

CURRICULUM VITAE

HEIDI NOËL GEISZ

Virginia Institute of Marine Science
College of William and Mary
1208 Greate Rd.

Gloucester Point, VA 23062

Doctoral Candidate in Marine Science, Biological Sciences

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EDUCATION

The College of William and Mary, Williamsburg, VA. (Expected 2009)

PhD, Marine Science

My dissertation focuses on the transport and fate of organic contaminants in Antarctica, their incorporation into the Antarctic food web, particularly higher predators, and their use as tracers in seabirds breeding on the Antarctic Peninsula.

Lancaster University, England (1995-1996)

University of Colorado, Boulder, CO. (1997)

BA, Environmental, Population and Organismic Biology

Magna Cum Laude – *The Affects of Papermill Waste on Deciduous and Alder Forest Soil Invertebrates.*

Rich in nitrogen, paper mill waste mixed into existing farmed soils of Northern England seemed to facilitate earthworm activity, fixed nitrogen production and accordingly, agricultural production. However, the waste was also being mixed into natural local forest soils without an understanding of the affects such a change in the soil content may have on soil invertebrate populations. With the tutelage of Dr. Trevor Pearce, I designed and conducted an experiment in Northern England deciduous and alder forests investigating the effects of papermill waste on soil invertebrates, primarily earthworms.

BA, Psychology

PUBLICATIONS

Shearn-Bochsler, V; Green, DE; Converse, KA; Docherty, DE; Thiel, T; **Geisz, HN**; Fraser, W & Patterson-Fraser, DL (2008) Cutaneous and diphtheritic avian poxvirus infection in a nestling Southern Giant Petrel (*Macronectes giganteus*) from Antarctica. *Polar Biology* 31(5) 569-573.

Geisz, H; Dickhut, RM; Cochran, MA; Fraser, WR; Ducklow, HW. Melting Glaciers: A Probable Source of DDT to the Antarctic Marine Ecosystem. *Environmental Science & Technology*. 42(11) 3958-3962.

PRESENTATIONS

Oral Presentations:

Geisz, HN; Dickhut, RM; Cochran, MA; Fraser, WR. *Tracing Persistent Organic Pollutants into Antarctic Seabird Eggs*. Society of Environmental Toxicology and Chemistry North American Annual Meeting, Tampa, FL. **Nov. 17-21, 2008.**

Geisz, HN; Dickhut, RM; Cochran, MA; Ducklow, HW; Fraser, WR. *Influence of Diet and Migration on POP Concentrations in Antarctic Seabirds*. Society of Environmental Toxicology and Chemistry North American Annual Meeting, Milwaukee, WI. **Nov. 11-15, 2007.**

- Geisz, HN**; Dickhut, RM; Cochran, MA; Ducklow, HW; Fraser, WR. *Current Levels and Long-Term Trends of Persistent Organic Pollutants in Adélie Penguins*. 6th International Penguin Conference, Hobart, Tasmania, Australia. **Sept. 3-7, 2007.**
- Geisz, HN.** *Current and Long-Term Trends of Persistent Organic Pollutants in Seabird Breeding in Antarctica*. Marine Biological Laboratories Ecosystem Center Seminar Series, Woods Hole, MA. May 15, 2007.
- Geisz, HN**; Dickhut, RM; Cochran, MA; Ducklow, HW; Fraser, WR. *Current Levels and Long-Term Trends of Persistent Organic Pollutants in Seabirds Breeding in Antarctica*. Society of Environmental Toxicology and Chemistry North American Annual Meeting, Montreal, Quebec, Canada, Nov. 5-9, 2006.
- Geisz, HN**; Fraser, WR; Patterson-Fraser, DL. *Avian infection in Palmer Station Southern Giant Petrels*. Scientific Committee on Antarctic Research, Group of Experts on Birds Meeting/Workshop, Texel, Netherlands, July 15-22, 2004.
- Geisz, HN**; Fraser, WR. *The Adélie Penguin: Past and Present Work*. McMurdo Station, Antarctica Science Lecture Series, Feb. 2, 2006.
- Geisz, HN**; Fraser, WR. *Flying Underwater: The Adélie Penguin and Global Climate Change*. College of William and Mary Biological Sciences Invited Speaker Series, Williamsburg, VA. Dec. 7, 2004.
- Geisz, HN.** *Persistent Organic Pollutants in Antarctic Seabirds*. Annual Biological Departmental Seminar Series, Gloucester Point, VA. 2005, 2006, 2007.
- Geisz, HN**; Fraser, WR; Patterson-Fraser, DL. *Palmer Station, Antarctica: Whence They Came*. USGS National Wildlife Health Center, Madison, WI. May 3, 2004.
- Geisz, HN**; Fraser, WR. *Waves of Our Lives*. Palmer Station Antarctica, Palmer Science Lecture Series, March. 12, 2003.
- RM Dickhut, A Cincinelli, **HN Geisz** and MA Cochran, Antarctica: A Source or a Sink for POPs? Society of Environmental Toxicology and Chemistry, Milwaukee, WI, Nov., 2007.
- RM Dickhut, A Cincinelli, M Cochran, **H Geisz** and H Ducklow. Transport and Fate of Persistent Organic Pollutants (POPs) in Antarctic Coastal Seas. Society of Environmental Toxicology and Chemistry, Baltimore, MD, Nov., 2005.

Poster Presentations:

- Geisz, HN**; Dickhut, RM; Cochran, MA; Ducklow, HW; Fraser, WR. *Long-Term Trends of Persistent Organic Pollutants in Three Antarctic Seabird Species*. LTER All Sciences Meeting, Sept. 20-23, 2006.
- Geisz, HN.** *Current and Long-Term Trends of Persistent Organic Pollutants in Three Antarctic Seabird Species*. 2006 EPA STAR Graduate Fellowship Conference, Washington, DC, Sept. 24-26, 2006.
- Geisz, HN.** *Persistent Organic Pollutants in Antarctic Seabirds*. 2004 EPA STAR Graduate Fellowship Conference, Washington, DC, Oct 11-13, 2004.

TEACHING EXPERIENCE

College of William and Mary

Marine Science Teaching Fellow

Dr. Heather MacDonald / Dr. John Swaddle, Williamsburg, VA 23187 Spring 2009
Designed (and will teach) an undergraduate 1 credit course to be cross listed for credit in Geology and Environmental Sciences and Policy. The course, Antarctica: Climate Change in the Frozen Land, will explore how climate-driven variability is related to changes in the marine ecosystem ranging from the total annual primary production to the breeding success of seabirds.

Christopher Newport University

Dr. Gary Whiting, Newport News, VA 23606

Adjunct Graduate Student Faculty

Fall 2008

Taught a 3 credit Fundamentals of Ecotoxicology course for the Department of Biology, Chemistry & Environmental Science. The course included an introduction to ecotoxicology, the science of contaminants in the biosphere and their effects on constituents of the biosphere, including humans. The course provides a general survey of environmental toxicology and risk assessment from an ecological vantage.

College of William and Mary, Marine Science Teaching Fellow (Spring 2009)

Designed and taught an undergraduate 1 credit course to be cross listed for credit in Geology and Environmental Sciences and Policy; Antarctica:

Climate Change in the Frozen Land.

Christopher Newport University, Adjunct Graduate Student Faculty, Fall 2008

Taught a 3 credit Fundamentals of Ecotoxicology course for the Department of Biology, Chemistry & Environmental Science.

Virginia Institute of Marine Science

Gloucester Point, VA 23062

Teaching Assistant

Summer 2008

Aided in preparing and guiding 13 NSF Research Experience for Undergraduate students through summer research programs. Directly mentored one undergraduate student who presented a poster at the North American Society for Environmental Chemistry 2009 meeting.

K-12 and Continuing Education

2002 - Present

Designed and conducted a class pertaining to Antarctic science for K-12 children or continuing education adults demonstrating one interpretation of the scientific method. Lecture/class has been adapted and given over 20 times in the last 6 years.

Virginia Governor's School Program

Gloucester County, VA 23061

Invited Lecturer

September 2007

University of Colorado

Boulder, CO. 80304

Teaching Assistant

Fall 1997

As a senior undergraduate student, assisted graduate students in the preparation and teaching of General Biology Lab classes.

Boulder Valley School District

Boulder, CO. 80304

Special Education Paraeducator

Aug. 1997-June 1998

Tutored in an Elementary School Special Education department aiding teachers and working with the Children's Hospital of Denver to modify the curriculum of a child with Traumatic Brain Injury.

City of Boulder Parks and Recreation

Boulder CO.

Instructor

Springboard Diving Instructor

June 1991- Aug. 1998

Organized and ran beginning and intermediate diving lessons for adults and children of all ages. Additionally, maintained payroll for all diving instructors.

Preschool Swimming Instructor

Jan. 1997- Aug. 1998

Taught 3-6 year olds basic swimming skills, encouraged comfort in and around the water.

FELLOWSHIPS / AWARDS / HONORS

2009/10 NSF GK-12 PERFECT Fellowship
2008/09 President's Aide at the College of William and Mary
2007 Virginia Institute of Marine Science Auction Proceed Recipient
2005 Virginia Institute of Marine Science Mini-Grant Recipient
2004-2005 EPA STAR Fellowship Recipient
2004-2007 Virginia Institute of Marine Science Fellowship Recipient
1995 Recipient of Rotary International Scholarship
Dean's Scholar in the College of Arts and Sciences 4 semesters
Regents Scholarship
University of Colorado Phi Beta Kappa
Vice President of the Boulder Chapter of the National Honors Society

PROFESSIONAL MEMBERSHIPS

American Ornithologists' Union, member since 2004
Society of Environmental Toxicology and Chemistry, member since 2004

RELEVANT WORK EXPERIENCE

Polar Oceans Research Group

Dr. William Fraser, Sheridan, MT, 59749

30 months were spent actively participating in seabird field research conducting island based studies, and ship-board surveys studying the ecological reaction of seabirds to global changes in an ice dominated environment, which is the primary objective of our Long Term Ecological Research (LTER) project.

- Monitored the reproductive success and population dynamics of eight bird species including Adelie, gentoo and chinstrap penguins, south polar and brown skuas, kelp gulls, giant petrels and blue-eyed shags.

- Research techniques include stomach lavage for diet information, morphometric measurements of the adults and chicks, general censusing and deployment, recovery and interpretation of satellite and radio telemetry tags on Adelies, giant petrels and two species of skua.

- Acted as Field Team Leader currently on the Research Station and during the five one to two month cruises on the United States Antarctic Program research vessels including bi-weekly discussions with other PIs aboard the ship debating the planned cruise track, weather and ice conditions and other considerations regarding universal success in fulfilling research objectives.

- Cross disciplinary work included ice collection and analysis, zooplankton identification, crabeater seal tag deployment and mass spectrophotometry.

Field Science Technician

Oct. 2000 – 2005

NOAA / National Marine Mammal Lab

Dr. Thomas Laughlin, Seattle, WA 98115

Monitored Steller Sea Lion population, reproductive success, recruitment and behavior on a remote island in the Alaska Aleutian chain. Other duties included tagging sea lion pups, organization and maintenance of a remote field camp and helicopter on/off load.

Field Science Technician

May – August 2003

Raytheon Polar Services

Englewood, CO. 80112

General Science Assistant / Waste Technician

Oct. 1999 – Oct. 2000

As the Waste Technician, packaged and assisted shipment of solid waste, hazardous waste and recyclables. Duties also included heavy equipment operation, Zodiac maintenance, basic carpentry and helicopter cargo ops, assistance with ground penetrating radar research on glacial moraine and snow removal in remote research camps, monitored diesel fuel transfer between various Palmer Research Station tanks and the resupply vessel.

Fish and Wildlife Service

Dr. David Armstrong, University of Colorado

Volunteered to sort and identify mammal bones in owl pellets.

Volunteer

Spring 1998

COMMUNITY SERVICE:

Rawls Byrd Elementary School

Williamsburg, VA.

Lectured for 20 minutes each to a series of five 5th grade classes regarding ‘Marine Science in Antarctica’

Volunteer

May 2005, 2008

Abington Elementary School

Abington, VA.

Weekly reading sessions and lunch attendance with a child in need of adult guidance in addition to school wide lectures regarding Antarctic science.

Volunteer

Spring 2005-Present

Gloucester Public Library

Gloucester, VA

Designed and conducted a class pertaining to Antarctic science for an advanced 3rd Grade summer continuing education program.

Volunteer

Summer 2006

CERTIFICATIONS

Wilderness Emergency Medical Technician (2002 - 2004)

SCUBA (1998 - Present)