

# HERMAN PONTZER

Evolutionary Anthropology, Duke University  
211 Biological Sciences Bldg. • Durham, NC 27708 • herman.pontzer@duke.edu

## **Education**

2006 Harvard University PhD Biological Anthropology  
2003 Harvard University AM Biological Anthropology  
1999 Penn State University BA Anthropology *with Honors*

## **Professional Appointments**

2018 – Associate Professor of Evolutionary Anthropology, Duke University  
2013 – 18 Associate Professor of Anthropology, Hunter College  
Graduate Center Faculty, City University of New York  
Faculty Member, New York Consortium for Evolutionary Primatology  
2011 – 13 Assistant Professor of Anthropology, Hunter College  
2006 – 10 Assistant Professor of Anthropology, Washington University

## **Education & Outreach**

*beta version* Founder, [hominoid.org](http://hominoid.org) [www.hominoid.org](http://www.hominoid.org)  
Resources and data for researchers, zoos, and sanctuaries working with apes  
2013 – Founder, [Australopithecus.org](http://Australopithecus.org) [www.australopithecus.org](http://www.australopithecus.org)  
Resources and data for researchers, educators, and students in human evolution  
2011 – Co-Founder and Co-Director, Hadza Fund [www.hadzafund.org](http://www.hadzafund.org)  
Supporting medical care for the Hadza and providing information on their culture

## **Grants (external)**

2018 – 21 Development & Implementation of a Global Human Metabolic Physiology Database  
National Science Foundation. Role: PI  
2016 – 18 Tradeoffs in Childhood Energy Allocation & the Impact of Market Integration  
NSF SBE Post-Doctoral Fellowship (Samuel Urlacher) Role: Co-PI & Mentor  
2014 – 17 The Evolutionary Biology and Health Consequences of Human Inactivity  
National Science Foundation. Role: Co-PI (David Raichlen, PI)  
2013 – 15 Total Energy Expenditure in Apes Measured Using Doubly Labeled Water  
National Science Foundation. Role: PI  
2013 – 14 Energy Expenditure and Life History Among Hominoids  
Wenner-Gren Foundation. Role: PI  
2012 – 13 Hominoid Daily Energy Expenditure  
L.S.B. Leakey Foundation Research Grant. Role: PI  
2009 – 12 The Metabolic Cost of Living in Human Foragers.  
National Science Foundation. Role: PI  
2009 – 10 Hominin Gait Optimization & Analysis Using Evolutionary Dynamic Modeling  
National Science Foundation. Role: Co-PI (William Smart, PI)

- 2009 – 10 Metabolic Cost of Living in Bonobos.  
Wenner-Gren Foundation. Role: PI
- 2005 – 07 Energetics and Evolution of Bipedalism: Chimpanzee Biomechanics.  
L.S.B. Leakey Foundation Research Grant. Role: Co-PI (David Raichlen, PI)
- 2004 – 05 The Effect of Hindlimb Length on Running and Walking Performance  
NSF Doctoral Dissertation Improvement Grant. Advisor: D.E. Lieberman

### **Awards and Fellowships**

- 2017 Outstanding Scholar Alumni Award, Schreyer Honors College, Penn State Univ.
- 2017 40 Under 40 Rising Stars in New York Food Policy, NYC Food Policy Center
- 2016 Presidential Award for Distinguished Scholarship, Hunter College
- 2008 – 10 Earle H. & Suzanne S. Harbison Faculty Fellowship, Washington Univ.
- 2006 Richard J. Herrnstein Prize, Harvard Univ. Graduate School of Arts & Sciences for “the best dissertation that exhibits excellent scholarship, originality and breadth of thought, and a commitment to intellectual independence”
- 2006 Aleš Hrdlička Prize for Outstanding Student Paper, Am Assoc. Phys. Anthropol.
- 2006 D. Dwight Davis Prize for Outstanding Student Paper, Soc. Integ. & Comp. Biol.
- 2004 – 06 NSF-IGERT Fellowship. Harvard Biomechanics NSF-IGERT Program.
- 2002 – 05 Excellence in Teaching Award, Harvard University.
- 2000 – 03 NSF Graduate Fellowship. Biological Anthropology, Harvard University.
- 1999 Phi Beta Kappa

### **Publications**

#### **Books**

- 2012 Conroy, G.C., Pontzer, H. *Reconstructing Human Origins: A Modern Synthesis*. 3<sup>rd</sup> ed. New York: Norton. 672 pages.

#### **Popular Articles & Commentary**

- 2019 Pontzer, H. Evolved to exercise. *Scientific American*. January, 22-29.
- 2018 Pontzer, H. Alternative energy: Physiological evolution in the human lineage. *Natural History*. September, 37-39.
- 2017 Pontzer, H. The exercise paradox. *Scientific American*. February, 26-31.
- 2016 Pontzer, H. Behavior: Knowing when to walk away, knowing when to run. *Current Biology*. 26, R717-8.
- 2016 Yetish, G., Kaplan, H., Gurven, M., Wood, B., Pontzer, H., Manger, P.R., Wilson, C., McGregor, R., Siegel, J.M. Response to de la Iglesia et al. *Current Biology*. 26, R273-4.
- 2015 Pontzer, H. Calories! Calories! Read all about it! *NYCEP Blog*.  
<http://blog.nycep.org/calories-calories-read-all-about-it>
- 2012 Pontzer, H. Debunking the hunter-gatherer workout. *New York Times*. August 24. Sunday Review.
- 2012 Pontzer, H. Lessons from the Hadza: poor diets wreck efforts to prevent obesity and diabetes. *Diabetes Voice*. 57, 26-29.

## Research Articles (\*students)

- in revision* \*DeCasien, A., Brown, M.H., Ross, S.R., Pontzer, H. Primate energy requirements: brains, babies, or behavior? In: Lambert, J. and Rothman, J.M. (eds). *Primate Diet & Nutrition: Needing, Finding, and Using Food*. Univ. Chicago Press.
- in revision* Trumble, B.C, Pontzer, H., Stieglitz, J., Cummings, D.K., ... Gurven, M. Energetic expenditure is positively associated with male but not female testosterone among physically active forager-horticulturalists. *Am. J. Phys. Anthro.*
- in press* Rosinger, A.Y., Pontzer, H., Raichlen, D.A., Wood, B.M., Tanner, S.N., Sands, J.M. Human age-related decline in urine concentrating ability may not be universal: Hydration biomarkers from the US and two small-scale societies. *Am. J. Phys. Anthro.*
- in press* Ocobock, C., Overbeck, A., Carlson, C., Royer, C., Mervenne, A., Thurber, C., Dugas, L., Carlson, B., Pontzer, H. Sustained high levels of physical activity lead to improved performance among "Race Across the USA" athletes. *Am. J. Phys. Anthro.*
- in press* \*Christopher, L., Madimenos, F., Bribiescas, R., Urlacher, S., Snodgrass, J.J., Sugiyama, L., Pontzer, H. High energy requirements and water throughput of adult Shuar forager-horticulturalists of Amazonian Ecuador. *American Journal of Human Biology*.
- 2018 Pontzer, H. Method and rationale for recalculating dilution spaces to a single, common time point in doubly labeled water studies. *Eur. J. Clin. Nutr.* 72, 1620-1624.
- 2018 Pontzer, H., Raichlen, D.A., Wood, B.M. Hunter-gatherers as models in public health. *Obesity Reviews.* 19 (Suppl 1), 24-35.
- 2018 Pontzer, H. Energy constraint as a novel mechanism linking exercise and health. *Physiology.* 33, 384-393.
- 2018 \*Gagnon, C., Steiper, M., Pontzer, H. Elite swimmers do not exhibit a Body Mass Index (BMI) tradeoff across a wide range of event distances. *Proceedings of the Royal Society B.* 285, 20180684.
- 2018 Urlacher, S.S., Ellison, P.T., Sugiyama, L.S., Pontzer, H., Eick, G., ...Snodgrass, J.J. Tradeoffs between immune function and childhood growth among Amazonian forager-horticulturalists. *Proc. Nat'l. Acad. Sci. USA.* 115, E3914-E3921
- 2018 \*Kozma, E.E., \*Webb, N.M., Harcourt-Smith, W.E.H., ... Pontzer, H. Hip extensor mechanics and the evolution of walking and climbing capabilities in humans, apes, and fossil hominins. *Proc. Nat'l. Acad. Sci. USA.* 115, 4134-4139.
- 2018 \*Finestone, E.M., Brown, M.H., Ross, S.R., Pontzer, H. Great ape walking kinematics: Implications for hominoid evolution. *Am. J. Phys. Anthro.* 166, 43-55.
- 2017 Pontzer, H., Raichlen, D.A., \*Basdeo, T., Harris, J.A, Mabulla, A.Z.P., Wood, B.M. Mechanics of archery among Hadza hunter-gatherers. *Journal of Archeological Science: Reports.* 16, 57-64.
- 2017 Pontzer, H., Locomotor ecology and evolution in chimpanzees and humans. In: Muller, M., Wrangham, R.W., and Pilbeam, D.R. (eds). *Chimpanzees in Human Evolution*. Harvard Univ. Press.
- 2017 Pontzer, H., Economy and endurance in human evolution. *Current Biology.* 27, R613-R621.
- 2017 \*Sparrow, L.M., Pellatt, E., Yu, S.S., Raichlen, D.A., Pontzer, H., Rolian, C. Gait changes in a line of mice artificially selected for longer limbs. *PeerJ.* 5:e3008.

- 2017 Horiuchi, M., Fukuoka, Y., Handa, Y., Abe, D., Pontzer, H. Measuring the energy of ventilation and circulation during human walking using induced hypoxia. *Scientific Reports*. 7, 4938.
- 2017 Pontzer, H. The crown joules: energetics, ecology, and evolution in humans and other primates. *Evolutionary Anthropology*. 26, 12-24.
- 2017 Hora, M., Soumar, L., Pontzer, H., Sládek, V. Body size and lower limb posture during walking in humans. *PLoS ONE*. 12, e0172112.
- 2017 \*Edwards, W., Lonsdorf, E.V., Pontzer, H. Total energy expenditure in captive capuchins (*Sapajus apella*). *American Journal of Primatology*. 79, 5.
- 2017 Raichlen, D.A., Pontzer, H., Harris, J.A., Mabulla, A.Z.P., Marlowe, F.M., Snodgrass, J.J., ... Wood, B.M. Physical activity patterns and biomarkers of cardiovascular disease risk in hunter-gatherers. *American Journal of Human Biology*. 29, e22919
- 2016 Pontzer, H., Brown, M.H., Raichlen, D.A., Dunsworth, H., Hare, B., Walker, K.K., Luke, A., Dugas, L.R., Durazo-Arvizu, R., ... Ross, S.R. Metabolic acceleration and the evolution of human brain size and life history. *Nature*. 533, 390-392.
- 2016 Pontzer, H. A unified theory for the metabolic cost of legged locomotion. *Biology Letters*. 12, 20150935.
- 2016 Gurven, M.D., Trumble, B.C., Stieglitz, J., Yetish, G., Cummings, D., ... Pontzer, H. High resting metabolic rate among Amazonian forager-horticulturalists experiencing high pathogen burden. *American Journal of Physical Anthropology*. 161, 414-425
- 2016 Pontzer, H., Durazo-Arvizu, R., Dugas, L., Plange-Rhule, J., Bovet, P., ... Luke, A. Constrained total energy expenditure and metabolic adaptation to physical activity in adult humans. *Current Biology*. 26, 1-8.
- 2016 \*Laird, M.F., Vogel, E., Pontzer, H. Chewing efficiency and occlusal functional adaptation. *Journal of Human Evolution*. 93, 1-11.
- 2015 Yetish, G., Kaplan, H., Gurven, M., Wood, B., Pontzer, H., Manger, P.R., Wilson, C., McGregor, R., Siegel, J. Natural sleep and its seasonal variations in three pre-industrial societies. *Current Biology*. 25, 2862-2868.
- 2015 Pontzer, H. Energy expenditure in humans and other primates: a new synthesis. *Annual Review of Anthropology*. 44, 169-187.
- 2015 Pontzer, H. Constrained total energy expenditure and the evolutionary biology of energy balance. *Exercise and Sport Sciences Reviews*. 43, 110-116.
- 2015 Pontzer, H., Raichlen, D.A., Wood, B.M., Emery Thompson, M., Racette, S.B., Mabulla, A.Z.P., Marlowe, F.M. Energy expenditure and activity among Hadza hunter-gatherers. *American Journal of Human Biology*. 27, 628-37.
- 2015 \*Warrener, A.G., Lewton, K.L., Pontzer, H., Lieberman, D.E. A wider pelvis does not increase locomotor cost in humans, with implications for the evolution of childbirth. *PLoS ONE*. 10, e0118903.
- 2014 Pontzer, H., Raichlen, D.A., Gordon, A.D. Schroepfer-Walker, K.K., Hare, B., Dunsworth, H.M., Wood, B.M., ... Ross, S.R. Primate energy expenditure and life history. *Proceedings of the National Academy of Sciences USA*. 111, 1433-7.
- 2014 Wood, B.M., Pontzer, H., Raichlen, D.A., Marlowe, F.W. Mutualism and manipulation in Hadza-honeyguide interactions. *Evolution & Human Behavior*. 35, 540-546.

- 2014 Raichlen, D.A., Wood, B.M., Gordon, A.D., Mabulla, A.Z.P., Marlowe, F.W., Pontzer, H. Evidence of Lévy walk foraging patterns in human hunter-gatherers. *Proceedings of the National Academy of Sciences USA*. 111, 728-33.
- 2014 Pontzer, H., \*Suchman, K., Raichlen, D.A., Wood, B.M., Mabulla, A.Z.P., Marlowe, F.M. Foot strike patterns and hind limb joint angles during running in Hadza hunter-gatherers. *Journal of Sport and Health Science*. 3, 95-101.
- 2014 Pontzer, H., Raichlen, D.A., Rodman, P.S. Bipedal and quadrupedal locomotion in chimpanzees. *Journal of Human Evolution*. 66, 64-82.
- 2014 Pontzer, H., Antón, S.C., Lordkipanidze, D. Dmanisi hominins and archaeology. In: Smith, C. (ed.) *Encyclopedia of Global Archaeology*. pp 2146-2149.
- 2014 Raubenheimer, D., Rothman, J.M., Pontzer, H. Macronutrient contributions of insects to the diets of hunter-gatherers: a geometric analysis. *Journal of Human Evolution*. 71, 70-76.
- 2013 Raichlen, D.A., Pontzer, H., Shapiro, L.J. A new look at the Dynamic Similarity Hypothesis: the importance of swing phase. *Biology Open*. 0, 1-5.
- 2013 Barak, M.M., Lieberman, D.E., Raichlen, D., Pontzer, H., Warrener, A.G., Hublin, J.J. Trabecular evidence for a human-like gait in *Australopithecus africanus*. *PLoS ONE*. 8, e77687.
- 2013 Foster, A.D., Raichlen, D.A., Pontzer, H. Muscle force production during bent-knee, bent-hip walking in humans. *Journal of Human Evolution*. 65, 294-302.
- 2012 Pontzer, H., Raichlen, D.A., Wood, B.M., Racette, S.B., Mabulla, A.Z., Marlowe, F.W. Hunter-gatherer energetics and modern human obesity. *PLoS ONE*. 7, e40503.
- 2012 Pontzer, H. Relating ranging ecology, limb length, and locomotor economy in terrestrial animals. *Journal of Theoretical Biology*. 296, 6-12.
- 2012 Pontzer, H. Ecological energetics in early *Homo*. *Current Anthropology*. S346-S358.
- 2012 Dunsworth, H.M., \*Warrener, A., Deacon, T., Ellison, P., Pontzer, H. Metabolic hypothesis for human altriciality. *Proceedings of the National Academy of Sciences USA*. 109, 15212-15216.
- 2012 Pontzer, H. Overview of hominin evolution. *Nature Education Knowledge*. 3, 8.
- 2011 Pontzer, H., Raichlen, D.A., Sockol, M.D. From treadmill to tropics: calculating ranging cost in chimpanzees. In: D'Aout, K. and Vereecke, E.E. (eds) *Studying Primate Locomotion: Linking Laboratory and Field Research*. Springer. pp 289-309.
- 2011 Pontzer, H., Scott, J.R., Lordkipanidze, D., Ungar, P.S. Dental microwear texture analysis and diet in the Dmanisi hominins. *Journal of Human Evolution*. 61, 683-687.
- 2011 \*Orkin, J., Pontzer, H. The Narrow Niche hypothesis: gray squirrels shed new light on primate origins. *American Journal of Physical Anthropology*. 144, 617-24.
- 2010 Pontzer, H., Raichlen, D.A., Shumaker, R.W., \*Ocobock, C., Wich, S.A. Metabolic adaptation for low energy throughput in orangutans. *Proceedings of the National Academy of Sciences USA*. 107, 14048-14052.
- 2010 Pontzer, H., Rolian, C., Rightmire, G.P., Jashashvili, T., Ponce de León, M.S., Lordkipanidze, D., Zollikofer, C.P.E. Locomotor anatomy and biomechanics of the Dmanisi hominins. *Journal of Human Evolution*. 58, 492-504.

- 2010 \*Cowgill, L.W., \*Warrener, A., Pontzer, H., \*Ocobock, C. Waddling and toddling: the biomechanical effects of an immature gait. *American Journal of Physical Anthropology*. 143, 52-61.
- 2009 Pontzer, H., Allen, V., Hutchinson, J.R. Biomechanics of running indicates endothermy in bipedal dinosaurs. *PLoS ONE*. 4, e7783.
- 2009 Pontzer, H., Kamilar, J.M. Great ranging associated with greater reproductive investment in mammals. *Proceedings of the National Academy of Sciences, USA*. 106, 192-196.
- 2009 Raichlen, D.A., Shapiro, L.J., Pontzer, H., Sockol, M.D. Understanding increased hind limb weight support in chimpanzees and the evolution of primate kinetics. *American Journal of Physical Anthropology*. 138, 395-402.
- 2009 Pontzer, H., \*Holloway, J., Raichlen, D.A., Lieberman, D.E. Control and function of arm swing in human walking and running. *Journal of Experimental Biology*. 212, 523-534
- 2009 Pontzer, H., Raichlen, D.A., Sockol, M.D. The metabolic cost of walking in humans, chimpanzees, and early hominins. *Journal of Human Evolution*. 56, 43-54.
- 2008 Raichlen, D.A., Pontzer, H., Sockol, M.D. The Laetoli footprints and early hominin kinematics. *Journal of Human Evolution*. 54, 112-117.
- 2008 Carter, M.L., Pontzer, H., Wrangham, R.W., Kerbis Peterhans, J. Skeletal pathology in *Pan troglodytes schweinfurthii* in Kibale National Park, Uganda. *American Journal of Physical Anthropology*. 135, 389-403.
- 2007 Sockol, M.D., Raichlen, D.A., Pontzer, H. Chimpanzee locomotor energetics and the origin of human bipedalism. *Proceedings of the National Academy of Sciences, USA*. 30, 12265-12269.
- 2007 Lordkipanidze, D., Jashashvili, T., Vekua, V., Ponce de Leon, M.S., Zollikofer, C.P.E., Rightmire, G.P., Pontzer, H., Ferring, R., Oms, O., Tappen, M., et al. Postcranial evidence from early *Homo* from Dmanisi, Georgia. *Nature*. 449, 305-310.
- 2007 Pontzer, H. Limb length and the scaling of locomotor cost in terrestrial animals. *Journal of Experimental Biology*. 210, 1752-1761.
- 2007 Pontzer, H. Predicting locomotor cost in terrestrial animals: a test of the LiMb model in humans and quadrupeds. *Journal of Experimental Biology*. 210, 484-494.
- 2006 Lieberman, D.E., Raichlen, D.A., Pontzer, H., Bramble, D.M., Cutright-Smith, E. The human gluteus maximus and its role in running. *Journal of Experimental Biology*. 209, 2143-2155.
- 2006 Pontzer, H., Wrangham, R.W., The ontogeny of ranging in wild chimpanzees. *International Journal of Primatology*. 27, 295-309.
- 2006 Pontzer, H., Lieberman, D.E., Momin E., Devlin, M., Polk, J.D., Hallgrímsson, B., Cooper, D.M.L. Trabecular bone in the knee responds with high sensitivity to changes in load orientation. *Journal of Experimental Biology*. 209, 57-65.
- 2005 Pontzer, H. A new model predicting locomotor cost from limb length via force production. *Journal of Experimental Biology*. 208, 1513-1524.
- 2004 Pontzer, H., Wrangham R.W. Climbing and the daily energy cost of locomotion in wild chimpanzees: Implications for hominoid locomotor evolution. *Journal of Human Evolution*. 46, 315-333.

### Invited Book Reviews

- 2017 Pontzer, H. Review of *Demography and Evolutionary Ecology of Hadza Hunter Gatherers*. Blurton Jones, N. *American Journal of Human Biology*.
- 2014 Pontzer, H. Review of *Early Hominin Paleoecology*. Sponheimer, M., Lee-Thorp, J.A., Reed, K.E., and Ungar, P.S. (eds). *American Journal of Human Biology*.
- 2010 Pontzer, H. Review of *The Human Lineage*, by M. Cartmill and F.H. Smith. *Quarterly Review of Biology*. 85, 91.

### Invited Colloquium Presentations

- 2018 Evolved Constraint on Daily Energy Expenditure as Mechanism Linking Exercise & Health. *National Institute of Environmental Health Sciences*
- 2018 Energy Expenditure, Exercise, and Metabolic Health  
*Royal Netherlands Academy of Arts and Sciences (KNAW) colloquium*
- 2018 Energy Constraint as a Novel Mechanism Linking Exercise and Health  
*UNC Chapel Hill, Endocrinology Seminar*
- 2018 Energetics, Activity, and Health in Hunter-Gatherers and Other Traditional Populations  
*National Institutes of Health, NIDDK Grand Rounds*
- 2018 The Exercise Paradox  
*Roche Accu-Chek Network Meeting*
- 2018 Evolutionary Origins of Obesity: Lifestyle, Energetics, and Adiposity in Humans and other Apes. *New York Univ., Center for Healthful Behavior Change*
- 2017 Energetics & Evolution in Humans and other Primates  
*Rutgers University, Dept. of Ecology, Evolution, and Natural Resources*
- 2017 The Crown Joules: Energetics & Evolution in Humans and other Primates  
*Fairleigh Dickinson University, Biology Dept.*
- 2017 Energetics & Evolution in Humans and other Primates  
*Northeastern Ohio Medical University*
- 2017 The Crown Joules: Energetics & Evolution in Humans and other Primates  
*Duke University, Evolutionary Anthropology Dept.*
- 2017 Energetics, Diet & Activity in Living Hunter-Gatherers  
*University of Colorado, Denver Medical School*
- 2017 The Crown Joules: Energetics & Evolution in Humans and other Primates  
*Harvard University, Human Evolutionary Biology*
- 2016 Calories & Consequences: Energetics and Ecology in Primate Evolution  
*Duke University, Evolutionary Anthropology Dept.*
- 2016 Energetics, Diet & Activity in Living Hunter-Gatherers  
*Purdue University, Dept. of Nutrition Science*
- 2016 Calories & Consequences: Energetics and Ecology in Primate Evolution  
*Northwestern University, Dept. of Anthropology*
- 2016 Metabolic Evolution and Adaptive Strategies in Humans and other Primates  
*SUNY Stony Brook, Behavioral Ecology Group*
- 2016 Humans, the high energy ape

- CARTA Origins of Homo Symposium*
- 2015 Life in slow motion: Energetics, aging, and evolution in humans & other primates  
*Univ. of Calgary, Dept. of Anthropology*
- 2015 Ecological energetics in human evolution  
*UC Santa Barbara, Dept. of Anthropology*
- 2014 Brains, babies and bipedalism: The evolution of the human metabolic strategy  
*George Washington University, Center for the Advanced Study of Human Paleobiology*
- 2014 Healthy as a Hadza: Hunter gatherer energetics and modern human obesity  
*Loyola University Medical School*
- 2014 Hunter gatherer energetics and modern human obesity  
*Beth Israel Medical Center Division of Endocrinology. Grand Rounds.*
- 2014 Brains, babies and bipedalism: The evolution of the human metabolic strategy  
*Harvard University, Dept. of Human Evolutionary Biology*
- 2014 Operating requirements for the human body  
*Dartmouth College, Dept. of Anthropology*
- 2013 Life in slow motion: Energetics, aging, and evolution in humans & other primates  
*New York Academy of Science*
- 2013 Primate energetics and life history  
*American Museum of Natural History, Comparative Biology Seminar*
- 2013 Doubly labeled water measures of energy expenditure in humans & other primates  
*Albert Einstein College of Medicine*
- 2013 Walking tour of human evolution  
*Max Planck Institute for Evolutionary Anthropology. Leipzig, Germany*
- 2013 Primate energetics and life history  
*Yale University, Dept. of Anthropology*
- 2013 Walking tour of human evolution  
*University of Connecticut, Dept. of Anthropology*
- 2012 Hunter-gatherer energetics and modern human obesity  
*Obesity Research Center, Columbia University & St. Luke's Hospital*
- 2012 Life in slow motion: Primate energetics and life history  
*SUNY Stony Brook, Dept. of Anthropology*
- 2012 Metabolism and life history in apes, humans, and fossil hominins  
*University of New Mexico, Dept. of Anthropology*
- 2011 Humans, the high energy ape  
*Arizona State University, Dept. of Anthropology*
- 2011 Hunter gatherer energetics and the evolution of the human metabolic strategy  
*Rutgers University, Dept. of Anthropology*
- 2010 Evolved metabolic strategies in humans and other apes  
*University of California Davis, Dept. of Anthropology*
- 2010 Evolved metabolic strategies in humans and other apes  
*University of California Santa Cruz, Dept. of Anthropology*
- 2009 Ape energetics and the Human Paradox



- University of Missouri, Dept. of Anthropology*
- 2009 Are orangutans the most efficient ape? Daily energy expenditure in hominoids.  
*Yale University, Dept. of Anthropology*
- 2008 Mechanics and energetics of terrestrial locomotion.  
*Somatics of Dance Lecture Series, Washington University.*
- 2008 Walking energetics in humans and chimpanzees: are humans the only efficient ape?  
*Washington University Physical Therapy Research Group.*
- 2006 The effect of leg length on locomotor performance.  
*5th World Congress of Biomechanics. Session Chair: Dr. Alberto Minetti*
- 2006 Limb design and locomotor performance in humans and other animals.  
*Stanford NeuroMuscular Biomechanics Lab.*
- 2005 Limb length and locomotor cost, from ants to elephants.  
*SUNY Stony Brook Functional Morphology Group.*

### **Public Lectures & Other Outreach**

- 2018 Lies Your FitBit Told You: the New Science of Human Metabolism.  
*NC Museum of Natural Sciences, Science Cafe*
- 2018 Sole Survivors of a Remarkable Family: Recent Discoveries in Human Evolution  
*Explorers Club, New York City*
- 2018 Metabolic Acceleration in the Genus *Homo*: Brains, Babies, and Bipedalism  
*Energetics of the Hominins Symposium, Collège de France*
- 2017 Adapt to Endure: the Limits of Human Energy Expenditure  
*Hilliard Discussion 7. Texas A&M University*
- 2017 Flame Challenge: What is Energy?  
*World Science Festival, New York City (with Alan Alda)*
- 2016 Brain 101: the Inside Story  
*American Museum of Natural History.*
- 2016 Uncovering the Truth: Burning Calories  
*Studio 360, Story Collider and WNYC storytelling event. The Greene Space, New York.*
- 2016 Where are you from? Exploring our hunter-gatherer past  
*Rockefeller University, Summer Science Research Program*
- 2016 Energetics and the Ecology of Early *Homo*  
*CARTA Public Lecture, Origins of Homo Symposium.*
- 2016 Where are we from?  
*Presentation on Hadza hunter-gatherers to Léman Manhattan Prep. School, New York.*
- 2016 Negative results  
*Story for Horsetrade STEM Fest & Long Story Long. Kraine Theater, New York.*
- 2016 Where are we from?  
*Presentation on Hadza hunter-gatherers to St. Mary's Area Middle School, PA.*
- 2015 Consultant, Pine Grove STEM Magnet School. Jackson, CA  
*Worked with teacher Tim Keys on semester-long 5<sup>th</sup>/6<sup>th</sup> grade human ecology project*
- 2015 Design requirements for the human body: Insights from hunter-gatherers

- Meet the Scientist, American Museum of Natural History. Sackler Laboratory.*
- 2014 Consultant, Boston Museum of Science  
*Hall of Human Life. Curator: Elizabeth Kong*
- 2014 Brain Power: The other 90%. Do we only use 10% of our brain?  
*American Museum of Natural History. Salon Series.*
- 2013 The science behind the seven deadly sins: Sloth  
*Philadelphia Science Festival, Franklin Institute*
- 2013 Featured Scientist, *Against All Odds: Inside Statistics, #27 Comparing Two Means*  
*Annenberg Learner, <http://www.learner.org/resources/series65.html>*
- 2010 Out of Africa 1.0: the Dmanisi hominins  
*Darwin Day Public Address; Univ. of Arkansas, Little Rock*
- 2009 Panel Discussant, *Chance Aesthetics* Public Exhibition  
*Mildred Kemper Art Museum, Washington University. Curator: Meredith Malone*
- 2006 The evolution of bipedalism in humans  
*Science on Tap Public Lecture, Schlafly Bottleworks, St. Louis*
- 2006 Consultant, Boston Museum of Science  
*Human Physiology and Anatomy Exhibit. Curator: Tim Kardatzke*
- 2004 Science Advisor, National Geographic Television

### **Conference Presentations (\*student, †invited)**

- 2018 †Pontzer, H. energy expenditure, exercise, and metabolic health. *Royal Netherlands Academy of Arts and Sciences, Academy Colloquium Metabolic Health: Translational Research on Energy Turnover.*
- 2018 Pontzer, H. Why is Exercise Essential? Constrained Energy Expenditure and the Mechanisms of Metabolic Health. *International Society for Evolutionary Medicine & Public Health (ISEMPH).*
- 2018 Urlacher, S.S., Snodgrass, J.J., Dugas, L.R., Sugiyama, L.S., Pontzer, H. Childhood energy expenditure in evolutionary medicine perspective: Direct measures of energy use among Amazonian forager-horticulturalists. *ISEMPH.*
- 2018 Castillo, E.R., Urlacher, S.S., Gurven, M., Pontzer, H. What kills us and why? Comparing age-specific mortality profiles across human populations. *ISEMPH.*
- 2018 †Pontzer, H. Evolutionary origins of obesity. *Keystone Symposium: Bioenergetics and Metabolic Disease.*
- 2017 \*Thurber, C., Dugas, L.R., Ocobock, C.J., Carlson, B., Melanson, E., Pontzer, H. Metabolic adaptation and the limits of sustained energy expenditure in humans. *Recent Advances & Controversies in Measuring Energy Metabolism.*
- 2017 †Pontzer, H. Physical activity, energy expenditure, and metabolic adaptation from hunter gatherers and other traditional populations. *The Obesity Society: Obesity Week.*
- 2017 †Pontzer, H. The exercise paradox. *Fribourg Obesity Research Conference, Switzerland.*
- 2017 †Pontzer, H. How much food do animals need to walk, run, and climb? This much. *AAPA Meetings, UpGoer5 Symposium.*

- 2017 \*Schneider, A.L., Burghardt, N.S., Pontzer, H. Reduced immune investment with energy stress: evidence from a mouse model. *AAPA Meetings*.
- 2017 \*Swanson, Z.S., Webb, N.M., Pontzer, H., DeSilva, J.M., Harcourt-Smith, W.E.H. Finite element modeling of talar loading in modern humans with application to the hominin fossil record. *AAPA Meetings*.
- 2017 Otarola-Castillo, E.R., Castillo E.R., Hora, M., Torquato, M.G., Warrener, A.G., Pontzer, H. walkR: a software package to analyze the biomechanics of human locomotion. *AAPA Meetings*.
- 2017 †\*Kozma, E.E., Webb, N.M., Harcourt-Smith, W.E.H., D'Août, K., Brown, M.H., \*Finestone, E., ... Pontzer, H. Mechanics of hip extension characterize arboreal-terrestrial trade-offs in hominin evolution. *AAPA Meetings*.
- 2016 Pontzer, H., Brown, M.H., Emery Thompson, M., Ross, S.R. Evolved metabolic strategies in great apes and humans. *International Primatology Society*.
- 2016 \*Finestone, E.M., Brown, M.H., Ross, S.R., Pontzer, H. Spatiotemporal characteristics of over-ground walking in zoo-housed great apes. *International Primatology Society*.
- 2016 Pontzer, H., Brown, M.H., Emery Thompson, M., Ross, S.R. Chimpanzee energetics, ecology, and evolution. *Chimpanzees in Context Symposium*.
- 2016 †Pontzer, H. Insights into physical activity and metabolic adaptation from hunter gatherers and other traditional populations. *American College of Sports Medicine. Basic Science World Congress – Symposium*.
- 2016 \*Finestone, E.M., Brown, M.H., Ross, S.R., Pontzer, H. Videographic analysis of kinematics in great apes: To what extent are gait and posture conserved? *AAPA Meetings*.
- 2016 \*Thurber, C., Carlson, B., Ocobock, C., Dugas, L., Pontzer, H. Metabolic limits and adaptation in humans: daily energy expenditure in *Race Across the USA* athletes. *AAPA Meetings*.
- 2016 \*Laird, M.F., Pontzer, H. Gape cycle kinematic variance and occlusal topography in modern humans. *AAPA Meetings*.
- 2016 Raichlen, D.A., Pontzer, H., Harris, J., Zderic, T.W., Hamilton, M.T., Wood, B. Sitting, squatting, and the evolution of human inactivity. *AAPA Meetings*.
- 2016 \*Edwards, W., Pontzer, H., Lonsdorf, E. Energy expenditure and physical activity levels in captive tufted capuchins (*Cebus apella*). *AAPA Meetings*.
- 2016 Pontzer, H., Raichlen, D.A., Harris, J.A., Wood, B.M. Energetics and economics of foraging in humans and other apes. *AAPA Meetings*.
- 2016 \*Kozma, E.E., Raichlen, D.A., Wood, B.M., Pontzer, H. Energetics and muscle use of human climbing. *AAPA Meetings*.
- 2016 \*Thurber, C., Carlson, B., Ocobock, C., Dugas, L., Pontzer, H. Metabolic limits and adaptation in humans: daily energy expenditure in *Race Across the USA* athletes. *Human Biology Association*.
- 2015 \*Laird, M.F., Pontzer, H., Vogel, E.R. Chewing efficiency variation with food material properties and masticatory morphology in humans. *AAPA Meetings*.
- 2015 †Pontzer, H. Locomotion in humans and other primates: Endurance, efficiency, and evolution. *International Congress for Physiological Anthropology*. Chiba, Japan.

- 2015 \*Laird, M.F., Pontzer, H., Vogel, E.R. Chewing efficiency variation with food material properties and masticatory morphology in humans. *AAPA Meetings*.
- 2015 Trumble, B.C., Cummings, D., Beheim, B., Stieglitz, J., Yetish, G., Pontzer, H., Kaplan, H., Gurven, M. Energetic costs of testosterone: higher testosterone is associated with greater lean muscle mass and total energetic expenditure among Tsimane forager-horticulturalists. *AAPA Meetings*.
- 2015 Pontzer, H., Brown, M.H., Dunsworth, H.M., Ross, S.R. Humans, the high energy ape. *AAPA Meetings*.
- 2014 †Pontzer, H., Wood, B.M., Raichlen, D.A., Mabulla, A.Z.P., Marlowe, F.W. Ranging energetics and foraging strategies among Hadza hunter-gatherers. *Am. Anthro. Assoc.*
- 2014 †Pontzer, H., Brown, M.H., Ross, S.R. Total energy expenditure and life history in humans and other apes. *Recent Advances & Controversies in Measuring Energy Metabolism*.
- 2014 †Pontzer, H. Recent advances & future directions: measuring total energy expenditure in non-human apes. *Int'l Workshop on the Doubly Labeled Water Method*. Tokyo.
- 2014 †Pontzer, H. Recent advances & future directions: measuring total energy expenditure in traditional populations. *Int'l Workshop on the Doubly Labeled Water Method*. Tokyo.
- 2014 †Pontzer, H. A walking tour of human evolution. *World Congress of Biomechanics*.
- 2014 Pontzer, H., Raichlen, D.A., Schroepfer, K.K., Hare, B., Wood, B.M., Dunsworth, H.M., Irwin, M., Lonsdorf, E.V., Shumaker, R.W., Ross, S. Daily water throughput in humans and other primates. *AAPA Meetings*.
- 2013 †Pontzer, H., Raichlen, D.A., Wood, B.M., Mabulla, A.Z., Marlowe, F.W. Ranging costs and foraging strategies in Hadza hunter-gatherers. *10<sup>th</sup> International Congress on Vertebrate Morphology*.
- 2013 †Pontzer, H., Raichlen, D.A., Wood, B.M., Mabulla, A.Z., Marlowe, F.W. Ranging costs and foraging strategies in Hadza hunter-gatherers. *Conference on Hunting and Gathering Societies*.
- 2013 Pontzer, H., Raichlen, D.A., Gordon, A., Schroepfer, K.K., Hare, B., Wood, B.M., Dunsworth, H.M., Irwin, M., Lonsdorf, E.V., Ross, S. Primate energetics and life history. *AAPA Meetings*.
- 2012 †Pontzer, H. Relating foraging ecology to locomotor economy and limb length in living apes and fossil hominins. *AAPA Meetings*.
- 2012 \*Laird, M.F., Pontzer, H. Biomechanical relationships between chewing efficiency and dental morphology in modern humans. *AAPA Meetings*.
- 2012 Schroepfer, K.K., Hare, B., Pontzer, H. Energy expenditure in semi free-ranging chimpanzees measured using doubly labeled water. *AAPA Meetings*.
- 2012 Raichlen, D.A., Pontzer, H., Wood, B.M., Mabulla, A.Z., Marlowe, F.W. Aerobic activity in the Hadza hunter-foragers of Tanzania. *AAPA Meetings*.
- 2011 Pontzer, H., Raichlen, D.A., Wood, B.M., Mabulla, A.Z., Marlowe, F.W. Hadza forager energetics and the evolution of the human metabolic strategy. *AAPA Meetings*. *AJPA*. S52, 242.
- 2011 \*Ocobock, C., Pontzer, H., Gookin, J., Baynes, S. Daily energy expenditure in highly active humans in a natural temperate environment. *AAPA Meetings*. *AJPA*. S52, 227.

- 2011 Raichlen, D.A., Wood, B.M., Pontzer, H., Mabulla, A.Z., Marlowe, F.W. Levy walks in hunter-gatherers: when are random walks an optimal search strategy? *AAPA Meetings. AJPA. S52, 246.*
- 2011 Dunsworth, H., Pontzer, H., Deacon, T. Energetics—not pelvic constraints—determine human gestation length and altriciality. *AAPA Meetings. AJPA. S52, 129.*
- 2011 Wood, B.M., Raichlen, D.A., Pontzer, H., Jones, J.H., Mabulla, A.Z., Marlowe, F.W. Keeping their friends close? Contrasting models of social association in Hadza hunter-gatherers. *AAPA Meetings. AJPA. 314.*
- 2010 Pontzer, H., Raichlen, D.A., Wood, B.M. Hominoid daily energy expenditure and the Human Paradox. *AAPA Meetings. AJPA. S50, 91.*
- 2010 \*Joganic, J.L., Pontzer, H., Verrelli, B.C. The hungry brain: An assessment of liver size correlation with brain size as it relates to energy storage trade-offs across primate evolution. *AAPA Meetings. AJPA. S50, 135.*
- 2010 \*Ocobock, C., Pontzer, H., \*Erez, T. Climatic and physiological constraints on human body size and shape. *AAPA Meetings. AJPA. S50, 180.*
- 2009 Pontzer, H., \*Ocobock, C., Shumaker, R.W., Raichlen, D.A. Daily energy expenditure in orangutans measured using doubly labeled water. *AAPA Meetings. AJPA. S48, 213.*
- 2009 \*Erez, T., Smart, W.D., Pontzer, H. A new computational method for simulation and optimization of hominin gait. *AAPA Meetings. AJPA. S48, 125*
- 2009 Foster, A.D., Raichlen, D.A., Pontzer, H., Sockol, M.D. Muscle force production during bent-knee, bent-hip walking in humans. *AAPA Meetings. AJPA. S48, 129.*
- 2009 \*Ocobock, C., Pontzer, H., \*Atkinson, E., Shumaker, R.W., \*Wittman, A.B. Locomotor developmental timing in humans and other apes. *AAPA Meetings. AJPA. S48, 201*
- 2009 Pontzer, H., Kamilar, J.M. Great ranging associated with greater reproductive investment in mammals. *Soc. Integ. Comp. Biol. Meetings.*
- 2008 †Pontzer, H., Raichlen, D.A., Sockol, M.D. Endurance versus efficiency in humans and chimpanzees: a new look at the old problem of becoming bipedal. *Hominin Bipedalism Symposium, AAPA Meetings.*
- 2007 †Pontzer, H., Raichlen, D.A., Sockol, M.D., Locomotor energetics in chimpanzees, humans, and extinct hominins: contributions of muscular and skeletal anatomy. *8<sup>th</sup> International Congress on Vertebrate Morphology.*
- 2007 Pontzer, H., Raichlen, D.A., Lieberman, D.E. Is arm swing active or passive during human walking and running? *Soc. Integ. Comp. Biol. Meetings.*
- 2007 Pontzer, H., Raichlen, D.A., Sockol, M.D., Contributions of muscular and skeletal morphology to locomotor performance: How much can bones tell us about locomotion? *Primate Locomotion Symposium, American Assoc. Phys. Anthro. Meetings*
- 2006 Pontzer, H. Hominin locomotor energetics and the emergence of the genus *Homo*. *Paleoanthropology Society Meetings.*
- 2006 Pontzer, H. Locomotor energetics and ranging ecology of fossil hominids. *AAPA Meetings. AJPA. S42, 148.* Awarded Aleš Hrdlička Prize.
- 2006 Pontzer, H. Linking locomotor energetics to limb design in terrestrial animals. *Soc. Integ. Comp. Biol. Meetings.* Awarded D. Dwight Davis Prize.

- 2005 Pontzer, H. The effect of limb length on locomotor performance. *Soc. Integ. Comp. Biol. Meetings*.
- 2005 Pontzer, H., Lieberman, D.E., Momin, E.N., et al. The effect of a "bent-knee" gait on trabecular orientation: an experiment test of Wolff's Law. *AJPA*. S40, 167.
- 2004 Pontzer, H. The effect of leg length on human locomotor performance. *AAPA Meetings. AJPA*. S38, 161.
- 2004 Wrangham, R.W., Pontzer, H. Chimpanzee juveniles constrain their mothers' gregariousness. *AAPA Meetings. AJPA*. S38, 211.
- 2003 Pontzer, H. Climbing behavior and locomotor energetics in wild chimpanzees: Implications for hominin locomotor evolution. *AAPA Meetings. AJPA*. S36, 170.

### **Professional Service**

- 2017, '18 Professional Development Committee, *AAPA Meetings*
- 2015, '16 National Science Foundation review panel, Physical Anthropology
- 2014 National Science Foundation review panel, Graduate Research Fellowships
- 2014 Co-Organizer, *Energetics in the Evolution of Human and Non-Human Primate Life Histories Symposium, 2015 AAPA meeting* (with Christopher Kuzawa)
- 2009, 13-16 Scientific Committee, *AAPA meetings*
- 2013, '14 Organizer, K-12 Educator Meet-Up, *AAPA meetings*
- 2011 – 13 Associate Editor, *Journal of Human Evolution*
- 2006 – 11 Student Prize Committee, *AAPA meetings*
- 2007 Co-Organizer, *Principles of Primate Locomotion Symposium, AAPA meetings* (with David Raichlen)
- 2002 – 04 Co-Organizer, New England Biological Anthropology Symposium

### **Graduate Student Advising**

#### *PhD Dissertation Advisor*

- Elaine Kozma (City Univ. of New York, NYCEP)
- Cara Ocobock (PhD 2014, Washington Univ. St. Louis)
- Zane Swanson (Duke University)
- Anna Warrener (PhD 2011, Washington Univ. St. Louis)

#### *PhD Dissertation Committee*

- Libby Cowgill (PhD 2008, Washington Univ. St. Louis)
- Emma Cancelliere (City Univ. of New York, NYCEP)
- Margaret Bryer (City Univ. of New York, NYCEP)
- Rachel Dunn (PhD 2009, Washington Univ. St. Louis)
- Tom Erez (PhD 2011, Washington Univ. St. Louis)
- Emma Finestone (City Univ. of New York, NYCEP)
- Caley Johnson (City Univ. of New York, NYCEP)
- Zachary Klukkert (City Univ. of New York, NYCEP)
- Myra Laird (PhD 2016, New York University)
- Julia Maki (PhD 2013, Washington Univ. St. Louis)
- Wade Ryberg (PhD 2009, Washington Univ. St. Louis)

Brian Shearer (City Univ. of New York, NYCEP)  
Nicole Webb (PhD 2018, City Univ. of New York, NYCEP)

*MA Students*

Tricia Basdeo (MA 2014, Hunter College)  
Maria Rose Darr (MA 2013, New York University)  
Wren Edwards (MA 2016, Hunter College)  
Kendall Phelps (MA 2014, Hunter College)  
Alaina Schneider (MA 2017, Hunter College)  
Leah Sparrow (MS 2016, Univ. of Calgary)  
Caitlin Thurber (MA 2016, Hunter College)  
Stephen Venner (MA 2018, Hunter College)