

Joy M. Lapsertitis

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Career Goals

A tenure-track position at a small college or university with undergraduate and graduate instruction responsibilities; a basic research program in vertebrate biology with connections to evolution, genetics, toxicology, and endocrinology; opportunities for community involvement with K-12 educational faculties and local environmental agencies.

Education

Massachusetts Institute of Technology & Woods Hole Oceanographic Institution Cambridge, MA
Woods Hole, MA
Ph.D. in Biological Oceanography, Joint Program in Oceanography & Ocean Engineering, Expected May 2006. Thesis: Comparative Analyses of Aryl Hydrocarbon Receptor Structure and Function in Marine Mammals and Seabirds. Advisor: Dr. Mark Hahn

Smith College Northampton, MA
A.M. in Biological Sciences, May 2000. Thesis: “*agouti*, AGOUTI, agouti: Multiple Perspectives on a Classical Coat-Color Locus”. Advisor: Dr. Virginia Hayssen.

Smith College Northampton, MA
A.B. in Biology, marine science minor, May 1994. Advisor: Dr. Paulette Peckol

Simon’s Rock College of Bard Great Barrington, MA
A.A. Liberal Arts, Math & Natural Sciences, May 1992. Advisor: Dr. David Myer

Awards

American Dissertation Fellowship American Association of University Women (2005-2006); PRIMO 12 Student Travel Award (2003); PRIMO 12 Graduate Student Award Finalist 2003); Smith College Biology Department Wilen’s Fellow (1999-2000); Gill-Montague Education Fund Recipient (1997); Inducted to Sigma Xi (1994); Five College Coastal & Marine Sciences Fellow (1992-1993).

Research Experience

Graduate Research Assistant **2000-current**
Biology Department, Woods Hole Oceanographic Institution, Woods Hole, MA (Dr. Mark Hahn, supervisor): Cloned and sequenced aryl hydrocarbon receptors in roseate tern, right whale and other cetacean species; prepared tissue cytosols from marine birds and mammals and screened polyclonal antibodies in western blot experiments; assessed biochemical properties of AHRs in radio-ligand assays; assisted Cape Cod Stranding Network with marine mammal strandings, necropsies and tissue collection.

Marine Mammal Specialist **Spring 2002**
Northeast Fisheries Science Center, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Woods Hole, MA (Frederick Wenzel, Chief Scientist): Conducted marine mammal observations from near-shore to Gulf Stream aboard R/V Albatross IV and auxiliary small craft during 3 week cruise; photographed and biopsied North Atlantic right whales for census; determined large whale distribution patterns; trained in large whale disentanglement procedures.

Graduate Research Assistant **1998-2000**

Vertebrate Biology & Behavior Laboratory, Smith College (Dr. Virginia Hayssen, supervisor): Conducted master's research on deermice: characterized molecular sequence of agouti and nonagouti alleles of the *agouti* locus from genomic DNA; evaluated putative AGOUTI protein sequence and predicted activity from comparative protein analysis; quantified litter size polymorphisms and correlated with maternal investment behaviors; identified thyroxine level polymorphisms in adult females and subspecies; collected blood and milk, and managed husbandry, breeding and culling of >250 deermice in captive colony; experienced with Biohazard Level 3 protocols and quarantine procedures; supervised undergraduate independent research projects; created laboratory database and organized weekly meetings.

Staff Scientist & Naturalist **1993-1994**

Cetacean Research Unit, Gloucester, MA (now known as "The Whale Center of New England"; Mason T. Weinrich, supervisor): Collected and analyzed demographic & behavioral data on whales and dolphins from research vessels and commercial whale watch vessel platforms; collaborated on project for 9th Biennial Conference on the Biology of Marine Mammals; conducted staff training & supervised interns.

Research Assistant & Intern **1992**

Cetacean Research Unit, Gloucester, MA (see above): Assisted naturalists aboard commercial whale watch vessels; collected behavioral data on whales; assisted live biopsy of whales; maintained and handled small offshore vessels; processed black & white negatives and prints for photo-identification of whales.

Research Assistant **1993**

Universidad Autonoma de Baja California Sur, La Paz, Mexico (Dr. Jorge Urban-Rodriguez, supervisor): Volunteered in photo identification & biopsy efforts; assisted behavioral data collection on humpback whales.

Teaching Experience

Course Coordinator & Instructor **Spring 2003**

Marine Studies Consortium, Brandeis University, MA: Organized curriculum and coordinated multiple lecturers for "Cetacean Biology & Conservation" course; designed assignments & evaluated student progress; prepared lectures on evolution & systematics, physiology, and environmental toxicology of whales and dolphins; organized field trips to museum research collections.

Teaching Fellow **1998-1999**

Smith College, Northampton, MA: Prepared and co-instructed laboratory sections of undergraduate "Animal Behavior" and "Vertebrate Biology"; directed student research projects and coordinated use of captive animal colony.

High School Teacher (MA Certified) **1996-1998**

Turners Falls High School, Montague, MA: Taught Life Science, Earth Science, and Integrated Math courses to 9th-12th grade students, both traditional 7 period system and "block scheduling"; designed and executed an Earth Science student field research trip to Hawaii for 30 participants; wrote curriculum and directed research projects for student investigations of on-site volcanic activity and succession on Oahu and Hawaii; received Gill-Montague Education Fund Grant for Curriculum Development from the Parents of the Gill-Montague Regional School System; building committee member.

Teaching Assistant and Tutor **1992-1994**
Smith College, Northampton, MA: Private tutoring for “Introductory Biology;” planned laboratory sections for “Oceanography;” maintained marine aquarium.

Tutor **1991**
Simon’s Rock College of Bard, Great Barrington, MA: tutored ESL & “Physics I”

Publications

J.M. Lapsertis. 2004. Book Review: Toxicology of Marine Mammals. JG Vos, GD Bossart, M Fournier, TJ O’Shea (eds.). Taylor & Francis, New York. xi + 643 pp. 2003. *Aquatic Mammals* 30(2): 337-338.

M.E. Hahn, B.A. Jensen, E.-Y. Kim, S.I. Karchner, D.G. Franks, **J.M. Lapsertis**, K.E. Whalen, and M.J. Carvan. 2003. Molecular and cellular approaches to understanding the sensitivity of marine mammals to persistent organic pollutants. *Organohalogen Compounds* 62: 253-256.

J. M. Lapsertis and V. Hayssen. 2001. Thyroxine levels in agouti and nonagouti deer mice (*Peromyscus maniculatus*). *Comparative Biochemistry and Physiology* 130C(2): 295-299.

J.M. Lapsertis. 2000. *agouti*, AGOUTI, agouti: Multiple Perspectives on a Classical Mammalian Coat-Color Locus. Masters thesis, Smith College, 113 pp.

Abstracts

M.E. Hahn, S.I. Karchner, B.R. Evans, D.G. Franks, R.R. Merson, and **J.M. Lapsertis**. 2005. Unexpected diversity of aryl hydrocarbon receptors in non-mammalian vertebrates: insights from comparative genomics. 15th International Congress of Comparative Endocrinology, Boston, MA, USA (MEH presentation)

J.M. Lapsertis and M.E. Hahn. 2003. Use of skin biopsies to characterize the aryl hydrocarbon receptor in the North Atlantic right whale, *Eubalaena glacialis*. 12th International Symposium: Pollution Responses In Marine Organisms, Tampa, FL, USA. Abstract #107 (JML competitive poster & oral presentation).

M.E. Hahn, **J.M. Lapsertis**, B.A. Jensen, S.I. Karchner, & D.G. Franks. 2003. Understanding the potential impact of persistent organic pollutants in cetaceans through characterization of contaminant susceptibility genes. Annual Meeting of the North Atlantic Right Whale Consortium, New Bedford, MA, USA. (MEH presentation)

M.E. Hahn, S.I. Karchner, R.R. Merson, D.G. Franks, E. Montie, **J.M. Lapsertis**, E.W. Zabel, D.E. Tillett, & M. Hannink. 2003. Aryl hydrocarbon receptors: diversity and evolution. 12th International Symposium: Pollution Responses In Marine Organisms, Tampa, FL, USA. Abstract #2. (MEH presentation)

J.M. Lapsertis and M.E. Hahn. 2001. Aryl hydrocarbon receptor antibody screening in cetaceans, pinnipeds, polar bear, mink and seabirds. 13th Biennial Conference on the Biology of Marine Mammals, Vancouver, Canada. (poster)

J.M. Lapsertis and V. Hayssen. 2000. *agouti*, AGOUTI, agouti: multiple perspectives on a classical mammalian coat-color locus. 80th Annual Meeting of the American Society of Mammalogists, Portsmouth, NH, USA. Abstract #164. (JML presentation)

J.M. Lapsieritis, V. Hayssen, & I. Weinger. 1999. Growth patterns in captive neonatal agouti and nonagouti deer mice (*Peromyscus maniculatus*). 79th Annual Meeting of the American Society of Mammalogists, Seattle, WA, USA. Abstract #73. (poster)

R.C. Griffiths, **J.M. Lapsieritis**, and M.T. Weinrich. 1993. Acoustic characteristics of and conspecific reactions to aerial behavior in humpback whales, on their feeding grounds in the southern Gulf of Maine. 10th Biennial Conference on the Biology of Marine Mammals, Galveston, Texas, USA. (poster)

Professional Memberships

American Society of Mammalogists, Society for Marine Mammalogy, Sigma Xi, Sigma Delta Epsilon/Graduate Women in Science

Additional Teaching Experience

Guest Lecturer (2004) “*Population and Molecular Genetics: Applications to Cetacean Conservation, Right Whale Case Study*,” Marine Studies Consortium
Guest Scientist (2004) Young Women in Science, summer program, Flying Cloud Institute, Simon’s Rock College of Bard
Career Presenter (2002) Martha’s Vineyard High School Career Exploration Day
Mentor & Judge (2002-2005) Falmouth Academy (High School) Science Fair
Guest Lecturer “*Greenhouse Warming: SOFAR from WWII & Pacific Ocean Whales*”, Smith College, Sigma Xi Lecture Series (1995) & Geology Dept (1994)

Academic Service

Science & Family Panel (2001, 2005) Woods Hole Oceanographic Institution
Marine Mammal Committee (2000-present) American Society of Mammalogists
Work & Family Life Committee (2001-present) Woods Hole Oceanographic Institution
Alumni Career Panelist (2001) Simon’s Rock College of Bard
Cape Cod Stranding Network (2000-2002) large whale necropsy volunteer

Continuing Education

Bioinformatics short course (2004) Woods Hole Oceanographic Institution
Gender Equity Workshop (2004) Woods Hole Oceanographic Institution
Aquatic Toxicology Short Course (2003) PRIMO 12
Science Ethics Workshop (2003) Woods Hole Oceanographic Institution
Boating Safety & Marine Electronics courses (2001) Buzzards Bay Power Squadron
Molecular Biology & PCR workshop (1999) New England Biolabs, Smith College
School for Field Studies, Marine Mammal Biology & Conservation (1993), Mexico

Special Skills

Molecular biology & radioisotope laboratory techniques; Animal behavior laboratory & field methodologies; Bioinformatics software: GCG, Sequencher, MacVector, PAUP, MacClade, MatLab; Large & small powerboat, & human-powered (raft, kayak, crew) vessel handling; NAUI SCUBA certified; Digital & film photography & processing; Spanish language skills

References

Dr Mark E. Hahn, Associate Scientist, Biology Department, Woods Hole Oceanographic Institution, MS #32, Woods Hole, MA 02543. (508) 289-3242 mhahn@whoi.edu

Dr Virginia Hayssen, Professor, Department of Biological Sciences, Smith College, Northampton, MA 01063. (413) 585-3856 vhayssen@smith.edu

Dr Judith McDowell, Associate Dean & Senior Scientist, Biology Department, Woods Hole Oceanographic Institution, MS #31, Woods Hole, MA 02543. (508) 289-2436 jmcdowell@whoi.edu

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Dr Gloria V. Callard, Professor, Department of Biology, Boston University, 5 Cummington St., Boston, MA, 022215. (617) 353-8980 gvc@bu.edu

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