., E. Jolie, & A. Semanko. Fiber Analysis of Dog Hair Textiles from the Prehispanic American Southwest: Inferences Bearing on Yarn Production and Breed Maintenance. Register of Professional Archaeologists Specialty Analysis Grants (\$2,000).
2021	Welker, M. H. Directly Dating Dogs for aDNA and Morphometric Analysis. Alan Borgan Research Endowment Grant (\$1,031).
2020	Welker, M. H. Dogs in the American Southwest: Rediscovering Harold Colton’s Archived Data. Arizona Archaeological and Historical Society Research Grant (\$500).
2019	DeMars Doerschuk, L. J., M. H. Welker, and N. B. Stephens. Identifying Working Dogs in the Archaeological Record Via Internal Bone Structure. Penn State Earth, Energy, and the Environment Seed Grant (\$2,259).
2016	Welker, M. H. Frontier Adaptation and Dietary Patterning Among French and British Colonists in North America (1625-1790). Penn State Department of Anthropology Post-Comprehensive Hill Fellowship (\$3,000).
2016	Welker, M. H. Identifying Environmental and Cultural Influences on Dietary Practices at the Historic Fortress of Louisbourg (1713-1768), Cape Breton, Canada. Penn State Department of Anthropology Pre-Comprehensive Hill Fellowship Pilot for Dissertation Research (\$1,325).
2015	Zavodny, E. & M. H. Welker. A Pretense of Defense? Hillfort Function in Bronze and Iron Age Lika, Croatia. The Explorer’s Club, Student Grant (\$1,000).

SERVICE

2026-Present	Acting Head of the Research Division
2025-Present	Museum Faculty Association Chair
2024-Present	University of Arizona Academic Personnel Policy Committee Member
2024-Present	Society of American Archaeology Dissertation Review Committee Member
2019-Present	Arizona State Museum Repatriation Committee Member
2025-2026	Arizona State Museum Faculty Association Chair
2026	Vice Provost of Faculty Affairs Five-Year Review Committee Member
2026	Professor of Practice Hiring Committee Member
2025-2026	ASM Reaccreditation Committee Member
2025	AIR Annual Evaluation Committee, External Committee Member
2024	Franke Honors College Exploratory Mini-Grant Application Reviewer
2023-2024	Acting Head of the Research Division

2022-2023 Curator of Archaeology Hiring Committee Member.
 2022 University of Arizona Continuing Status Harmonization Committee
 2020-2023 ASM Representative, Arizona Archaeological and Historical Society Board of Directors
 2019 Arizona State Museum Open House -September
 2018-2024 Visiting Exhibit Curator -Matson Museum of Anthropology
 2018 Penn State Alumni “We Are Weekend” Foster Farmstead Tour
 2018 Penn State Envision: STEM Career Outreach Day -Volunteer Educator
 2017-2018 Utah State University Bird Strike Census -Dr. Kimberly Sullivan
 2017 Educational Demonstrator Juniata College Conservation Students Visit -Shaver’s Creek
 2017 Penn State Bayesian Modeling and Radiocarbon Dating Workshop -Co-organizer
 2017 Shaver’s Creek Wood Turtle Surveys -(ICUN Red List Endangered Species)
 2017 Exploration U Science Expo Anthropology Activities Table
 2016-2019 Shaver’s Creek Environmental Center -Animal Care and Education Volunteer
 2015, 2016 Educational Outreach Foster Farm Middle School Student Site Visit

AWARDS AND HONORS

2017-2018 William T. Sanders Graduate Award in Anthropology -Pennsylvania State University
 2014-2016 RGSO Conference Travel Award (\$1,900)
 2013 Anthropology Student of the Year -Utah State University
 2012-2013 Honors Research Fund (\$1,500)
 2012 Anthropology Scholarship (\$500)
 2012 A-Pin Award for 4.0 GPA in consecutive semesters
 2009 Dean’s Scholarship (\$9,452)
 2009 National Merit Semi-Finalist Stipend (\$2,000)

COURSES TAUGHT

ANTH 326: Domestication -Primary Instructor (Biannual)
 ANTH 472: Zooarchaeology & Taphonomy -Primary Instructor (Biannual)
 ANTH 425: Zooarchaeology -Primary Instructor (Spring 2019)
 ANTH 479: Ancient Brews -Co-Instructor (Fall 2018)
 ANTH 146: Native American Indians (Distance) -Primary Instructor (Fall 2018)
 ANTH 425: Zooarchaeology -Dr. Sarah McClure (Spring 2016, 2017, 2018)
 ANTH 146: Native American Indians (Distance) -Dr. Kirk French (Fall 2015)
 ANTH 011: Introduction to North American Archaeology (Distance) -Sara Getz, Dr. Jonathan Burns (Fall 2014, Spring 2015)
 ANTH 009: Rise of World Civilizations -Dr. Carrie Hritz (Spring 2014)
 ANTH 427W: Forensic Archaeology -Dr. Sarah McClure (Fall 2013, 2016, 2017)

PROFESSIONAL CERTIFICATIONS

2015 Certificate of Online Teaching -Pennsylvania State University
 2013 Museum Studies Certificate -Utah State University

TECHNICAL REPORTS (Relevant, *Student/Volunteer Author)

- In Press **Welker, M. H.** An Analysis of Canid Remains from the Silverbell Road Widening Project (AZ:BB:9:439). In *Archaeological Investigations Along the West Side of the Santa Cruz River in Segment II of the Silverbell Widening Project Between Goret Road and El Camino del Cerro in Pima County, Arizona*. Technical Report 024-01. Desert Archaeology, Inc. Tucson, AZ.
- 2024 **Welker, M. H.** Canid Remains from the Gila Bend, JR and Wheatfields Sites in Arizona. Report on file at the Arizona State Museum.
- 2023 **Welker, M.H.** Analysis of Clarence B. Moore's Dog Excavated from the Palmer-Taylor Mound, Orange County, Florida. Report on file at the National Museum of the American Indian.
- 2019 **Welker, M. H.** and J. E. Hughes*. An Analysis of Archaeological Smoking Pipes and Faunal Remains from the King's Bastion Barracks, The Fortress of Louisbourg, Cape Breton. Report on file at Parks Canada, Louisbourg Office.
- 2018 **Welker, M. H.** General Forbes' Cattle: A Report on Cow Bone from Forts Hunter and Loudoun, PA. Report submitted to the State Museum of Pennsylvania.
- 2017 **Welker, M. H.** Analysis of Animal Bone from the Jacob Ripley Site (49-DO-95). Report submitted to AllStar Ecology LLC.
- 2016 **Welker, M. H.** Analysis of Two Dogs (*Canis familiaris*) at the Fortress of Louisbourg, Cape Breton, Canada. Report on file at Parks Canada, Louisbourg Office.
- 2016 **Welker, M. H.** Analysis of a Dog (*Canis familiaris*) From the St. Johns River Site, Grenada. Report on file at the Grenada National Museum, St. George's, Granada.
- 2016 Welker, M. H. Cahal Pech Plaza B: The Vertebrate Fauna. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2015 Field Season* J. A. Hoggarth and Jaime J. Awe (eds.). Belize Institute of Archaeology, National Institute of Culture and History, Belmopan.
- 2011 Fowler, B., M. Bloxham, K. Conrad, S. Gasero, S. Shy, **M. Welker**, & B. L. Pitblado. Southeastern Idaho Northern Utah Paleoindian Project: 2011 Report of Archaeological Fieldwork, Caribou County, Idaho. Archaeological Report Submitted to the Bureau of Land Management-Pocatello Field Office.

SYMPOSIA AND SESSIONS ORGANIZED (Relevant, last 3 years) – 5 since 2019

- 2027 **M. H. Welker**, J. Dombrosky, W. Taylor, C. Conrad, & W. Tomczyk. *Applied Zooarchaeology Across the World: New Methods, Perspectives, and Collaborations for Conservation Science*. Session Organized for the International Council of Archaeozoology 15th International Conference, Vancouver, British Columbia.
- 2026 Dombrosky, J. & **M. H. Welker**. Archaeological and Ethnobiology: Longterm Perspectives on Biocultural Diversity. Session Organized for the Society of Ethnobiology 47th Annual Conference, Sewanee, Tennessee.
- 2024 Dombrosky, J. and **M. H. Welker**. *Measuring up to Environmental Archaeology: New Biometric Applications to the Study of Past Plant and Animal Remains*. Session Organized for the Society of Ethnobiology Annual Conference, St. Louis Missouri.
- 2019 **Welker, M. H.** *Frontiers in Animal Management: Unconventional Species, New Methods, Understudied Regions*. Session Organized for the 84th Annual Meeting of the Society of American Archaeology, Albuquerque, New Mexico.

PROFESSIONAL PRESENTATIONS

- 2027 **Welker, M. H.**, M. Bieraugle, J. Meachen, W. Binder, & S. Wolverton. Holocene Changes in North American Canid Mandibular Morphology: Implications for Taxonomic Identification and Ecological Interpretation. International Council of Archaeozoology 15th International Conference, Vancouver, British Columbia.
- 2027 Ebert, C.E., A. Smith, B. Meyer, I. N. Roa, **M. H. Welker**, J. B. Davis, T. B. Watkins, A. Blastic, N. Stanchly, D. Stricklin, J. P. Walden, J. A. Hoggarth, & J. J. Awe. Multi-Isotope Insights into the Social Lives of Ancient Maya Dogs. International Council of Archaeozoology 15th International Conference, Vancouver, British Columbia.
- 2027 Betts, C. R., **M. Welker**, J. Dombrosky, & E. Weitzel. Application of the Logarithm Size Index (LSI) to Shifts in White-Tailed Deer and Mule Deer Hunting in the Mogollon Region. International Council of Archaeozoology 15th International Conference, Vancouver, British Columbia.
- 2026 Wolverton, S., **M. Welker**, S. Fayuant, & M. C. Stiner. The Badger Fauna from Ventana Cave, Arizona: Animal Mortality and Skeletal Part Representation. Texas Archaeological Society Annual Meeting, Denton, Texas.
- 2026 **Welker, M.** and S. Wolverton. The Holocene Predator Guild in Texas: Diminution in the Body Size of Coyotes. Texas Archaeological Society Annual Meeting, Denton, Texas.
- 2026 **Welker, M. H.**, R. Breslawski, S. Noe, I. Holland-Lulewicz, K. Caddy, T. Nomokonova, R. Losey, & J. Ives. Osteometric Identification of Leporids in Archaeological and Paleontological Deposits. Society of Ethnobiology 47th Annual Conference, Sewanee, Tennessee.
- 2025 **Welker, M. H.**, S. Needs-Howarth, & E. Quintana Morales. Exploring the Cod Trade in North America: Findings from Military Sites in the Maritimes and Great Lakes-St. Lawrence Region. Ontario Archaeological Society, Windsor, Ontario.
- 2025 **Welker, M. H.**, David Byers, & Jesse Alston. Historical Declines of Bighorn Sheep in the Southwest: Evidence for Shifted Conservation Baselines. Society of Ethnobiology 46th Annual Conference, Lake Tahoe, Nevada.
- 2025 **Welker, M. H.**, S. Needs-Howarth, & E. Quintana Morales. Exploring the Cod Trade in North America: Findings from Military Sites in the Maritimes and Great Lakes-St. Lawrence Region. 10th World Archaeology Congress, Darwin, Australia.
- 2025 **Welker, M. H.** & J. Dombrosky. Paw-sitive Identification: Machine Learning with Biometrics Improves Canid Identification. Society of American Archaeology Annual Meeting, Denver, Colorado.
- 2024 Royle, T. C. A. D. L. Buss, ... **M. Welker**[28], & J. H. Barrett. Casting a Wide Net: Documenting Spatiotemporal Variation in the Species Composition of Northeastern North America and Northern European Fisheries through the Meta-Analysis of Zooarchaeological Datasets. 22nd ICAZ Fish Remains Working Group, Toronto, Ontario.
- 2024 **Welker, M. H.**, S. Needs-Howarth, E. Quintana Morales, & N. Gromoff. Swimming Upriver? Exploring the Sources of Freshwater and Marine Fish in Military Diet in Sixteenth- to Nineteenth-century Northeastern North America. 22nd ICAZ Fish Remains Working Group, Toronto, Ontario.
- 2023 Semanko, A., **M. H. Welker**, & F. Ramos. Integrating Isotopic and Paleopathological Perspectives on Prehistoric Turkey Management at Turkey

- Creek Pueblo. Society for American Archaeology Annual Meeting, Portland, Oregon.
- 2024 Kremer, M.* & **Welker, M. H.** Oh Deer, What are You? Differentiating White-Tailed and Mule Deer Post-Cranial Skeletons. Society of Ethnobiology 45th Annual Conference, St. Louis, Missouri.
- 2024 **Welker, M. H.** What Lovely Teeth You Have: An Examination of Canid Dental Anomalies and Their Use in Archaeology. Society for American Archaeology Annual Meeting, New Orleans, Louisiana.
- 2024 Judkins, A.*, Peck, K.*, & **Welker, M. H.** Navigating the Frontier of Colonial Diets: Domesticates and Wild Resource Use in the North America Fur Trade. Society for American Archaeology Annual Meeting, New Orleans, Louisiana.
- 2024 Schollmeyer, K.G., Semanko, A.*, & **Welker, M.** Classic Mimbres Period Aviculture at Elk Ridge, New Mexico. Society for American Archaeology Annual Meeting, New Orleans, Louisiana.
- 2023 **Welker, M. H.**, E. A. Jolie, S. L. Koch, & A. Semanko. Fiber Analysis of Dog Hair Textiles from the Prehispanic Southwest: Inferences Bearing on Yarn Production and Dog Breed Maintenance. Society for American Archaeology Annual Meeting, Portland, Oregon.
- 2023 Semanko, A., **M. H. Welker**, & F. Ramos. Integrating Isotopic and Paleopathological Perspectives on Prehistoric Turkey Management at Turkey Creek Pueblo. Society for American Archaeology Annual Meeting, Portland, Oregon.
- 2023 Thomas, A. E., Matthew E. Hill jr., C. Widga, **M. H. Welker**, & A. Kitchen. Dogs in the Central Plains: An Investigation of Phenotypic Variability Among Pawnee, Dismal River, and Oneota Cultures. Plains Anthropological Society Conference, Oklahoma City, Oklahoma.
- 2023 DeMars, L., **M. H. Welker**, S. Kou, & T. Ryan. Exploring Whole-joint Trabecular Bone Structural Variation in Cursorial and Arboreal Carnivores. International Society for Vertebrate Morphology, Querns, Australia.
- 2023 Thomas, A. E., Matthew E. Hill jr., C. Widga, **M. H. Welker**, & A. Kitchen. Dogs in the Central Plains: An Investigation of Phenotypic Variability Among Pawnee, Dismal River, and Oneota Cultures. Plains Anthropological Society Conference, Oklahoma City, Oklahoma.
- 2022 Semanko, A. & **M. H. Welker**. Paleopathology and Prehistoric Turkey Management at Point of Pines. Mogollon Conference, Tucson, Arizona.
- 2022 **Welker, M. H.** & A. Semanko. Constructing a Baseline: Dogs in the American Southwest. Society for American Archaeology, Chicago, Illinois.
- 2021 Zavodny, E. K., **M. H. Welker**, & S. B. McClure. Fido in the Field: New Morphometric and Stable Isotope Evidence for Human-Dog Relationships in Prehistoric Croatia. European Archaeological Association Meetings in Kiel.
- 2021 **Welker, M. H.**, & E. M. Quintana Morales. Meta-analysis of the North Atlantic Cod Fisheries: The Zooarchaeology of the 16th-19th-Century Trans-Atlantic Cod Trade. Invited Paper presented at the 85th Annual Meeting of the Society of American Archaeology. San Francisco, CA.
- 2019 McClure, S. B., E. Podrug, D. J. Kennett, C., Ebert, J. Jović, N. Triozzi, N., **M. Welker**, & E. Zavodny. Human-Animal Dynamics of the Neolithic Dalmatian Coast of Croatia: A Multi-Proxy Study. 1st Conference on the Early Neolithic of Europe. Barcelona, Spain.
- 2019 **Welker, M. H.**, A. Foster, & E. Tourigny. Pioneering Poultry: A Morphometric Investigation of Domestic Chickens (*Gallus gallus*) in Preindustrial North America. Paper presented at the 84th Annual Meeting of the Society for American Archaeology. Albuquerque, NM.

- 2019 Jones E. & **M. H. Welker**. Native American Dog Populations Revisited: Morphological Change Through Time and Space. Paper presented at the 84th Annual Meeting of the Society for American Archaeology. Albuquerque, NM.
- 2019 McClure, S.B., E. Podrug, E. Zavodny, C. Ebert, N. Triozzi, **M. H. Welker**, J. Jovic, K. Reed, & D. Kennett. *Keeping Herds in Mediterranean Environments: The Example of Neolithic Dalmatia*. Paper presented at the Archaeological Institute of America Annual Meeting, San Diego, California.
- 2018 McClure, S. B., K. Reed, E. Podrug, E. Zavodny, J. Jovic, **M. H. Welker**, C. Ebert, N. Triozzi, & D. J. Kennett. *The Isotope Ecology of Early Farming on the Northern Dalmatian Coast of Croatia: Integrating Plants, Animals, and Humans in a Neolithic Landscape*. Paper presented at the 24th European Association of Archaeologists, Barcelona, Spain.
- 2018 Zavodny, E., **M. H. Welker**, & S. B. McClure. *A Pawsitively Interesting Prehistory of Dogs Told in Stable Isotopes and Morphometrics From Croatia*. Poster presented at the 83rd Annual Meeting of the Society for American Archaeology. Washington, DC.
- 2017 **Welker M. H.** & R. Duggan. *A Comparison of Dog Shoulder Height in European and Native American Contexts*. Poster presented at the 82nd Society for American Archaeology Annual Meeting, Vancouver, British Columbia.
- 2016 **Welker, M. H.** *Faunal Remains and Food Choice at Historic Fortifications*. Poster presented at the 50th Council for Northeast Historical Archaeology meeting, Ottawa, Ontario.
- 2016 Lambert, P. M. & **M. H. Welker**. *Traumatic Injury Risk with Agriculture: Data from the Southeast and Beyond*. Paper Presented at the 85th Annual Meeting of the American Association of Physical Anthropologists, Atlanta, Georgia.
- 2016 Billings, S. M.*, **M. H. Welker**, J. A. Burns, & S. B. McClure. *Testing the Efficiency of Supply Routes: Provisioning at British French and Indian War Fortifications*. Poster Presented at the 2016 Undergraduate Research Exhibition, State College Pennsylvania.
- 2016 **Welker, M. H.**, J. A. Burns, J. H. Haney, & S. B. McClure. *A Database Approach to Historic Military Provisioning in the Eastern United States and Canada*. Paper presented at the 81st Society of American Archaeology Meeting, Orlando, Florida.
- 2015 Haney, J. H. & **M. H. Welker**. *Subsistence and Site Function in Historic Contexts*. Poster presented at the 80th Society of American Archaeology Annual Meeting, San Francisco, California.
- 2015 **Welker, M. H.**, J. A. Burns, & S. B. McClure. *Investigating Diet Variability at Early Fortifications in the American Colonies*. Poster presented at the 80th Society of American Archaeology Annual Meeting, San Francisco, California.
- 2014 **Welker, M. H.** and P. M. Lambert. *Subsistence and Trauma: The Southeast in Perspective*. Poster presented at the 79th Annual Society of American Archaeology Annual Meeting, Austin, Texas.
- 2013 Webb, D., **M. Welker**, & C. Kuehn. *Experimental Archaeology and the Costs of Fremont Irrigation*. Guest lecturer at the Range Creek Field Station Faculty Meeting, Salt Lake City, Utah.
- 2013 Webb, D., **M. Welker**, & C. Kuehn. *Experimental Archaeology and the Costs of Fremont Irrigation*. Presentation at the Utah Professional Archaeology Council's 2013 Winter Annual Meeting, Logan, Utah.
- 2013 Webb, D., **M. Welker**, & C. Kuehn. *Experimental Archaeology and the Costs of Fremont Irrigation*. Poster Presented at the National Conference on Undergraduate Research, La Crosse, Wisconsin.

- 2012 Webb, D., **M. Welker**, & C. Kuehn. *Experimental Archaeology and the Costs of Fremont Irrigation*. Poster Presented at the 33rd Biennial Great Basin Anthropological Conference, South Lake Tahoe, Nevada.
- 2012 Patten, J. & **M. Welker**. *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the National Conference on Undergraduate Research, Ogden, Utah.
- 2011 Patten, J. & **M. Welker**. *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the 10th Biennial Rocky Mountain Anthropology Conference, Missoula, Montana.

PUBLIC PRESENTATIONS AND OUTREACH EVENTS

- 2026 Dusenberry-River Library Children's Summer Reading Program "Unearth A Story: Desentierra una Historia" Lecture (7 attendees).
- 2026 A Cat's Tale: How Domestic Cats Came to the Americas. Arizona Senior Academy. (48 attendees).
- 2026 A Cat's Tale: How Domestic Cats Came to the Americas. Third Thursday's Food for Thought. Old Pueblo Archaeology (45 attendees).
- 2025 An Archaeological Examination of Dogs in the Southwest. Armchair Anthropology, Whiskey del Bac (60 attendees).
- 2025 Dog Bones: Exploring the Human Past in the Southwest Through Archaeological Dogs. Arizona Senior Academy. (40 attendees).
- 2025 Sled Dogs in the Southwest: Fact or Fable? Archaeology Café, Archaeology Southwest. (100 attendees).
- 2024 Archaeological Dogs in the Americas. Talk Science Speaker Series, Arizona Museum of Natural History. (70 attendees).
- 2023 The Promise and Peril of Archaeological Dogs in the Americas. Guest lecture to the Department of Anthropology, University of Central Florida. (24 attendees).
- 2023 Man's Best Friend: Exploring the Human-Dog Relationship Through Time. ASM Master Class. (8 attendees).
- 2021 Between Hoof and Paw: Animals and Human Society in World History. ASM Master Class. With Brescia, M. M. (30 attendees).
- 2020 Bone Identification Workshop. National Park Service Southern Arizona Regional Office and Organ Pipe National Monument for Staff. With Watson, J. T.
- 2018 Visiting Exhibit: *Dog Domestication – Domestication, Uses, and Breeding*. Matson Museum of Anthropology.
- 2018 *Native American Draught Dogs*. Invited presentation at the Inaugural Penn State Department of Anthropology Grad Student and Post Doc Lightning Talks Colloquium.
- 2017 *Taming the Wilderness: Road Systems and Supply Delivery at French and Indian War Frontier Fortifications*. Penn State Center for Human Ecology invited poster presentation. With S. M. Billings*, J. A. Burns, & S. B. McClure.
- 2017 *Dead Beasts Tell Tales: Archaeological Approaches to Diet at the Fortress of Louisbourg*. Public lecture hosted by the St. Francis Xavier University Biology Department, Antigonish, Nova Scotia.
- 2016 *What Can Animal Bones Tell Us About European Colonists?* Public lecture to the Penn State Anthropology Club.
- 2012 *The Influence of Economically Important Plants on Historic Shoshone Mobility Strategies*. Poster Presented at the Utah State University Undergraduate Research Symposium, Logan, Utah. With Patten, J.

PROFESSIONAL AFFILIATIONS AND CERTIFICATIONS

2023-Present Society of Ethnobiology
2017-Present Register of Professional Archaeologists
2013-Present Society for American Archaeology

STUDENTS ADVISED (U of A unless otherwise listed)

2025-Present Madison Colley - Undergraduate Honors Thesis
2022-2026 Megan Bierugale -Ph.D. (University of Alberta)
2025 Greyson Offerman - Undergraduate Senior Thesis
2025 Jacqueline Hauser - M.A. (University of Central Florida)
2024 Jessica Sick - M.A. (University of Saskatchewan)
2023-2024 Talon Krebs - M.A.
2023-2024 Matthew Harwood - Undergraduate Honors Thesis
2022-2023 Malia (Max) Kramer - Undergraduate Senior Thesis
2022-2023 Amanda Semanko -Ph.D

FIELD EXPERIENCE

2015, 2016 Field Director -Penn State Archaeological Field School (PI: Claire Milner)
2015 Field Crew -Cueva de les Cocina (PIs: Oreto Garcia & S. B. McClure)
2014 Field Technician (CRM) -Rue Environmental (PI: David Rue)
2013 Volunteer -Butrint, Roman Forum (PIs: D. Hernandez, D. Condi)
2013 Field Crew -Neolithic Landscapes of Central Dalmatia: Archaeological Survey, Excavation, and Spatial Analysis. (PIs: S. B. McClure & E. Podrug)
2012 Student -Viking Discovery Project (PI: D. Carlson)
2012 Student -Rampart Scotland, Whitecastle (PIs: D. Connolly & M. Cook)
2012 Volunteer -Ground Penetrating Radar Research Project (PI: M. Cannon)
2012-2013 Field Technician (CRM) -USU Archaeological Services (PI: K. Cannon)
2012 Student Researcher -Ancient Native American Irrigation in Central Utah: Experimental Archaeology for Modeling of Fremont Agricultural Economics (PI: S. Simms)
2011 Volunteer -Dot Cave (PI: K. Cannon)
2011 Student -USU Summer 2011 Archaeological Field School (ANTH5300, PI: B. Pitblado)

ZOOARCHAEOLOGICAL ANALYSIS (Selected)

2026 Gallinas Springs Pueblo, NM -NAGPRA Review and Faunal Analysis
2023-2026 Hummingbird Pueblo, NM -NAGPRA Review and Faunal Analysis
2024 Sabino Canyon Ruin, AZ -Faunal Analysis
2023 Silverbell Road Widening Project -NAGPRA Review and Faunal Analysis
2023 Powers Ranch Ruin, AZ -NAGPRA Review and Faunal Analysis*
2023 Goat Springs Pueblo, NM -Faunal Analysis
2022-2023 Ventana Cave, AZ -NAGPRA Review and Faunal Analysis
2021 Point of Pines Region, AZ -NAGPRA Review and Faunal Analysis
2018 Forts Loudoun and Hunter Cattle -Faunal Analyst
2016 Birch Creek Canids (Idaho) -Faunal Analysis*
2016 St John's River Site (Granada) Canid Burial*

2016-2017 Fortress of Louisbourg, King's Bastion Faunal Analysis
 2015-2019 Dairying, Transhumance, and Environmental Impact/Resilience:
 Cultural and Biological Approaches to Domestic Animal Management in Neolithic
 Dalmatia, Croatia (PI: S. B. McClure) -Faunal Analyst*
 2015 Scare Pond, Massey, and Foster Farmstead Faunal Analysis*
 2015 Cahal Pech Plaza B Faunal Analysis*
 2014-2015 Human Paleoecology and Isotope Geochemistry Lab -Volunteer Lab Assistant
 2014 Human Paleoecology and Isotope Geochemistry Lab -Research Assistant
 2014 Matson Museum of Anthropology -Program Assistant
 2013-2019 Penn State Zooarchaeology Laboratory -Lab Manager
 2013 The Risks of Agriculture: Fracture Trauma and Agricultural
 Intensification* -Co-PI (Honors Thesis)
 2013 Bluefields Bay Research Project -USU Archaeology Lab
 2010-2013 USDA-ARS-PIRU Bee Biology and Systematics Lab -Bio-Science Lab Assistant
 2012 USU Spatial Data Collection Analysis and Visualization Lab -Laboratory Assistant
 2012 USU Museum of Anthropology -Program Assistant
 2011-2013 USU Archaeological Services -Volunteer Faunal Analyst

PROFESSIONAL AFFILIATIONS AND CERTIFICATIONS

2023-Present Society of Ethnobiology
 2017-Present Register of Professional Archaeologists
 2013-Present Society for American Archaeology
 2009-Present Golden Key National Honors Society