

## CURRICULUM VITAE

**Liza J. Shapiro**

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### **Professional Appointments:**

2008-present Professor, Department of Anthropology, University of Texas at Austin  
1997-2008 Associate Professor, Department of Anthropology, University of Texas at Austin  
1990-1997 Assistant Professor, Department of Anthropology, University of Texas at Austin

### **Editorial Appointments:**

2005-present Associate Editor, *American Journal of Physical Anthropology*  
2004-2007 Associate Editor, *Journal of Human Evolution*

### **Education:**

Ph.D. 1991 Anthropology: State University of New York at Stony Brook

**Dissertation:** Functional Morphology of the Primate Spine with Special Reference to Orthograde Posture and Bipedal Locomotion.

B.A. 1983 Anthropology/Psychology, Summa Cum Laude. State University of New York at Albany

### **Current Research:**

Functional morphology and evolution of primate locomotor adaptations  
Ontogeny of locomotion in primates  
Comparative anatomy and function of the vertebral musculoskeletal system in primates  
Kinematics of primate locomotion  
Reconstruction of locomotor behavior in fossil primates.

### **Courses currently taught:**

Introduction to Physical Anthropology  
Primate Anatomy  
Primate Evolution  
Primate Functional Morphology

### **Grants:**

**2008 (\$750)** Special Research Grant, University of Texas at Austin: Analysis of trabecular morphology of the sacrum in humans and other primates.

**2007-2009 (\$226, 192):** National Science Foundation: Locomotor ontogeny in *Microcebus*

*murinus*, *Petaurus breviceps* and *Monodelphis domestica*: The influence of very small body size on the evolution of primate quadrupedal locomotion.

**2005** Faculty Research Assignment, Faculty Development Program, University of Texas at Austin: Locomotor Ontogeny and the Evolution of Quadrupedalism in Primates and Other Mammals.

**2004-2005 (\$26,939)**: Liberal Arts Instructional Technology Grant, University of Texas at Austin Using Computer Technology To Enhance Teaching And Learning About Primate Anatomy And Evolution.

**2002-2003 (\$18,597)**: Liberal Arts Instructional Technology Grant, University of Texas at Austin Using Computer Technology To Enhance Teaching And Learning About Primate Anatomy And Evolution.

**2001 (\$12, 304)**: Leakey Foundation: Ontogeny of Primate Quadrupedal Locomotion and the Evolution of Primate Gait.

**1999** Faculty Research Assignment, Faculty Development Program, University of Texas at Austin: Form, Function, and Evolution of the Spine in Prosimians and Early Fossil Primates.

**1998-1999 (\$25,000)**: College of Liberal Arts, Vision Plan, University of Texas at Austin: Multimedia Teaching of Primate Anatomy and Evolution.

**1997-1999 (\$50, 562)**: National Science Foundation (Co-funded by Physical Anthropology and Ecological and Evolutionary Physiology): Functional Morphology and Kinematics of the Spine in Prosimians

**1998 (\$4000)**: NSF REU Award (Research Experience for Undergraduates: Functional Morphology and Kinematics of the Spine in Prosimians

**1994-1996 (\$201,899)**: NSF (Undergraduate Education): A Laboratory Curriculum for Physical Anthropology on CD ROM (with J. Kappelman and C. Bramblett).

**1994** URI Special Research Grant, University of Texas at Austin: Kinematics of the Spine in Prosimians.

**1992** URI Special Research Grant, University of Texas at Austin: Functional Morphology of the Lorisid Spine.

**1992** URI Summer Research Award, University of Texas at Austin: Functional Morphology of the Primate Spine.

**1992** URI Special Research Grant, University of Texas at Austin: Vertebral Anatomy and Locomotor Behavior in *Propithecus*.

**1991** Apple Computer and Project Quest, University of Texas at Austin:  
Physical Anthropology Hypercard Laboratories for the Macintosh (To C. Bramblett, J.  
Kappelman, and L. Shapiro)

**1989:** NSF Doctoral Dissertation Improvement Grant (Anthropology): Functional Morphology of  
the Hominoid Back

**Awards:**

2004 Innovative Instructional Technology Award, University of Texas at Austin: "Interactive  
Laboratory Modules: Methodological Approaches to the Study of Primate Anatomy and  
Locomotion" (with D Raichlen).

1997 Innovative Instructional Technology Award, University of Texas at Austin:  
Computer-Based Multimedia "Virtual Laboratories and Examinations in Physical Anthropology  
(with J. Kappelman and C. Bramblett).

**Grants received for graduate student projects:**

2006 National Science Foundation (To L. Shapiro for Magdalena Muchlinski)  
NSF Doctoral Dissertation Grant: Ecological and Morphological Correlates of Infraorbital  
Foramen Size and its Paleocological Implications

2004 National Science Foundation (To L. Shapiro for K. Whitcome)  
NSF Doctoral Dissertation Grant: Bipedal Obstetric Load and the Evolution of Human  
Lumbopelvic Sexual Dimorphism

2003 National Science Foundation (To L. Shapiro for D. Raichlen)  
NSF Doctoral Dissertation Grant: The Relationship Between Limb Shape and Locomotor  
Mechanics and Energetics

2003 Leakey Foundation (To L. Shapiro for K. Whitcome):  
Bipedal Obstetric Load and the Evolution of Human Lumbopelvic Sexual Dimorphism.

2002 Leakey Foundation (To L. Shapiro for D. Raichlen):  
The Relationship Between Limb Shape and Locomotor Mechanics and Energetics.

**Undergraduate Research Funding**

2008 Undergraduate Research Apprenticeship, College of Liberal Arts, University of Texas at  
Austin. **Undergraduate: Elissa Ludeman.**

2002-2003 Undergraduate Research Fellowship awarded, University of Texas at Austin  
Comparative Kinematics of Primate and Chameleon Locomotion and Implications for the

Evolution of Primate Quadrupedalism (Honors Thesis, UT Austin Department of Anthropology)  
**Undergraduate: Rachel Dunn**

2002-2003 Undergraduate Research Fellowship awarded, University of Texas at Austin  
Correlating Interspecies Variation in Hylobatid Canine Size and Morphology with Dietary  
Differences (Honors Thesis, UT Austin Department of Anthropology)  
**Undergraduate: Alice Elder**

1990-1991 New Methods for Quantitative Analysis of Primate Phalanges with Special Reference  
to the Flexor Sheath Ridges of the Hominoidea. (Honors Thesis, UT Austin Department of  
Anthropology)  
**Undergraduate: Martin Cohn**

**Professional and Honor Society Memberships:**

American Association of Physical Anthropologists  
The Society for Integrative and Comparative Biology  
Phi Beta Kappa

**Peer-reviewed articles and book chapters:**

(Submitted): Shapiro, L.J., and Young, J.W. Is primate-like quadrupedalism necessary for fine-  
branch locomotion? A test using sugar gliders (*Petaurus breviceps*). *Journal of Human  
Evolution*.

(Under review) Shapiro, L.J., Young, J.W. and Souther, A. Quadrupedal locomotion of *Saimiri  
boliviensis*: A comparison of field and lab-based kinematic data. In D'Août, K. and E.E.  
Vereecke, Eds. *Primate Locomotion: Linking In Situ and Ex Situ Research.  
Developments in Primatology : Progress and Prospects*. Springer.

2009 Raichlen, D., Pontzer H., Shapiro, L. and Sockol, M. Understanding hind limb weight  
support in chimpanzees with implications for the evolution of primate locomotion.  
*American Journal of Physical Anthropology*. 138: 395-402.

2007 Whitcome K.K, Shapiro L.J, and Lieberman D.E. Fetal load and the evolution of lumbar  
lordosis in bipedal hominins. *Nature*. 450:1075-1078.

2007 Shapiro, L. and Raichlen, D. Primate gaits and arboreal stability: A Response to Cartmill et  
al. *American Journal of Physical Anthropology*.133:825-827.

2007 Shapiro L. Morphological and functional differentiation in the lumbar spine of lorises and  
galagids. *American Journal of Primatology*.39:86-102.

2006 Godfrey, L.R.,Jungers, W.L., Burney, D.A., Vasey, N, Ramilisonina, Wheeler, W.,  
Lemelin, P., Shapiro, L.J., Schwartz, G.T., King, S.J., Ramarolahy, M.F., Raharivony,  
L.L., Randria, G.F.N. New discoveries of skeletal elements of *Hadropithecus*

- stenognathus* from Andrahomana Cave, southeastern Madagascar. *Journal of Human Evolution*. 51:395-410.
- 2006 Shapiro L, and Raichlen D. Limb proportions and the ontogeny of quadrupedal walking in infant baboons (*Papio cynocephalus*). *Journal of Zoology*. 269:191-203.
- 2005 Shapiro L, Seiffert C, Godfrey L, Jungers W, Simons E, and Randria G. Morphometric analysis of lumbar vertebrae in extinct Malagasy strepsirrhines. *American Journal of Physical Anthropology*. 128:823-839.
- 2005 Shapiro L, and Raichlen D. Lateral sequence walking in infant *Papio cynocephalus*: Implications for the evolution of diagonal sequence walking in primates. *American Journal of Physical Anthropology*. 126:205-213.
- 2002 Shapiro L, and Simons C. Functional aspects of strepsirrhine lumbar vertebral bodies and spinous processes. *Journal of Human Evolution*. 42:753-783.
- 2001 Shapiro L, Demes B, and Cooper J. Lateral bending of the lumbar spine during quadrupedalism in strepsirrhines. *Journal of Human Evolution*. 40:231-259.
- 1998 Johnson S, and Shapiro L. Positional behavior and vertebral morphology in atelines and cebines. *American Journal of Physical Anthropology* 105(3):333-354.
- 1997 Shapiro L, Anapol F, and Jungers W. Interlimb coordination, gait, and neural control during quadrupedalism in chimpanzees. *American Journal of Physical Anthropology* 102(2):177-186.
- 1995 Shapiro, L. Functional morphology of indrid lumbar vertebrae. *American Journal of Physical Anthropology* 98(3):323-342.
- 1994 Shapiro L, and Jungers W. Electromyography of back muscles during quadrupedal and bipedal walking in primates. *American Journal of Physical Anthropology* 93:491-504.
- 1994 Duncan A, Kappelman J, and Shapiro L. Metatarsophalangeal joint function and positional behavior in *Australopithecus afarensis*. *American Journal of Physical Anthropology* 93(1):67-81.
- 1993 Shapiro L. Evaluation of "unique" aspects of human vertebral bodies and pedicles with a consideration of *Australopithecus africanus*. *Journal of Human Evolution* 25(6): 433-470.
- 1993 Shapiro L. Functional morphology of the vertebral column in primates. In (D. Gebo, ed.): *Postcranial Adaptation in Nonhuman Primates*. Northern Illinois University Press, pp.121-149.

1988 Shapiro L, and Jungers W. Back muscle function during bipedal walking in chimpanzee and gibbon: implications for the evolution of human locomotion. *American Journal of Physical Anthropology* 77(2):201-212.

### **Book Reviews:**

1999 Shapiro L. Book Review of *Primate Locomotion: Recent Advances*, E. Strasser, J. Fleagle, A. Rosenberger, and H. McHenry, (eds). (1998). New York: Plenum Press. *American Journal of Physical Anthropology* 109:561-563

1992 Shapiro L. Book Review of: Gravity, Posture and Locomotion in Primates, F.K. Jouffroy, M.H. Stack, and C. Niemitz, (eds) (1990), Il Sedicesimo: Firenze. *American Journal of Primatology*, 26:225-228.

### **Digital publications:**

1998 Kappelman J, Duncan A, Scott R, Shapiro L, Bramblett C, Ryan T, Seiffert E, and Weiner G. Lab 2: Levers and Limbs: Introduction to Primate Functional Morphology. In J Kappelman (ed): *Virtual Laboratories in Physical Anthropology on CD ROM*. Wadsworth Publishing Co.

1998 Kappelman J, Duncan A, Scott R, Shapiro L, Bramblett C, Ryan T, Seiffert E, and Weiner G. Lab 3: Primates in Motion. In J Kappelman (ed): *Virtual Laboratories in Physical Anthropology on CD ROM*. Wadsworth Publishing Co.

1998 Kappelman J, Kirk C, Seiffert E, Shapiro L, Bramblett C, Ryan T, Scott R, and Weiner G. Lab 4: Primate Diets and Feeding Behaviors. In J Kappelman (ed): *Virtual Laboratories in Physical Anthropology on CD ROM*. Wadsworth Publishing Co.

### **Media attention:**

2007 Extensive media coverage of Whitcome K.K, Shapiro L.J, and Lieberman D.E. Fetal load and the evolution of lumbar lordosis in bipedal hominins. *Nature*. 450:1075-1078, including NPR/Morning Edition, The New York Times, Associated Press, and numerous other national and international news media affiliates.

2001 My research on primate anatomy and locomotion was highlighted on a PBS documentary entitled "The Great Transformations", one of a 7 part series entitled "Evolution". A Powderhouse Productions film for WGBH-TV and Clear Blue Sky Productions . (Airdate: 9/25/01).

2002 My research was highlighted on the UT Austin website, Support UT: "Monkey Business Adds to Evolutionary Science" ([http://www.utexas.edu/supportut/news\\_pub/ts\\_monkeys.html](http://www.utexas.edu/supportut/news_pub/ts_monkeys.html))

2006 Interviewed and quoted for article in [news@Nature.com](mailto:news@Nature.com) (<http://www.nature.com/news/2006/060717/full/060717-17.html>)

**Professional Presentations (listed as published abstracts where available):**

- 2009 Shapiro L.J. and Young J.W. The effects of substrate size on quadrupedal locomotion in a small-bodied arboreal marsupial, *Petaurus breviceps* (sugar glider). *American Journal of Physical Anthropology*. Supplement 48:236.
- 2009 Zeininger A., Shapiro L.J., and Raichlen D.A. The effects of digitigrade cheiridial postures on speed and gait in infant baboons. *American Journal of Physical Anthropology*. Supplement 48:279.
- 2008 Shapiro, L.J., Zeininger, A., and VandeBerg, J.L. The influence of body size and substrate size on quadrupedalism in *Monodelphis domestica*. *American Journal of Physical Anthropology* Supplement 46:190-191.
- 2008 Zeininger, A., Shapiro, L.J., and Raichlen, D.A. The effects of digitigrade cheiridial postures on speed and gait in infant baboons. Society for Integrative and Comparative Biology, 2008 Annual Meeting.
- 2008 Whitcome, KW, Shapiro L.J., and Lieberman, D.E. Fetal load adaptations in the axial skeleton of early bipeds: *Australopithecus africanus*. Society for Integrative and Comparative Biology, 2008 Annual Meeting.
- 2007 Shapiro, L.J., Zeininger, A., and VandeBerg, J.L. Small body size and the evolution of primate quadrupedalism. Texas Biological Anthropologists Consortium, First Annual Conference, University of Texas at Austin.
- 2007 Raichlen, DA, and Shapiro LJ. The evolution of mammalian locomotor biomechanics: adaptations or spandrels? 8th International Congress of Vertebrate Morphology, Paris.
- 2007 Shapiro, L.J. and Raichlen, DA. Center of mass position, quadrupedalism, and stability: Where do primates fall? (Invited paper for AAPA symposium) *American Journal of Physical Anthropology* Supplement 44:215.
- 2007 Zeininger, A., Shapiro, L., and Raichlen, D. Ontogeny of digitigrade hand and foot postures in infant baboons (*Papio cynocephalus*). *American Journal of Physical Anthropology* Supplement 44:255.
- 2005 Shapiro, L. Morphological and functional differentiation in the lumbar spine of lorisooids (Invited paper for AAPA symposium). *American Journal of Physical Anthropology* Supplement 40:188-189
- 2005 Godfrey, L.R., Jungers, W.L., Schwartz, G.T., Lemelin, P., Shapiro, L.J., Burney, D.A., Wheeler, W., and Vasey, N. New discoveries of *Hadropithecus stenognathus*, subfossil

- lemur of Madagascar. *American Journal of Physical Anthropology* Supplement 40:107.
- 2003 Shapiro, L, and Raichlen, D. Locomotor development and the uniqueness of primate quadrupedalism. *American Journal of Physical Anthropology*. Supplement 36:189-190.
- 2002 Raichlen, D and Shapiro, L. Swing phase and the use of diagonal sequence gait in primates. *American Journal of Physical Anthropology*. Supplement 34:128-129.
- 2001: Shapiro, L, and Raichlen, D. Ontogeny of gait in *Papio cynocephalus*. *American Journal of Physical Anthropology*. Supplement 32:135.
- 2000: Shapiro L, Demes B, and Cooper J. The role of lateral bending of the spine in prosimian quadrupedalism. *American Journal of Physical Anthropology*. Supplement 30:279.
- 1999: Shapiro L, and Cooper J. Utilization of video and motion analysis software in the study of primate locomotor kinematics. *American Journal of Primatology*. 49:100-101.
- 1998: Simons, C and Shapiro L. Lumbar form and function in subfossil lemurs. XVII Congress of the International Primatological Society, University of Antananarivo, Madagascar.
- 1998: Shapiro L, and Demes B. Size, speed and kinematics in *Loris* and *Nycticebus*. *American Journal of Physical Anthropology* Supplement 26:200-201.
- 1998: Simons, C and Shapiro L. Functional variation in the vertebral morphology of prosimians. *American Journal of Physical Anthropology* Supplement 26:202.
- 1997: Johnson S, and Shapiro L. Positional behavior and vertebral morphology in atelines and cebines. *American Journal of Physical Anthropology* Supplement 24:137.
- 1996: Shapiro L, and Demes B. Spinal kinematics in lorids and cheirogaleids. *American Journal of Physical Anthropology* Supplement 22:213.
- 1996: Ryan T, Scott R, Duncan A, Kappelman J, Shapiro L, Grant S, Lewis K, and Stearman R. Finite element analysis using a 3D laser scanner. *American Journal of Physical Anthropology* Supplement 22:206.
- 1995: Kappelman J, Bramblett C, and Shapiro L. A laboratory curriculum for introductory physical anthropology on CD ROM. *American Journal of Physical Anthropology* Supplement 20:122-123.
- 1994: Shapiro L, Jungers W, Godfrey L, and Simons, E. Vertebral morphology of extinct lemurs. *American Journal of Physical Anthropology* Supplement 18:179-180.
- 1993 Shapiro L. Functional morphology of indrid vertebrae. *American Journal of Physical Anthropology* Supplement 16:178.

- 1992 Shapiro L. Evaluation of "unique" functional characteristics of human lumbar vertebrae. *American Journal of Physical Anthropology* Supplement 14:149-150.
- 1992 Duncan A, Kappelman J, and Shapiro L. Functional morphology of the hominoid metatarsophalangeal joint with reference to Australopithecus afarensis. *American Journal of Physical Anthropology* 88:269.
- 1991 Shapiro L. Quadrupedalism and back muscle function in hominoids. *American Journal of Physical Anthropology* Supplement 12:160.
- 1990 Shapiro L. Vertebral morphology in the Hominoidea. *American Journal of Physical Anthropology* 81(2):294.
- 1989 Shapiro L, and Jungers W. Back muscle function during suspensory behaviors in chimpanzee, orangutan and gibbon. *American Journal of Physical Anthropology* 78(2):300.
- 1987 Shapiro L, Jungers W, and Stern J. Function of back and trunk muscles during bipedal walking in chimpanzee and gibbon. *American Journal of Physical Anthropology*. 72(2):253.
- 1984 Wilkinson R, Hodges D, Shapiro L, Smith D, and Ziac D. Chronic stress in a "healthy" prehistoric population. 24th Annual Conference, Northeastern Anthropological Association. *Abstracts with program*: p.52.

### **Invited Lectures**

- 2006 Teaching with Technology: Primate anatomy and evolution. Invited lecture, UT Austin Liberal Arts Instructional Technology Services, 3<sup>rd</sup> Friday Presentations.
- 2006 Presentation on careers in physical anthropology. Invited lecture for Zilker Elementary School speaker series for 5<sup>th</sup> and 6<sup>th</sup> grade girls to promote interest in math and science.
- 2002 Developmental Transitions and Motion Analysis Technology: What Can Infant Monkeys Tell Us About The Evolution Of Primate Locomotion? Invited lecture: Leakey Foundation Annual Symposium, UT Austin.
- 2001 Shapiro, L. Kinematics of the lumbar spine during quadrupedalism in strepsirhine primates. Invited lecture for UT Austin Integrative Biology Seminar.
- 1996 "Functional morphology of primate lumbar vertebrae." Invited lecture: Brown University, Departmental Seminar, Department of Ecology and Evolutionary Biology.
- 1994 "The evolution of human bipedalism." Invited lecture: University of Texas

Anthropological Society, University of Texas at Austin.

1994 "The evolution of human bipedalism." Invited lecture: Dean's Scholars, College of Natural Sciences, University of Texas at Austin.