

## ANDREW DU

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Fort Collins, CO 80523  
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### EDUCATION:

- 2017            The George Washington University  
                  Ph.D. in Hominid Paleobiology  
                  Dissertation Title: The Role of Scale in Ecological Inference: Implications for  
                  Interpreting Hominin Paleoecology  
                  Committee: Anna K. Behrensmeyer (Chair), René Bobe, S. Kate Lyons, Brian  
                  McGill, Bernard Wood
- 2013            The George Washington University  
                  M.Phil. in Hominid Paleobiology  
                  Advisor: Anna K. Behrensmeyer
- 2009            Rutgers College, Rutgers University  
                  B.S., *summa cum laude*, in Evolutionary Anthropology with Highest Honors  
                  Minor in Geological Sciences  
                  Senior Honors Thesis: Recognizing Stone Anvils in the Archaeological Record:  
                  An Actualistic Approach  
                  Advisor: John W.K. Harris

### PROFESSIONAL APPOINTMENTS:

- 2019-            Assistant Professor  
                  Department of Anthropology and Geography  
                  Colorado State University
- 2017-19        Postdoctoral Scholar  
                  Department of Organismal Biology and Anatomy  
                  The University of Chicago  
                  PI: Zeresenay Alemseged

## PUBLICATIONS:

### Refereed journal articles

#### Submitted/In review/In revision/Resubmitted

**Du, A.**, Friedlander, E., Rowan, J., Alemseged, Z., submitted. Placing probabilities on taxon true absence: applications to the hominin genus *Paranthropus*.

- *I generated the question, collected 95% of the data, helped develop the model, conducted all analyses, and wrote 95% of the paper.*

Pineda-Munoz, S., Jukar, A.M., Amatangelo, K., Balk, M.A., Barr, W.A., Behrensmeyer, A.K., Bercovici, A., Blois, J., Davis, M., **Du, A.**, Eronen, J.T., Fraser, D., Gotelli, N.J., Looy, C., Miller, J., Soul, L., Tóth, A.B., Villaseñor, A., Wing, S., Lyons, S.K., in review. Body mass-related changes in mammal community assembly patterns during the late Quaternary of North America.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

#### Accepted/In press

Fraser, D., A. Villaseñor, Tóth, A., M. Balk, J.T. Eronen, W. A. Barr, A.K. Behrensmeyer, M. Davis, **A. Du**, J.T. Faith, N.J. Gotelli, G.R. Graves, A.M. Jukar, C.V. Looy, B.J. McGill, J.H. Miller, S. Pineda-Munoz, R. Potts, A.B. Shupinski, L.C. Soul, and S.K. Lyons. Profound Holocene biotic homogenization of North American mammalian faunas.

- *I participated in discussions which structured the analyses and interpreted the results.*

#### 2020

23. **Du, A.**, Rowan, J., Wang, S.C., Wood, B.A., Alemseged, Z., 2020. Statistical estimates of hominin origination and extinction dates: a case study examining the *Australopithecus anamensis-afarensis* lineage. *Journal of Human Evolution*. 138, 102688.

- *I generated the question, collected 10% of the data, conducted all analyses, and wrote 95% of the paper.*

22. Faith, J.T., Rowan, J., **Du, A.**, 2020. Reply to Weihmann: Fifty gazelles do not equal an elephant, and other ecological misunderstandings. *Proceedings of the National Academy of Sciences*. 201920565.

- *I participated in discussions structuring the paper and commented on the manuscript.*

21. Faith, J.T., Rowan, J., **Du, A.**, Barr, W.A., 2020. The uncertain case for human-driven extinctions prior to *Homo sapiens*. *Quaternary Research*. 96, 88-104.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 15% of analyses, and commented on the manuscript.*

## **2019**

20. **Du, A.**, Alemseged, Z., 2019. Temporal evidence shows *Australopithecus sediba* is unlikely to be the ancestor of *Homo*. *Science Advances*. 5, eaav9038.

- *I generated the question, collected all of the data, conducted all analyses, and wrote 95% of the paper.*

19. **Du, A.**, Robinson, J.R. (co-first author), Rowan, J., Lazagabaster, I.A., Behrensmeyer, A.K., 2019. Stable carbon isotopes from paleosol carbonate and herbivore enamel document differing paleovegetation signals in the eastern African Plio-Pleistocene. *Review of Palaeobotany and Palynology*. 261, 41-52.

- *I generated the question, conducted all analyses, and wrote 70% of the paper.*

18. Faith, J.T., **Du, A.**, Rowan, J., 2019. Addressing the effects of sampling on ecometric-based paleoenvironmental reconstructions. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 528, 175-185.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 60% of analyses, and commented on the manuscript.*

17. Faith, J.T., Rowan, J., **Du, A.**, 2019. Early hominins evolved within non-analog ecosystems. *Proceedings of the National Academy of Sciences*. 116, 21478-21483.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 10% of analyses, and commented on the manuscript.*

16. Tóth, A.B., Lyons, S.K., Barr, W.A., Behrensmeyer, A.K., Blois, J.L., Bobe, R., Davis, M., **Du, A.**, Eronen, J.T., Faith, J.T., Fraser, D., Gotelli, N.J., Graves, G.R., Jukar, A.M., Miller, J.H., Pineda-Munoz, S., Soul, L.C., Villaseñor, A., Alroy, J., 2019. Reorganization of surviving mammal communities after the end-Pleistocene megafaunal extinction. *Science*. 365, 1305-1308.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

## **2018**

15. **Du, A.**, Alemseged, Z., 2018. Diversity analysis of Plio-Pleistocene large mammal communities in the Omo-Turkana Basin, eastern Africa. *Journal of Human Evolution*. 124, 25-39.

- *I generated the question, collected 10% of the data, conducted all analyses, and wrote 95% of the paper.*

14. **Du, A.**, Behrensmeyer, A.K., 2018. Spatial, temporal, and taxonomic scaling of richness in an eastern African large mammal community. *Global Ecology and Biogeography*. 27, 1031-1042. (featured on journal cover)

- *I generated the question, collected 10% of the data, conducted all analyses, and wrote 95% of the paper.*

13. **Du, A.**, Zipkin, A.M., Hatala, K.G., Renner, E., Baker, J.L., Bianchi, S., Bernal, K.H., Wood, B.A., 2018. Pattern and process in hominin brain size evolution are scale-dependent. *Proceedings of the Royal Society B*. 285, 20172738.

- *I generated the question, collected 5% of the data, conducted all analyses, and wrote 95% of the paper.*

12. Faith, J.T., **Du, A.**, 2018. The measurement of taxonomic evenness in zooarchaeology. *Archaeological and Anthropological Sciences*. 10, 1419-1428.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 20% of analyses, and wrote 10% of and commented on the manuscript.*

11. Faith, J.T., Rowan, J., **Du, A.**, Koch, P.L., 2018. Plio-Pleistocene decline of African megaherbivores: No evidence for ancient hominin impacts. *Science*. 362, 938-941.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 10% of analyses, and commented on the manuscript.*

10. Roach, N.T., **Du, A.**, Hatala, K.G., Ostrofsky, K.R., Reeves, J.S., Braun, D.R., Harris, J.W.K., Behrensmeyer, A.K., Richmond, B.G., 2018. Pleistocene animal communities of a 1.5 million-year-old lake margin grassland and their relationship to *Homo erectus* paleoecology. *Journal of Human Evolution*. 122, 70-83.

- *I conducted 90% of the analyses, and I wrote 30% of and commented on the manuscript.*

## **2017**

9. Ashley, G.M., Ndiema, E., Spencer, J.Q.G., Harris, J.W.K., Kiura, P.W., Dibble, L., **Du, A.**, Lordan, P.T., 2017. Paleoenvironmental reconstruction of Dongodien, Lake Turkana, Kenya and OSL dating of site occupation during Late Holocene climate change. *African Archaeological Review*. 34, 345-362.

- *I secured funding for radiocarbon dating, collected 20% of the data, and commented on the manuscript.*

## **2016**

8. Lyons, S.K., Amatangelo, K.L., Behrensmeyer, A.K., Bercovici, A., Blois, J.L., Davis, M., DiMichele, W.A., **Du, A.**, Eronen, J.T., Tyler Faith, J., Graves, G.R., Jud, N., Labandeira, C., Looy, C.V., McGill, B., Miller, J.H., Patterson, D., Pineda-Munoz, S., Potts, R., Riddle, B., Terry, R., Tóth, A., Ulrich, W., Villaseñor, A., Wing, S., Anderson, H., Anderson, J., Waller, D., Gotelli, N.J., 2016. Holocene shifts in the assembly of plant and animal communities implicate human impacts. *Nature*. 529, 80–83.

- *I participated in discussions which structured the analyses and interpreted the results, conducted 5% of analyses, and commented on the manuscript.*

7. Lyons, S.K., Amatangelo, K.L., Behrensmeyer, A.K., Bercovici, A., Blois, J.L., Davis, M., DiMichele, W.A., **Du, A.**, Eronen, J.T., Faith, J.T., Graves, G.R., Jud, N., Labandeira, C., Looy, C.V., McGill, B., Miller, J.H., Patterson, D., Pineda-Munoz, S., Potts, R., Riddle, B., Terry, R.,

Tóth, A., Ulrich, W., Villaseñor, A., Wing, S., Anderson, H., Anderson, J., Waller, D., Gotelli, N.J., 2016. Corrigendum: Holocene shifts in the assembly of plant and animal communities implicate human impacts. *Nature*. 538, 542.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

6. Lyons, S.K., Miller, J.H., Amatangelo, K.L., Behrensmeyer, A.K., Bercovici, A., Blois, J.L., Davis, M., DiMichelle, W.A., **Du, A.**, Eronen, J.T., Faith, J.T., Graves, G.R., Jud, N., Labandeira, C., Looy, C.V., McGill, B., Patterson, D., Pineda-Munoz, S., Potts, R., Riddle, B., Terry, R., Tóth, A., Ulrich, W., Villaseñor, A., Wing, S., Anderson, H., Anderson, J., Gotelli, N.J., 2016. Lyons et al. reply. *Nature*. 538, E3–E4.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

5. Lyons, S.K., Miller, J.H., Tóth, A., Amatangelo, K.L., Behrensmeyer, A.K., Bercovici, A., Blois, J.L., Davis, M., DiMichelle, W.A., **Du, A.**, Eronen, J.T., Faith, J.T., Graves, G.R., Jud, N., Labandeira, C., Looy, C.V., McGill, B., Patterson, D., Pineda-Munoz, S., Potts, R., Riddle, B., Terry, R., Ulrich, W., Villaseñor, A., Wing, S., Anderson, H., Anderson, J., Gotelli, N.J., 2016. Lyons et al. reply. *Nature*. 537, E5–E6.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

4. Roach, N.T., Hatala, K.G., Ostrofsky, K.R., Villmoare, B., Reeves, J.S., **Du, A.**, Braun, D.R., Harris, J.W.K., Behrensmeyer, A.K., Richmond, B.G., 2016. Pleistocene footprints show intensive use of lake margin habitats by *Homo erectus* groups. *Scientific Reports*. 6, 26374.

- *I participated in discussions which structured the analyses and interpreted the results, collected 5% of the data, and commented on the manuscript.*

## **2014**

3. Blois, J.L., Gotelli, N.J., Behrensmeyer, A.K., Faith, J.T., Lyons, S.K., Williams, J.W., Amatangelo, K.L., Bercovici, A., **Du, A.**, Eronen, J.T., Graves, G.R., Jud, N., Labandeira, C., Looy, C.V., McGill, B., Patterson, D., Potts, R., Riddle, B., Terry, R., Tóth, A., Villaseñor, A., Wing, S., 2014. A framework for evaluating the influence of climate, dispersal limitation, and biotic interactions using fossil pollen associations across the late Quaternary. *Ecography*. 37, 1095–1108.

- *I participated in discussions which structured the analyses and interpreted the results, and I commented on the manuscript.*

2. Miller, J.H., Behrensmeyer, A.K., **Du, A.**, Lyons, S.K., Patterson, D., Tóth, A., Villaseñor, A., Kanga, E., Reed, D., 2014. Ecological fidelity of functional traits based on species presence-absence in a modern mammalian bone assemblage (Amboseli, Kenya). *Paleobiology*. 40, 560–583.

- *I participated in discussions which structured the analyses and interpreted the results, collected 33% of the data, conducted 10% of the analyses, wrote 10% of the paper, and commented on the manuscript.*

## **2009**

1. Haslam, M., Hernandez-Aguilar, A., Ling, V., Carvalho, S., de la Torre, I., DeStefano, A., **Du, A.**, Hardy, B., Harris, J., Marchant, L., Matsuzawa, T., McGrew, W., Mercader, J., Mora, R., Petraglia, M., Roche, H., Visalberghi, E., Warren, R., 2009. Primate archaeology. *Nature*. 460, 339–344.

- *I participated in discussions which structured the paper, wrote a paragraph, and I commented on the manuscript.*

## **Book chapters**

### **Submitted/In review/In revision/Resubmitted**

### **Accepted/In press**

## **2020**

2. **Du, A.**, Wood, B., 2020. Brain size evolution in the hominin clade. In: Cole, J., McNabb, J., Grove, M., and Hosfield, R. (Eds.), *Landscapes of Human Evolution: Contributions in honour of John Gowlett*. Archaeopress, Oxford. 9-17.

- *I wrote 50% of the manuscript and commented on it.*

## **2019**

1. Beaudet, A., **Du, A.**, Wood, B.A., 2019. Evolution of the modern human brain. In: Hofman, M.A. (Ed.), *Evolution of the Human Brain: From Matter to Mind*. Academic Press. 250, 219-250.

- *I wrote 30% of the manuscript and commented on it.*

## **Published Abstracts**

## **2019**

**Du, A.**, Alemseged, Z., 2019. Temporal evidence shows *Australopithecus sediba* is unlikely to be the ancestor of *Homo*. “Abstracts of the 2019 Paleoanthropology Society Meeting” *PaleoAnthropology* 2019: A10.

**Du, A.**, Behrensmeier, A.K., 2019. Comparing the accumulation of large mammal species in Amboseli National Park, Kenya over increasing temporal and spatial scales, with implications for the composition of time-averaged communities. *The Paleontological Society Special Publications NAPC Abstracts*.

Faith, J.T., **Du, A.**, 2019. Coverage-based rarefaction in zooarchaeology: potential and pitfalls. *Abstracts of the Society for American Archaeology*: 225.

## **2018**

Alemseged, Z., **Du, A.**, Rowan, J., Wood, B., 2018. Estimating the timing of and placing confidence intervals on the origination and extinction of the *Australopithecus anamensis-afarensis* lineage. “Abstracts of the 2018 Paleoanthropology Society Meeting” *PaleoAnthropology* 2018: A1.

**Du, A.**, Alemseged, Z., Bobe, R., Behrensmeyer, A.K., 2018. Assessing mammalian diversity in relation to hominin evolution in the Omo-Turkana Basin, eastern Africa. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program*: .

**Du, A.**, Behrensmeyer, A.K., 2018. Implications for interpreting time-averaged fossil assemblages from an analysis of spatiotemporal scaling relationships in species richness for the Amboseli large mammal fauna, southern Kenya. “Abstracts of the 2018 Paleoanthropology Society Meeting” *PaleoAnthropology* 2018: A10.

Faith, J.T., **Du, A.**, Rowan, J., 2018. Emergence of the functionally modern ungulate community in eastern Africa. “Abstracts of the 2018 Paleoanthropology Society Meeting” *PaleoAnthropology* 2018: A12-A13.

Rowan, J., **Du, A.**, 2018. Divergent diversification histories of large mammals across two sedimentary basins in eastern Africa over the last 7 Myr. “Abstracts of the 2018 Paleoanthropology Society Meeting” *PaleoAnthropology* 2018: A31.

## **2017**

**Du, A.**, Behrensmeyer, A.K., 2017. Extrapolating species richness across spatiotemporal scales in an East African large mammal community to predict fossil community richness. International Biogeography Society Conference Program and Abstracts: 120-121.

**Du, A.**, Zipkin, A.M., Hatala, K.G., Renner, E., Baker, J.L., Bianchi, S., Bernal, K., Wood, B., 2017. A taxonomic scale-explicit analysis of brain size evolution in the hominin clade. *American Journal of Physical Anthropology*: 166.

## **2016**

Behrensmeyer, A.K., **Du, A.**, Villasenor, A., Patterson, D., Hatala, K., Roach, N.T., Richmond, B.G., Bobe, R., 2016. Body fossils, trackways and stable isotopes: synthesizing Pleistocene paleoecology in the Okote Member, Koobi Fora Formation, Kenya. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program*: 95-96.

Behrensmeyer, A.K., **Du, A.**, Villasenor, A., Patterson, D., Richmond, B.G., Hatala, K., Roach, N.T., 2016. Hominins in context – paleogeography and ecology of the Okote Member, Koobi

Fora Formation, East Turkana. "Abstracts of the Paleoanthropology Society 2016 Meeting" *PaleoAnthropology* 2016: A3-A4.

**Du, A.**, Behrensmeyer, A.K., Bobe, R., 2016. Applying the ecological core-transient species paradigm to Plio-Pleistocene fossil mammals in the Omo-Turkana Basin, East Africa. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program*: 128.

Roach, N.T., Hatala, K.G., Ostrofsky, K.R., Villmoare, B., Reeves, J.S., Du, A., Braun, D.R., Harris, J.W.K., Behrensmeyer, A.K., Richmond, B.G., 2016. Homo erectus paleoecology and behavior based on 1.5 million year old footprints from northwestern Kenya. *American Journal of Physical Anthropology* 159(S62): 270-270.

## **2015**

Behrensmeyer, A.K., **Du, A.**, Villasenor, A., Patterson, D., Richmond, B.G., Hatala, K., Roach, N.T., 2015. Evidence for shifting base levels and climatic vs. tectonic controls on the fossil record of the Okote Member, Koobi Fora Formation, East Turkana. *Geological Society of America Abstracts with Programs*. 47: 288.

**Du, A.**, Behrensmeyer, A.K., Rowan, J., Davis, M., 2015. Comparing taxonomic and functional change through time in terrestrial mammal paleo-communities in Pliocene-Pleistocene East Africa. *Ecological Society of America Annual Meeting*.

**Du, A.**, Rowan, J., Patterson, D.B., 2015. Quantifying habitat preference of extinct mammals, including hominins, in Plio-Pleistocene eastern Africa. "Paleoanthropology Society Meeting Abstracts, San Francisco, CA, 14-15 April 2015" *PaleoAnthropology* 2015: A7-A8.

**Du, A.**, Rowan, J., Patterson, D.B., 2015. Quantifying the habitat preferences of large mammals in Pliocene-Pleistocene eastern Africa using estimated fraction woody canopy cover. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program*, 119.

Reeves, J. Braun, D., Douglass, M., Hlubik, S., **Du, A.**, Patterson, D., Harris, J., 2015. Landscape-scale patterning in hominin behavior in the Okote Member at East Turkana, northern Kenya: pairing behavioral and paleoecological data. "Paleoanthropology Society Meeting Abstracts, San Francisco, CA, 14-15 April 2015" *PaleoAnthropology* 2015: A27.

Rowan, J., Reed, K.E., **Du, A.**, Locke, E.M., Smail, I., Campisano, C.J., Lazagabaster, I.A., 2015. Fossil mammals reveal patterns of inter- and intra-basinal endemism in eastern Africa, ca. 4 to 1 Ma: implications for hominin biogeography. "Paleoanthropology Society Meeting Abstracts, San Francisco, CA, 14-15 April 2015" *PaleoAnthropology* 2015: A29.

## **2014**

Ashley, G.M., Ndiema, E., Spencer, J.Q.G., **Du, A.**, Lordan, P.T., Kiura, P.W., Harris, J.W.K., 2014. A cultural revolution in hunter-gatherer subsistence strategies likely linked to Holocene



climate change: applications of OSL dating to archeology. *Geological Society of America Abstracts with Programs* 46: 4.

**Du, A.**, Behrensmeyer, A.K., Bobe, R., 2014. Degrees of bias in the collection of vertebrate paleoecological data: comparing and reconciling different scales from multiple collection methods. *The Paleontological Society Special Publications NAPC Abstracts* 13: 10.

**Du, A.**, Behrensmeyer, A.K., Davis, M.B., 2014. Comparing taxonomic and functional change through time in terrestrial vertebrate paleo-communities in Plio-Pleistocene northern Kenya. 4<sup>th</sup> International Paleontological Congress.

**Du, A.**, Zipkin, A., Hatala, K.G., Baker, J., Bianchi, S., Renner, E., Bernal, K., Wood, B., 2014. Quantifying the tempo and mode of hominin cranial capacity evolution taking into account dating and measurement error. "Paleoanthropology Society Meeting Abstracts, Calgary, Canada, 8-9 April 2014" *PaleoAnthropology* 2014: A7.

Lyons, S.K., Blois, J., Gotelli, N.J., Behrensmeyer, A.K., Faith, J.T., Amatangelo, K.L., DiMichele, W.A., **Du, A.**, Eronen, J.T., 2014. Patterns of co-occurrence of plant and mammal species across critical intervals. *The Paleontological Society Special Publications NAPC Abstracts* 13: 53-54.

Miller, J., Behrensmeyer, A.K., **Du, A.**, Lyons, S.K., Patterson, D.B., Tóth, A., Villaseñor, A., Kanga, E., Reed, D., 2014. Ecological fidelity of functional traits based on presence-absence in the mammalian bone assemblage of Amboseli National Park, Kenya. *The Paleontological Society Special Publications NAPC Abstracts* 13: 9.

### **2013**

Blois, J.L., Gotelli, N.J., Behrensmeyer, A.K., Faith, J.T., Lyons, S.K., Williams, J.W., Amatangelo, K.L., Bercovici, A., **Du, A.**, Eronen, J., Graves, G.R., Jud, N., Labandeira, C., Looy, C., McGill, B., Patterson, D., Potts, R., Riddle, B., Terry, R., Tóth, A., Villaseñor, A., Wing, S., 2013. The influence of climate and dispersal limitation on the stability of biotic associations across the late Quaternary. *Abstracts of the International Biogeography Society 2013 Meetings*: 29-30.

Bobe, R., Villaseñor, A., Patterson, D., **Du, A.**, 2013. Geographic and temporal variation in East African Plio-Pleistocene mammals. *Abstracts of the Society for American Archaeology*: 70.

### **2012**

**Du, A.**, Faith, J.T., Behrensmeyer, A.K., Patterson, D.B., Villaseñor, A., 2012. The effects of craniodental sampling on ecological variables in modern and fossil mammal landscape assemblages. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program*: 89.

**Du, A.**, Faith, J.T., Behrensmeyer, A.K., Patterson, D.B., Villaseñor, A., 2012. Paleoecological implications of sampling methodology in landscape fossil assemblages. *Annual Meeting of the Society for American Archaeology: 110*.

Patterson, D.B., **Du, A.**, Villaseñor, A., Bobe, R., Behrensmeyer, A.K., Reed, D., 2012. Taphonomic comparison of modern East African owl pellets and the Kanapoi fossil micromammal assemblage. *"Abstracts of the PaleoAnthropology Society 2011 Meetings." PaleoAnthropology 2012: A26*.

Weng, Y., Sun, F., Fluegeman, R.H., **Du, A.**, Onasanya, S.O., Parker, B., Pethe, S., 2012. A case study of using iPhone to digitally record geologic field data at BSU Summer Field Camp. Geological Society of America *Abstracts with Programs* 44: 7.

## **2011**

**Du, A.**, Behrensmeyer, A.K., Blumenschine, R.J., Faith, J.T., 2011. Landscape neotaphonomic studies and East African carnivore guild structure: modeling hominin scavenging opportunities. *"Abstracts of the PaleoAnthropology Society 2011 Meetings." PaleoAnthropology 2011: A10*.

**Du, A.**, Behrensmeyer, A.K., Blumenschine, R.J., Faith, J. T., 2011. Landscape neotaphonomy and East African carnivore guild structure: modeling hominin scavenging opportunities. *Annual Meeting of the Society of Vertebrate Paleontology Abstracts and Program: 101*.

Lyons, S.K., Faith, J.T., Behrensmeyer, A.K., Amatangelo, K.L., Blois, J., DiMichele, W.A., **Du, A.**, Eronen, J.T., Gotelli, N.J., Graves, G.R., 2011. A comparison of plant and mammal community structure from deep time to the recent. Geological Society of America *Abstracts with Programs*, 43: 31.

## **2009**

**Du, A.**, DeStefano, A., Harris, J.W.K., Braun, D.R., Carvalho, S., 2009. Actualistic studies on defining traces on stone anvils and implications to recognizing anvils in the archaeological record. *"Abstracts of the PaleoAnthropology Society 2009 Meetings." PaleoAnthropology 2009: A9-A10*.

## **Encyclopedia Entries**

### **2011**

“Contributor”, 2011. In: *Wiley-Blackwell Encyclopedia of Human Evolution*, Wood, B. (ed.), Wiley-Blackwell.

- Contributed entries: “Oxygen Isotope Stages 1-21,” “Afalou-Bou-Rhummel,” “Dar es Soltane 5,” “Irhoud 1,” “Irhoud 2,” “Kébibat,” “Salé,” “Salé 1,” “Smugglers’ Cave (Témara),” “Tighenif 1,” “Tighenif 3,” and “Wadi Tushka.”

## **Other publications**

## **2019**

**Du, A.,** 2019. Where did we come from? Using the fossil record to find the true ancestor of the genus *Homo*. Science Trends. <https://sciencetrends.com/where-did-we-come-from-using-the-fossil-record-to-find-the-true-ancestor-of-the-homo-genus/>

## **2010**

**Du, A.,** 2010. Following in the Footsteps of our Ancestors. In: *World Prehistory and Archaeology: Pathways through Time, 2<sup>nd</sup> ed.*, Chazan, M. (author), Prentice Hall.

## **AWARDS AND HONORS:**

2014 Philip J. Amsterdam Graduate Teaching Award  
The George Washington University

## **GRANTS AND FELLOWSHIPS:**

2020 National Science Foundation, Archaeology (pending). Did an increasing carnivorous *Homo erectus* cause Pleistocene mammal extinctions in eastern Africa? PI: W. Andrew Barr; Co-PI: Kendra L. Chritz, Andrew Du; Senior Personnel: J. Tyler Faith, Margaret Lewis, John Rowan. Period: 6/1/2020-5/30/2023. Amount: \$199,887.

National Science Foundation, Archaeology (pending). The carnivorous feeding behavior and ecology of *Homo* across the Oldowan-Acheulean transition at Olduvai Gorge, Tanzania. PI: Michael Pante; co-PI: Jackson Njau; Senior Personnel: Andrew Du, Connie Fellman, Ian Stanistreet, Harald Stolhofen. Period: 7/1/20-6/30/22. Amount: \$298,658.

2016 Shenkman Student Professional and Career Development Grant - \$350  
The George Washington University

2013 Explorers Club Washington Group Exploration and Field Research Grant - \$1000  
The George Washington University

Explorers Club Exploration Fund- \$1850  
The George Washington University

2010- National Science Foundation IGERT Fellowship - \$24,000/year

2015 The George Washington University

## **INVITED LECTURES:**

2017 Tempo and mode of human brain evolution is scale-dependent (January 13<sup>th</sup>)

Arizona State University

- 2018 Understanding how time-averaging affects our interpretation of ecological communities (May 17<sup>th</sup>)  
The University of Chicago

Developing a theoretical framework for time-averaging and understanding its effects on the interpretation of fossil communities (November 14<sup>th</sup>)  
Rutgers University

- 2019 Separating signal from noise in human evolution using quantitative methods (February 18<sup>th</sup>)  
Colorado State University

Stable carbon isotopes from paleosol carbonate & herbivore enamel document differing paleovegetation signals in the eastern African Plio-Pleistocene (November 27<sup>th</sup>)  
University of Utah

- 2020 Inferring whether a taxon was truly absent from a site or has not been sampled yet: applications to *Paranthropus* (February 28<sup>th</sup>)  
University of Colorado Boulder

Placing probabilities on whether a taxon was truly absent from a site or has not been sampled yet: applications to the hominin genus *Paranthropus* (July 16<sup>th</sup>)  
Canadian Museum of Nature

Placing probabilities on taxon true absence: applications to the hominin genus *Paranthropus* (July 31<sup>st</sup>)  
Smithsonian National Museum of Natural History

#### **CAMPUS OR DEPARTMENTAL TALKS:**

- 2017 The role of scale in ecological inference: implications for interpreting paleoecological patterns (November 14<sup>th</sup>)  
Undergraduate Paleontology Club, The University of Chicago

#### **UNPUBLISHED PODIUM & POSTER PRESENTATIONS (\* Podium presentations):**

\* **Du, A.**, Behrensmeyer, A.K., 2017. Are fossil communities just spatiotemporally scaled-up versions of modern ones? 1<sup>st</sup> Great Lakes Student Paleoconference – Ann Arbor, Michigan.

\* Behrensmeyer, A.K., **Du, A.**, 2015. Landscape perspectives on the taphonomy of modern and fossil bone assemblages. “From a landscape perspective: a celebration of J.W.K. Harris’ career” workshop.

\* **Du, A.**, 2015. Multi-scale pattern and process in mammalian communities: implications for the archaeological record. “From a landscape perspective: a celebration of J.W.K. Harris’ career” workshop.

\*Harris, J.W.K., Matsuzawa, T., McGrew, W.C., Visalberghi, E., Marchant, L., Carvalho, S., Braun, D., **Du, A.**, Barbour, K., Van Plantinga, A., Rodgers, J., Lyons, C., 2010. Modeling the Behavior of the Earliest Hominins Drawing on the New Discipline of Primate Archaeology. International Primatological Society XXIII Congress – Kyoto University, Japan.

**Du, A.**, Harris, J., 2009. Recognizing anvils in the archaeological record: an actualistic approach. Rutgers’s Fifth Annual University-wide Undergraduate Research Symposium.

\*Harris, J.W.K., Braun, D.R.B., McCoy, J., Rogers, M., Merritt, S., Kibunjia, M., McGrew, W., Visalberghi, E., Matsuzawa, T., Marchant, L., Carvalho, S., DeStefano, A., **Du, A.**, Barbour, K., Van Plantinga, A., 2009. Retrospective on the archaeology of human origins, east of Lake Turkana, Kenya. Africa, Cradle of Humanity: Recent Discoveries – Algiers, Algeria.

\* Bennett, M., DeStefano, A., **Du, A.**, Furman, M., Kwiatek, J., 2008. One Step at a Time: New Hominid Footprints Change the Way We View Human Evolution. Rutgers University Lecture.

\* **Du, A.**, DeStefano, A., Hodge, R., Harris, J., 2008. Experimental and actualistic studies in replicating defining surface traces on stone anvils and implications to recognizing pounding tools in the Plio-Pleistocene at Koobi Fora. Palaeoanthropology Meets Primatology 2: “The Origins of Percussive Technology” – Cambridge University, England.

**Du, A.**, Quinn, R., Feibel, C., 2007. Stromatolites as a key to paleoenvironmental variability in Plio-Pleistocene hominin habitats of Koobi Fora, Kenya. Rutgers’s Third Annual University-wide Undergraduate Research Symposium.

## **TEACHING EXPERIENCE:**

### **Colorado State University (instructor of record)**

#### UNDERGRADUATE

Human Origins and Variation (Intro to Biological Anthropology)  
Human Evolution

#### GRADUATE

Contemporary Issues in Biological Anthropology  
Research Design and Analysis in Anthropology

### **The George Washington University (teaching assistant)**

#### UNDERGRADUATE

Du – CV; Updated 9/3/20

Introduction to Biological Anthropology (Fall 2010); Student ratings of instructor: 4.6 & 4.4  
Lab Research Methods in Archaeology: Zooarchaeology & Paleoecology (Spring 2011)  
Human Cultural Beginnings (Fall 2011)  
Hominin Evolution (Fall 2013); Student ratings of instructor: 4.9 & 4.7

#### GRADUATE

R companion course to Analytical Methods in Human Evolutionary Studies (Spring 2013)

#### **Koobi Fora Field School (instructor)**

Modern ecological census methods; stone tool knapping, faunal analysis, geology field methods  
(Summer 2008, 2009, 2011, 2012, 2014)

#### **DIVERSITY, EQUITY, AND INCLUSION INITIATIVES**

2020 Attended workshop on inclusive pedagogy, intergroup relations, and social justice run by  
Intergroup Relations Institute (January 13<sup>th</sup>-15<sup>th</sup>)  
Colorado State University

Co-led diversity, equity, and inclusion journal club for junior academics (Summer)

Member of College of Liberal Arts Open Door Pedagogy Network (Fall)

- *Duties included attending orientation and training workshops to ultimately have  
conversations with department colleagues about inclusive pedagogy*  
Colorado State University

#### **STUDENT MENTORING:**

##### **Graduate**

Wyatt Benson – CSU MA student (chair)  
Robert Kaplan – CSU PhD student (committee member)  
Nicole Lopinski – CSU PhD student (committee member)  
Alex Pelisserio – CSU PhD student (committee member)

##### **Undergraduate**

Elena Haverluk – CSU (committee member)

#### **RESEARCH EXPERIENCE:**

##### **Fieldwork**

Du – CV; Updated 9/3/20

Amboseli National Park, Kenya (2019)

- Collected ecological and taphonomic data on fossil and modern skeletal assemblages on landscape

Koobi Fora, Kenya (2007-2009, 2011-2012, 2014)

- Experimental stone tool studies; measured geological sections and mapped geological deposits; surveyed for and collected fossil mammal material

Tsavo East, Kenya (2013)

- Surveyed for and collected data on modern mammal skeletal assemblages

Olorgesailie, Kenya (2010)

- Measured geological sections; identified fossil fauna

Petrified Forest National Park, Arizona, United States (2010)

- Measured geological sections

Olduvai Gorge, Tanzania (2009)

- Sorted and catalogued faunal and lithic specimens

### **Museum work**

National Museums of Kenya (2007-2014, 2019)

- Identified collected fossil (Koobi Fora, Amboseli) and modern (Tsavo East, Amboseli) specimens from the field; examined fossils for surface modifications

### **EXTRA TRAINING:**

2018 University of Chicago

Spring, Took class in Data Analysis for the Geophysical Sciences

2014 University of Maine

Fall, Took classes in Community Ecology & Advanced Biometry

2013 Macquarie University, Paleobiology Database Intensive Workshop in Analytical Methods

Summer, Training in Programming and Quantitative Methods

2012 Ball State University Geology Field Camp

Summer, Geology Field Training

2007 Koobi Fora Field School, Kenya

Summer, Paleoanthropology Field Training

### **ATTENDED RESEARCH WORKSHOPS:**

2011- Evolution of Terrestrial Ecosystems Working Group: “Synthesizing Deep Time and

2020 Recent Community Ecology: Community Assembly & Disassembly” (biannual meeting)  
Smithsonian National Museum of Natural History

Du – CV; Updated 9/3/20

- 2017 PACE Workshop: Linking Paleoecology and Community Ecology (May 21<sup>st</sup>-26<sup>th</sup>)  
Schoodic Peninsula, Maine
- 2015 Advanced Community Data Analysis Using *vegan* (August 9<sup>th</sup>)  
Ecological Society of America, Baltimore, Maryland
- “From a landscape perspective: a celebration of J.W.K. Harris’ career” (April 20<sup>th</sup>-21<sup>st</sup>)  
Riverstone Ranch, Healdsburg
- 2014 Analytical Taphonomy Short Course (September 31<sup>st</sup>)  
International Paleontological Congress, Mendoza, Argentina
- 2012 Modern Ecology and Taphonomy R Workshop (June 18<sup>th</sup>-22<sup>nd</sup>)  
Smithsonian National Museum of Natural History
- One Day R Short Course (March 9<sup>th</sup>)  
Smithsonian National Museum of Natural History
- 2008 “Palaeoanthropology Meets Primatology: The Origins of Percussive Technology”  
(October 18<sup>th</sup>)  
University of Cambridge

### **TECHNICAL SKILLS:**

R statistical language  
MS Office (Word, Excel, PowerPoint)  
Adobe Photoshop  
Adobe Illustrator  
ImageJ  
Basic GIS

### **LANGUAGES:**

English  
Chinese Mandarin (Spoken)  
Conversational Spanish

### **PROFESSIONAL ORGANIZATION MEMBERSHIP:**

American Association of Physical Anthropologists  
East African Association for Palaeoanthropology and Palaeontology  
Ecological Society of America  
International Biogeography Society



Paleoanthropology Society  
The Paleontological Society  
Society of Vertebrate Paleontology

## **SERVICE TO PROFESSION**

American Association of Physical Anthropology Early Career Panel (March 27<sup>th</sup>, 2019)  
- Answered questions from graduate students about transitioning to a career after getting a PhD

American Association of Physical Anthropology Pollitzer judge (January 2020)

- Read and rated 14 essays for student travel award

Reviewer for *Ecology*; *Evolutionary Anthropology*; *Journal of Human Evolution*; *Nature Communications*; *Nature Ecology and Evolution*; *Palaeogeography, Palaeoclimatology, Palaeoecology*; *Quaternary Science Reviews*; *African Paleoeology and Human Evolution* volume (edited by Sally Reynolds & René Bobe)

## **DEPARTMENTAL/UNIVERSITY SERVICE**

- Volunteered at anthropology table at CSU Ram Welcome street fair (August 23, 2019).
- Minute-taker at CSU faculty meetings (Fall 2019-).
- Started and currently lead a biological anthropology journal club at CSU (Fall 2019-).
- Served on CSU Seminar Series Committee (Fall 2019-).
- Faculty liaison to CSU Undergraduate Anthropology Club and Anthropology Graduate Student Society (Fall 2019-).
- Led Zotero reference manager workshop for graduate students (Feb. 17<sup>th</sup>, 2020).
- Reviewed manuscripts for *Further Perspectives* CSU anthropology journal (Spring 2020).
- Participated in Ram Welcome orientation for incoming Anthropology & Geography undergraduates (August 21, 2020).

## **MEDIA COVERAGE:**

2019 *Proceedings of the National Academy of Sciences* hominin non-analog ecosystems paper (October 2019):

- Pringle R.M., 2020. Paleoeology: the functional uniqueness of ancient megafauna. *Current Biology*. 30, R32-R35. (*Current Biology* commentary)
- <https://unews.utah.edu/early-humans-evolved/>
- <https://cosmosmagazine.com/palaeontology/there-was-life-but-not-as-we-know-it>
- <https://www.dailymail.co.uk/sciencetech/article-7552087/Humans-ancestors-evolved-diverse-ecosystem-present-day-new-study-says.html>
- <https://www.humanevolution.news/early-humans-evolved-in-ecosystems-unlike-any-found-today/>

2019 *Science* end-Pleistocene megafaunal extinction paper (September 2019):

- <https://source.colostate.edu/csu-anthropologist-history-offers-lesson-about-decline-of-large-mammals/>
- <https://theconversation.com/extinction-of-ice-age-giants-likely-drove-surviving-animals-apart-125132>
- <https://news.unl.edu/newsrooms/today/article/division-by-subtraction-extinction-of-large-mammal-species-likely-drove/>
- <https://researchfrontiers.uark.edu/anthropologist-contributes-to-major-study-of-large-animal-extinction/>
- <https://www.horsetalk.co.nz/2019/09/23/humans-role-north-american-extinctions/>
- <https://phys.org/news/2019-10-extinction-saber-toothed-cats-impact-mammals.html>
- <https://www.gwhatchet.com/2019/10/14/anthropology-research-compares-prehistoric-ecosystems-to-current-biodiversity-crisis/>

2019 *Science Advances* testing *A. sediba* as the ancestor of *Homo* paper (May 2019):

- <https://news.uchicago.edu/story/study-challenges-claim-2-million-year-old-fossil-human-ancestor>
- <http://blogs.discovermagazine.com/deadthings/2019/05/08/sediba/#.XNMhzC-ZPUI>
- <https://cosmosmagazine.com/palaeontology/australopithecus-species-dismissed-as-human-ancestor>
- <https://gizmodo.com/new-analysis-debunks-controversial-claim-about-the-orig-1834613989>
- <https://www.earth.com/news/south-african-fossil-species/>
- <https://www.inverse.com/article/55643-australopithecus-sediba-human-ancestor-debate>
- <https://www.dailymail.co.uk/sciencetech/article-7007291/Ancient-South-African-fossil-thought-human-ancestor-NOT-genus-study-concludes.html>
- <https://evolutionnews.org/2019/05/another-human-ancestor-falsified-study-puts-australopithecus-sediba-back-in-the-ground/>
- <https://www.sciencedaily.com/releases/2019/05/190508142452.htm>
- <https://www.the-scientist.com/news-opinion/australopithecus-sediba-not-likely-humans-ancestor--study-65857>
- <https://www.haaretz.com/archaeology/.premium.MAGAZINE-who-s-our-ancestral-species-not-this-south-african-hominin-scientists-say-1.7225009>
- <https://www.futurity.org/australopithecus-sediba-fossils-human-evolution-2062002-2/>
- <https://www.ancient-origins.net/news-evolution-human-origins/australopithecus-sediba-0011881>
- <https://arstechnica.com/science/2019/05/probability-helps-narrow-down-the-search-for-human-ancestors/>

2018 *Science* hominin impacts on megaherbivore diversity paper (November 2018):

- Bobe, R., Carvalho, S., 2018. The decline of Africa's largest mammals. *Science*. 362, 892–893. (*Science* commentary)
- <https://www.bbc.com/news/science-environment-46306622>
- <https://www.independent.co.uk/environment/nature/africa-megafauna-extinct-humans-climate-change-university-utah-a8647216.html>

- <https://www.dailymail.co.uk/sciencetech/article-6418155/Humans-DIDNT-kill-Africas-largest-mammals.html>
- <https://www.iflscience.com/plants-and-animals/our-ancestors-arent-to-blame-for-loss-of-africas-large-mammals/>
- <https://www.uchicagomedicine.org/forefront/biological-sciences-articles/2018/november/human-ancestors-not-to-blame-for-ancient-mammal-extinctions-in-africa>
- <https://www.msn.com/en-za/news/science/africa's-megaherbivores-succumbed-to-declining-woodlands-new-research-shows/ar-BBQ4NCu>
- <https://dailyheralds.org/research/africa-megaherbivores-succumbed-declining-woodlands-new-research-shows-48280808>
- <https://unews.utah.edu/human-ancestors-not-to-blame-for-ancient-mammal-extinctions-in-africa/>
- <https://news.ucsc.edu/2018/11/science-megaherbivores.html>
- <https://cosmosmagazine.com/palaeontology/ancient-african-extinctions-humans-off-the-hook>
- <https://www.youtube.com/watch?v=nBSO9eds2g4>

2018 *Proceedings B* hominin brain size evolution paper (February 2018):

- <https://www.inverse.com/article/41497-human-brain-size-evolution>
- <https://www.jhunewsletter.com/article/2018/03/the-progressive-evolution-of-human-brain-size>
- <https://www.sciencedaily.com/releases/2018/02/180220212021.htm>
- [https://www.uchicagomedicine.org/forefront/biological-sciences-articles/2018/february/brain\\_size-of-human-ancestors-evolved-gradually-over-3-million-years](https://www.uchicagomedicine.org/forefront/biological-sciences-articles/2018/february/brain_size-of-human-ancestors-evolved-gradually-over-3-million-years)
- <https://www.sciencealert.com/increased-endocranial-volumes-human-ancestors-evolved-gradually>
- <https://www.dailymail.co.uk/sciencetech/article-5419305/Human-brain-TRIPLED-size-three-million-years.html>
- <http://www.btrtoday.com/listen/thedailybeat/andrew-du-on-human-brain-size/>

Interview describing experiences of excavating fossil footprints and conducting archaeological experiments in the field (October 23<sup>rd</sup>, 2009):

- <http://www.foxnews.com/story/0,2933,569182,00.html>

Interview with *Philadelphia Inquirer* about excavating fossil footprints (March 2<sup>nd</sup>, 2009):

- <http://www.philly.com/philly/news/homepage/40409407.html>

## **PUBLIC UNDERSTANDING OF SCIENCE**

Computational Biology workshop for high school science clubs, The University of Chicago and Rauner College Prep. (February 24<sup>th</sup> & May 22<sup>nd</sup>, 2019)

- Gave a talk on the importance of computation in my research

Du – CV; Updated 9/3/20

“BePolished” event, The George Washington University (April 23<sup>rd</sup>, 2016)

- Created and supervised a taphonomy and paleontology education station for female minority elementary school students

Human Origins Today: “Early humans as part of prehistoric ecological communities”, Smithsonian National Museum of Natural History (February 27<sup>th</sup>, 2015)

- Held a question and answer session with the public about hominin paleoecology

St. Columba’s Nursery School, Washington, DC (January 30<sup>th</sup>, 2014)

- Created and supervised evolution education activities for preschoolers

“Scientist is in”, Smithsonian National Museum of Natural History (October 17<sup>th</sup>, 2013)

- Interacted with the public and answered questions about hominin casts”

“Forensic Friday”, Smithsonian National Museum of Natural History (March 18<sup>th</sup>, 2011)

- Taught taphonomy to the public using hands-on specimens

Internship with Dr. Briana Pobiner, Smithsonian National Museum of Natural History (Fall 2011)

- Developed website modules explaining dating techniques and to promote understanding of deep time concepts

Volunteer for “Rutgers Day”, Rutgers University (April 25<sup>th</sup>, 2009)

- Educated the public about human evolution using hominin casts

## **REFERENCES**

Dr. Anna K. Behrensmeyer  
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