

Cara Wall-Scheffler

Associate Professor of Biology
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EDUCATION & TRAINING

- 2001-2005 **PhD, Department of Biological Anthropology, University of Cambridge**
GATES CAMBRIDGE SCHOLAR
Dissertation: *Coastal Ungulates: The Seasonal Use of Ibex and Barbary Sheep
Among Mediterranean Hominins*
Supervisor: Prof. Robert A. Foley
- 2000-2001 **MPhil, Department of Biological Anthropology, University of Cambridge**
Dissertation: *Seasonality Stress Among Iberian Neanderthals*
Supervisor: Prof. Robert A. Foley
High Pass
- 1995-2000 **BA in Biology, Anthropology, and Literature, Seattle Pacific University**
Summa Cum Laude

PROFESSIONAL APPOINTMENTS

- 2012-Present **Associate Professor of Biology, Seattle Pacific University**
- 2007-Present **Affiliate Assistant Professor of Anthropology, University of Washington**
- 2007-2012 **Assistant Professor of Biology, Seattle Pacific University**
- Evolutionary Mechanisms and Theory
- Into to Biological Anthropology
- Human Anatomy & Physiology
- Human Biological Diversity
- Environmental Physiology
- Women in Science
- 2004-2007 **Post-Doctoral Research Fellow, Department of Zoology, University of Wisconsin**
- with Prof Karen Steudel-Numbers
- 2002-2003 **Instructor, Department of Biological Anthropology, University of Cambridge**

AWARDS & GRANTS

- 2013 *Principal Investigator*, Sexual dimorphism's role in the energetic and thermoregulatory variation of incline walking, MJ Murdock Charitable Trust
- 2013 *Principal Investigator*, Faculty Research Grant: How does pregnancy change the shape of women's pelves?
- 2013 *Co-Principal Investigator*, BioLogos Foundation: Equipping the Next Generation of Paleobiologists
- 2012 2011-2012 Professor of the Year, Seattle Pacific University
- 2011 *Principal Investigator*, Faculty Research Grant: Interactive effects of locomotion and reproduction on women's energetics
- 2010 2009-2010 Junior Faculty Service Award
- 2010 *Collaborator/Consultant*, 3M Collaborative Research Grant, St Catherine University: Where to Carry Kids: A Comparison of Women and Men During Walking
- 2010 2009-2010 Teacher of the Year in Science and Technology, Seattle Pacific University
- 2009 *Principal Investigator*, Faculty Research Grant: Can we use faunal remains to assess seasonal shifts in climate? Blakely deer as test of climatic shifts in hard tissue remains
- 2007 *Principal Investigator*, Research Start-Up Grants for New Science Faculty, MJ Murdock Charitable Trust
- 2007 *Collaborator/Consultant*, NIH: Belly mass in walking women: Effects of loads on kinematics and energetics, #G11HD039786
- 2003-2004 *Principal Investigator*, Gates Cambridge Trust: Coastal Ungulates: The Seasonal Use of Ibex and Barbary Sheep among Mediterranean Hominins
- 2003 *Principal Investigator*, Lundgren Research Fund: Subsistence Strategies of Mediterranean Hominins
- 2003 *Principal Investigator*, Travel Award, Gates Cambridge Trust: The Seasonality of Site Use of Gibraltar Neanderthals
- 2003 *Principal Investigator*, Travel Award, Department of Biological Anthropology, University of Cambridge: The Seasonality of Site Use of Gibraltar Neanderthals
- 2003 *Principal Investigator*, Tutorial Award, St Edmunds College: The Seasonality of Site Use of Gibraltar Neanderthals
- 2002-2003 Overseas Scholarship, St Edmunds College
- 2002 *Principal Investigator*, Research Bursary, St Edmunds College: Seasonality of Neanderthal Site Use
- 2001-2003 *Principal Investigator*, Gates Cambridge Trust, Appointment as Gates Cambridge Scholar: Seasonal Use of Sites by MIS 3 Neanderthals
- 2000-2001 Overseas Scholar Award, University of Cambridge

PUBLICATIONS

Peer-Reviewed Papers

Wall-Scheffler, C.M. (in press). The balance between burden carrying, variable terrain and thermoregulatory pressures in assessing morphological variation. In K. Carlson & D. Marchi (Eds), *The Influence of Environmental Factors on Mobility-Morphology-Behaviour Relationships*. Springer Life Sciences.

- Wagnild, J.¹ & **Wall-Scheffler, C.M.** (2013). Energetic consequences of human sociality: Walking speed choices among friendly dyads. *PLoS One* 8(10): e76576.
doi:10.1371/journal.pone.0076576
- Wall-Scheffler, C.M.** & Myers, M.J. (2013). Reproductive costs for everyone: How female frontal loads impact mobility. *Journal of Human Evolution* 64(5): 448-456.
<http://www.sciencedirect.com/science/article/pii/S0047248413000328>
- Wall-Scheffler, C.M.** (2012). Energetics, locomotion and female reproduction: Implications for human evolution. *Annual Review of Anthropology* 41: 71-85.
<http://www.annualreviews.org/doi/abs/10.1146/annurev-anthro-092611-145739>
- Wall-Scheffler, C.M.** (2012). The meaning of within population dimorphism for group mobility: Can men and women walk together? *Journal of Anthropology* 2012: 340493.
<http://www.hindawi.com/journals/janth/aip/340493/>
- Willcockson, M.* & **Wall-Scheffler, C.M.** (2012). Reconsidering the effects of respiratory constraints on the optimal running speed. *Medicine and Science in Sports and Exercise* 44(7): 1344-1350.
<http://dx.doi.org/10.1249/MSS.0b013e318248d907>
- Wall-Scheffler, C.M.**, Chumanov, E.S., Steudel-Numbers, K.L. & Heiderscheit, B.C. (2010). EMG activity across gait and incline: The impact of muscular activity on human morphology. *American Journal of Physical Anthropology* 143(4): 601-611.
<http://dx.doi.org/10.1002/ajpa.21356>
- Steudel-Numbers, K.L. & **Wall-Scheffler, C.M.** (2009). Optimal running speed and the evolution of hominin hunting strategies. *Journal of Human Evolution* 56: 355-360.
<http://dx.doi.org/10.1016/j.jhevol.2008.11.002>
- Chumanov, E.S., **Wall-Scheffler, C.M.**, & Heiderscheit, B.C. (2008). Gender differences in walking and running on level and inclined surfaces. *Clinical Biomechanics* 23(10): 1260-1268.
<http://dx.doi.org/10.1016/j.clinbiomech.2008.07.011>
- Wall-Scheffler, C.M.** & Foley, R.A. (2008). Digital Cementum Luminance Analysis (DCLA): A tool for the analysis of climatic and seasonal signals in dental cementum. *International Journal of Osteoarchaeology* 18 (1): 11-27. <http://dx.doi.org/10.1002/oa.918>
- Steudel-Numbers, K., Weaver, T., & **Wall-Scheffler, C.M.** (2007). The evolution of human running: Effects of changes in lower limb length on locomotor efficiency. *Journal of Human Evolution* 53(2): 191-196. <http://dx.doi.org/10.1016/j.jhevol.2007.04.001>
- Tilkens, M.J., **Wall-Scheffler, C.M.**, Weaver, T. & Steudel-Numbers, K. (2007). The effect of body proportions on thermoregulation: An experimental assessment of Allen's Rule. *Journal of Human Evolution* 53(3): 286-291. <http://dx.doi.org/10.1016/j.jhevol.2007.04.005>
- Wall-Scheffler, C.M.** (2007). Digital Cementum Luminance Analysis and the Hualuoguo hominins: How seasonality and season of use changed through time. *Archaeometry* 49(4): 815-826.
<http://www.blackwell-synergy.com/doi/abs/10.1111/j.1475-4754.2007.00342.x>
- Wall-Scheffler, C.M.**, Geiger, K.*, & Steudel-Numbers, K. (2007). Infant Carrying: The role of increased locomotor costs in early tool development. *American Journal of Physical Anthropology* 133(2): 841-846. <http://dx.doi.org/10.1002/ajpa.20603>

¹ Denotes Undergraduate Student Researcher

Wall-Scheffler, C.M., Myers, M.J., & Steudel-Numbers, K. (2006). The application to bipeds of a geometric model of lower limb segment inertial properties. *Journal of Human Evolution* 51(3): 320-326. <http://dx.doi.org/10.1016/j.jhevol.2006.04.001>

Wall, C.M. & Wall, Z.R. (2006). Research design in digital luminance analysis. *Journal of Archaeological Science* 33(8): 1152-1156. <http://dx.doi.org/10.1016/j.jas.2005.12.002>

Wall, C.M. (2005). The seasonality of site deposition of Gibraltar Neanderthals: Evidence from Gorham's and Vanguard Caves. *Journal of Iberian Archaeology* 7: 9-22.

Paper in Review

Rathkey, J.*, Chumanov, E., **Wall-Scheffler, C.M.** (n.d.). Monitoring movement: The impact of gait parameters on the metabolic cost of transport in humans during running. Submitted to *Journal of Experimental Biology*.

Wagnild, J.M.*, Wagler, E.*, & **Wall-Scheffler, C.M.** (n.d.). Accounting for human footprint variation while performing a load-bearing task. Submitted to *Journal of Archaeological Science*.

Papers in Preparation

Kjosness, K.* & **Wall-Scheffler, C.M.** (in prep). Responding to chronic stress: longitudinal perspectives on metabolism. For submission to *Stress*.[†]

Kramer, P.A., **Wall-Scheffler, C.M.**, Tilkens, M.J., & Steudel-Numbers, K. (in prep). Does the significance of morphology depend on method of data collection in walking? For submission to *PLoS One*.[†]

Wagnild, J.*, Rathkey, J.*, Spence, P.*, & **Wall-Scheffler, C.M.** (in prep). Do people choose to run at their optimal running speed? For submission to *AJPA*.

Wall-Scheffler, C.M. (in prep). Do people make energetically wise choices when carrying their own babies? For submission to *American Anthropologist*.

Wall-Scheffler, C.M., Steudel-Numbers, K.L., & Myers, M.J. (in prep). Complex effect of limb length on Cost of Transport in running humans. For submission to the *American Journal of Physical Anthropology*.²

Book Chapter in Preparation

Wall-Scheffler, C.M. (in prep). Mobility's influence on hominin locomotor morphology. In M. Lahr & S. Underdown (Eds), *Papers in Honor of Robert Foley*. Submitted to Cambridge University Press.

² Currently with co-authors for final approval