

Larissa M. Williams

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EDUCATION

- 2010 North Carolina State University, Dept. of Environmental and Molecular Toxicology
Ph.D. in Environmental Toxicology
Marjorie Oleksiak, Advisor
Dissertation: "Signatures of selection in natural populations adapted to chronic pollution"
- 2005 Smith College, Major: Biological Sciences, Minor: Marine Sciences
Bachelor of Arts with Highest Honors
Virginia Hayssen and Paulette Peckol, Advisors
Thesis: "Using the brackish water clam, *Rangia cuneata*, in the biomonitoring of Polynuclear Aromatic Hydrocarbons at the Marine Corps Air Station (MCAS) Cherry Point, N.C."

PROFESSIONAL APPOINTMENTS

- 3/11-present Woods Hole Oceanographic Institution, Department of Biology,
NIH NRSA Postdoctoral Fellow
- 8/11- 5/12 Wheaton College, Department of Biology, Visiting Assistant Professor
- 10/10- 2/11 Woods Hole Oceanographic Institution, Department of Biology,
Postdoctoral Investigator. Mark Hahn, Supervisor

ACADEMIC HONORS, AWARDS, AND GRANTS

- 2011 NIH Ruth L. Kirschstein National Research Service Award (\$150,270)
"Transcription factor cross-talk in developmental toxicity," 1F32ES019832-01
- 2011 Society of Toxicology Scholar Program Awardee (\$500)
- 2010 Kenneth R. Keller Award for Excellence in Doctoral Dissertation Research (\$2,500)
- 2005-6 NIH Training Grant Fellow, 5T32ES007046-29 (\$37,250)
- 2004-5 E.J. Murphy Scholarship, Smith College (\$500)
- 2004 Bookhout Fellowship, Duke University Marine Laboratory (\$7,500)
- 2003,4 Five College Coastal and Marine Sciences Research Internship (\$7,600)
- 2001-5 First Group Scholar and Dean's list, Smith College

TEACHING EXPERIENCE

- 2012 Wheaton College, **Assistant Professor** for Marine Biology (Biology 231) lecture and lab
- 2011 Wheaton College, **Assistant Professor** for Evolution (Biology 303) lecture and lab
- 2011 United States Coast Guard Academy, **Guest Lecturer**, Marine Pollution course
- 2011 Woods Hole Oceanographic Institution, **Instructor** for short course: "Ocean Sciences for British Petroleum Environmental Science Employees"
- 2006,7 North Carolina State University, **Lecturer** in Environmental Toxicology
- 2004-5 Smith College, **Master Tutor** in the Department of Biological Sciences
- 2003,4 Smith College, **Teacher Assistant** in Marine Ecology

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RESEARCH INTERESTS

Biological importance of genetic variation, genome-wide evolutionary analysis, responses to toxicants and environmental change across trophic levels and development, and elucidation of molecular mechanisms involved in response to toxicants and environmental change.

ADVISING AND MENTORING

- 2012 Mentoring facilitator for Society of Toxicology members
- 2011-12 Mentoring Woods Hole Oceanographic Institution/Massachusetts Institution of Technology joint program Ph.D. student, Katherine Pitz.
- 2011 Mentored University of Miami graduate student, Martha Hauff, on her dissertation project focusing on the population genetic structure of larval fish from the Caribbean.
- 2011 Society of Toxicology Undergraduate Education Program Mentor. Mentored a group of six diverse undergraduates over a three-day period preceding the SOT Annual Meeting.
- 2010 University of Miami: Advised and supervised undergraduate Kasia Mikolajczek's semester-long project on cloning the cytochrome P450 1A gene from natural populations of *Fundulus heteroclitus*.
- 2008-9 University of Miami: Advised and supervised undergraduate Nicole Budzinski's senior honors thesis focusing on polymorphisms in the proximal promoter of the RAS-associated diabetes gene in natural populations of *Fundulus heteroclitus*.
- 2007-9 Advised and trained laboratory technician, Amy Exum, on genetic and molecular techniques.

PUBLICATIONS

Sotka EE, **Williams LM**, Oleksiak MF, Strand AE. Can diversifying selection be distinguished from history in geographic clines? A population genomic study of killifish (*Fundulus heteroclitus*). **In review at PLoS One**.

Williams LM, Oleksiak MF (2011). Evolutionary and Functional analyses of Cytochrome P4501A promoter polymorphisms in natural populations. *Molecular Ecology*, **20(24)**:5236-47

Williams LM, Oleksiak MF (2011). Selectively important SNPs identified in natural populations. *Molecular Biology and Evolution*, **28(6)**:1817-26.

Whitehead A, Galvez Z., Zhang S., **Williams LM**, Oleksiak MF (2011). Functional genomics of physiological plasticity and local adaptation in killifish: an emerging model in environmental genomics. *Journal of Heredity*, **102(5)**:499–511.

Williams LM, Ma X, Boyko AR, Bustamante CD, Oleksiak MF (2010). SNP identification and verification using high-throughput methods in a non-model genus. *BMC Genetics*, **11**:32.

Williams LM, Oleksiak MF (2008). Signatures of selection in natural populations adapted to chronic pollution. *BMC Evolutionary Biology*, **8**:282.

CONTRIBUTED PRESENTATIONS AT CONFERENCES

Williams LM, Timme-Laragy AR, Franks DG, Jenny MJ, Hahn ME. Developmental expression of the Nfe2-related (nrf) transcription factor family and regulation by Ahr2. 2012. Society of Toxicology Annual Meeting, San Francisco, CA.

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Williams LM, Oleksiak MF. Selection in natural populations. 2011. Ecological and Evolutionary Genomics Gordon Research Conference, Biddeford, ME.

Williams LM, Oleksiak MF. Cytochrome P4501A promoter polymorphisms in natural populations. 2011. Society of Toxicology Annual Meeting, Washington D.C.

Williams LM, Oleksiak MF. Promoter polymorphisms and function in natural populations. 2010. New England Membrane Enzyme Group (NUTMEG) Conference, Woods Hole, MA.

Williams LM, Oleksiak MF. Genome scans in natural populations for selectively important SNPs using high-throughput technology. 2010. Society of Toxicology Annual Meeting, Salt Lake City, UT.

Williams LM, Oleksiak MF. Genome-wide scans in a non-model species using 454 pyrosequencing. 2008. Society for Molecular Biology and Evolution Annual Meeting, Barcelona, Spain.

Williams LM, Oleksiak MF. Signatures of selection in natural populations adapted to chronic pollution. 2007. Society for Molecular Biology and Evolution Annual Meeting, Halifax, Nova Scotia, Canada.

Williams LM, Oleksiak MF. Genome Search for Selectively Important Loci in *Fundulus heteroclitus* populations. 2006. Society for Molecular Biology and Evolution Annual Meeting, Tempe, AZ.

INVITED TALKS

Williams LM, The New Bedford Harbor Superfund Site: Politics, Pollution and Adaptation. Saul Krasner Memorial Science Lecture Series, September 2011, United States Coast Guard Academy, Connecticut.

Williams LM, Genomic analyses of polluted, natural populations. Biology Seminar, April 2011, University of Vermont, Vermont.

Williams LM, Environmental genomics of adaptation to pollution stress. Life Sciences Colloquium, March 2011, Smith College, Massachusetts.

Williams LM, Signatures of selection in natural populations adapted to chronic pollution. Department of Biology Seminar, November 2010, Woods Hole Oceanographic Institution, Massachusetts.

Williams LM, Signatures of selection in natural populations adapted to chronic pollution. Science Lecture Series, September 2010, Norwich University, Vermont.

WORKSHOPS AND SPECIALIZED COURSES

Analytical and Quantitative Light Microscopy, Marine Biological Laboratory, Woods Hole, MA, May 8-18, 2012. Course directors: Greenfield Sluder, Jason Swedlow, and David Wolf.

Gears for Scientific Success: COSEE Professional Development Workshop for Early Career Scientists, Woods Hole Oceanographic Institution, Woods Hole, MA, May 22, 2012.

PROFESSIONAL SERVICE ACTIVITIES

Committees and Other Service

2011-12

Advocacy Committee, National Postdoctoral Association

Helped draft the advocacy plan to include postdoctoral mentoring plans in National Institutes of Health grant applications

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- 2011-12 **Councilor, Society of Toxicology Postdoctoral Assembly Board**
Served as a point of communication for the postdoctoral membership to the Postdoctoral Assembly Board and oversee postdoctoral task forces
Wrote proposal for and was session chair for a symposium on “The Art of Negotiation: A fundamental skill for scientists” at the SOT national conference (2012)
- 2010-11 **President, Woods Hole Oceanographic Institution Postdoctoral Association**
Co-organized a women’s lunch and coordinated follow-up brownbag lunches between postdocs and scientific staff centering around opportunities and challenges for women in science
Organized a negotiation seminar for postdocs and graduate students
Established a graduate student-postdoc mentoring program
- 2010-11 **Gender Equity Committee, Woods Hole Oceanographic Institution**
Helped the committee bring in a national speaker who educated the Institution workforce regarding gender equity issues, especially as it related to postdoctoral women
- 2009-10 **Preparing Future Faculty Fellow, University of Miami**
One of 40 graduate students selected to participate in a one year program aimed at increasing awareness and readiness of the various professional responsibilities of academicians in research and teaching intensive university settings
- 2005-06 **Treasurer, Department of Environmental and Molecular Toxicology Graduate Student Association**
Managed the budget and planned and participated in graduate student recruiting events

Journal Reviewer

Aquatic Toxicology, Heredity, International Journal of Molecular Sciences and Molecular Ecology.

Community Outreach

Falmouth Middle and High School Science Fair Judge, 2012
Falmouth Academy Science Fair Judge, 2011
Exploring Marine Science Day participant, University of Miami, 2009

Membership in Professional and Honor Societies

American Association for the Advancement of Science
American Chemical Society
National Postdoctoral Association
Sigma Xi
Society for Molecular Biology and Evolution
Society of Toxicology