

Eric Rafael Castillo

Department of Human Evolutionary Biology, Harvard University

CONTACT INFORMATION	Email: ercastil@fas.harvard.edu Phone: (617) 877-4885	Address: 11 Divinity Ave, Cambridge, MA 02138 Website: sites.google.com/site/castilloeric/
RESEARCH INTERESTS	Biomechanics: Lumbar spinal mechanics, viscoelastic tissues, gait, load carrying, energetics Evolutionary Biology: Human evolutionary anatomy and physiology, paleoanthropology Health: Evolutionary medicine, mismatch diseases, lower back pain, physical fitness, activity Data Science: Statistical computing, modeling, simulation, academic software development	
EDUCATION	Harvard University , Cambridge, MA Ph.D. Human Evolutionary Biology Thesis: "Evolution and Function of Human Lumbar Lordosis Variability" Advisor: Daniel E. Lieberman Harvard University , Cambridge, MA A.M. Human Evolutionary Biology Advisor: Daniel E. Lieberman Washington University in St. Louis , MO A.B. Anthropology (minor in Psychology), <i>summa cum laude</i> Thesis: "3-D Camera Systems for Field Studies of Primate Locomotion" Advisor: Herman Pontzer	2017 (expected) 2012 2009
ACADEMIC APPOINTMENTS	Teaching Fellow , Harvard University Gross Anatomy Lab Instructor , Harvard University Medical School	2010-2015 2012-2013
PROFESSIONAL AFFILIATIONS	American Association of Physical Anthropologists Society for Integrative and Comparative Biology Sigma Xi Scientific Research Society	
GRANTS & FELLOWSHIPS	C.V. Starr Scholarship Dissertation Completion Fellowship: \$16,000 Dissertation Fieldwork Grant: "Biomechanics of lumbar function" Wenner-Gren Foundation for Anthropological Research: \$18,065 The Chapman Fellowship Robert A. Chapman Memorial Scholarship: \$6,000 National Science Foundation, Graduate Research Fellowship Program Division of Social Sciences (Physical Anthropology): \$30,000/year Research Grant: "Energetics of pole carrying in rural China" The Fairbank Center for East Asian Research: \$2,877	2015-2016 2013-2015 2013-2014 2011-2014 2011
AWARDS & HONORS	Anatomy in Anthropology Award (for top conference presentation) American Association of Anatomists	2016

Derek C. Bok Award for Distinction in Teaching Bok Center of Teaching and Learning, Harvard University	2014, 2015
The John W. Bennett Prize Department of Anthropology, Washington University in St. Louis	2009
Award of Excellence in Anthropology Department of Anthropology, Washington University in St. Louis	2009
Lambda Alpha Anthropology Honor Society Washington University in St. Louis Chapter	2009
Phi Beta Kappa Academic Honor Society Washington University in St. Louis Chapter	2008

PEER-REVIEWED
PUBLICATIONS

Castillo ER, Lieberman DE. (in prep) Effects of lordosis variability on shock attenuation in the human lumbar spine during walking and running.

Castillo ER, Hsu C, Mair RW, Lieberman DE. (in review) Testing biomechanical models to predict variations in human lumbar lordosis.

Young HS, McCauley DJ, Dirzo R, Nunn CL, Campana MG, Agwanda B, Otárola-Castillo ER, **Castillo ER**, Pringle RM, Veblen KE, Salkeld DJ, Stewardson K, Fleischer R, Lambin EF, Palmer TM, Helgen KM. (in revision) Interacting effects of land use and climate on rodent-borne pathogens in central Kenya.

Dudar JC, **Castillo ER**. (in press) Quantification of anatomical variation at the atlanto-occipital articulation: Morphometric resolution of commingled human remains within the repatriation documentation process. *Journal of Anatomy*.

Castillo ER, Sang MK, Sigei TK, Dingwall HL, Okutoyi P, Ojiambo R, Otárola-Castillo ER, Pitsiladis Y, Lieberman DE. (2016) Physical fitness differences between rural and urban children from western Kenya. *American Journal of Human Biology* 28(4): 514-523.

Hsu C, **Castillo E**, Lieberman D. (2015) The relationship between trunk muscle strength and flexibility, intervertebral disc wedging, and human lumbar lordosis. *The Harvard Undergraduate Research Journal* 8(1): 35-41.

Lieberman DE, Warrener AG, Wang J, **Castillo ER**. (2015) Effects of stride frequency and foot position at landing on braking force, hip torque, impact peak force and the metabolic cost of running in humans. *Journal of Experimental Biology* 218: 3406-3414.

Lieberman DE, **Castillo ER**, Otárola-Castillo ER, Sang MK, Sigei TK, Ojiambo R, Okutoyi P, Pitsiladis Y. (2015) Variation in foot strike patterns among habitually barefoot and shod runners in Kenya. *PLoS ONE* 10(7): e0131354.

Castillo ER, Lieberman DE. (2015) Lower back pain. *Evolution, Medicine, and Public Health* 1(1): 2-3.

Castillo ER, Lieberman GM, McCarty LS, Lieberman DE. (2014) Effects of pole compliance and step frequency on the biomechanics and economy of pole carrying during human walking. *Journal of Applied Physiology* 117(5): 507-517.

CONFERENCE
PRESENTATIONS

Castillo ER, Hsu C, Mair RW, Lieberman DE. (2016) Testing biomechanical models for lordosis variation in hominins. *American Journal of Physical Anthropology* 159(S62): 111.

Lieberman DE, **Castillo ER**, Otárola-Castillo ER, Sang M, Sigei T, Ojiambo R, Okutoyi P, Pitsiladis Y. (2015) Testing the effects of shoes on foot strength, stiffness and function. *American Journal of Physical Anthropology* 156(S60): 204.

Machanda Z, Brazeau NF, **Castillo ER**, Otárola-Castillo ER, Pontzer H, Emery Thompson M, Muller M, Wrangham RW. (2015) Musculoskeletal growth patterns in wild chimpanzees (*Pan troglodytes*). *American Journal of Physical Anthropology* 156(S60): 209.

McCabe CM, **Castillo ER**, Otárola-Castillo ER. (2015) Enhancing physical anthropology graduate education with public outreach in the K-12 classroom. *American Journal of Physical Anthropology* 156(S60): 219.

Warrener AG, Amanullah S, **Castillo ER**, Lieberman DE. (2015) Balancing the body: frontal plane dynamics during locomotion. *American Journal of Physical Anthropology* 156(S60): 320.

Castillo ER, Lieberman DE. (2014) *In vivo* axial loading and lumbar deformation in rural and urban adults from western Kenya. Northeast Regional Meeting of the Society for Integrative and Comparative Biology.

Castillo ER, Sang M, Sigei T, Ojiambo R, Pitsiladis Y, Lieberman DE. (2014) Effects of physical activity on sex differences in lumbar lordosis development in rural and urban Kenyan population. *American Journal of Physical Anthropology* 153(S58): 92.

Lieberman D, Addison B, **Castillo E**, Dingwall H. (2014) How do shoes affect foot function during human walking and running? Seventh World Congress of Biomechanics, Boston, MA.

Hatala KG, Lieberman DE, Dingwall HL, **Castillo ER**, Wunderlich RE, Okutoyi P, Sigei T, Anjila A, Pitsiladis Y, Richmond BG. (2013) Variation in running foot strike patterns in two habitually unshod Kenyan populations. *American Journal of Physical Anthropology* 150(S56): 144-145.

Castillo ER, Frankel G, Lieberman DE. (2012) Carrying loads using bamboo poles: a potential method for reducing the metabolic cost of carrying. *American Journal of Physical Anthropology* 147(S54): 114.

Castillo E, Dudar J. (2010) Quantifying variation at the occipito-cervical articular surfaces using 3D scanning technology. *American Journal of Physical Anthropology* 141(S50): 79.

Castillo ER. (2009) Portable 3D camera systems for field studies of primate locomotion. Spring Undergraduate Thesis Research Symposium, Washington University in St. Louis.

TEACHING
EXPERIENCE

Teaching Fellow, Harvard University
SCI-LIVSYS 16 - Human Evolution and Human Health 2014, 2015
HEB 1210 - Research in Comparative Biomechanics 2011, 2013

Gross Anatomy Lab Instructor, Harvard University Medical School
IN753.0 - The Human Body (1st-year anatomy, physiology, and histology) 2012, 2013

English Instructor, Buckland International Education Group
Yilong No. 1 Middle School, Yilong County, Sichuan Province, China 2009-2010

FIELDWORK

Ontogeny and function of human lumbar lordosis. Rift Valley, Kenya 2012-2014
Department of Human Evolutionary Biology, Harvard University
PI: Daniel E. Lieberman

	Physical activity and fitness of Kalenjin children. Rift Valley, Kenya Department of Human Evolutionary Biology, Harvard University Co-PIs: Daniel E. Lieberman and Yannis Pitsiladis	2012-2013
	Foot strike patterns among barefoot populations. Rift Valley, Kenya Department of Human Evolutionary Biology, Harvard University PI: Daniel E. Lieberman	2012-2013
	Paleoanthropological excavation. Zhoukoudian, Beijing, China Institute of Vertebrate Paleontology and Paleoanthropology Directors: Gao Xing and Zhang Shuangquan	2011
	Biomechanics and energetics of pole carrying. Sichuan, China Department of Human Evolutionary Biology, Harvard University PI: Daniel E. Lieberman	2011
	Paleoanthropological excavation. Ileret, Kenya Koobi Fora Field School Director: John W. Harris	2007
SERVICE & OUTREACH	Statistical computing consultant holding weekly “R hour” sessions Department of Human Evolutionary Biology, Harvard University	2014-2015
	Co-presenter at invited symposium on K-12 human evolution education Annual meetings of the American Association of Physical Anthropology	2015
	Lead organizer of a new graduate student professional development course Department of Human Evolutionary Biology, Harvard University	2014-2015
	Expert on human evolution at a public outreach event Peabody Museum, Harvard University	2013
	Guest speaker on human evolution for 9th grade students Somerville High School, Somerville, MA	2012, 2013
	Department representative to the Graduate Council Graduate School of Arts and Sciences, Harvard University	2012-2013
	Student Liaison between graduate students and faculty Department of Human Evolutionary Biology, Harvard University	2011-2012