

AMY LADD MORAN

Department of Biological Sciences
Clemson University
Clemson, SC 29634 U.S.A.

Tel: (864) 656-1488
Fax: (864) 656-1254
Email: moran@clemson.edu

EDUCATION

PhD (Biology), December 1997, University of Oregon, Eugene, OR

- Teaching and research fellowships
- Fellowships from Sigma Xi and the Lerner-Gray Foundation

BA (Biology and Music), June 1990, Bates College, Lewiston, ME

- Magna cum Laude, Phi Beta Kappa

ACADEMIC POSITIONS

Assistant Professor, Clemson University, August 2005- present
Department of Biological Sciences

Research Assistant Professor, University of North Carolina at Chapel Hill, June 2002-2005

Department of Marine Sciences
Institute of Marine Sciences, joint member
Ecology Curriculum, member

Postdoctoral Fellowship Appointments

University of Southern California, Wrigley Postdoctoral Fellow 2001-2002
University of Washington, Friday Harbor Labs Postdoctoral Fellow 1998 -2001
Smithsonian Tropical Research Institute Fellow 1999

RESEARCH INTERESTS

- Larval physiology and ecology
- Functional morphology
- Ecology and evolution of marine invertebrates
- Evolution of reproductive modes
- Behavior and reproductive ecology of echinoderms and molluscs
- Antarctic biology

RESEARCH GRANTS

- 2005 - 2008 **NSF Grant OPP-0440692, "Effects of oxygen and temperature on egg mass function of Southern Ocean marine invertebrates," \$293,750 to Moran; total grant (including Art Woods, UT Austin, co-PI) \$532,000**
- 2004 – 2005 **NSF Grant OCE SGER-0400518, "Can larval dispersal be directly measured? Development of Calcein-based marking techniques for characterization of planktotrophic larval dispersal shadows," with P. Marko (co-PI), \$44,470.**

- 2002 – 2006 **NSF Grant OCE-0137742**, “Egg size evolution of free-spawning marine invertebrates in Neogene Tropical America,” **\$298,770**.
- 2003 – 2004 University Research Council grant from the University of North Carolina, **\$3,700**.

PUBLICATIONS

- Woods, H.A. and **A.L. Moran**. 2008. Temperature-oxygen interactions in Antarctic nudibranch egg masses. *Journal of Experimental Biology*, in press.
- Woods, H.A. and **A.L. Moran**. 2008. Oxygen profiles in egg masses predicted from a diffusion-reaction model. *Journal of Experimental Biology*, in press.
- Moran, A.L.** and J.D. Allen. 2007. How does larval metabolic rate scale with egg size? An experimental test with sea urchin embryos. *Biological Bulletin* 212:143-150.
- Woods, H.A. and **A.L. Moran**. 2007. Size and Scaling. invited chapter for *An Encyclopedia of Tide pools and Rocky Shores*, M.W. Denny and S. D. Gaines, Editors, University of California Press.
- Moran, A.L.** and H.A. Woods. 2007. Oxygen in egg masses: interactive effects of temperature, age, and egg-mass morphology on oxygen supply to embryos. *Journal of Experimental Biology* 210:722-731.
- Podolsky, R.D. and **A.L. Moran**. 2006. Integrating function across marine life cycles. *Integrative and Comparative Biology* 46:577-586.
- Moran, A.L.** and P.B. Marko. 2005. A long-lasting, nontoxic fluorescent marker for larval dispersal studies of marine bivalves. *Journal of Shellfish Research* 24:567-571.
- Moran, A.L.** 2004. Egg size evolution in tropical American bivalves: the fossil record and the comparative method. *Evolution* 58: 2718-2733.
- Marko, P.B., S.C. Lee, A. Rice, G. Harper, T. Fitzhenry, J. McAlister and **A.L. Moran**. 2004. Product mislabeling in a reef fish fishery. *Nature* 430:39-40.
- Moran, A.L.** and D.T. Manahan. 2004. Physiological recovery from prolonged starvation in larvae of the Pacific oyster *Crassostrea gigas*. *Journal of Experimental Marine Biology and Ecology* 306:17-36.
- Moran, A.L.** 2004. The unusual prodissoconch and larval development of *Barbatia bailyi*. *The Veliger* 47:47-52.
- Moran, A.L.** and D.T. Manahan. 2003. Energy metabolism during larval development of green and white abalone, *Haliotis fulgens* and *H. sorenseni*. *Biological Bulletin* 204:270-277.
- Marko, P.B. and **A.L. Moran**. 2002. Correlated evolutionary divergence of a mitochondrial protein and egg size across the Isthmus of Panama. *Evolution* 56: 1303-1309.
- Moran, A.L.** and R.B. Emler. 2001. Offspring size and hatchling performance of an intertidal gastropod under variable field conditions. *Ecology* 82:1597-1612.

- Moran, A.L.** 2000. Calcein as a marker for experimental field studies of newly-hatched gastropods. *Marine Biology* 137:893-898.
- Moran, A.L.** 1999. Feeding role of the velum in encapsulated embryos of the gastropod genus *Littorina*. *Biological Bulletin* 196:229-244.
- Moran, A.L.** 1999. Juvenile invertebrates in the marine benthos: mortality, size, and performance. *American Zoologist* 39:304-312.
- Moran, A.L.** 1997. Spawning and larval development of the black turban snail *Tegula funebris* (Prosobranchia, Trochidae). *Marine Biology* 128:107-114.

TEACHING EXPERIENCE

Senior Seminar (Antarctic Science and Geopolitics). Clemson University, Fall 2007

Invertebrate Biology. Clemson University, Spring 2007, Spring 2008

Marine Biology. Four years experience teaching Marine Biology at UNC Chapel Hill (3 years) and Clemson University (1 year).

Physiological and Molecular Marine Ecology. Three Seas Program of the East/West Biology Program, Northwestern University. Taught at the Wrigley Marine Science Center, CA. Spring 2004.

Independent undergraduate research (nine undergraduate research projects to date, and one undergraduate reading course). Ongoing.

Visiting Instructor, **Invertebrate Zoology.** Oregon Institute of Marine Biology/University of Oregon. Spring 1999.

FIELD EXPERIENCE

NSF-funded research at McMurdo Station, Antarctica. Fall 2006, 2007.

NSF Antarctic Biology training course at McMurdo Station, Antarctica. Winter 2001.

Extensive field work in Panama, Florida, Hawaii, the Bahamas, Alaska, Mexico, Hong Kong, southern California, and the Washington and Oregon coasts.

Field courses and field research at the University of Washington's Friday Harbor Laboratories (Invertebrate Zoology, Marine Phycology, and Invertebrate Embryology: summers 1991 and 1994). Research ongoing.

SELECTED INVITED TALKS

United States Antarctic Program McMurdo seminar series, November 2006, Nov. 2007.

University of North Carolina at Charlotte, Department of Biology. April 2006.

University of South Carolina, Department of Marine Sciences. September 2005.

College of Charleston, Department of Biology. March 2005.

Wright State University, Department of Biology. February 2005.

San Francisco State University, Department of Biology. February 2005.
Clemson University, Department of Biology. January 2005.
University of North Carolina, Chapel Hill, Department of Geography. September 2004.
6th International Larval Biology meetings, Hong Kong. June 2004.

OTHER RECENT PRESENTATIONS AND CONFERENCE PROCEEDINGS

Society of Integrative and Comparative Biologists annual meeting, Phoenix, AZ. (three separate presentations, one as primary, two as coauthor). January 2006.
Society of Integrative and Comparative Biologists annual meeting, Orlando, FL. January 2006.
ASLO/TOS Ocean Research Conference, Honolulu, HI. February 2004.
Society of Integrative and Comparative Biologists annual meeting, New Orleans, LA. January 2004.
Society of Integrative and Comparative Biologists annual meeting, Anaheim, CA. January 2003.
32nd Annual Marine Benthic Ecology Meeting, Mystic, CT. March 2003.
University of North Carolina, Chapel Hill, Department of Marine Sciences February 2003.

OTHER SERVICE ACTIVITIES

Program Officer for the Society of Integrative and Comparative Biologists, Division of Invertebrate Zoology (Spring 2004 – present)

Symposium co-organizer of “Integrating Function Across Marine Life Cycles,” at the 2006 meeting of the Society of Integrative and Comparative Biologists

Reviewer for journals including Ecology, Evolution, Oecologia, Marine Biology, Journal of Experimental Marine Biology and Ecology, Marine Ecology Progress Series, Limnology and Oceanography, Physiological and Biochemical Zoology, Journal of the Marine Biological Association of the United Kingdom, The Veliger, Journal of Shellfish Research, and granting agencies including the National Science Foundation, NOAA, and SeaGrant.

Graduate Advising: Advisor for two PhD students and one MSc student. Advisory committee member for two MSc students at Clemson.

Society memberships: Society for the Study of Evolution; Ecological Society of America; Society of Integrative and Comparative Biologists; Clemson BioSci Evolution Reading Group