

CURRICULUM VITAE
WINSTON C. LANCASTER, PH.D.
Department of Biology
University of Alabama at Birmingham
Birmingham, Alabama 35294 1170
CV revised 21 August 2023

Current Position

Associate Professor
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August, 2014 to present

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Responsibilities

Teaching – Introduction to Human Anatomy and Advanced Human Anatomy, Comparative Anatomy, special topics

Research – Functional morphology of bats and whales

Service – Curator of Anatomical Materials

Education

Ph.D., May, 1994 Univ. of North Carolina, Chapel Hill, Dept. of Cell Biology and Anatomy, Dissertation: Morphological and Physiological Correlates of Biosonar Vocalization in Bats
Advisor: O.W. Henson, Jr.

M.S., December, 1982 Louisiana State University, Department of Geology
Thesis: A Morphological and Paleoecological Analysis of the Archaeoceti of Montgomery Landing, Louisiana, Advisor: Judith A. Schiebout

B.S., June, 1979 Auburn University, Department of Zoology and Entomology

Employment History

- *Aug. 2002 – Aug. 2014* California State University, Sacramento, Sacramento, California.
Professor – Human Gross Anatomy for Physical Therapists, Advanced Human Anatomy, Comparative Vertebrate Morphology, Mammalogy, Introductory Human Anatomy, director of Human Anatomy Teaching Lab.
- *Jan. 1999 – June, 2002* School of Osteopathic Medicine, Pikeville College, Pikeville, Kentucky. Assistant Professor - Course Coordinator, principal instructor for Medical Gross Anatomy
- *Oct. 1997 - Sept. 1998* Department of Zoology, Göteborg University, Göteborg, Sweden.
Visiting Scholar, Sponsor: Jens Rydell
- *Oct. 1994 - July 1997* Dept. of Zoology, University of Aberdeen, Aberdeen, Scotland U.K.
Postdoctoral Research Fellow, Sponsor: John R. Speakman
- *Aug. 1987 - Oct. 1994* Dept. of Cell Biology and Anatomy, Univ. of North Carolina, Chapel Hill; Graduate Research and Teaching Assistant, Supervisor: O.W. Henson, Jr.
- *Sept. 1986 - Aug. 1987* Dept of Physiological Sciences, University of Florida, Gainesville;
Biological Scientist, Supervisor: Richard H. Lambertsen
- *June 1984 - Aug. 1986* Idaho Museum of Natural History, Idaho State University, Pocatello; Preparator of Vertebrate Fossils. Supervisor, William Akersten
- *Nov. 1982 - May 1984* Red Mountain Museum, Birmingham, Alabama; Vertebrate Preparator, Principal Colleague: Gorden Bell
- *Aug. 1979 - Oct. 1982* Department of Geology, Louisiana State University, Baton Rouge;
Graduate Research and Teaching Assistant, Supervisor: Judith A. Schiebout

Teaching Experience

University of Alabama at Birmingham

Human Anatomy – systemically based human anatomy; lower-division

Advanced Human Anatomy – regionally based cadaveric anatomy emphasizing dissection; upper-division/graduate

Comparative Vertebrate Anatomy – systemic morphology of vertebrates from an evolutionary and functional perspective; upper-division/graduate

Biology of Sex – team taught survey of the molecular, physiological, ecological, and evolutionary concepts of sex; lower division, online

Living Biology at UAB and Beyond - jointly taught introduction for freshmen to the people, projects, and opportunities in the Biology Department; lower division

California State University, Sacramento

Introduction to Human Anatomy – systemically based human anatomy; lower-division

Advanced Human Anatomy – regionally based cadaveric anatomy; upper-division

Human Gross Anatomy for Physical Therapists – clinical anatomy for Doctoral program in Physical Therapy; graduate

Mammalogy – structure, physiology, ecology, behavior and classification of mammals; upper-division

Comparative Vertebrate Morphology – systemic morphology of vertebrates from an evolutionary and functional perspective; upper-division

Methods in Ecology, Evolution and Conservation – field and laboratory research methods, team taught; graduate

Pikeville College School of Osteopathic Medicine

Medical Gross Anatomy (Course Coordinator and principal instructor) – regionally based cadaveric anatomy for Medical students; graduate;

Göteborg University

Zoomorphology; Tropical Field Biology - advise student research; graduate, undergraduate

University of Aberdeen

Recent Advances in Mammalogy – guest lecturer; Honours undergraduate

University of North Carolina, Chapel Hill

Medical Gross Anatomy – laboratory instructor, tutor; graduate

Louisiana State University

Paleozoology – laboratory instructor in invertebrate paleontology; undergraduate

Mentoring & Advising Experience

MS Thesis Advisor

Walter Clevenger – 2005 Effect of post-fire generation on bat activity in the Sierra Nevada.

Ishtar Thomas – 2007 Echolocation Intensity and the Body Size Limitations in Bats

Dawn J. Eichenberger – 2008 Vertebral Fusion in Bats (Order Chiroptera)

Jeffrey Changaris – 2017 Craniomandibular Structure and Function in Mormoopid Bats

Holly Benjamin – started August 2023 Pedagogy of Human Anatomy

Undergraduate Research and Special Projects

Biosonar analysis, monitoring and census of bats – seven students, 2004-2010

Rodent distribution in California Blue Oak woodlands – Sabrina Bell, 2005

Cat dissection and digitization of radiograph collection – Sergey Yudin, 2010-11

Human dissection and prosection preparation – 32 students, 2003-present

Academic Advising

Pre-health Care Advising Group – Fall, 2003-2014

Pre-Veterinary Advisor – 2004-2014

Faculty Advisor

UAB Chapter Medicine, Education, and Development for Low Income Families Everywhere (MEDLIFE) – 2018-2023

CSUS Pre-Vet Club – 2012-2014

Institutional Service

University of Alabama at Birmingham

Search Committee for Chair, Department of Biology – Fall 2022

Diversity, Equity, Inclusion, and Belonging Committee – 2020- present

Faculty Affairs Committee – 2019-present

Common Equipment Committee – 2016-2020

Curriculum Committee – 2017-2019

Human Anatomy Instructor Search Committee (chair) – Spring, 2020, Spring 2021

California State University, Sacramento

Retention, Tenure, and Promotion Primary Committee – 2009-2011, chair 2012-2014

Executive Committee – 2004-2005; 2009-2010, 2012-2014 academic years

Pre-health Care Advising Group – 2003-2014

Goethe Bequest Committee – 2005-2014

University

Institutional Animal Care and Use Committee – Fall 2010 – 2014

Office of Global Education, Sweden Selection Committee – Fall 2006 – 2014

Safety Committee – 2003-2005; 2009 - 2011

Search Committee for Animal Conservation Biologist – Fall, 2006

Departmental Representative to California Faculty Association – 2005 - 2007

Honors Committee – 2003 - 2006

Academic Council, College of Natural Sciences and Mathematics – 2003 - 2005

Search Committee for Anatomist/Physiologist – Fall, 2003

Pikeville College School of Osteopathic Medicine

Research Committee – 1999 to 2001

Admissions Committee – 1999 to 2002

North American Society for Bat Research

Board of Directors, 2004-2006

Local host for 35th annual meeting, 2005.

Community Service

Blazer Kitchen Garden – Volunteer manager of vegetable garden to serve Blazer Kitchen (UAB campus food pantry) (2020-present)

Turkey Creek Nature Preserve – Volunteer naturalist, bat and bird surveys (2016-present)

The Mountain Retreat and Learning Center (Dillard, NC) – Volunteer naturalist, instructor of outdoor skills (2015-present)

Homewood Environmental Commission – Volunteer in city park natural habitat protection (2016-2020)

Sacramento Valley Conservancy – Senior Docent, hike leader, natural history interpretation, advisor on mammal conservation and education (2004-2014)

Middle Mountain Foundation – Guide, natural history interpretation (2006-2014)

Current Active Research Projects

Three-dimensional reconstruction of the tympano-periotic complex and cranial morphometrics in whales (Cetacea); in collaboration with Ted Cranford, San Diego State University.

Peer-reviewed Publications

Dávalos, L.M., W.C. Lancaster, M.S. Núñez-Novas, Y.M. León, B. Lei, J. Flanders, and A.L. Russell. 2019. A coalescent-based estimator of genetic drift, and acoustic divergence in the *Pteronotus parnellii* species complex. *Heredity* 122(4): 417–427

McClintock, J.B, W.C. Lancaster, C. Pomery, and J.M. Lawrence. 2018. Mass mortality of the sea cucumber *Thyronella pervicax* on the Florida panhandle, December 2016. *Gulf of Mexico Science* 34 (1).

Corthals A, A. Martin, O.M. Warsi, M. Woller-Skar, W. Lancaster, A. Russell, and L.M. Dávalos. 2015 From the field to the lab: Best practices for field preservation of bat specimens for molecular analyses. *PLoS ONE* 10(3): e0118994. <https://doi.org/10.1371/journal.pone.0118994>

Lancaster, W.C., W.J. Ary, P. Krysl and T.W. Cranford. 2015. Precocial Development of the Tympanic Bulla in Cetaceans. *Marine Mammal Science* 31: 369-375.

Larkey, D.J., S.L. Datwyler and W.C. Lancaster. 2012. Vertebral fusion in bats: Phylogenetic patterns and functional relationships, *in* Gunnell, G. and N.B. Simmons (eds.), pp. 500-529, *Evolutionary History of Bats: Fossils, Molecules and Morphology*. Cambridge University Press.

DesRoche, K., M.B. Fenton and W.C. Lancaster. 2007. Echolocation and the thoracic skeletons of bats : A comparative morphological study. *Acta Chiropterologica* 9: 483-494

Lambertsen, R. H., K.J. Rasmussen, W.C. Lancaster, and R.J. Hintz. 2005. Functional Morphology of the mouth of the bowhead whale and its implications for conservation. *Journal of Mammalogy* 86: 342-352. <http://www.jstor.org/stable/4094354>

Speakman, J.R., W.C. Lancaster, S. Ward, G. Jones, and K.C. Cole. 2004. Energy cost of echolocation in stationary insectivorous bats. *In*: Thomas, J.A., C.F. Moss and M. Vater (eds.), *Echolocation in Bats and Dolphins*, pp. 361-365. University of Chicago Press.

Lancaster, W.C. and J.R. Speakman. 2001. Variations in respiratory muscle activity during echolocation when stationary in three species of bat (Microchiroptera: Vespertilionidae). *Journal of Experimental Biology* 204: 4185-4197. <http://jeb.biologists.org/cgi/content/full/204/24/4185>

Rydell, J., J. Fagerström, S. Anderson, G.G. Stille, M. Gelang, W.C. Lancaster, M.G.E. Svensson and B.S. Tullberg. 2001. Convergence in wing coloration between orange underwing moths (*Archiearis* sp.) and tortoiseshell butterflies (*Aglais* sp.). *Entomologica Fennica* 12: 65-71.

Rydell, Jens and W.C. Lancaster. 2000. Flight and thermoregulation in moths were shaped by predation from bats. *Oikos*: 88: 13-18. <http://www.jstor.org/stable/3546391>

Fenton, M.B., J. Rydell, M.J. Vonhof, J. Eklöf, and W.C. Lancaster. 1999. Constant frequency and frequency-modulated components in the echolocation calls of three species of small bats (Embalonuridae, Thyropteridae, and Vespertilionidae). *Canadian Journal of Zoology*: 77: 1891-1900.

Lancaster, W.C., S.C. Thomson and J.R. Speakman. 1997. Wing temperature in flying bats measured by infrared thermography. *Journal of Thermal Biology* 22: 109-116.

Lancaster, W.C. and Elisabeth K.V. Kalko. 1996. *Mormoops blainvillii*. *Mammalian Species* 544:1-5. <http://www.science.smith.edu/departments/Biology/VHAYSEN/msi/default.html>

Lancaster, W.C. and O.W. Henson, Jr. 1995. Morphology of the abdominal wall in the bat *Pteronotus parnellii* (Microchiroptera: Mormoopidae): implications for biosonar vocalization. *Journal of Morphology* 223:99-107.

Lancaster, W.C., O.W. Henson, Jr. and A.W. Keating. 1995. Respiratory muscle activity in relation to vocalization in flying bats. *Journal of Experimental Biology* 198:175-191. <http://jeb.biologists.org/cgi/reprint/198/1/175>

Keating, A.W., O.W. Henson, Jr., M.M. Henson, W. C. Lancaster and D.H. Xie. 1994. Doppler-shift compensation by the mustached bat: quantitative data. *Journal of Experimental Biology* 188:115-129. <http://jeb.biologists.org/cgi/reprint/188/1/115.pdf>

Lancaster, W.C., A.W. Keating and O.W. Henson, Jr. 1992. Ultrasonic vocalizations of flying bats monitored by radiotelemetry. *Journal of Experimental Biology* 173:43-58. <http://jeb.biologists.org/cgi/reprint/173/1/43.pdf>

Lancaster, W.C. 1990. The middle ear of the Archaeoceti. *Journal of Vertebrate Paleontology* 10:117-127.

Lancaster, W.C. 1986. The taphonomy of an archaeocete skeleton and its associated fauna, in J.A. Schiebout and W.A. van den Bold (eds.), *Montgomery Landing Site, Marine Eocene (Jackson) of Central Louisiana*, pp 119-131. *Proceedings of the Gulf Coast Association of Geological Societies Symposium*, Baton Rouge, Louisiana.

Chapter in Textbook

Lancaster, W.C. 1997. Systematics, pp. 3-11, in: Altman, R.B., Clubb, S.L., Dorrestein, G. and Quesenberry, K. (eds.) *Avian Medicine and Surgery*. W.B. Saunders Co. Philadelphia.

Invited publication (non-peer-reviewed)

Lancaster, W.C. 2022. Review of: *The Handbook of Acoustic Bat Detection* by Runkel, Gerding and Markmann. *Quarterly Review of Biology* 97: 217-218.

Laboratory Manuals

Hendon, L.C. and W.C. Lancaster. 2018. *Complete Introductory Human Anatomy Lab Guide*, 11th ed. Pearson Education, Inc. New York.

Hendon, L.C. and W.C. Lancaster. 2017. *Complete Introductory Human Anatomy Lab Guide*, 10th ed. Pearson Education, Inc. New York.

Lancaster, W.C. and B. Stockert. 2013. *Laboratory Manual of Human Anatomy for Physical Therapists*. California State University, Sacramento

Recent Published Abstracts

Lancaster, W.C., W.J. Ary and T.W. Cranford. 2014. Precocial Development of the Tympanoperiotic (Ear) Complex in Cetaceans. 2014 Annual Meeting of the Society for Integrative and Comparative Biology, Austin, Texas. January, 2014.

Martin, A., L. Dávalos, W. Lancaster, A. Russell, M. Woller-Skar and A. Corthals. 2012. A comparison of DNA yields from different tissue types and storage media. *Bat Res. News* 53(4):101

Changaris, J.B. and W.C. Lancaster. 2012. Measurement of active gape in mormoopid bats. *Bat Res. News* 53(4): 69

Popular Articles

Lancaster, W.C. (2018). Speciation and divergent biosonar behaviour in Caribbean populations of the Greater Mustached Bat. *Behind the Paper: Nature Research: Ecology and Evolution* <https://natureecoevocommunity.nature.com/users/175353-winston-c-lancaster/posts/38353-speciation-and-divergent-biosonar-behaviour-in-caribbean-populations-of-the-greater-mustached-bat>

Lancaster, W.C. 2010. Evolution of Flight in Bats. *Journal of the Sierra College Museum of Natural History* 3 (1) <http://www.sierracollege.edu/ejournals/jscnhm/v3n1/bats.html>

Lancaster, Winston, 2008. Edward Bernays and the Bad Idea of Public Relations. *Focus* (Universidad Interamericana de Puerto Rico, Recinto de Bayamón). 8: 60-61.

Invited Presentations

October, 2022, Alabama Paleontological Society, Birmingham, Alabama.

Research on the Archaeoceti.

November, 2018. The Mountain Retreat and Learning Center, Highlands, North Carolina.

Trees in Community.

March, 2014, Department of Biology, University of Alabama at Birmingham.

Structures and Injuries of the Shoulder

June, 2009, Museo Nacional de Historia Natural de República Dominicana, Santo Domingo.

Constant Frequency Echolocation and the Divergence of Antillean Populations of

Pteronotus parnellii (Mormoopidae).

October, 2007, Department of Biological Sciences, California State University, Sacramento

Screaming Like a Smoke Alarm: Body Size and Echolocation in Bats

May, 2006, Speleo-Ed Seminar 2006, Western Region of the National Speleological Society,

Calaveras Big Trees State Park, Arnold, California

Singing for Your Supper: Echolocation for Navigation and Prey Detection by Bats

March, 2006. American River Natural History Association, Sacramento California.

Diversity and Habits of Central Valley Bats

November, 2004, Department. of Biological Sciences, California State University, Sacramento

I'm Little but I'm Loud: Power, Body Size and Echolocation in Bats

November, 2002, Department of Biology, San Diego State University

Singing for Your Supper: The Economics of Echolocation in Bats,

December, 2001, Dept. of Biological Sciences, California State University Sacramento

Respiratory Muscles and Biosonar in Bats: Adaptations for Efficiency

June, 2001, Dept. Of Biology, James Madison University, Harrisonburg, Virginia

Respiratory Muscles and Biosonar in Bats: Adaptations for Efficiency

May, 2001, Dept. of Anatomy, Philadelphia College of Osteopathic Medicine, Philadelphia, Pa.

Respiratory Muscles and Biosonar in Bats: Adaptations for Efficiency

April, 1997, Dept. of Zoology, Göteborg University, Sweden

Functional Morphology and Energetics of Biosonar Vocalization in Bats

April, 1996, Dept. of Zoology, University of Aberdeen, Scotland, U.K.

Integration of Echolocation and Flight in Bats in Bats.

February, 1995, Division of Biological Sciences, Bristol University, England, U.K.

Morphology and Physiology of Biosonar Vocalization in Bats

Awards

Faculty Development Grant Program (UAB)

Hearing in Ancient Whales 2019-2020 \$9596.00

Research and Creative Activities Award (CSU, Sacramento)

Ambiguous Genitalia in Antillean Ghost-faced Bats, 2008-09, renewed 2009-10
6 units (50%) release time and \$2500 per award

Sabbatical Award (CSU, Sacramento)

Ambiguous Genitalia in Antillean Ghost-faced Bats, 2008-09.
12 units (100%) release time for one semester

Dean's Travel Award (College of Natural Sciences and Mathematics, CSU, Sacramento)

*Speciation in Insular Populations of the Greater Mustached Bat (*Pteronotus parnellii*) in the Greater Antilles*, 2009, \$1000

Pedagogy Enhancement Award (CSU, Sacramento)

Integration of Clinical Anatomy into the Physical Therapy Curriculum, in collaboration with Dr. Bradley Stockert, 2005-06, 3 units release time for one semester

Integration of Updated Phylogenetics and Common Evolutionary Perspectives in Vertebrate Zoology Courses, in collaboration with Dr. Ronald Coleman and Dr. William Avery, 2010-11, 2 units release time for one semester

Integrating 3-Dimensional Anatomy, Clinical Case Studies and an Electronic Medical Records System into a Doctoral Level Anatomy Course, in collaboration with Dr. Bradley Stockert. 2012-13, 2 units release time for one semester