

Regina Campbell-Malone

Education

- 2001-2007 **Massachusetts Institute of Technology** Cambridge, MA
MIT/Woods Hole Oceanographic Institution (WHOI) Joint Program
Ph.D., Biological Oceanography, June 2007
Michael J. Moore, advisor
- 1996 - 2000 **University at Buffalo** Buffalo, NY
B.S., Biological Sciences with a Concentration in Ecology & Evolutionary Biology
Distinguished Honors Scholar, University Honors Program
Graduated Magna Cum Laude

Teaching Experience and Outreach

- Public Radio Science Contributor, Planet Harmony & Living on Earth** Sept 2009 – Dec 2011
Contributed multimedia content and science news podcasts for
NSF-funded public radio program Somerville, MA
- Lecturer, Wellesley College via Marine Studies Consortium** Fall 2009
Designed and instructed undergraduate Biology of Marine Mammals course Wellesley, MA
- Postdoctoral Investigator, Brown University** September 2007 – May 2008
Developed curriculum and taught upper-level lecture/lab course called
Comparative Biology of the Vertebrates Providence, RI
- Summer Faculty, Children's School of Science** June 2008 – July 2008
Developed and taught courses in Animal Behavior and Marine Biology Woods Hole, MA
- Guest Teacher, The Mullen Hall School** Spring 2006
Taught five ocean science lessons in 2nd and 4th grade classrooms using
curriculum designed by California Center for Ocean Sciences Education Excellence (COSEE) Falmouth, MA
- Adjunct Faculty, Codman Academy Charter Public High School** Fall 2005 & 2007
Developed curriculum and taught inquiry-based Marine Biology Course Dorchester, MA
- Guest Teacher, The Winsor School (middle and upper school)** Fall 2004 – Spring 2006
Designed and facilitated lessons on marine mammal biology and marine science Boston, MA
- Teaching Assistant, Evolutionary Biology, University at Buffalo** August 1998 – December 1999
Led laboratory sessions and dissections for 60 students/term
Graded assignments and exams Buffalo, NY
- Teaching Assistant, Honors Colloquium, University at Buffalo** Fall 1997
Led group activities, graded assignments, and mentored freshmen honor students Buffalo, NY
- Care Provider, Tender Loving Child Care** Fall 1993 – Fall 1996
Provided care, social skill development, physical activity and educational lessons
for children ages 6 weeks to 12 years of age in a local family day care setting. Buffalo, NY

Research Experience

Postdoctoral Fellow, Johns Hopkins University **March 2010 – present**

Dept. of Physical Medicine and Rehabilitation, Laboratory of Rebecca German Baltimore, MD
I study traumatic brain injury (TBI) in an animal model in order to determine how neurotrauma impacts motor patterns, socialization and cognition. I have also studied the effects of peripheral neurotrauma on feeding function in a porcine model of swallowing disorders.

Postdoctoral Fellow, West Chester University **September 2008 – March 2009**

Department of Biology, Laboratory of Frank Fish West Chester, PA
Studied the relationship between 3-d form and swimming kinematics in batoid fishes

Postdoctoral Investigator/Visiting Scientist, Brown University **September 2007 – June 2009**

Ecology and Evolutionary Biology Department Providence, RI
Taught upper level lecture/lab course entitled Comparative Biology of the Vertebrates

Postdoctoral/Guest Investigator, WHOI **July 2007 – present**

Biology Department, Laboratory of Michael Moore Woods Hole, MA
Created finite element model of pathologic rib fracture found in a North Atlantic right whale
Contributed novel scientific data to science policymakers using vessel speed restrictions as an endangered species management tool

Graduate Student, MIT/Woods Hole Oceanographic Institution **June 2001 – June 2007**

Biology Department (WHOI), Laboratory of Michael Moore Woods Hole, MA
Thesis: Biomechanics of North Atlantic Right Whale Bone: Mandibular Fracture as a Fatal Endpoint for Blunt Vessel-Whale Collision Modeling.
Led interdisciplinary team of engineers that developed numerical models of vessel-whale collisions

Research Fellow, Woods Hole Oceanographic Institution **Summer 2001**

Biology Department, Aquatic Toxicology Laboratory of Mark E. Hahn Woods Hole, MA
Investigated the xenobiotic receptor Peroxisome Proliferator Activated Receptor (PPAR)

Research Fellow, National Institutes of Health (NIH) **2000 – 2001**

National Heart, Lung & Blood Institute, Laboratory of Lymphocyte Biology Bethesda, MD
Investigated receptor dependent cell-signaling pathway under Barbara E. Bierer

Special Studies, Duke University Marine Laboratory **Summer 2000**

Nicholas School of the Environment Beaufort, NC
Completed two graduate courses: Conservation Biology and Marine Mammals
Conducted behavioral field work on Shackleford ponies and coastal dolphins (*T. truncatus*)
Modeled Manatee population dynamics and developed conservation effort guidelines

Research Intern, National Aeronautics and Space Administration (NASA) **Summer 1999**

Space Life Sciences Training Program, Kennedy Space Center Cape Canaveral, FL
Studied the impact of Florida Current anomalies on coastal/estuarine spawning events/larval migration

Research Intern, Laboratory of Flow Cytometry **1995**

Department of Flow Cytometry, Roswell Park Cancer Institute Buffalo, NY
Investigated chemical stimulation and detection of lymphocyte apoptosis using flow cytometry

Society Membership

National Neurotrauma Society	June 2011 - present
Society for Integrative and Comparative Biology	Dec 2007 - present
American Society of Limnology and Oceanography	Jan 2007 - Jan 2009
The Partnership/Keyspan College to Career Consortium Univ. Fellow	Feb 2005 - June 2007
Society of Marine Mammalogy	Sept 2003 - present
MIT Black Graduate Student Association, member	Sept 2001 - present
Golden Key National Honor Society, member	Oct 1998 - present
Phi Eta Sigma National Honor Society, member	Jan 1998 - present
American Institute of Aeronautics and Astronautics	Aug 1998 – June 2000

Grants, Fellowships & Scholarships

NIH Ruth L. Kirschstein National Research Service Award (NRSA T32)	Feb 2010 – Feb 2012
United Negro College Fund/Merck Postdoctoral Fellow (\$85,000)	Sept 2010 - 2012
WHOI Ocean Life Institute Award, Principal investigator (\$5,000)	June 2006
NOAA/NMFS Right Whale Grants Program Award Principal investigator (\$216,000)	Oct 2004
Sounds Conservancy Grant Awardee	May 2003 – May 2004
NSF Graduate Research Fellow	2002 – 2005
WHOI SeaGrant Award Recipient	Aug 2002 – July 2004
Massachusetts Institute of Technology, Presidential Fellow	Sept 2001 – Aug 2002
University at Buffalo Distinguished Honors Scholar	Aug 1996 – May 2000

Awards, Certification & Honors

American Society of Limnology and Oceanography Distinguished Student Speaker with Honors	Feb 2007
Georgia Institute of Technology Focus Fellow	Jan 2004
Aircraft Ditching Training, Survival Systems, Inc.	Spring 2003
NAUI S.C.U.B.A. certification	May 1998

Committee Membership & Leadership Experience

WHOI Diversity Initiative Advisory Committee, member	2004 – 2007
WHOI International Committee, representative	Nov 2002 – Nov 2003
Woods Hole Educational Assembly, student representative	Nov 2002 – Nov 2003

Public Service

The Winsor School, Boston MA, guest lecturer	2004 - 2009
New England Board of Higher Education – Excellence Through Diversity Program, advisor	2004 – 2009
WHOI Academic Programs, speaker	2003 – 2007
Woods Hole Science & Technology Education Partnership (WHSTEP), mentor	2003 - 2006
Cape Cod Stranding Network, volunteer	2001 - 2007
King Urban Life Center, reading volunteer	1998 – 1999
Tender Loving Child Care Center, volunteer	1996 - 1998
Roswell Park Cancer Institute, research volunteer	1995

Invited Seminars/Functions

Invited Speaker, Sponsored Fellow Seminar September 2012
Merck Pharmaceuticals, West Point, PA
Title: Neurobehavioral and Cognitive Effects of Blast-induced Traumatic Brain Injury in a Porcine Model.

Invited Speaker, Sponsored Fellow Seminar July 2011
Merck Pharmaceuticals, West Point, PA
Title: Imaging Trauma: Models of Fatal Vessel Collisions With Whales and Blast-Induced Brain Injury in Soldiers.

WHOI SeaGrant "Oceans Alive" Lecture April 2008
Title: Achilles' Jaw? the biomechanics of fatal jaw fractures in right whales
Invited Scientific Expert Regarding Management of Right Whales February 2008
National Oceanic and Atmospheric Administration, Silver Spring, MD
Title: The biomechanics of mandibular fracture resulting from vessel-whale collisions. Contributed novel scientific data and numerical modeling results to government agency charged with marine mammal species management

Seminar for the Functional Morphology Group Meeting November 2006
Department of Ecology and Evolutionary Biology, Brown University, Providence, RI
Title: From Floating Target to Fracture Trauma: The makings of a vessel-whale collision model

Moderator for In-house Diversity Discussions August 2006
National Oceanic and Atmospheric Administration, Northeast Fisheries Science Center

Seminar for the Biomechanics Group Meeting April 2006
Department of Mechanical Engineering, MIT Cambridge, MA
Title: Achilles' Jaw: Material Properties of the Right Whale Jaw Bone and Soft Tissue

Publications (Peer Reviewed)

Ding, P., **R. Campbell-Malone**, S.D. Holman, S.L. Lukasik, E. Gierbolini-Norat, A. Thexton, R.Z. German (2013). The effect of unilateral SLN lesion on swallowing threshold volume. The Laryngoscope, In Press

Holman, S.D., **R. Campbell-Malone**, P. Ding, E.M. Gierbolini-Norat, A.M. Griffioen, H. Inokuchi, S.L. Lukasik, R.Z. German (2013). Duration of action of bupivacaine hydrochloride used for peripheral sensory nerve block to the greater palatine and nasopalatine nerves in infant pigs. Journal of Veterinary Dentistry, In Press

Ding, P, **R. Campbell-Malone**, S.D. Holman, S.L. Lukasik, T. Fukuhara, E. Gierbolini-Norat, A. Thexton, R. German (2013). Unilateral superior laryngeal nerve lesion in an animal model of dysphagia and its effect on suckling and swallowing. Dysphagia, In Press.

Holman S.D., **R. Campbell-Malone**, P. Ding, E.M. Gierbolini-Norat, A.M. Griffioen, H. Inokuchi, S.L. Lukasik, R.Z. German (2012). Development, reliability and validation of an infant mammalian penetration-aspiration scale. Dysphagia, in Press.

Campbell-Malone, R., R.Z. German, A.W. Crompton, and A.J. Thexton (2011). *Ontogenetic Changes in Mammalian Feeding: Insights from Electromyographic Data*. Integrative and Comparative Biology. 51(2): 282-288, DOI: 10.1093/icb/icr026

Ding, P., R.P. Tufano, **R. Campbell-Malone**, W. Feng, S.J. Kim and R.Z. German (2011). *Horner Syndrome After Carotid Sheath Surgery in a Pig: Anatomic Study of Cervical Sympathetic Chain*. Comparative Medicine 61(5): 453-456.

German, R.Z., **R. Campbell-Malone**, A.W. Crompton, P. Ding, S.D. Holman, N. Konow and A.J. Thexton (2011). "The concept of hyoid posture." *Dysphagia* 26(2): 97-98. DOI: 10.1007/s00455-011-9339-z.

Field, D., **R. Campbell-Malone**, J. Goldbogen, R. Shadwick (2010). *Quantitative computed tomography of humpback whale (Megaptera novaeangliae) mandibles: mechanical implications for rorqual lunge-feeding*. Anatomical Record: Advances in Integrative Anatomy and Evolutionary Biology 293: 1240-1247. DOI:10.1002/ar.21165

Tsukrov, I., K.C. Baldwin, J. DeCew, **R. Campbell-Malone**, M.J. Moore (2009). *Mechanics of the Right Whale Mandible: Full Scale Testing and Finite Element Analysis*. Journal of Experimental Marine Biology and Ecology 34(2): 93-103. DOI: 10.1016/j.jembe.2009.03.012

Campbell-Malone, R., S. G. Barco, P-Y Daoust, A.R. Knowlton, W.A. McLellan, D.S. Rotstein, and M.J. Moore (2008). *Gross and Histologic Evidence of Sharp and Blunt Trauma in North Atlantic Right Whales (Eubalaena glacialis) Killed by Vessels*. Journal of Zoo and Wildlife Medicine 39(1): 37–55. DOI: 10.1638/2006-0057.1

Thesis

Campbell-Malone, R., (2007) *Biomechanics of North Atlantic Right Whale Bone: Mandibular Fracture as a Fatal Endpoint for Blunt Vessel-Whale Collision Modeling*, Doctoral Thesis in *Biological Oceanography*. Massachusetts Institute of Technology/Woods Hole Oceanographic Institution. Cambridge, MA. 257 pages.

<https://darchive.mblwhoilibrary.org/bitstream/handle/1912/1817/Campbell-Malone%20thesis.pdf?sequence=1>

Other Publications

Campbell-Malone, R., A. L. Bogomolni. **Marine Mammals: A Special Case.** Wildlife Forensics: Principles & Practice. Chapter 13: Special Considerations and Scenarios. J. E. and M. E. Cooper, Taylor and Francis Publishers: pages 404-420.
Status: in Press, expected publication Feb 2013