

# CURRICULUM VITAE OF BENJAMIN MILLER AUERBACH

## Current affiliation and contact information

Professor  
Department of Anthropology  
The University of Tennessee  
1621 Cumberland Avenue, Room 505  
Knoxville, Tennessee 37996 USA

E-mail: [auerbach@utk.edu](mailto:auerbach@utk.edu)  
Telephone: (+01) 865-974-0862 (work)  
(+01) 865-974-2686 (fax)  
Web page:  
<http://volweb.utk.edu/~auerbach/>

## Education

### **Ph.D.** Functional Anatomy and Evolution

Johns Hopkins University School of Medicine, 2007 (degree conferred in 2008)

Dissertation: "Human skeletal variation in the New World during the Holocene: effects of climate and subsistence across geography and time"

### **Research Fellowship** (Funded by the Joanna Jackson Goldman Memorial Prize)

Biological Anthropology: "The Panhuman Postcranial Project"

Miami University, 2001 – 2002

### **B.A.** Anthropology (with a minor in Criminology)

Miami University, 2001

### **B.A.** Comparative Religion

Miami University, 2001

## Professional Experience

July 2022 – present	Professor, Department of Anthropology, The University of Tennessee, Knoxville, TN
July 2022 – present	Adjunct Professor, Department of Ecology & Evolutionary Biology, The University of Tennessee, Knoxville, TN
August 2021 – present	Associate Head, Department of Anthropology, The University of Tennessee, Knoxville, TN
August – December 2017	Visiting Academic, Centre for Human Anatomy Education, Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia
April 2015 – June 2022	Adjunct Associate Professor, Department of Ecology & Evolutionary Biology, The University of Tennessee, Knoxville, TN
July 2014 – June 2022	Associate Professor (with tenure), Department of Anthropology The University of Tennessee, Knoxville, TN
August 2008 – June 2014	Assistant Professor, Department of Anthropology The University of Tennessee, Knoxville, TN
August 2007 – July 2008	Visiting Scholar, Center for Archaeological Investigations Southern Illinois University Carbondale, Carbondale, IL
June – August 2004	Instructor, Department of Anthropology University of Maryland, College Park, MD

## **Research Experience**

### *Interests and specialties:*

- Multidisciplinary analysis of the skeleton
- Trait complex evolution (applied in primates and in marsupials)
- Population and quantitative genetics (evolvability, morphological integration)
- Modern human morphological variation
- History of eugenics
- Estimation of stature and body mass in humans and human ancestors
- New World population history
- Climatic and subsistence interactions and effects on the skeleton (ecogeographic variation in body size and proportions)
- Functional anatomy of the limbs
- Evolution and variation of the human pelvis
- Evolutionary medicine (especially disease and evolution)

### *Current projects*

- Collaboration with Drs. Justin Adams, Alistair Evans, Libby Cowgill, Hazel Richards, and Alex MacDonald: Trait complex evolution in marsupials
- Collaboration with Drs. Elizabeth Agosto and Brian O'Meara: Evolution and constraint in the primate shoulder girdle
- Collaboration with Drs. Jay Stock, Helen Kurki, and Lia Betti: Variation in the human skeleton
- Collaboration with Drs. Terence Capellini, Helen Kurki, Mark Grabowski, Lia Betti, and Kristi Lewton: Developmental basis for morphological variation in the human pelvis
- Development of 3D applied human osteology textbook with Dr. Christopher Ruff

### *External Grants received*

#### **National Science Foundation Doctoral Dissertation Improvement Grant (NSF # 2141878)**

Principal Investigator

Co-PI: Gregory J. Wehrman, ABD

“Doctoral Dissertation Research: Exploring Localized Relationships Between Age-related Bone Loss and Cortical Expansion in Diaphyseal Bone”

\$30,017 – Awarded 2022; active 2022-2023

#### **National Science Foundation Doctoral Dissertation Improvement Grant (NSF #1945986)**

Principal Investigator

Co-PI: Angela M. Mallard, ABD

“Doctoral Dissertation Research: Assessing Multiple Lines of Evidence for Gene Flow in Archaeological Contexts”

\$23,113 – Awarded 2020; active 2020-2021

#### **National Science Foundation Doctoral Dissertation Improvement Grant (NSF #1825995)**

Principal investigator

Co-PI: Elizabeth Agosto, ABD

“Doctoral Dissertation Research: Investigating underlying mechanisms of primate shoulder adaptations”

\$16,125 – Awarded 2018; active 2018 – 2019

**National Science Foundation Collaborative Research Grant, BCS Division (NSF #0962752)**

Principal investigator

Co-PIs: Dr. Kathryn King and Dr. Adam Sylvester

“Pelvic shape and differential mortality: obstetric variation among indigenous North American populations”

\$15,186 – Awarded 2010; active July 2010 – December 2011

**National Science Foundation Doctoral Dissertation Improvement Grant (NSF #0550673)**

Co-PI (with Principal investigator: Dr. Christopher Ruff)

“Human skeletal variation in the prehistoric New World: geographic, temporal and climatic effects”

\$11,158 – Awarded 2006; active 2006 – 2007

**National Science Foundation Graduate Research Fellowship, Biological Anthropology**

Awarded 2001; active 2002 – 2005

**Joanna Jackson Goldman Memorial Prize**

Principal investigator

*Miami University’s top academic grant, awarded to one graduating student each year to fund independent research. It was used for a research fellowship in skeletal biology.*

\$23,316 – Awarded 2001; active 2001 – 2002

Grants pending

**Australian Research Council Discovery Projects (DP230100355)**

Partner Investigator

Drs. Justin Adams & Alistair Evans (Monash University), Chief Investigators

Dr. Libby Cowgill (University of Missouri), Co-Partner Investigator

*(Foreign nationals cannot serve as co-Chief Investigators on ARC grants.)*

“Australian Marsupials in Arid Habitats: Past Adaptations & Future Survival”

AU\$679,817 – Submitted May 2022

Grants not funded

**National Science Foundation Doctoral Dissertation Improvement Grant (NSF # 2118009)**

Principal Investigator

Co-PI: Haley E. Horbaly, ABD

“Doctoral Dissertation Research: Covariation and variance in joint articular morphology as it relates to joint conformity and function”

\$21,215 – Submitted January 2021

**National Science Foundation Doctoral Dissertation Improvement Grant (NSF # 2118055)**

Principal Investigator

Co-PI: Katharine Ryan, ABD

“Doctoral Dissertation Research: Variation, integration, and evolvability of the sphenoidal sinus with respect to the cranium in *Homo sapiens*”

\$20,089 – Submitted January 2021

**Australian Research Council Discovery Projects (DP210101570)**

Partner Investigator

Drs. Justin Adams & Alistair Evans (Monash University), Chief Investigators

Dr. Libby Cowgill (University of Missouri), Co-Partner Investigator

*(Foreign nationals cannot serve as co-Chief Investigators on ARC grants.)*

“Where have the desert marsupials gone? Australia’s lost arid biodiversity”

AU\$705,030 – Submitted February 2020 – (rated as competitive but not funded)

**Australian Research Council Discovery Projects (DP200103331)**

Partner Investigator

Drs. Justin Adams & Alistair Evans (Monash University), Chief Investigators

Dr. Alan Sharp (University of Liverpool), Co-Partner Investigator

*(Foreign nationals cannot serve as co-Chief Investigators on ARC grants.)*

“Forgotten Megafauna: The Palaeobiology of the Enigmatic *Palorchestes azael*”

AU\$582,627 – Submitted February 2019 – (rated as competitive but not funded)

**Leakey Foundation Senior Research Grant**

Principal Investigator

Co-PIs: Dr. Justin Adams (Monash University); Dr. Natalie Warburton (Murdoch University); Dr. Gavin Prideaux (Flinders University)

“Convergence and constraint in primate and tree-kangaroo limb morphological evolution”

\$19,442 – Submitted January 2018

**National Science Foundation Doctoral Dissertation Improvement Grant, BCS Division**

Principal Investigator

Co-PI: Nicole M. Reeves, ABD

“Augmenting functional adaptation: Does obesity have a systemic effect on bone strength and joint morphology in humans?”

\$11,950 – Submitted August 2012

**National Science Foundation Doctoral Dissertation Improvement Grant, BCS Division**

Principal Investigator

Co-PI: Courtney D. Eleazer, ABD

“The interaction of mechanics and metabolism: testing bioarchaeological assumptions using human cortical bone macromorphology and histomorphology”

\$12,871 – Submitted September 2011 (rated “High Competitive” but not funded)

Internal Grants Received

**University of Tennessee Professional Development Award**

Principal investigator

Co-PI: Frankie West (doctoral student)

“Impact of a non-destructive DNA extraction technique on tooth microstructure”

\$2,485 – Awarded 2016; active February 2016 – June 2016

## **Publications**

### Peer-reviewed books

- In prep Ruff CB & Auerbach BM. *The Human Skeleton: Form, Function, and Analytical Methods*. Currently seeking a publisher.
- 2020 Wall-Scheffler CM, Kurki HK & Auerbach BM. *The Evolutionary Biology of the Human Pelvis: An Integrative Approach*. Cambridge University Press.
- 2014 Hilton CE, Auerbach BM & Cowgill LW (editors). *The Foragers of Point Hope: The Biology and Archaeology of Humans on the Edge of the Alaskan Arctic*. Cambridge University Press.
- 2010 Auerbach BM (editor). *Human Variation in the Americas: The Integration of Archaeology and Biological Anthropology*. Carbondale, IL: Center for Archaeological Investigations.

### Peer-reviewed papers (h-index: 17, Web of Science; 17, Google Scholar)

- In prep Auerbach BM, Agosto ER, & Savell KRR. Morphology, evolution, and the whole organism imperative. *Yearbook of Biological Anthropology*. (2023 issue)
- In prep Auerbach BM & Agosto ER. Evolution and biomechanical variation in mammalian ungual phalanges with respect to locomotion.
- In prep Gooding AF, Sylvester AD, & Auerbach BM. Tibial cross-sectional properties, ageing and senescence in humans.
- In prep Auerbach BM & Agosto ER. The primate shoulder and basicranium are constrained by the axial skeleton.
- In prep Agosto ER, O'Meara BC, & Auerbach BM. Evolution within the primate axial skeleton: assessing univariate models of trait evolution using a phylogenetic comparative approach.
- In prep Auerbach BM, Horbaly HE, & Sylvester AD. Geometric means as a scaling factor and their relationship to body size. *American Journal of Physical Anthropology*.
- In revision Auerbach BM & Roseman CC. The impact of measurement error on ratios of highly correlated dimensions.
- In press Savell KRR, Katz DC, Weaver TD, & Auerbach BM. Mixed models for the relationship between latitude, temperature, and human postcranial evolution. *American Journal of Biological Anthropology*.
- In press Young M, Richard D, Grabowski M, Auerbach BM, Muthuirulan P, Kharker V, Kurki HK, Betti L, Birkenstock L, Lewton K, & Capellini TD. The developmental impacts of natural selection on human pelvic morphology.
- In press Agosto ER & Auerbach BM. Morphological integration and evolutionary potential of the primate shoulder: variation among taxa and implications for genetic covariances with the basicranium, pelvis, and arm. *Journal of Human Evolution*.
- 2021 Agosto ER & Auerbach BM. Evolvability and constraint in the primate basicranium, shoulder, and hip and the importance of multi-trait evolution. *Evolutionary Biology* 48: 221-232.
- 2018 Auerbach BM, King KA, Campbell ML, Campbell RM & Sylvester AD. Variation in

- obstetric dimensions of the human bony pelvis in relation to age-at-death and latitude. *American Journal of Physical Anthropology* 167: 628-643.
- 2017 Auerbach BM, Gooding AF, Shaw CN & Sylvester AD. The relative position of the human fibula to the tibia influences cross-sectional properties of the tibia. *American Journal of Physical Anthropology* 163: 148-157.
- 2017 Mallard AM, Savell KRR & Auerbach BM. Morphological integration of the human pelvis with respect to age and sex. Invited paper. *Anatomical Record* 300:666-674.
- 2016 Savell KRR, Auerbach BM & Roseman CC. Constraint, natural selection, and the evolution of human body form. *Proceedings of the National Academy of Sciences USA* 113(34):9498-9503.
- 2016 Reeves NM, Auerbach BM & Sylvester AD. Fluctuating and directional asymmetry in the long bones of captive cotton-top tamarins (*Saguinus oedipus*). *American Journal of Physical Anthropology* 160:41-51.
- 2015 Roseman CC & Auerbach BM. Ecogeography, genetics, and the evolution of human body form. *Journal of Human Evolution* 78:80-90.
- 2014 Trinkaus E, Holliday TW & Auerbach BM. Neandertal clavicle length. *Proceedings of the National Academy of Sciences USA* 111:4438-4442.
- 2014 Auerbach BM. Morphologies from the edge: perspectives on biological variation among the late Holocene inhabitants of the northwestern North American Arctic. In Hilton CE, Auerbach BM & Cowgill LW (editors): *The Foragers of Point Hope: The Biology and Archaeology of Humans on the Edge of the Alaskan Arctic*. Cambridge University Press, pp. 235-265.
- 2014 Hilton CE, Auerbach BM & Cowgill LW. Introduction: Humans on the edge of the Alaskan Arctic. In Hilton CE, Auerbach BM & Cowgill LW (editors): *The Foragers of Point Hope: The Biology and Archaeology of Humans on the Edge of the Alaskan Arctic*. Cambridge University Press, pp. 1-10.
- 2014 Auerbach BM. Body mass, stature, and proportions. In Owsley DW & Jantz RL (editors): *Kennewick Man: The Scientific Investigation of an Ancient American Skeleton*. College Station, TX: Texas A&M Press, pp. 212-231.
- 2012 Auerbach BM. Skeletal variation among early Holocene North American humans: implications for origins and diversity in the Americas. *American Journal of Physical Anthropology* 149:525-536.
- 2012 Fatah EEA, Shirley NR, Mahfouz MR & Auerbach BM. A three-dimensional analysis of bilateral directional asymmetry in the human clavicle. *American Journal of Physical Anthropology* 149:547-559.
- 2012 Ruff CB, Raxter MH & Auerbach BM. Comment on Bidmos and Manger, "New soft tissue correction factors for stature estimation: Results from magnetic resonance imaging" (For. Sci. Intl. 214 (2012) 212 e1-7). *Forensic Science International* 214:e1-7.
- 2012 Cowgill LW, Eleazer CD, Auerbach BM, Temple DH & Okazaki K. Developmental variation in ecogeographic body proportions. *American Journal of Physical Anthropology* 148:557-570.
- 2011 Auerbach BM. Methods for estimating missing human skeletal osteometric

- dimensions employed in the revised Fully technique for estimating stature. *American Journal of Physical Anthropology* 145:67-80.
- 2011 Auerbach BM & Sylvester AD. Allometry and apparent paradoxes in human limb proportions: implications for scaling factors. *American Journal of Physical Anthropology* 144:382-391.
- 2011 Auerbach BM. Reaching great heights: changes in indigenous stature and limb use with agricultural intensification in North America. In Pinhasi R & Stock JT (editors): *Human Bioarchaeology of the Transition to Agriculture*. London: Wiley-Liss, pp. 203-233.
- 2010 Auerbach BM. Giants among us? Morphological variation and migration on the Great Plains. In Auerbach BM (editor): *Human Variation in the Americas: The Integration of Archaeology and Biological Anthropology*. Carbondale, IL: Center for Archaeological Investigations, pp. 172-214.
- 2010 Auerbach BM. Finding common ground in the archaeology and biology of the Americas' past. In Auerbach BM (editor): *Human Variation in the Americas: The Integration of Archaeology and Biological Anthropology*. Carbondale, IL: Center for Archaeological Investigations, pp. 1-11.
- 2010 Auerbach BM & Ruff CB. Stature estimation formulae for indigenous North American populations. *American Journal of Physical Anthropology* 141:190-207.
- 2008 Temple DH, Auerbach BM, Nakatsukasa M, Sciulli PW & Larsen CS. Variation in body proportions between Jomon foragers and Yayoi agriculturalists from prehistoric Japan. *American Journal of Physical Anthropology* 137:164-174.
- 2008 Auerbach BM & Raxter MH. Patterns of clavicular bilateral asymmetry in relation to the humerus: variation among humans. *Journal of Human Evolution* 54:663-674.
- 2007 Raxter MH, Ruff CB & Auerbach BM. Technical note: Use of revised Fully stature estimation technique. *American Journal of Physical Anthropology* 133:817-818.
- 2006 Auerbach BM & Ruff CB. Limb bone bilateral asymmetry: variability and commonality among modern humans. *Journal of Human Evolution* 50:203-218.
- 2006 Raxter MH, Auerbach BM & Ruff CB. Revision of the Fully Technique for estimating statures. *American Journal of Physical Anthropology* 130:374-384.
- 2004 Auerbach BM & Ruff CB. Human body mass estimation: a comparison of "morphometric" and "mechanical" methods. *American Journal of Physical Anthropology* 125:331-342.

Peer-reviewed encyclopedia entries, articles, reports and commentaries

- 2021 Auerbach BM. "Biological distance (normal variation/non-metrical and metrical analysis)". In Pollard AM, Armitage RA, & Makarawicz C (editors): *Handbook of Archaeological Sciences*. New York: John Wiley and Sons.
- 2019 Auerbach BM. "Stature estimation." In Varela SL (editor): *The SAS Encyclopedia of Archaeological Sciences*. London: Wiley-Blackwell.
- 2019 Auerbach BM. "Non-parametric statistics." In Varela SL (editor): *The SAS Encyclopedia of Archaeological Sciences*. London: Wiley-Blackwell.
- 2018 Auerbach BM. "Peopling of the New World." In Trevathan W (editor): *International Encyclopedia of Biological Anthropology*. New York: John Wiley and Sons.

- 2018 Auerbach BM. "Why medical practitioners should be scientists and not mechanics." *PLOS Blogs: PLOS SciComm*. <https://scicomm.plos.org/2018/01/26/why-medical-practitioners-should-be-scientists-and-not-mechanics/>.
- 2011 Auerbach BM. "Body mass," "body mass estimation," "stature," and "stature estimation" entries. In Wood BA (editor): *Wiley-Blackwell Encyclopedia of Human Evolution*. London: Wiley-Blackwell.
- 2010 Auerbach BM. Variety of approaches key to research in anatomical variation. *American Association of Anatomists News* 19(2):28-29.

### Reviews

- In prep Auerbach BM. Book review: *Life as We Made It*. By Beth Shapiro. New York: Basic Books. *American Journal of Biological Anthropology*.
- 2015 Auerbach BM. Giants are not among us: A review of *The Ancient Giants Who Ruled America: The Missing Skeletons and the Great Smithsonian Cover-up*. By R Dewhurst. Rochester, VT: Bear and Company. 2013. *American Antiquity* 80:628-629. (Invited review)
- 2009 Auerbach BM. Book review: *Analysis of Variance and Covariance: How to Choose and Construct Models for the Life Sciences*. By CP Doncaster and AJH Davey. New York: Cambridge University Press. 2007. *American Journal of Physical Anthropology* 140:767-768.

### Professional Conferences

#### Chaired sessions, symposia and conferences & service as panelist or discussant

- 2022 Presidential Panel. American Association of Biological Anthropologists Annual Mtg., Denver, CO, 16 March. Co-organizer and co-chair.
- 2022 Invited symposium: "The weight of the evidence: A session to honor the legacy of Chris Ruff." American Association of Biological Anthropologists Annual Mtg., Denver, CO, 15 March. Organizer and chair.
- 2020 Invited symposium: "Shaping the human skeleton: Integrating the various approaches to human skeletal variation and evolution." American Association of Physical Anthropologists Annual Mtg., Los Angeles, CA, 16 April. Discussant. [conference cancelled due to SARS-CoV-2 pandemic]
- 2019 Hybrid Symposium: "Bringing Evolution into Medical Curricula (Guest Society: ISEMPH)." American Association of Anatomists Annual Mtg., Boston, MA, 8 April. Organizer and co-chair with Dr. Eilizabeth Uhl (University of Georgia).
- 2018 Conference session: "Session 17. Human Functional Skeletal Morphology." American Association of Physical Anthropologists Annual Mtg., Austin, TX, 12 April. Session chair.
- 2015 Panel Discussion Member: "The Future of Evolutionary Medicine." Evolutionary Medicine Conference, Zürich, Switzerland, 1 August. Invited participant.



- 2015 ACYA Invited Symposium: “Anatomy and genetics: how phenomics informs our understanding of genomes.” American Association of Anatomists Annual Mtg., Boston, MA, 29 March. Organizer and chair.
- 2013 Wiley-Blackwell Invited Symposium: “The Evolution of Biological Anthropology: Defining a Future Discipline.” American Association of Physical Anthropologists Annual Mtg., Knoxville, TN, 11 April. Organizer and co-chair (with Dr. Graciela Cabana)
- 2011 Invited Symposium: “Bones, Behavior & Evolution: Where do we stand, where are we moving?” American Association of Anatomists Annual Mtg., Washington D.C., 11 April. Organizer and chair.
- 2010 ACYA Invited Symposium: “Anatomical Variation: Genetic, Developmental, & Comparative Perspectives.” American Association of Anatomists Annual Mtg., Anaheim, California, 25 April. Chair.
- 2008 International Conference: “Biological and Archaeological Variation in the New World.” Annual Visiting Scholar Conference, Center for Archaeological Investigations, Southern Illinois University Carbondale, Carbondale, IL, 25 – 26 April. Organizer and chair.
- 2008 Conference session: “Session 28. Human Variation, History & Evolution.” American Association of Physical Anthropologists Annual Mtg., Columbus, OH, 12 April. Session chair.
- 2007 Symposium: “Biological Variation and Evolutionary Dynamics in Ancient Populations of the Americas.” American Association of Physical Anthropologists Annual Mtg., Philadelphia, PA, 5 April. Co-chair (with Dr. Karen Weinstein)

*Papers and presentations at professional conferences*

- 2022 Auerbach BM, Savell KRR, Agosto ER. The thermoregulatory imperative and recent human evolution: climate, selection, and population history. “The weight of the evidence: A session to honor the legacy of Chris Ruff” invited symposium, American Association of Biological Anthropologists Annual Meeting, Denver, CO.
- 2022 Capellini TD, Young M, Richard D, Grabowski M, Auerbach B, De Bakker B, Hagoort J, Muthuirulan P, Kurki H, Betti L, Lewton K. The developmental impacts of natural selection on human pelvic morphology. American Association of Biological Anthropologists Annual Meeting, Denver, CO.
- 2022 Horbaly H, Hubbe M, Sylvester AD, Auerbach BM. Morphological variance of human joint articular surfaces. American Association of Biological Anthropologists Annual Meeting, Denver, CO.
- 2022 Ryan KGJ, Auerbach BM. Employing spherical harmonics in assessing the variation and covariation of sphenoidal sinus shape in *H. sapiens*. American Association of Biological Anthropologists Annual Meeting, Denver, CO.
- 2022 Ryan KGJ, Auerbach BM, Sylvester AD, Butaric LN. Employing spherical harmonics in assessing the 3d shape variation and evolutionary potential of human sphenoidal sinuses. American Association for Anatomy Annual Meeting, Philadelphia, PA.

- 2021 Auerbach BM, Agosto ER. Evolution and biomechanical variation in mammalian ungual phalanges with respect to locomotion. American Association for Anatomy Annual Meeting (virtual conference in association with Experimental Biology 2021).
- 2021 Ryan KGJ, Sylvester AD, Buck L, Auerbach BM. Variation and covariation of size and shape of the sphenoidal sinus in *H. sapiens*. American Association for Anatomy Annual Meeting (virtual conference in association with Experimental Biology 2021).
- 2021 Horbaly HE, Sylvester AD, Auerbach BM. Covariation within and among joint articular surfaces of the upper and lower limb. "How does Exercise and Disease Influence Bone Phenotype and Morphology?" invited symposium, American Association for Anatomy Annual Meeting (virtual conference in association with Experimental Biology 2021).
- 2020 Auerbach BM, Agosto ER. Variance in the primate axial skeleton and selection regimes: assessing models of trait evolution using a phylogenetic comparative approach. American Association of Physical Anthropologists Annual Meeting, Los Angeles, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Ryan KGJ, Auerbach BM. The confluence of functional matrices on the sphenoid bone and local effects of soft-tissue anatomy on intracranial space variation. American Association of Physical Anthropologists Annual Meeting, Los Angeles, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Mallard AM, Auerbach BM. Shaping the human skeleton: Integrating the various approaches to human skeletal variation and evolution. American Association of Physical Anthropologists Annual Meeting, Los Angeles, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Horbaly HE, Auerbach BM. Femoral condyle dimensions: comparing natural anatomy to knee replacement hardware. American Association for Anatomy Annual Meeting, San Diego, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Agosto ER, Auerbach BM. Evolutionary Potential and Morphological Integration of the Shoulder Girdle Among Primates. American Association for Anatomy Annual Meeting, San Diego, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Mallard AM, Auerbach BM. The Potential for Discrepancies in Population History Signatures from Different Segments of the Human Skeleton. American Association for Anatomy Annual Meeting, San Diego, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2020 Wehrman G, Ryan K, Auerbach BM. Effects of Prior Anatomy Coursework on Assessment Performance and Study Habits. American Association for Anatomy Annual Meeting, San Diego, CA. [conference cancelled due to SARS-CoV-2 pandemic]
- 2019 Auerbach BM, Agosto ER. Evolvability and constraint in traits of the primate vertebral column with respect to functional trait complexes. International Society of Evolutionary Medicine and Public Health Annual Meeting, Zurich, Switzerland.
- 2019 Agosto ER, Auerbach BM. Comparing hierarchical patterns of constraint and functional trait complexes in the primate shoulder and hip regions among new world and old-world monkeys. American Association of Anatomists Annual Meeting, Orlando, FL.
- 2019 Mallard AM, Agosto ER, Auerbach BM. Using quantitative genetic methods to understand evolutionary processes from archival anatomical data: a case study of Arikara groups. American Association of Anatomists Annual Meeting, Orlando, FL.

- 2019 Ryan K, Auerbach BM, Butaric LN. Modularity and integration of the sphenoid body in human cranial variation. American Association of Anatomists Annual Meeting, Orlando, FL.
- 2019 Agosto ER, Auerbach BM. (2019). Hierarchical Patterns of Constraint and Functional Trait Complexes in the Primate Shoulder and Hip Regions. American Association of Physical Anthropologists Annual Meeting, Cleveland, OH.
- 2019 Auerbach BM, Agosto ER. Evolvability and Constraint in Traits of the Primate Vertebral Column with Respect to Functional Trait Complexes. American Association of Physical Anthropologists Annual Meeting, Cleveland, OH.
- 2018 Savell KRR, Katz DC, Auerbach B, Weaver TD. A mixed model for the relationship between climate and human post-cranial morphology. American Association of Anatomists Annual Meeting, San Diego, CA.
- 2018 Agosto ER, Auerbach BM. Constraint, integration, and evolvability of the primate shoulder functional trait complex. American Association of Physical Anthropologists Annual Meeting, Austin, TX.
- 2018 Gooding AF, Sylvester AD, Auerbach BM. Age-related changes in the structural properties of the human tibia. American Association of Physical Anthropologists Annual Meeting, Austin, TX.
- 2018 Savell KRR, Katz DC, Auerbach BM, Weaver TD. A mixed model for the relationship between climate and human post-cranial morphology. American Association of Physical Anthropologists Annual Meeting, Austin, TX.
- 2017 Auerbach BM. Natural selection, mismatch, and differences in female human true pelvis morphology with respect to age. International Society of Evolutionary Medicine and Public Health Annual Meeting, Groningen, The Netherlands.
- 2017 Auerbach BM. Differences in adult female human true pelvis morphology with respect to age are not due to selection. American Association of Anatomists Annual Meeting, Chicago, IL.
- 2017 Agosto ER & Auerbach BM. Correlated responses to selection among elements of the cranium and axial skeleton between large-bodied and small-bodied tamarins. American Association of Anatomists Annual Meeting, Chicago, IL.
- 2017 Auerbach BM. Differences in adult female human true pelvis morphology with respect to age are not due to selection. American Association of Physical Anthropologists Annual Meeting, New Orleans, LA.
- 2017 Agosto ER & Auerbach BM. Correlated responses to selection among elements of the cranium and axial skeleton between large-bodied and small-bodied tamarins. American Association of Physical Anthropologists Annual Meeting, New Orleans, LA.
- 2017 Mallard AM, Watson JT & Auerbach BM. Evaluating the limitations of biological distance models of gene flow in ancient human populations. American Association of Physical Anthropologists Annual Meeting, New Orleans, LA.
- 2017 Savell KRR & Auerbach BM. Measures of evolvability in human ecogeographic body proportions across latitude. American Association of Physical Anthropologists Annual Meeting, New Orleans, LA.
- 2017 Williams SJ & Auerbach BM. Trait variation, convergence, and ecogeographic patterns in

- Macaca* crania. American Association of Physical Anthropologists Annual Meeting, New Orleans, LA.
- 2017 Auerbach BM & Mallard AM. Modeling conditions necessary to detect gene flow in humans from archaeological contexts. Society for American Archaeology Annual Meeting, Vancouver, BC.
- 2017 Wall-Scheffler CM, Kurki H, Auerbach BM. Human pelvic morphology from an integrative context. Paleoanthropology Society Annual Meeting, Vancouver, BC.
- 2016 Savell KRR & Auerbach BM. Measurement theory and the P-matrix: ramifications of variable choice. International Society of Evolutionary Medicine and Public Health Annual Meeting, Durham, NC.
- 2016 Mallard AM, Savell KRR & Auerbach BM. Morphological integration and changes in pelvic dimensions with age in adult female humans. International Society of Evolutionary Medicine and Public Health Annual Meeting, Durham, NC.
- 2016 Agosto ER, Williams SJ & Auerbach BM. Cranial Base Angulation: Examining Congruence of Interior and Exterior Measurements. American Association of Anatomists Annual Meeting, San Diego, CA. Abstract: *FASEB Journal*.
- 2016 Mallard AM, Savell KRR & Auerbach BM. Morphological integration and changes in pelvic dimensions with age in adult female humans. American Association of Anatomists Annual Meeting, San Diego, CA. Abstract: *FASEB Journal*.
- 2016 Savell KRR & Auerbach BM. Measurement theory and the P-matrix: ramifications of variable choice. American Association of Anatomists Annual Meeting, San Diego, CA. Abstract: *FASEB Journal*.
- 2016 Williams SJ & Auerbach BM. Exploring ecogeography, drift, and selection on the macaque cranium. American Association of Anatomists Annual Meeting, San Diego, CA. Abstract: *FASEB Journal*.
- 2016 Auerbach BM. Rethinking environmental effects on diachronic change in adult human stature. “Evolutionary Approaches to Bioarchaeology” invited symposium, American Association of Physical Anthropologists Annual Meeting, Atlanta, GA. Abstract: *American Journal of Physical Anthropology*.
- 2015 Auerbach BM. An evolutionary perspective on human body mass. Evolutionary Medicine Conference, Institute of Evolutionary Medicine, University of Zürich, Switzerland.
- 2015 Savell KRR, Roseman CC & Auerbach BM. Selection gradients and ecogeographic variance in the human postcrania. Evolutionary Medicine Conference, Institute of Evolutionary Medicine, University of Zurich, Switzerland.
- 2015 Auerbach BM. The forces shaping size: detecting evolution in human body mass. “Body Mass Estimation in Biological Anthropology” invited symposium, American Association of Physical Anthropologists Annual Meeting, St. Louis, MO. Abstract: *American Journal of Physical Anthropology*.
- 2015 Fazlollah AE, Auerbach BM, & Shaw C. Positional relationship of the fibula to cross-sectional geometric properties of the tibia as compared in different sporting groups. American Association of Physical Anthropologists Annual Meeting, St. Louis, MO. Abstract: *American Journal of Physical Anthropology*.
- 2015 Savell KRR, Auerbach BM, & Roseman CC. Selection gradients and ecogeographic

- variance in the human postcrania. American Association of Anatomists Annual Meeting, Boston, MA. Abstract: *FASEB Journal*.
- 2014 Auerbach BM. The patchwork pelvis: evolution and variation in human pelvic size and shape. "Beyond the obstetric dilemma: how new studies of the pelvis are redefining our approach to hominin evolution" invited symposium, American Association of Physical Anthropologists Annual Meeting, Calgary, AB. Abstract: *American Journal of Physical Anthropology*.
- 2014 Roseman CC and Auerbach BM. Human body form is not distributed along a latitudinal cline. American Association of Physical Anthropologists Annual Meeting, Calgary, AB. Abstract: *American Journal of Physical Anthropology*.
- 2013 Auerbach BM. Thinking broadly about colonization: phenotypes of the Early Holocene and the peopling of North America. Paleoamerican Odyssey Conference, Santa Fe, NM.
- 2013 Auerbach BM & DeLeon VB. Developmental integration and functional integration in the human limbs: variation among humans and evolutionary implications. American Association of Anatomists Annual Meeting, Boston, MA. Abstract: *FASEB Journal*.
- 2013 Auerbach BM & Cabana GS. Integrating our future: evolving biological anthropology in twelve acts. "The Evolution of Biological Anthropology: Defining a Future Discipline." Wiley-Blackwell Symposium, American Association of Physical Anthropologists Annual Meeting, Knoxville, TN. Abstract: *American Journal of Physical Anthropology*.
- 2012 Auerbach BM, Dalton-Carriger J, & Sullivan LP. Southern exposure? Assessing population relationships among eastern Tennessee Valley sites from the Late Woodland and Mississippian periods. Southeastern Archaeological Conference Annual Meeting, Baton Rouge, LA.
- 2012 Fatah EEA, Shirley NR, & Auerbach BM. Bilateral directional asymmetry in the human clavicle. American Association of Anatomists Annual Meeting, San Diego, CA. Abstract: *FASEB Journal*.
- 2012 Auerbach BM. You say adaptation, I say plasticity: defining secular change by examining morphological trends among archaeological groups. "Examining the Big Picture: Working Towards a Holistic Understanding of Secular Change in Modern Populations" invited symposium, American Association of Physical Anthropologists Annual Meeting, Portland, OR. Abstract: *American Journal of Physical Anthropology* S54:87.
- 2012 Hulseley BI, Auerbach BM, & Cabana GS. A comparison of heritability and evolvability estimates in baboons. American Association of Physical Anthropologists Annual Meeting, Portland, OR. Abstract: *American Journal of Physical Anthropology* S54:170-171.
- 2011 Auerbach BM. Pelvic breadth, obstetric dimensions, and morphological constraint: the paradox of birthing hips? "Biological Anthropology" invited symposium, American Association of Anatomists Annual Meeting, Washington, D.C. Abstract: *FASEB Journal*.
- 2011 Auerbach BM. Proportions and population history: exceptions to ecogeographic expectations in the Americas. American Association of Physical Anthropologists Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:79.
- 2011 Campbell ML, Campbell RM, Auerbach BM, King KA, & Sylvester AD. Survival is in

- the balance? Asymmetry in obstetric dimensions and mortality. American Association of Physical Anthropology Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:102.
- 2011 Campbell RM, Campbell ML, Sylvester AD, Auerbach BM, & King KA. Quantifying a twisted curve: 3D digitization of sciatic notch shape using a microscribe. American Association of Physical Anthropology Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:102.
- 2011 Eleazer CD, Cowgill LW, & Auerbach BM. North American subadult body proportions: climatic adaptation or population history? American Association of Physical Anthropology Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:132.
- 2011 King KA, Auerbach BM, Sylvester AD, Campbell ML, & Campbell RM. Death and the (narrow) maiden: pelvic dimensions, mortality, and obstetrics versus thermoregulation. American Association of Physical Anthropologists Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:186.
- 2011 Reeves NM, Sylvester AD, & Auerbach BM. Behavioral laterality and skeletal directional asymmetry in cottontop tamarins. American Association of Physical Anthropology Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:251.
- 2011 Sylvester AD & Auerbach BM. Obscuring limb asymmetry: the geometric mean and limb indices. American Association of Physical Anthropologists Annual Meeting, Minneapolis, MN. Abstract: *American Journal of Physical Anthropology* S52:288.
- 2010 Auerbach BM. Isolation at the edge of the Mississippian? Postcranial variation and implications for regional relationships in eastern Tennessee. "Late Prehistoric Archaeology and Bioarchaeology in the Upper Tennessee River Valley" invited symposium, Southeastern Archaeological Conference Annual Meeting, Lexington, KY.
- 2010 Auerbach BM. Going to extremities: is variation in human limb lengths and proportions a paradox? "Anatomical variation: genetic, developmental & comparative perspectives" invited symposium, American Association of Anatomists Annual Meeting, Anaheim, CA. Abstract: *FASEB Journal*.
- 2010 Auerbach BM, Case DT, Kivell TL, & Garofalo, EM. Appendicular asymmetry altogether: gradients of directional asymmetry throughout the human upper limb. American Association of Physical Anthropologists Annual Meeting, Albuquerque, NM. Abstract: *American Journal of Physical Anthropology* S50:58-59.
- 2010 Eleazer CD, Cowgill LW, & Auerbach BM. Variation in human body proportions during ontogeny. American Association of Physical Anthropologists Annual Meeting, Albuquerque, NM. Abstract: *American Journal of Physical Anthropology* S50:100-101.
- 2010 Auerbach BM, & Bissett TG. One from many? Mississippian morphological variation in body shape and proportions. "Cahokia 2010: Situating an ancient indigenous city in the world" symposium, Society for American Archaeology Annual Meeting, St. Louis, MO. Abstract: *Society for American Archaeology 75<sup>th</sup> Annual Meeting Abstracts*.
- 2009 Auerbach BM. The substance of subsistence: body mass and nutrition in pre-Columbian North America. "The weight of the matter: body mass estimation reconsidered" symposium, American Association of Physical Anthropologists Annual Meeting,

- Chicago, IL. Abstract: *American Journal of Physical Anthropology* S48:80.
- 2008 Auerbach BM. Giants among us? Detecting North American patterns of migration from variation in postcranial morphology. 2008 Center for Archaeological Investigations Visiting Scholar Conference: "Biological and Archaeological Variation in the New World: a meeting of archaeology and biological anthropology." Carbondale, Illinois.
- 2008 Auerbach BM. Variations on a theme? Early Holocene human morphological variation in the New World. American Association of Physical Anthropologists Annual Meeting, Columbus, Ohio. Abstract: *American Journal of Physical Anthropology* S46:62.
- 2007 Auerbach BM, Organ JM & Rose KD. Ungual phalanx biomechanics and locomotor behavior in extant and extinct mammals. American Association of Anatomists Annual Meeting, Washington, D.C. Abstract: *FASEB Journal* 21: A601.
- 2007 Auerbach BM. Proportional patterns in prehistory: cranial and postcranial correspondence in body proportions among pre-contact Native Americans. "Biological variation and evolutionary dynamics in ancient populations of the Americas" symposium, American Association of Physical Anthropologists Annual Meeting, Philadelphia, PA. Abstract: *American Journal of Physical Anthropology* S44:66.
- 2007 DeLeon VB & Auerbach BM. Morphological integration in human long bones. American Association of Physical Anthropologists Annual Meeting, Philadelphia, PA. Abstract: *American Journal of Physical Anthropology* S44:96.
- 2007 Raxter MH, Ruff CB, Azab A, Erfan M, El-Sawaf A & Auerbach BM. New long bone stature estimation equations for ancient Egyptians. American Association of Physical Anthropologists Annual Meeting, Philadelphia, PA. Abstract: *American Journal of Physical Anthropology* S44:196.
- 2006 Auerbach BM. One of these is not like the other? Skeletal variation in western Alaska Native Americans, climate, and population history. "The Bioarchaeology of pre-contact Point Hope, Alaska" invited symposium, American Association of Physical Anthropologists Annual Meeting, Anchorage, AK. Abstract: *American Journal of Physical Anthropology* S42:59.
- 2006 Raxter MH, Auerbach BM & Barker KB. Patterns of clavicular asymmetry in relation to humeral asymmetry in humans and great apes. American Association of Physical Anthropologists Annual Meeting, Anchorage, AK. Abstract: *American Journal of Physical Anthropology* S42:152.
- 2005 Auerbach BM, Raxter MH & Ruff CB. If I only had a...: missing element estimation accuracy using the Fully Technique for estimating statures. American Association of Physical Anthropologists Annual Meeting, Milwaukee, WI. Abstract: *American Journal of Physical Anthropology* S40:70.
- 2005 Raxter MH, Auerbach BM & Ruff CB. A test of Fully's stature reconstruction technique in Terry Collection whites and blacks. American Association of Physical Anthropologists Annual Meeting, Milwaukee, WI. Abstract: *American Journal of Physical Anthropology* S40:172-173.
- 2004 Auerbach BM & Ruff CB. The right preferences? Bilateral Asymmetry in the upper and lower limbs of modern humans. American Association of Physical Anthropologists Annual Meeting, Tampa, FL. Abstract: *American Journal of Physical Anthropology* S38:56.

- 2003 Auerbach BM & Ruff CB. Mass matters: an evaluation of two body mass estimation techniques in modern human populations. American Association of Physical Anthropologists Annual Meeting, Tempe, AZ. Abstract: *American Journal of Physical Anthropology* S36:61.
- 2001 Auerbach BM & Lahr MM. Variation in a pre-industrial population: occupation and stature in early Twentieth Century Crete. American Association of Physical Anthropologists Annual Meeting, Kansas City, MO. Abstract: *American Journal of Physical Anthropology* S32:34.

### **Professional Workshops and Tutorials**

- 2016 National Institute for Mathematical and Biological Synthesis (NIMBioS) Evolutionary Quantitative Genetics Tutorial. 8-12 August. Participant.
- 2017 Evolutionary Modelling. Monash Biomedicine Discovery Institute, School of Biomedical Sciences, Monash University, Melbourne, Australia. 23-24 November. Nine participants. Organizer and principal lecturer.

### **Teaching Experience – Advising – Invited Lectures**

#### Teaching interests and specialties

- Human gross anatomy (cadaver-based dissection) & human embryology
- Evolutionary biology (quantitative and population genetics)
- Osteology, skeletal biology, allometry, and biomechanics
- Human morphological variation & morphometrics
- Advanced quantitative methods (statistics; specialties in GLM, rank statistics, factor analyses, survival analysis, resampling methods, Bayesian modeling)
- History of eugenics
- Archaeology and biology
- Peopling of the Americas

#### Courses taught at the University of Tennessee

- *Anthropological Statistics I* – Instructor (2009 – 2022). Graduate lecture & seminar.
- *Anthropological Statistics II* – Instructor (2011 – 2021). Graduate lecture & seminar.
- *Biology of Human Variability* – Instructor (2011). Upper-division undergrad seminar.
- *Biomechanics* – Instructor (2009, 2013, 2018, 2020). Graduate seminar.
- *Current Trends in Anthropology* – Instructor (2016). Undergraduate and graduate lecture series. Topic: “Disease: Variation and Multidisciplinary Perspectives.”
- *Deconstructing Eugenics* – Instructor (2021, 2023). Graduate lecture & seminar.
- *Evolutionary Biology* – Instructor (2015, 2019, 2023). Graduate lecture & seminar.
- *Evolutionary Biology for Anthropology* – Instructor (2015, 2019). Upper-division undergrad lecture & seminar.
- *Human Anatomy* – Instructor and course director (2008 – 2010, 2012 – 2016, 2018 – 2022). Large (310-student) undergraduate lecture with lab sections. (Taught for Anthropology and the Department of Ecology and Evolutionary Biology)



- *Human Gross Anatomy* – Instructor and course director (2010, 2012, 2014, 2016, 2018, 2020, 2022). Graduate lecture and laboratory course. (Anthropology & Biomedical Engineering students)
- *Method and Theory in Biological Anthropology* – Course director (2013, 2020), invited lecturer (2009 – 2012, 2014, 2019). Graduate seminar.
- *Migration and Morphometrics* – Instructor (2009). Graduate seminar.
- *Readings in Evolutionary Biology* – Instructor (2009 – 2013). Summer directed reading for graduate students.

#### Courses taught elsewhere

- *Human Diversity and the Peopling of the Americas* – Instructor (2008). Graduate Seminar. Southern Illinois University Carbondale.
- *Human Gross Anatomy* – Laboratory instructor and tutor (2004 – 2006). Medical and graduate students. Johns Hopkins University School of Medicine.
- *Human Osteology* – Course director and co-instructor (2004). Undergraduate lecture and laboratory course. University of Maryland.
- *Summer Institute in Anatomy* – Laboratory instructor (2003 – 2004). Undergraduate anatomy course. Johns Hopkins University School of Medicine.

#### Graduate student advising and dissertation / thesis supervision

Chaired dissertations:

- 2022 – (2027) Marta M. Paulson. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee.
- 2019 – (2024) Grace S. Kilroy. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Co-chair with Dr. Dawnie Steadman.
- 2019 – (2024) Kelsey D. O’Neill. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Chair.
- 2018 – (2023) Gregory J. Wehrman. Ph.D. dissertation: *“Exploring Localized Relationship Between Age-related Bone Loss and Cortical Expansion in Diaphyseal Bone”*. Department of Anthropology, The University of Tennessee. Co-chair with Dr. Dawnie Steadman.
- 2018 – 2022 Haley E. Horbaly. Ph.D. dissertation: *“Articular Morphology in Human Limb Synovial Joints: Variation, Covariation, and Application”*. Department of Anthropology, The University of Tennessee. Co-chair with Dr. Dawnie Steadman.
- 2017 – 2022 Katharine G. Ryan. Ph.D. dissertation: *“Variation and Covariation of the Sphenoidal Sinus with Respect to the Cranium in Homo sapiens”*. Department of Anthropology, The University of Tennessee. Chair.
- 2015 – 2021 Angela M. Mallard. Ph.D. dissertation: *“Assessing Multiple Lines of Evidence for Gene Flow in Archaeological Contexts”*. Department of Anthropology, The University of Tennessee. Chair.
- 2014 – 2019 Elizabeth R. Agosto. Ph.D. dissertation: *“The Evolution of the Primate Shoulder: Assessing Constraint and Evolvability”*. Department of Anthropology, The University of Tennessee. Chair.

- 2013 – 2018 Kristen R.R. Savell. Ph.D. dissertation: *“Postcranial evolution in humans with respect to trait covariance and ecogeography.”* Department of Anthropology, The University of Tennessee. Chair.
- 2012 – 2017 Alice F. Gooding. Ph.D. dissertation: *“Variation in Cortical Bone Distribution in the Aging Adult Appendicular Skeleton.”* Department of Anthropology, The University of Tennessee. Co-chair with Dr. Dawnie Steadman.
- 2010 – 2017 Kimberly T. Wren. Ph.D. dissertation: *“The Effects of Racialization on European American Stress in the Nineteenth and Twentieth Centuries.”* Department of Anthropology, The University of Tennessee. Chair (2015-2017).
- 2010 – 2015 Amber D. Wheat. Ph.D. dissertation: *“Investigating Postnatal Ontogeny in the Craniofacial Complex of Human Juveniles.”* Department of Anthropology, The University of Tennessee. Chair.
- 2010 – 2013 Rebecca K.S. Kelso. Ph.D. dissertation: *“A Comparison of Mississippian Period Subadults from the Middle Cumberland & Eastern Tennessee, and the Role of Biological Indicators in Assessing the Health and Migration of Past Populations.”* Department of Anthropology, The University of Tennessee. Chair.
- 2009 – 2013 Nicole M. Reeves. Ph.D. dissertation: *“Augmenting Functional Adaptation: Does Obesity have a Systemic Effect on Bone Strength in Humans?”* Department of Anthropology, The University of Tennessee. Chair.
- 2008 – 2013 Courtney D. Eleazer. Ph.D. dissertation: *“The Interaction of Mechanical Loading and Metabolic Stress on Human Cortical Bone: Testing Anthropological Assumptions Using Cross-Sectional Geometry and Histomorphology.”* Department of Anthropology, The University of Tennessee. Chair.

Chaired theses:

- 2019 – 2022 Justin S. Bailey. M.A. thesis: *“Exchange and Social Interaction in the Tennessee River Valley: A Geospatial Approach to the Analysis of Late Archaic Archaeological Sites”*. Department of Anthropology, The University of Tennessee. Chair.

Doctoral student committee participation:

- 2021 – (2024) Lauren Koutlias. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2020 – (2023) Kamar Afra. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2020 – (2023) Anne Riley. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2020 – (2023) Megan Kleeschulte. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2020 – (2024) Nicholas Smith. Ph.D. dissertation (untitled). Department of Earth and Planetary Sciences, The University of Tennessee. Committee member.
- 2020 – (2022) Catherine J. Llera Martin. Ph.D. dissertation (untitled). Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, Baltimore, MD.

- 2020 – 2022 Armando Anzellini. Ph.D. dissertation (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2017 – 2018 Frankie L. West. Ph.D. dissertation: *“From Ancient DNA to Forensic Genetics: Validation Studies in Degraded DNA.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2008 – 2018 Ryan M. Campbell. Ph.D. dissertation: *“Biological Affinity and Activity Induced Long Bone Growth during the Coalescent Period on the American Great Plains.”* Department of Anthropology, Southern Illinois University Carbondale. External committee member.
- 2013 – 2016 Janna M. Andronowski. Ph.D. dissertation: *“Evaluating differential nuclear DNA yield rates among human bone tissue types: a synchrotron micro-CT approach.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2012 – 2015 Kyle A. McCormick. Ph.D. dissertation: *“A biologically informed structure to accuracy in osteometric reassociation.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2012 – 2016 Jocelyn D. Minsky-Rowland. Ph.D. dissertation: *“The effect of social and environmental stress among the historic Arikara Native Americans”*. Department of Anthropology, The University of Tennessee. Committee member.
- 2012 – 2016 Hillary R. Parsons. Ph.D. dissertation: *“The accuracy of forensic anthropology methods in casework: an analysis of forensic anthropology reports in the medical examiners offices of New York City, NY; Harris County, TX; and Pima County, AZ.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2012 – 2016 Christina L. Fojas. Ph.D. dissertation: *“Modeling prehistoric health in the Middle Cumberland Region of Tennessee: Mississippian populations on the threshold of collapse.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2011 – 2015 Beatrix Dudzik. Ph.D. dissertation: *“Investigating cranial variation in Japanese populations using geometric morphometrics.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2011 – 2016 Shauna L. McNulty. Ph.D. dissertation: *“An analysis of skeletal trauma patterning of accidental and intentional injury.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2010 – 2015 Miriam Soto-Martinez. Ph.D. dissertation: *“Is quantitative ultrasound a valid technique for assessing bone quality in deceased infants?”* Department of Anthropology, The University of Tennessee. Committee member.
- 2009 – 2016 Brannon I. Hulsey. Ph.D. dissertation: *“A quantitative genetic analysis of limb segment morphology in humans and other primates: genetic variance, morphological integration, and linkage analysis.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2008 – 2015 Meadow L. Campbell. Ph.D. dissertation: *“Biological Distance and Biocultural Exchange Among Archaic Populations in the Southeast United States.”* Department of Anthropology, Southern Illinois University Carbondale. External committee member.

- 2011 – 2014 Yangseung Jeong. Ph.D. dissertation: *“Investigating secular changes in stature and body mass in Korea for the past two millennia with new Korean-specific equations for stature and body mass estimation.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2011 – 2014 Shannon E. May. Ph.D. dissertation: *“An investigation of diabetes mellitus in postmortem human remains.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2009 – 2014 Thaddeus G. Bissett. Ph.D. dissertation: *“Investigating the origins of the Shell Mound Archaic: Occupational histories and interaction among shell-bearing sites in western Tennessee.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2009 – 2012 Alicja K. Lanfear. Ph.D. dissertation: *“Records of the Institut Fuer Deutsche Ostarbeit (1940-1943): Using Anthropometrics of Polish Populations to Examine Secular Trends and Region Specific Variation.”* Department of Anthropology, The University of Tennessee. Committee member.

Masters student committee participation:

- 2021 – 2022 Sarah A. Hartman. M.A. thesis: *“An Analysis of Mincer’s Method and the UT-Age Program”*. Department of Anthropology, The University of Tennessee. Committee member.
- 2020 – (2022) Elizabeth Ronald. M.A. thesis (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2019 – (2022) Marta Paulson. M.A. thesis (untitled). Department of Anthropology, The University of Tennessee. Committee member.
- 2019 – 2021 Sarah Schwing. M.A. thesis: *“Assessing the Precision of Morphoscopic Data from 3D Surface Scans.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2019 – 2020 Nicholas Smith. M.A. thesis: *“Reconciling Disarticulated Skeletal Elements with Articulated Brittle Star Skeletons to Improve Our Understanding of Paleozoic Ophiuroid (Echinodermata) Biodiversity.”* Department of Earth and Planetary Sciences, The University of Tennessee. Committee member.
- 2016 – 2017 Haley E. Horbaly. M.A. thesis: *“The influence of body size on sexual dimorphism.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2010 – 2011 Rachel L. Vykukal. M.A. thesis: *“Purpurae Florem of Mitrou: Assessing the Role of Purple Dye Manufacture in the Emergence of a Political Elite.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2009 – 2013 Erin L. Knapp. M.A. thesis: *“An Assessment of the Effect of X-ray Radiation on DNA Marker Profiles Obtained from Human Teeth.”* Department of Anthropology, The University of Tennessee. Committee member.
- 2010 – 2013 Lauren A. Garroway. M.A. thesis: *“Two of a Kind: Using Bilateral Asymmetry to Reassociate Commingled Remains and Estimate the Original Contents of Assemblages.”* Department of Anthropology, The University of Tennessee. Committee member.

Undergraduate senior honors thesis supervision

- 2013 – 2014 Sarah A. Hall, B.A. “*Laterality and Handedness: Analysis of Metacarpal Cross-sectional Geometry in Archaic Populations.*” The University of Tennessee Honors Program Senior Thesis.
- 2010 – 2011 Courtney L. Cox, B.A. “*Skeletal Analysis of the West Site (40DV12).*” The University of Tennessee Honors Program Senior Thesis.

The University of Tennessee College Scholars advisor

- 2018 – 2020 Courtney A. Wombles, B.A. in Medical Illustration (with Beauvais Lyons, School of Art, The University of Tennessee)
- 2014 – 2016 Reagan E. Long, B.A. in Medical Illustration (with Beauvais Lyons, School of Art, The University of Tennessee)

Invited lectures

- 2021 “Collections, ethics and the study of human remains.” Guest lecture for Department of Biology, Seattle Pacific University, Seattle, WA. 7 April. (Virtual lecture)
- 2021 “Eugenics in America.” Two-part guest lecture for ANT 582 (“Race and Racism”), Department of Anthropology, The University of Kentucky. 4 and 9 March.
- 2020 “The Anatomy of Teaching Online Anatomy: Structuring an environment for learning and interaction in a large enrollment course.” Online Learning and Academic Programs Brown Bag Series. 20 November.
- 2020 “Why size matters: a brief history of the biological estimation of body mass in anthropological contexts.” Guest lecture for Department of Anthropology, Kennesaw State University, Kennesaw, GA. 15 April. (Virtual lecture)
- 2020 “Why Medical Practitioners Should be Scientists and not Mechanics.” Guest lecture for Indiana University School of Medicine, Indianapolis, IN. 28 February.
- 2020 “Eugenic policy and racism in the United States.” Guest lecture for ANT 582 (“Race and Racism”), Department of Anthropology, The University of Kentucky. 20 February.
- 2019 “No trait evolves alone: how understanding genetic covariance informs morphological evolution in primates.” Invited seminar. Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, Baltimore, MD. 18 October.
- 2017 “Natural selection and population history in the evolution of human body form.” Invited seminar. Monash Biomedicine Discovery Institute, School of Biomedical Sciences, Monash University, Melbourne, Australia. 14 November.
- 2014 “Modeling the genetics and evolution of modern human phenotypes.” Invited seminar. Department of Ecology & Evolutionary Biology, The University of Tennessee. 10 January.
- 2013 “Stature & body estimation and anthropometry.” *University of Tennessee Forensic Anthropology Center Human ID Summer Short Course.* Knoxville, TN. 19 June.
- 2012 “Grasping human limb morphology: What morphological integration, asymmetry, and cross-sectional properties are revealing about limb bone variation and evolution.” Invited lecture. Division of Biological Anthropology, University of Cambridge. Cambridge, England. 8 October.

- “Stature, stature estimation and anthropometry.” *University of Tennessee Forensic Anthropology Center Human ID Summer Short Course*. Knoxville, TN. 12 July.
- “NAGPRA and the American Association of Physical Anthropologists.” Guest lecture. *Archaeological Resource Management* (ANTH 461), Department of Anthropology, The University of Tennessee. 4 April.
- 2011 “Effects of agriculture on human variation in North America.” Guest lecture. *Cultivating the Past: Global Perspectives on the Origins of Agriculture* (ANTH 369), Department of Anthropology, The University of Tennessee. 30 November.
- “Stature & body estimation and anthropometry.” *University of Tennessee Forensic Anthropology Center Human ID Summer Short Course*. Knoxville, TN. 14 July.
- “Standing still on the edge? Body shape, climate, and the peopling of the Americas.” Department of Anthropology, University of Missouri. Columbia, MO. 4 May.
- 2010 “Stature, stature estimation and anthropometry.” *University of Tennessee Forensic Anthropology Center Human ID Summer Short Course*. Knoxville, TN. 8 July.
- 2009 “Morphology and movement: tracing population migrations in North America by variations in body shape and proportions.” *A Scholarly Potpourri* Visiting Lecture Series, Department of Anthropology, The University of Tennessee. Knoxville, TN. 27 October.
- “Stature and stature estimation.” *University of Tennessee Forensic Anthropology Center Human ID Summer Short Course*. Knoxville, TN. 16 July.
- “A case of cold feet? Human colonizations of the Americas.” *The University of Tennessee Science Forum Lecture Series*. Knoxville, TN. 20 February.
- 2008 “The transition to agriculture in North America: morphology & diet.” *Communities in Crisis* Visiting Lecture Series, Department of Anthropology, The University of Tennessee. Knoxville, TN. 25 November.
- “Developing a body of knowledge: human morphological variation in the Americas as viewed from the early Holocene.” Department of Anthropology, University of Illinois at Urbana-Champaign. Urbana, IL. 7 May.
- “Developing a body of knowledge: human morphological variation in the Americas as viewed from the early Holocene.” *Lectures in Contemporary Anthropology Series*, Department of Anthropology, Miami University. Oxford, OH. 7 March.
- “Human origins and diversity in the Americas: a view from the early Holocene.” *Finding Bridges* Seminar Series, Department of Anthropology, Southern Illinois University Carbondale. Carbondale, IL. 19 February.
- 2007 “Human origins and diversity in the Americas: a view from the early Holocene.” Department of Anthropology, Washington University. Saint Louis, MO. 30 November.

*Seminars and journal club organization & participation*

- 2021 “The 2020 Papers We Missed” Journal Club organizer and discussion leader. Biweekly meetings (January – April), faculty and graduate students, Osteometric Variation Analysis Laboratory, Department of Anthropology, The University of Tennessee
- 2018 Brown bag: “Getting Published in Anthropology” (21 March), Department of Anthropology, The University of Tennessee. Panelist.

- 2015 “*Homo naledi*: a critical discussion about species identification in the fossil record.” (28 October), Department of Anthropology, The University of Tennessee.
- 2015 “Modularity” Journal Club discussion leader. Weekly meetings (August – December), graduate students, Molecular Anthropology Lab & Osteometric Variation Analysis Laboratory, Department of Anthropology, The University of Tennessee
- 2013 “Morphological integration” Journal Club discussion leader. Biweekly meetings (January – April), graduate students, Molecular Anthropology Lab & Osteometric Variation Analysis Laboratory, Department of Anthropology, The University of Tennessee
- 2011 “Expansion and contraction of organelle genomes.” (2 November) Guest discussion leader, EEB 504: *Genome Evolution*, Department of Ecology & Evolutionary Biology, The University of Tennessee
- “*Australopithecus sediba*: evolutionary positions & academic reputations” (19 October), Department of Anthropology, The University of Tennessee (co-leader with Dr. Andrew Kramer)
- “Genomes of the Pleistocene” (23 March), Department of Anthropology, The University of Tennessee (co-leader with Drs. Andrew Kramer and Graciela Cabana)
- “Epigenetics” Journal Club discussion leader. Biweekly meetings (January – May), graduate students, Molecular Anthropology Lab & Osteometric Variation Analysis Laboratory, Department of Anthropology, The University of Tennessee
- 2010 *Homo floresiensis* (19 March), Department of Anthropology, The University of Tennessee (co-leader with Dr. Andrew Kramer)
- 2009 *Ardipithecus ramidus* (13 November), Department of Anthropology, The University of Tennessee (co-leader with Dr. Andrew Kramer)

### **Professional Service and Awards**

#### National and international professional offices and committee membership

- 2021 – Presidential Taskforce on the Ethical Study of Human Remains. American Association of Biological Anthropology. Co-chair (with Dr. Fatimah Jackson, Howard University)
- 2021 – Scientific Program Committee, American Association of Biological Anthropologists Annual Meeting
- 2020 – 2021 American Journal of Physical Anthropology Statement on Working with Human Remains Committee
- 2020 – 2021 Virtual Meeting Planning Committee, American Association of Physical Anthropologists Annual Meeting
- 2016 – 2021 Scientific Program Committee, American Association of Physical Anthropologists Annual Meeting
- 2014 – 2015 Advance Meeting Planning Committee, American Association of Physical Anthropology
- 2012 – 2013 Local Arrangements Committee, American Association of Physical Anthropology (Annual Meeting)
- 2011 – 2023 Committee for Community Partnership (formerly Repatriation Committee), American Association of Physical Anthropologists

- 2017 – 2023 Chair
- 2011 – 2017 Member
- 2010 – 2014 Advisory Committee for Young Anatomists, American Association of Anatomists

Professional journal editorial positions

- 2015 – 2020 Associate Editor, *Human Biology*
- 2016 – 2020 Associate Editor, *American Journal of Physical Anthropology*

Department and university committees & activities

**2008 – The University of Tennessee**

- 2020 Teaching and Student Success Committee, Re-Imagining the Fall Task Force (COVID-19). Member.
- 2016 – 2020 Phi Beta Kappa Epsilon of Tennessee Executive Committee:
  - 2020 – 2022 President
  - 2018 – 2020 Vice President
  - 2016 – 2018 Historian
- 2015 – 2016 Chancellor’s Awards Selection Committee, Research Council. Chair.
- 2013 – 2016 Treasurer, Sigma Xi, University of Tennessee Chapter
- 2013 – 2016 University Faculty Senate, Social Science Caucus.
- 2013 – 2016 Research Council (Faculty Senate Member)
- 2012 – Faculty member of the Intercollegiate Graduate Statistics Program and Department of Anthropology representative
- 2010 – 2012 Phi Beta Kappa Epsilon of Tennessee, Member in Course
- 2009 – 2014 Provost’s Junior Faculty Fellows (appointed position)

**2008 – College of Arts and Sciences, The University of Tennessee**

- 2018 – 2021 College Curriculum Committee, Member

**2008 – Department of Anthropology, The University of Tennessee**

- 2021 – Associate Head, Department of Anthropology
- 2021 – Budget Committee. Chair.
- 2021 – Awards Committee. Chair.
- 2019 – 2021 Parliamentarian, Department of Anthropology
- 2018 – 2021 Bylaws Committee
  - 2018 – 2019 Co-chair (with Graciela Cabana)
  - 2019 – 2020 *Ex officio* (as Parliamentarian)
  - 2020 – 2021 Chair
- 2018 Equipment Committee. Member.
- 2018 Department of Anthropology Strong Hall repair liaison
- 2016 – 2019 Department of Anthropology Curriculum Committee
  - 2018 – 2019 Member
  - 2016 – 2018 Chair
- 2015 – 2016 Ad hoc Committee on Curricular Reform. Chair.
- 2015 – 2017 Department of Anthropology Strong Hall relocation planning coordinator.



- 2010 – Special Topics in Anatomy Lecture Series  
 2020 Organizer (7 speakers)  
 2018 Organizer (9 speakers)  
 2016 Organizer (8 speakers)  
 2014 Organizer (8 speakers)  
 2012 Organizer (10 speakers)  
 2010 Organizer (5 speakers)
- 2009 – 2020 Department of Anthropology Graduate Committee  
 2018 – 2020 Biological Anthropology Member  
 2010 – 2011 Chair  
 2009 – 2012 Biological Anthropology Member
- 2009 – 2016 Department of Anthropology Curation Committee.  
 2008 – Search Committees  
 2021 – 2022 Paleoanthropology/paleoprimatology and anatomy tenure-track assistant professor. Chair.  
 2020 – 2021 Opportunity hire: cultural anthropology tenure-track assistant professor search committee. Member.  
 2020 Department Head search committee, Dept. of Anthropology. Member.  
 2015 – 2016 Curator position search committee. Member.  
 2014 – 2015 Archaeology tenure-track assistant professor search committee. Member.  
 2010 – 2011 Forensic anthropologist tenure-track associate/full professor search committee. Member.  
 2008 – 2009 Forensic anthropology tenure-track assistant professor search committee. Member.
- 2008 – 2011 Department of Anthropology graduate program reform *ad hoc* committee.  
 2008 – 2010 Department of Anthropology undergraduate scholarship selection committee.

### Curatorial experience

- 2009 – Curator for the University of Tennessee Department of Anthropology's small primate osteology collection (pedigreed tamarins from the Marmoset Research Center colony, Oak Ridge, Tennessee)
- 2009 – Maintain human osteological databases for public access via web site: The Goldman Osteological Data Set and the Howells Craniometric Data Set (<http://web.utk.edu/~auerbach/DATA.htm>)
- 2009 – 2016 Acting curator for human archaeological osteological collections in the University of Tennessee Department of Anthropology (River Basin Survey sites, Middle Cumberland Tennessee sites, Texas Red River sites)

### Professional memberships

- 2015 – American Association of Anthropological Genetics

- 2015 – The International Society for Evolution, Medicine & Public Health
- 2012 – Southeastern Archaeological Conference
- 2011 – Archaeological Institute of America
- 2008 – Society of American Archaeologists
- 2006 – American Association of Anatomists
- 2004 – Phi Beta Kappa Active Member
- 2001 – American Association for the Advancement of Science
- 2001 – 2003 American Academy of Religion (Student Member)
- 2001 – 2003 American Anthropological Association (Student Member)
- 1999 – American Association of Physical Anthropologists
- 1999 – Sigma Xi (Full Member in 2012)

*Evaluation of grants*

- Service on National Science Foundation Panels (2018 – 2022)
- L.S.B. Leakey Foundation grants (2011 – 2020)
- Swiss National Science Foundation grants (2017)
- National Science Foundation grants (2015 – 2022)

*Evaluation of manuscripts for journals*

- American Antiquity (2012, 2014 – 2015)
- American Journal of Human Biology (2015, 2016)
- American Journal of Physical Anthropology (2007 – 2021)
- Anatomy Research International (2011 – 2012)
- Anatomical Record (2011 – 2021)
- Annals of the New York Academy of Sciences (2012)
- Archaeological Science (2009, 2013, 2014, 2016, 2017)
- Bioarchaeology of the Near East (2009)
- Biological Journal of the Linnean Society (2012)
- Bulletin of the Swiss Anthropology Society (2010)
- Current Anthropology (2008 – 2011, 2016)
- Human Biology (2012, 2014, 2020)
- International Journal of Osteoarchaeology (2006; 2009; 2013)
- International Journal of Paleopathology (2011 – 2012, 2016, 2017)
- Journal of Anatomy (2012 – 2013)
- Journal of Archaeological Science (2013, 2014, 2016, 2017, 2020, 2021)
- Journal of Comparative Human Biology (HOMO) (2008; 2010 – 2011; 2015)
- Journal of Evolutionary Biology (2021)
- Journal of Human Evolution (2009 – 2021)
- Paleoamerica (2014)
- Proceedings of the National Academy of Sciences (2010, 2012, 2017, 2018)
- Proceedings of the Royal Society – B (2012 – 2014)
- Public Library of Science (PLoS) One (2012 – 2014; 2016, 2017)
- Quaternary International (2014)

Science (2014)  
South African Journal of Science (2014)

Evaluation of book précis, edited volume chapters and books for publishers

Kamilar JM. 2021. *Statistics in Anthropology Using R*. Cambridge University Press. Peer evaluator for book proposal.

Peregrine PN. 2018. *Anthropological Statistics: A Workbook Using R*. New York: Routledge, Taylor & Francis Group. Peer evaluator for book proposal.

Vilensky JA & Gilman S. 2015. *The Cranial Nerves: An Introduction to the Unique Nerves of the Head, Neck and Special Senses*. Hoboken: Wiley-Blackwell. Peer evaluator for book précis.

Pinhasi R & Stock JT (editors). 2011. *Human Bioarchaeology of the Transition to Agriculture*. London: Wiley-Liss. Evaluated two chapters.

Tank PW & Gest TR. 2008. *Lippincott Williams & Wilkins Atlas of Anatomy*. First edition. Philadelphia: Lippincott Williams & Wilkins. Evaluated volume for new edition.

Appearances in media

2022 Quoted in: Kiefer P. "Anthropologists are still wrestling with their obligations to the living and dead." *Popular Science*. 13 April.

<https://www.popsci.com/science/anthropology-human-remains-guidelines/>

2013 Research paper subject of news article: Lepper BT. 2013. Early skeletons suggest a single source population for the first Americans. *Mammoth Trumpet* 28(2): 42-45.

2012 Quoted in Associated Press story: Carola C. 6 February. "Despite ceremony, NY fort's skeletons not buried."

2011 "Working Hands." *Heartland Series* (Knoxville, Tennessee, production). On screen interview and scientific consultant. Aired 30 March 2011.

Science communication and outreach

2017 – 2018 Editor and contributor, The OVAL Window Science Blog ([theovalwindow.com](http://theovalwindow.com))

Honors and awards

2020 Choice Outstanding Academic Title 2020, *Choice Reviews*, for *The Evolutionary Biology of the Human Pelvis: An Integrative Approach*

2013 Finalist, The University of Tennessee Outstanding Teacher Award

2001 Phi Beta Kappa

Miami University:

Magna Cum Laude

University Honors and Departmental Honors, Department of Comparative Religion

Departmental Honors, Department of Sociology, Gerontology and Anthropology

Miami University Dean's Certificate for Distinguished Student Achievement

Anthropology Departmental Award for Excellence in Research

Newell S. Booth Award (Outstanding Student in the Study of Religion)

2000 Miami University Undergraduate Summer Scholar, Miami University (used to fund  
research at the University of Cambridge, Department of Biological Anthropology)  
1997 – 2001 Miami University Harrison Scholar