

# W. Andrew Barr - Curriculum Vitae

Center for the Advanced Study of Human Paleobiology  
Department of Anthropology  
The George Washington University

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## Education

PhD - 2014 - University of Texas at Austin. Anthropology.  
MA - 2008 - University of Texas at Austin. Anthropology.  
BS - 2005 - Tulane University. Anthropology, French.

## Academic Appointments

**Visiting Assistant Professor.** Center for the Advanced Study of Human Paleobiology. Department of Anthropology. The George Washington University. Spring 2016 - Present.

**Postdoctoral Scientist.** Center for the Advanced Study of Human Paleobiology. Department of Anthropology. The George Washington University. Advisor: Bernard Wood. Fall 2014 - Fall 2015.

**Research Associate.** Department of Paleobiology. National Museum of Natural History. 2014 - Present.

## Peer Reviewed Publications

### In Review

Kemp A and **Barr WA**. Rates of homoplasy vary among regions of the mammalian skeleton. In review in *Journal of Human Evolution*.

### Accepted or In Press

**Barr WA**. Accepted. Bovid locomotor functional trait distributions reflect land cover and annual precipitation in sub-Saharan Africa. *Evolutionary Ecology Research*.

**Barr WA**. Accepted. *Ecomorphology*. To be published in D.A. Croft, S.W. Simpson, and D.F. Su (eds.), *Methods in Paleoecology: Reconstructing Cenozoic Terrestrial Environments and Ecological Communities*. Springer (Vertebrate Paleobiology and Paleoanthropology Series), Dordrecht.

### 2015

**Barr WA**. Paleoenvironments of the Shungura Formation (Plio-Pleistocene: Ethiopia) based on ecomorphology of the bovid astragalus. *Journal of Human Evolution*. 88:97-107. doi:10.1016/j.jhevol.2015.05.002

Reed D, **Barr WA**, McPherron S, Bobe R, Geraads D, Wynn J, Alemseged Z. Digital Data Collection in Paleoanthropology. *Evolutionary Anthropology*. 24:238-249. doi:10.1002/evan.21466

Thompson JC, McPherron S, Bobe R, Reed DN, **Barr WA**, Wynn J, Marean CW, Geraads D, Alemseged Z. Taphonomy of fossils from the hominin-bearing deposits at Dikika, Ethiopia. *Journal of Human Evolution*. 86:112-135. doi:10.1016/j.jhevol.2015.06.013

### 2014

**Barr WA**. Functional Morphology of the Bovid Astragalus In Relation To Habitat: Controlling Phylogenetic Signal In Ecomorphology. *Journal of Morphology*. 275:1201-1216. doi:10.1002/jmor.20279

**Barr WA** and Scott RS. Phylogenetic comparative methods complement discriminant function analysis in ecomorphology. *American Journal of Physical Anthropology*. 153:663-674. doi:10.1002/ajpa.22462

Scott RS and **Barr WA**. Ecomorphology and phylogenetic risk: implications for habitat reconstruction using fossil bovids. *Journal of Human Evolution*. 73:47-57. doi:10.1016/j.jhevol.2014.02.023

### 2010

Reed DN, and **Barr WA**. A preliminary account of the rodents from Pleistocene levels at Grotte des Contrebandiers (Smuggler's Cave), Morocco. *Historical Biology*. 22:286-294. doi:10.1080/08912960903562192

## Funding and Awards

### 2015

National Science Foundation (Archaeology) - Middle Pleistocene Hominin Behavior and Paleoecology at Farre, Chalbi Basin, Northern Kenya. PI: Ferraro. Role: Senior Scientist. Amount awarded: \$60,000.

### 2014

Travel Grant - Paleoanthropology Society for meetings in Calgary. \$500.

### 2013

Named Continuing Fellowship - University of Texas at Austin Graduate School. \$29,000.

Pollitzer Student Travel Award - American Association of Physical Anthropologists. \$500.

### 2012

Dissertation Fieldwork Grant - Wenner-Gren Foundation. \$13,317.

### 2008

Professional Development Award - Department of Anthropology, University of Texas at Austin. Also recieved in 2009-2011.

### 2007

Graduate Research Fellowship - National Science Foundation. \$90,000.

Liberal Arts Graduate Research Fellowship - University of Texas at Austin.

Student Prize - Texas Association of Biological Anthropologists.

David Bruton, Jr. Graduate Fellowship - University of Texas at Austin. Also received in 2008.

## Courses Taught

*Introduction to Biological Anthropology.* ANTH 1001. Undergraduate survey course with enrollment of approximately 240 students. This course is designed as a survey of the field of biological anthropology, and fulfills a general science requirement. George Washington University, Anthropology. Taught Fall 2016.

*Analytical Methods in Evolutionary Anthropology.* ANTH 6413. I designed this graduate course covering applied statistical methods (e.g, regression, ANOVA and related techniques, categorical data analysis, resampling approaches) and the R statistical programming language. This is a required course for the Hominid Paleobiology PhD program. George Washington University, Anthropology. Taught Spring 2015, Spring 2016.

*Climate Change and Human Evolution.* ANTH 3491. I designed this upper level undergraduate course covering changes in global climate through evolutionary time and the impacts on evolution, with an emphasis on humans. (Previous course title: Evolutionary Impacts of Cenozoic Climate Change). George Washington University, Anthropology. Taught Spring 2016.

*Public Understanding of Science.* HOMP 8302. Graduate course in which students complete semester-long public service internships. Student projects target underserved Washington, DC-area public schools and general audiences at public museums with a goal of increasing scientific literacy and creating interest in scientific careers. George Washington University, Anthropology. Taught Spring 2016.

*GIS and Remote Sensing for Archaeology and Paleontology.* ANT 391 / GRG 396. Teaching Assistant. University of Texas at Austin, Anthropology. 2010.

*Human Variation.* ANT 394C. Teaching Assistant. University of Texas at Austin, Anthropology. 2009.

*Introduction to Physical Anthropology.* ANT 301. Teaching Assistant. University of Texas at Austin, Anthropology. 2006, 2007, 2010, 2011, 2012.

## Professional Preparation

Research Associate and Software Developer. PaleoCore Project. I am a key member of this NSF Funded project, which aims to create a data-standard for physical anthropology. I contributed heavily to the development of PaleoCore informatics tools for data sharing. 2012 - Present.

Observer. Evolution of Terrestrial Ecosystems Working Group. National Museum of Natural History. 2015  
 Participant. AnthroTree Workshop in Phylogenetic Methods. Amherst, MA. 2011.  
 Research Assistant. eSkeletons.org and eFossils.org. PI: John Kappelman. 2010, 2011.

## Fieldwork Experience

Koobi-Fora Field School, East Turkana, Kenya. Directors: David Braun and Purity Kiura. I collected fossil data relating to sub-regional faunal variability in the Koobi Fora Formation from 2.0 - 1.4 Ma. I supervised four undergraduate student research projects that were organized around this topic. Summer 2016.  
 Mille-Logya Research Project, Afar Region, Ethiopia. PI: Zeresenay Alemseged. I am a member of the scientific team conducting research to recover new fossil evidence of human evolution from this Plio-Pleistocene site. 2014.  
 Great Divide Basin Project, Wyoming. PI: Robert Anemone. Collected primate and mammalian fossils from Eocene sediments, and prospected for new localities. 2013, 2014.  
 Dikika Research Project, Afar Region, Ethiopia. PI: Zeresenay Alemseged. Surface collection of Plio- Pleistocene hominin and mammalian fossils. Managed GIS data collection with hand-held computers and high-precision GPS base station. 2010, 2012.  
 Dalquest Research Site, Big Bend Region, Texas. PI: E. Chris Kirk. Surface collected primate and mammalian fossils in the Devil's Graveyard Formation. (Eocene: Late Uintan). 2007, 2008, 2010.  
 Contrebandiers Cave, Temara, Morocco. PI: Harrold Dibble & Utsav Schurmans. Excavated site preserving Middle Stone Age archaeology (Aterian) and hominin remains. Performed systematic analysis of rodent fauna. 2009.

## Scholarly Presentations

### Published Abstracts from Conference Presentations

**2016**

**Barr WA.** Signal or noise? Testing hypotheses about faunal turnover. Paleoanthropology Society.

**2015**

**Barr WA** and Dunn RH. A method for analyzing complex joint surfaces in ecomorphology using slope rasters derived from Digital Elevation Models. American Association of Physical Anthropology.

Thompson JC, McPherron SP, Bobe R, **Barr WA**, Reed D, Wynn J, Marean CW, and Alemseged Z. Taphonomy of fossils from the hominin-bearing deposits at Dikika, Ethiopia. Paleoanthropology Society.

**2014**

**Barr WA.** Paleoenvironments of the Hadar and Shungura Formations: Synthesizing multiple lines of evidence using bovid ecomorphology. American Association of Physical Anthropology.

Kemp A and **Barr WA.** Rates of homoplasy in the mammalian skeleton. American Association of Physical Anthropology.

**2013**

**Barr WA.** Ecomorphology of the bovid astragalus: body size, function, phylogeny and paleoenvironmental reconstruction. *American Journal of Physical Anthropology*. 150:74.

**2012**

**Barr WA.** Ecomorphology in a phylogenetic statistical context: a case study using the bovid femur. *American Journal of Physical Anthropology*. 147:90-91.

Scott RS and **Barr WA.** Ecomorphology and phylogeny among the Bovidae: implications for habitat reconstruction. *American Journal of Physical Anthropology*.

Kappelman JK, Keane P, Reed D, Tenbarger J, Witzel A, **Barr WA**, Nachman BA, Russo GA. eFossils.org: a collaborative website and community database for the study of human evolution. *American Journal of Physical Anthropology*.

**2011**

Reed DN, McPherron S, **Barr WA**, Alemseged Z, Bobe R, Geraads D, and Wynn J. A new GPS data collection methodology and data schema for integrating multiple project databases: examples from the Dikika Research Project geodatabase. *American Journal of Physical Anthropology*. 144:249-250.

**2009**

**Barr WA**, Reed DN. Coping with taxonomic ambiguity and inter-observer variation in paleontological and paleoanthropological analyses. *American Journal of Physical Anthropology*. 144:249-250.

Toborowsky CJ, **Barr WA**, Lewis, RJ. Does environmental unpredictability drive lemur life histories? *American Journal of Physical Anthropology*.

**2008**

**Barr WA**. The effects of allometric scaling patterns on the template method for estimating dimorphism. *American Journal of Physical Anthropology*.

**Scholarly Presentations Without Published Abstracts****2013**

**Barr WA**, Nachman B, Shapiro L. The Academic Phylogeny of Physical Anthropology. Annual Meetings of the Texas Association for Biological Anthropologists. Austin, TX.

Reed D, **Barr WA**, Urban T. Free as in speech and beer: open source software solutions for spatial data management in physical anthropology. Annual Meetings of the Texas Association for Biological Anthropologists. Austin, TX.

**2012**

**Barr WA**. Refining hominin paleoenvironmental reconstructions using bovid ecomorphology: the role of phylogenetic comparative methods. Presentation at University of Texas at Austin Paleontology Brown-Bag Seminar Series.

**Barr WA**. Refining hominin paleoenvironmental reconstructions with bovid ecomorphology. Presentation at University of Texas at Austin Informal Physical Anthropology Seminar series.

**2011**

**Barr WA**. Ecomorphology in a phylogenetic statistical context: a case study using the bovid femur. Annual Meetings of Texas Association for Biological Anthropologists. San Marcos, TX.

**2010**

**Barr WA**. Pattern or chaos? Exploring a null model of faunal turnover patterns. Annual Meetings of Texas Association for Biological Anthropologists. Waco, TX.

**Barr WA**. Quantitative ecomorphology of mammalian dentitions: Refining a tool for reconstructing early hominin paleoenvironments. Presentation at University of Texas at Austin Informal Physical Anthropology Seminar series.

**2008**

**Barr WA**. Coping with taxonomic ambiguity and inter-observer variation in paleontological and paleoanthropological analyses. Annual Meetings of Texas Association for Biological Anthropologists. College Station, TX.

**2007**

**Barr WA**. The effects of allometric scaling patterns on the template method for estimating dimorphism. Annual Meetings of Texas Association for Biological Anthropologists. Austin, TX.

**Invited Talks, Symposia, Guest Lectures****2015**

Invited participant in symposium entitled: *Latest methods in reconstructing Cenozoic terrestrial environments and ecological communities*. Cleveland Museum of Natural History. September 10 - 12.

**2013**

Guest Lecture for Denné Reed in graduate-level Statistical Methods course at University of Texas at Austin.  
Topic: Data reshaping and advanced plotting with ggplot2.  
Guest Lecture for E. Christopher Kirk Introduction to Physical Anthropology course at University of Texas at Austin. Topic: Primate Evolution.

## Professional Service

Coordinator, Capstone Seminar - I coordinate speakers and organize the academic program for this departmental seminar in the Center for the Advanced Study of Human Paleobiology at The George Washington University.

Academic Phylogeny of Physical Anthropology - In collaboration with Liza Shapiro and Brett Nachman, I created this website as a public resource that tracks academic lineages of Physical Anthropology PhDs. The site has had over 1700 user submissions. 2013.

Volunteer, Explore UT - University wide K-12 educational open house. Helped organize and run activity "Leaping Lemurs of Madagascar" on locomotion and conservation of lemurs. 2010, 2011.

Reviewer - University of Texas Liberal Arts Graduate Research Fellowship. Evaluated grant proposals from students competing for \$50,000 in grant funds. 2008.

Coordinator - Informal Physical Anthropology Seminar Series, University of Texas at Austin. Responsible for planning weekly seminars and recruiting speakers. 2008.

## Manuscript Reviews

Nature Ecology & Evolution. 2016.

Journal of Human Evolution. 2014, 2015.

International Journal of Primatology. 2014.

Methods in Ecology and Evolution. 2012.

Manning Publications (book proposal review). 2012.

## Professional Memberships

American Association of Physical Anthropologists  
Paleoanthropology Society