

Kristi L. Lewton, Ph.D.

Curriculum vitae, August 2016

Department of Cell & Neurobiology
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ACADEMIC APPOINTMENTS

- 2016- Adjunct Assistant Professor, Department of Biological Sciences, University of Southern California
- 2015- Assistant Professor of Clinical Cell and Neurobiology, University of Southern California, Keck School of Medicine, Department of Cell & Neurobiology
- 2014-2015 Assistant Professor, Boston University School of Medicine, Department of Anatomy & Neurobiology
- 2014-2015 Associate, Harvard University, Department of Human Evolutionary Biology
- 2010-2013 Preceptor in Evolutionary Anatomy & Physiology, Harvard University, Department of Human Evolutionary Biology

EDUCATION

- 2010 Ph.D., Arizona State University, Anthropology
Dissertation title: "Locomotor function and the evolution of the primate pelvis."
- 2004 M.A., Arizona State University, Anthropology
*Thesis title: "Epigenetic differences in articular surface area in captive and wild chimpanzees (*Pan troglodytes*)"*
- 2002 B.A., University of Washington, Anthropology (With Distinction)

GRANTS

External

- 2013 American Association of Physical Anthropologists Professional Development Grant (\$5,000)
- 2007 The Leakey Foundation Research Grant (\$13,500)
- 2007 National Science Foundation Doctoral Dissertation Improvement Grant (\$15,000)
- 2006 Sigma Xi Grant-in-Aid of Research (\$400)

Internal

- 2005-2010 Conference travel grants, Graduate and Professional Student Association, Arizona State University (totaling \$1,630)
- 2008 Dissertation Research Grant, Graduate and Professional Student Association, Arizona State University (\$2,000)
- 2006-2007 Research grants, School of Human Evolution and Social Change, Arizona State University (totaling \$1,000)
- 2006-2007 Conference travel grant, School of Human Evolution and Social Change, Arizona State University (totaling \$550)

PUBLICATIONS

10. **Lewton KL.** In press. Bipedalism. In: Fuentes A, editor. *International Encyclopedia of Primatology*. Wiley Blackwell Publishers.

9. Lewton KL and Dingwall HL. 2016. Morphological convergence in the pubis of slow-moving primates and xenarthrans. *American Journal of Physical Anthropology* DOI: [10.1002/ajpa.23038](https://doi.org/10.1002/ajpa.23038)
8. Warrener AG, **Lewton KL**, Pontzer H, Lieberman DE. 2015. A wider pelvis does not increase locomotor cost in humans, with implications for the evolution of childbirth. *PLOS ONE* 10(3): e0118903. DOI: [10.1371/journal.pone.0118903](https://doi.org/10.1371/journal.pone.0118903)
7. Nalley TK and **Lewton KL**. 2015. From the ground up: integrative research in primate locomotion. *American Journal of Physical Anthropology* 156:495-497. DOI: [10.1002/ajpa.22725](https://doi.org/10.1002/ajpa.22725)
6. Morgan ME, **Lewton KL**, Kelley J, Otárola-Castillo E, Barry JC, Flynn LJ, Pilbeam DR. 2015. A partial hominoid innominate from the Miocene of Pakistan: description and preliminary analyses. *Proceedings of the National Academy of Sciences* 112(1):82-87. DOI: [10.1073/pnas.1420275111](https://doi.org/10.1073/pnas.1420275111)
5. **Lewton KL**. 2015. Allometric scaling and locomotor function in the primate pelvis. *American Journal of Physical Anthropology* 156:511-530. DOI: [10.1002/ajpa.22696](https://doi.org/10.1002/ajpa.22696)
4. **Lewton KL**. 2015. *In vitro* strain distributions in a sample of primate pelvises. *Journal of Anatomy* 226(5):458-477. DOI: [10.1111/joa.12294](https://doi.org/10.1111/joa.12294)
3. **Lewton KL**. 2015. Pelvic form and locomotor adaptation in strepsirrhine primates. *Anatomical Record* 298(1):230-248. DOI: [10.1002/ar.23070](https://doi.org/10.1002/ar.23070)
2. **Lewton KL**. 2012. Evolvability of the primate pelvic girdle. *Evolutionary Biology* 39(1):126-139. DOI: [10.1007/s11692-011-9143-6](https://doi.org/10.1007/s11692-011-9143-6)
1. **Lewton KL**. 2012. Complexity in biological anthropology in 2011: species, reproduction, and sociality. *American Anthropologist* 114(2):196-202. DOI: [10.1111/j.1548-1433.2012.01418.x](https://doi.org/10.1111/j.1548-1433.2012.01418.x)

Submitted/In review

Lewton KL and Scott JE. Ischial form as an indicator of bipedal kinematics in early hominins: a test using extant hominoids and atelids.

In preparation

Lewton KL, Ritzman TB, Copes LE, Garland T, Capellini TD. Effects of exercise-induced bone loading on internal bone morphology of the mouse ilium.

PUBLISHED ABSTRACTS / CONFERENCE PRESENTATIONS (* Invited, †Student co-author)

Lewton KL, Ritzman TB, Copes LE, Garland Jr T, Capellini TD. 2016. Effects of exercise-induced loading on internal bone morphology of the mouse ilium: implications for lower ilium robusticity in primates. *American Journal of Physical Anthropology* 159(S62):208. [Poster]

Lewton KL. 2015. Morphological convergence in the pelvis of slow-moving sloths and lorises. *American Journal of Physical Anthropology* 156(S60):203. [Podium]

*Anderson CN, **Lewton KL**, Drew JA, Hinde K. 2015. Are you ready to rumble?! Sports championship mimicry to educate about adaptations, community ecology, and conservation. *American Journal of Physical Anthropology* 156(S60):69. [Poster]

†Costa S and **Lewton KL**. 2015. Obstetrical implications of sexual dimorphism in hominoid os coxae. American Association of Anatomists, Boston, 03-30-15. [Poster]

Lewton KL. 2014. Morphological convergence in the pelvis of sloths and primates. Mid-Atlantic Bioanthropology Interest Group, Richmond, VA, 10-25-14. [Podium]

***Lewton KL**. 2014. Postcranial mosaicism in the hominin fossil record: resolving locomotor adaptive signal from morphological noise. *American Journal of Physical Anthropology* 153(S58):169. [Podium]

***Lewton KL**. 2013. Dissection and coalescence: comparative and experimental approaches to understanding hip form and function. American Anthropological Association, Chicago, 11-21-13. [Podium]

- Lewton KL.** 2013. Development, integration, and modularity of the pelvis: implications for fossil hominin evolution. European Society for the study of Human Evolution, Vienna, Austria 9-21-13. [Podium]
- Lewton KL.** 2013. Allometry and function of primate pelvises. American Association of Anatomists, Boston, 4-22-13. [Poster]
- Lewton KL.** 2013. Allometry and function of primate pelvises. American Association of Anatomists, Boston, 4-20-13. [Podium]
- Kuykendall KL, Reid A, **Lewton KL**, Brink J, Villmoare B. 2013. The South African Palaeocave Survey: A Regional GIS approach in palaeoanthropology. *American Journal of Physical Anthropology* 150(S56):175. [Podium]
- ***Lewton KL.** 2013. What is the role of geometric morphometrics in testing functional hypotheses? A case study using 3D pelvic shape. *American Journal of Physical Anthropology* 150(S56):180. [Poster]
- Kuykendall KL, Reid A, **Lewton K**, Brink J, Villmoare B. 2012. The South African Palaeocave Survey: A Regional GIS approach in palaeoanthropology. African Archaeological Research Days, University of Southampton, UK, 11-3-12. [Podium]
- Lewton KL.** 2012. The effect of biacetabular breadth on metabolic cost of human walking and running. *American Journal of Physical Anthropology* 147(S54):193. [Podium]
- Lewton KL.** Modularity and morphological integration of the primate ilium and ischiopubis. 2011. Division of Vertebrate Morphology, Society for Comparative and Integrative Biology, New England Regional Meeting, 11-5-11. [Podium]
- Lewton KL.** 2011. Iliac and ischiopubic modularity: implications for the evolution of the hominin pelvis. Paleoanthropology Society, Minneapolis, 4-12-11. [Poster]
- Lewton KL.** 2010. Patterns of in vitro strain in the primate pelvis. Division of Vertebrate Morphology, Society for Comparative and Integrative Biology, New England Regional Meeting, 10-16-10. [Podium]
- Lewton KL.** 2010. Pelvic biomechanics and locomotor adaptation within the Order Primates. *American Journal of Physical Anthropology* 141(S50):154-155. [Podium]
- Ritzman TB, Copes LE, **Lewton KL.** 2010. Correlation between measures of the lateral and midline basicranium: Implications for understanding facial positioning in anthropoid primates. *American Journal of Physical Anthropology* 141(S50):198. [Poster]
- Lewton KL.** 2010. Patterns of strain in the primate pelvis: implications for theoretical models of pelvic biomechanics. American Association of Anatomists. [Poster]
- Ritzman TB, Copes LE, **Lewton KL.** 2009. A comparison of midline and lateral measures of the middle cranial fossa in hominoid primates. American Association of Anatomists. [Poster]
- Lewton KL**, Spencer MA, Crawford NR. 2008. In vitro bone strain in a macaque pelvis during hindlimb loading. *American Journal of Physical Anthropology* 135(S46):140. [Podium]
- Lewton KL** and Spencer MA. 2007. Scaling patterns and the functional morphology of primate pelvis shape. *American Journal of Physical Anthropology* 132(S44):155. [Poster]
- Lewton KL.** 2005. Epigenetic differences in articular surface area in captive and wild chimpanzees (*Pan troglodytes*). *American Journal of Physical Anthropology* 126(S40):138. [Poster]
- Lewton KL**, Landis EK, Gayheart TA, and Jacofsky MC. 2004. Functional differentiation of the caudal and clavicular heads of the pectoralis major muscle in *Homo sapiens*. *American Journal of Physical Anthropology* 123(S38):135. [Poster]
- Lewton K**, Eck GG, and Kramer PA. 2003. Quantitative analysis of femoral neck shape and loading environment in robust australopithecines. *American Journal of Physical Anthropology* 120(S36):139. [Poster]

SYMPOSIA ORGANIZED

2014 "From the Ground Up: Integrative Research in Primate Locomotion", American Association of Physical Anthropologists, Calgary, 4-11-14.

INVITED PRESENTATIONS - NATIONAL

2016 "Evolution of bipedality and the human hip," Department of Anthropology, University of Nevada Las Vegas, 3-14-16

"Adaptation, modularity, and the evolution of the primate pelvis," Department of Biology, University of California Riverside, 1-28-16

2015 "Evolutionary flexibility and loading adaptation of the ilium," Department of Anthropology, Pennsylvania State University, 10-23-15

"Pelvic functional morphology and the evolution of the human hip" Department of Anthropology, Boston University, 03-19-15

"Difficult birth in modern humans: insights from biomechanics and human evolution," Department of Obstetrics and Gynecology Grant Rounds, Boston Medical Center, 03-04-15

"What can our hip bones tell us about the evolution of bipedality?" Rhode Island College, Department of Biology, 02-26-15

"How does the pelvis respond to loading?" Shefelbine Bone Biomechanics Lab, Department of Mechanical and Industrial Engineering, Northeastern University, 02-25-15

2014 "Integrative approaches in paleoanthropology: biomechanics, comparative morphology, and GIS," Boston University Department of Archaeology, 12-10-14

"Locomotion, childbirth, and the evolution of the human hip," Virginia Commonwealth University, 10-24-14

"Primate locomotion, pelvic adaptation, and the evolution of human bipedalism," University of Southern California, Program in Human and Evolutionary Biology, Symposium on Evolutionary Biomechanics, 4-22-14

"Primate locomotion, pelvic adaptation, and the evolution of human bipedalism," Rutgers University Evolutionary Anthropology, 4-18-14

INVITED PRESENTATIONS – INTERNATIONAL

2016 "Adaptations to locomotion in the primate pelvis: implications for human evolution," Human Evolution Research Institute, University of Cape Town, South Africa 8-2-16

INVITED PANELS

2016 Panelist, Committee on Diversity Women's Initiative, Graduate Student Women's Professional Development Workshop, American Association of Physical Anthropologists, Atlanta, GA, 4-13-16

2014 Panelist, "Now What? How to Get Employment After Graduate School," American Anthropological Association conference, Washington, DC

- 2012 Panelist, Anatomy Career Workshop at American Association of Physical Anthropologists, sponsored by the American Anatomical Association and organized by J. Rutherford and A. Doubleday

HONORS & AWARDS

- 2016 Year 1 Faculty Teaching Award, Keck School of Medicine, USC
2013 American Association of Anatomists travel award
2013 Finalist for postdoctoral platform presentation prize, American Association of Anatomists
2013 Certificate of Teaching Excellence, Harvard University
2011 Paleoanthropology Society Travel Grant
2010 Mildred Trotter Prize, Best Oral Presentation, American Association of Physical Anthropologists
2010 Finalist for student poster presentation prize, American Association of Anatomists
2010 American Association of Anatomists travel award
2010 William S. Pollitzer travel award, American Association of Physical Anthropologists
2008-2010 Dean's Advanced Scholarship, Arizona State University
2008 Donald H. Morris Award for Outstanding Doctoral Student in Physical Anthropology, School of Human Evolution and Social Change, ASU
2002-2006 National Science Foundation IGERT Fellowship in Neural and Musculoskeletal Adaptations in Form and Function

FIELD EXPERIENCE

- 2012 South African Palaeocave Survey, South Africa, PI: Kevin Kuykendall, <http://southafricanpalaeocaves.wordpress.com/>
2009 Beza Mahafaly Special Reserve, Madagascar
2005 Awash-Mille Survey Project, Institute of Human Origins, Afar Regional State, Ethiopia, PIs: Charles Lockwood and Kaye Reed
2005 Archaeologist, Las Canopas field site, Rio Salado Archaeology, LLC
2003 Archaeological excavation crew member, Los Cremaciones, Office of Cultural Resource Management, Phoenix, Arizona
2001 Makapansgat Field School, South Africa, Institute of Human Origins and University of Witwatersrand

MUSEUM EXPERIENCE

National

American Museum of Natural History (NY), Cleveland Museum of Natural History, Field Museum (IL), Los Angeles Natural History Museum, Museum of Comparative Zoology (MA), Smithsonian National Museum of Natural History (DC)

International

Beza Mahafaly Osteological Collection (Madagascar) Natural History Museum (London), Muséum national d'Histoire naturelle (Paris)

PROFESSIONAL TRAINING & WORKSHOPS

- 2013 Geometric morphometrics and phylogeny workshop, Transmitting Science, Barcelona, Spain, September 2-7.

2011 Harvard University Science Faculty Workshop
2010 3D XMA Dynamics Short Course, University of Nevada Las Vegas, Laboratory of Comparative Biomechanics
2005-2009 Research Assistant, Primate Anatomy Laboratory, Arizona State University
2004 Research Assistant, Primate Foundation of Arizona, Mesa, Arizona
2002-2006 NSF IGERT: Neural and Musculoskeletal Adaptations in Form and Function

TEACHING EXPERIENCE

Keck School of Medicine of University of Southern California

Gross Human Anatomy (2015-2016)

Boston University School of Medicine

Physician Assistant Gross Anatomy (Course Director, Summer 2014 & 2015)

Medical Gross Anatomy (Fall 2014)

Harvard University

Human Origins and Evolution (co-instructor, Spring 2013)

Hominid Paleontology and Evolution (co-instructor, Fall 2012)

Human Evolution and the Human Body (Preceptor & Teaching Fellow, Spring 2011 & 2012)

Research in Comparative Biomechanics: Seminar (Undergraduate independent research supervisor, Spring 2011 & 2012)

Human Evolution and the Human Body, Evolution and Adaptation of the Human Diet, Hominid Paleontology and Evolution, Human Origins and Evolution (Curriculum development, 2010-2013)

Arizona State University

Forensic Anthropology (Associate Instructor, Spring 2010)

Bones, Stones, and Human Evolution (Associate Instructor, Spring 2009)

Human Anatomy & Physiology (Associate Instructor, 2006-2008)

University of Arizona College of Medicine - Phoenix

Clinical Anatomy (medical human gross anatomy, Associate Instructor, Fall 2007 & 2008)

STUDENT MENTORING

2016- Faculty Adviser for MedLambda student organization at Keck School of Medicine

Graduate

Stephanie Costa (M.A., 2015) BU School of Medicine, Anatomy Primary advisor

Amanda Costello (M.A., 2015) BU School of Medicine, Forensic Anthropology Committee member

Undergraduate

Erandy de la Peña (2016) American Jewish University/USC

R. William Horace (2015) Boston University

SERVICE & LEADERSHIP

Professional

2014-2015 Co-organizer, Mid-Atlantic Bioanthropology Interest Group

2013- Scientific Program Committee, American Association of Physical Anthropologists

2012- Ad Hoc New Media Committee, American Association of Physical Anthropologists

2012-2013 Co-organizer, Physical Anthropology Women's Mentoring Network annual event
2011- Student Awards Committee, American Association of Physical Anthropologists
2010- Steering Committee, Physical Anthropology Women's Mentoring Network
2004-2009 Grant reviewer, Graduate and Professional Student Association, ASU

Manuscript *ad hoc* reviewer: *Anatomical Record*, *Journal of Anatomy*, *Journal of Human Evolution*,
Journal of Mammalogy, *PeerJ*, *Zoology*

Grant proposal *ad hoc* reviewer: National Science Foundation (Biological Anthropology Senior Research),
Leakey Foundation, Swiss National Science Foundation

Textbook reviewer: Lippincott Williams & Wilkins, Anatomy texts; Open SUNY textbooks

University & Departmental

2015-2016 Department of Cell and Neurobiology Master's Program Development Committee, USC
2015-2016 Department of Cell and Neurobiology Gross Anatomy Search Committee, USC
2015-2016 Department of Cell and Neurobiology Microanatomy Search Committee, USC
2015 Self-Study Standards for Accreditation Committee, Physician Assistant Program, Boston University
2014-2015 Educational Policy and Curriculum Committee, Physician Assistant Program, Boston University
2014-2015 Physician Assistant Program Admissions Committee, Boston University
2010-2013 Committee member, undergraduate honors theses, Harvard University
2007 Committee chairperson, Graduates in the Earth, Life, and Social Sciences Symposium, Arizona State Univ.
2006-2007 President, Association of Anthropology Graduate Students, Arizona State Univ.
2004-2006 Committee member, Graduates in the Earth, Life, and Social Sciences Symposium, Arizona State Univ.
2004-2005 Treasurer, Association of Anthropology Graduate Students, Arizona State Univ.
2003-2004 Graduate student representative, Physical Anthropology subdiscipline, Arizona State Univ.

Public Service & Outreach

2016 Guest lecture, Camp Cardiac at Keck School of Medicine
2014-2016 Co-Organizer, [Mammal March Madness](#)
2012 Invited speaker, Xaverian Brothers High School, Westwood, MA
2011 Invited blog post, anthropologiesproject.org: "Biological anthropology: providing the historical context for all your anthropological questions."
<http://www.anthropologiesproject.org/2011/08/biological-anthropology-providing.html>
2007 Project Medical Education Volunteer, Phoenix, AZ
2006 K-12 educator, Institute of Human Origins, Tempe, AZ
2005 Sigma Xi Judge, Intel International Science and Engineering Fair, Phoenix, AZ

MEDIA COVERAGE

***Sivapithecus* fossil innominate**

["Fossil raises puzzling questions about how upright body plan of great apes evolved,"](#) February 4, 2015

A wider pelvis does not increase locomotor cost in humans

["In defense of wide hips,"](#) BU Research, April 14, 2015

["Hip correction,"](#) Harvard Gazette, March 23, 2015

Mammal March Madness

2016

[“Mammals face off in Twitter battles for supremacy,”](#) Nature News, March 23, 2016

[“Have a Weasel in Your Bracket? Fans Go Mad for Mammals,”](#) Wall Street Journal, March 7, 2016

2015

[“Mammal March Madness: Imaginary death matches in the animal kingdom,”](#) Boston Globe, March 18,

2015

[“Mammal March Madness is beloved animal version of NCAA championship,”](#) Chicago Tribune, March 8,

2015

[“Mammal March Madness: Fill Out Your Bracket,”](#) Discovery News, March 7, 2015

[“Could a quokka beat a numbat? Oddsmakers say yes,”](#) NPR, March 6, 2015

PROFESSIONAL MEMBERSHIP

American Anthropological Association, American Association of Anatomists, American Association of Physical Anthropologists, Paleoanthropology Society