

Nicole M. Gerlach

University of Florida, Biology Department
220 Bartram Hall, P.O. Box 118525, Gainesville, FL 32611
Phone: +1-352-392-2419 E-mail: ngerlach@ufl.edu
<http://people.clas.ufl.edu/ngerlach/>

Education

Indiana University, Ph.D

August 2003-August 2010

Department of Biology. Advisor: Ellen Ketterson. Dissertation: Causes and consequences of extra-pair mating in the dark-eyed junco: implications for female, male, and offspring fitness, sexual selection, and the sources of individual variation.

Cornell University, B.A.

August 1998-May 2002

Biology: Ecology and Evolutionary Bio. Honors in Biology and Distinction in all Subjects. Major GPA: 4.13. Undergraduate Honors Thesis with Dr. Tim Devoogd: Early auditory experience shapes adult song preferences in female zebra finches (*Taeniopygia guttata castanotis*).

Employment

University of Florida, Lecturer

January 2013-present

Department of Biology. See "Teaching Experience" for courses.

Indiana University, Postdoctoral Research Associate/Lab Manager September 2010-December 2012

In addition to independent research, also responsible for compiling, analyzing, and archiving data from a long-term field study of free-living songbirds; maintaining research permits and permissions; acting as chemical/radiation safety officer; and training and supervising research assistants.

Lincoln Park Zoo, Dr. Scholls Science Fellow/Chicago Community Trust Intern June 2002-May 2003

Intern project: "Lineage loss, genetic diversity, heritability of fitness, and effective population size in a captive population of cheetahs (*Acinonyx jubatus*)."

Teaching Experience – University of Florida

BSC 2010: Integrated Principles of Biology I

- Majors introductory biology, genetics and evolution modules; three sections of ~300 students each.
- First developed for Spring 2013.
- Subsequently offered twice (Summer & Fall 2013).

BSC 2011: Integrated Principles of Biology II

- Majors introductory biology, animal physiology module; three sections of ~250 students each.
- First developed for Fall 2013.
- Subsequently offered three times (Summer & Fall 2014; Summer 2015; will be offered Fall 2015).
- Involved in designing active learning modules for use with Learning Assistants, Summer 2015.

BSC 2009 / BSC 2005: Biological Sciences

- Online introductory biology course primarily for non-majors; ~300 students.
- First developed for Summer 2013
- Redeveloped to meet educational standards for University of Florida Online program, Fall 2013.
- Subsequently offered every semester (seven times through Summer B 2015).
- Selected for UF's Online Education Excellence Award for Undergraduate High Enrollment, Spring 2014

BSC 1920: FYI: First Year Introduction to Biology

- Primarily for first-year and transfer students; introduces what it means to be a biology major at UF; three sections of ~20 students each.
- First developed for Fall 2013.
- Subsequently offered once (Spring 2014).

PCB 4674: Evolution

- Evolution lecture and lab; ~50-75 students
- First developed for Spring 2014.
- Subsequently offered once (Spring 2015).

ZOO 4307C: Vertebrate Biodiversity

- Lecture and lab focusing on vertebrate evolution and diversity; ~40 students
- First developed for Fall 2014.
- Will subsequently be offered Fall 2015.

ZOO 4926: Introduction to Animal Behavior

- Lecture focusing on proximate and ultimate causes for behavior across animals; ~35 students
- First developed for Spring 2015

Teaching Experience – Previous**BIO-A501: Techniques in Reproductive Diversity, Indiana University**

- Co-instructor for genetics/PCR module. Primary instructor: Dr. Ellen Ketterson. September 2011.

BIO-S318: Honors Evolution, Indiana University

- Associate Instructor. Professor: Dr. Farrah Bashey-Visser. Fall 2007 & Fall 2009
- Indiana University Biology's Outstanding Associate Instructor for 2009-2010 for this course.

BIO-Z406: Vertebrate Zoology, Indiana University

- Associate Instructor. Professor: Dr. Clara Cotton. Spring 2009.

BIO-L104: Biology of the Senses, Indiana University

- Associate Instructor. Professor: Dr. Laura Mojonnier/Dr. Angie Shelton. Fall 2008.

BIO-L113: Introductory Biology Lab, Indiana University

- Associate Instructor. Professor: Jim Hengeveld. Fall 2003 & Spring 2004.

Tropical Forests of Costa Rica, IMSA

- A week-long intersession field course offered through the Illinois Mathematics and Science Academy and the Organization for Tropical Studies. Co-instructor with John Thompson. January 2003 & 2005.

BioEE 274: Vertebrates: Structure, Function, and Evolution, Cornell University

- Undergraduate Teaching Assistant. Professor: Dr. Kelly Zamudio. Spring 2001.

Mentoring Experience

- Summer 2014 - present: Gabriel Kamener, U. of Florida University Scholars Program
- Fall 2011 – Spring 2012: Rachel Umphries, Research Assistant
- Summer 2011 & 2012: Kaitlin Richmond, Research Assistant
- Fall 2010 – Spring 2011: Libby Swanger, Research Assistant
- Summer 2007: Erin Spevak, REU program through Mountain Lake Biological Station
- Summer 2006: Krystle Ainsworth, REU program through Mountain Lake Biological Station

Publications

- Liebgold, E.B., **Gerlach, N.M.**, and Ketterson, E.D. 2013. [Similarity in temporal variation in sex-biased dispersal over short and long distances in the dark-eyed junco, *Junco hyemalis*](#). *Molecular Ecology* 22(22): 5548-5560.
- Whittaker, D.J., **Gerlach, N.M.**, Soini, H.A., Novotny, M.V., and Ketterson, E.D. 2013. [Bird odour predicts reproductive success](#). *Animal Behavior* 86(4): 697-703. [Covered in Science [ScienceShots](#) and Nature [Research Highlights](#)]
- Gerlach, N.M.** and Ketterson E.D. 2013. [Experimental elevation of testosterone lowers fitness in female dark-eyed juncos](#). *Hormones and Behavior*, 63(5): 782–790.
- Gerlach, N.M.**, McGlothlin, J.W., Parker, P.G., and Ketterson, E.D. 2012. [Reinterpreting Bateman gradients: multiple mating and selection in both sexes of a songbird species](#). *Behavioral Ecology* 23(5): 1078-1088. [Highlighted as Editor's Choice]
- Gerlach, N.M.**, McGlothlin, J.W., Parker, P.G., and Ketterson, E.D. 2012. [Promiscuous mating produces offspring with higher lifetime fitness](#). *Proceedings of the Royal Society B* 279(1730): 860-866. [Covered in Nature [News & Views](#) and [Research Highlights](#), and featured in Nordell, S.E. & Valone, T.J. 2013. *Animal Behavior: Concepts, Methods, and Applications*. Oxford University Press].

- Whittaker, D.J., Soini, H.A., **Gerlach, N.M.**, Posto, A.L., Novotny, M.V., and Ketterson, E.D. 2011. [Role of seasonality and testosterone in stimulating changes in a potential chemosignal in a songbird.](#) *Journal of Chemical Ecology* 37:1349-1357.
- McGlothlin, J.W., Whittaker, D.J., Schrock, S.E., **Gerlach, N.M.**, Jawor, J.M., Snajdr, E.A., and Ketterson, E.D. 2010. [Natural selection on testosterone production in a wild songbird population.](#) *American Naturalist* 175(6): 687-701.
- Lauay, C., **Gerlach, N.M.**, Adkins-Regan, E., and Devoogd, T.J. 2004. [Female zebra finches require early song exposure to prefer high quality song as adults.](#) *Animal Behaviour* 68(6): 1249-1255.

Manuscripts Submitted or In Prep

- Gerlach, N.M.** and Ketterson E.D. Phenotypic engineering: A long-term study using hormones to study life-history trade-offs and sexual conflict. In: *Snowbird: Integrative Biology and Evolutionary Diversity in the Junco* (eds. J.W. Atwell and E.D. Ketterson), in press, University of Chicago Press, University of Chicago Press, Chicago, IL, USA.
- Whittaker, D.J. and **Gerlach, N.M.** Mate choice in dark-eyed juncos using visual, acoustic, and chemical cues. In: *Snowbird: Integrative Biology and Evolutionary Diversity in the Junco* (eds. J.W. Atwell and E.D. Ketterson), in press, University of Chicago Press, Chicago, IL, USA.
- Gerlach, N.M.**, McGlothlin, J.W., Parker, P.G., and Ketterson, E.D. "Good genes" and long-term measures of success: does paternity affect first-year fitness in dark-eyed juncos? In preparation for *Animal Behavior*.

Grants and Funded Research

- 2008-2010: National Science Foundation Doctoral Dissertation Improvement Grant
- 2004-2007: National Science Foundation Graduate Research Fellowship
- 2003-2008: Women in Science Fellowship, Indiana University

Selected Honors and Awards

- 2014: University of Florida Online Education Excellence Award, Undergrad High Enrollment
- 2010: Outstanding Associate Instructor in Biology Teaching Award
- 2002: Genesis Award – Best poster paper presented by an undergraduate, Animal Behavior Society
- 1998-2002: Cornell Presidential Research Scholar

Selected Talks & Posters

- Kamener, G. E., Rothermel, B. B., Shirk, P. L., **Gerlach, N. M.** 2014. How Edges Impact Predation Risk of Threatened Juvenile Gopher Tortoises. Poster: Annual Gopher Tortoise Council Conference. Albany, GA, USA.
- Gerlach, N.M.** 2013. 'Til death do us part? Multiple mating in a socially monogamous songbird. Talk: University of Florida Biology Department Seminar Series, Gainesville, FL, USA.
- Gerlach, N.M.** and E.D. Ketterson. 2012. Changing mates does not pay: pair fidelity predicts success in juncos. Talk: Animal Behavior Society Meeting, Albuquerque, NM, USA.
- Friedline, S.N., Rosvall, K.A., **Gerlach, N.M.**, Ketterson, E.D. 2012. The effect of climatic change on the breeding phenology of the dark-eyed junco, *Junco hyemalis*. Poster: Women in Science Conference, Bloomington, IN, USA.
- Gerlach, N.M.** and E.D. Ketterson. 2011. Experimental elevation of testosterone lowers female fitness: evidence for adaptation and constraint. Talk: Animal Behavior Society Meeting, Bloomington, IN, USA.
- Gerlach, N.M.** 2011. 'Til death do us part? Mating behavior in monogamous songbirds. Talk: Global Science Online Seminar Series, The Field Museum of Natural History / Illinois Math & Science Academy.
- Gerlach, N.M.**, P.G. Parker, and E.D. Ketterson. 2010. Extra-pair behavior, multiple mating, and lifetime reproductive success in a female songbird. Talk: International Society for Behavioral Ecology Meeting, Perth, WA, Australia.
- Gerlach, N. M.**, P.G. Parker, and E.D. Ketterson. 2010. Individual traits and pair identity influence extra-pair paternity in the dark-eyed junco. Talk: Animal Behavior Society Meeting, Williamsburg, VA, USA.
- Gerlach, N. M.**, Parker, P.G., and Ketterson, E.D. 2009. Which dad is best? Fitness consequences of extra-pair paternity in offspring of the dark-eyed junco, *Junco hyemalis*. Talk: American Ornithologist's Union Meeting, Philadelphia, PA, USA.
- Gerlach, N. M.** and E.D. Ketterson. 2008. Sex ratio and survival in nestlings and adults of a songbird, the dark-eyed junco. Poster: International Society for Behavioral Ecology Meeting, Ithaca, NY, USA
- Gerlach, N. M.**, P.G. Parker, and E.D. Ketterson. 2007. EPFs enhance female reproductive success and may enhance offspring fitness in dark-eyed juncos. Talk: Animal Behavior Society Meeting, Burlington, VT, USA.
- Gerlach, N. M.** and E.D. Ketterson. 2006. Behavioral responses to a GnRH challenge in captive male dark-eyed juncos (*Junco hyemalis*). Poster: Society for Integrative and Comparative Biology Meeting, Orlando, FL, USA.
- Gerlach, N. M.**, J.M. Earnhardt, and S.D. Thompson. 2003. Lineage loss, genetic diversity, and effective population size in the North American captive cheetah population. Poster: Society for Conservation Biology Meeting, Duluth, MN, USA.

Gerlach, N. M., C. Lauay, and T. Devoogd. 2002. Early auditory experience shapes adult song preferences in female zebra finches (*Taeniopygia guttata castanotis*). Poster: Animal Behavior Society Meeting, Indiana University, Bloomington, IN, USA.

Service

- Animal Behavior Outreach Fair, Wonderlab Children's Museum, 30 July 2011
- Mist-Netting Demonstration, McCormick's Creek State Park Welcome Back Weekend, 02 May 2009 and 02 May 2010.
- Faculty of 1000, associate reviewer, 2009-present.
- Indiana Preparing Future Faculty Conference Planning Committee, 2006-2008.

Professional Societies and Affiliations

- International Society for Behavioral Ecology
- Animal Behavior Society
- American Ornithologist's Union
- Society of Integrative and Comparative Biology
- Center for the Integrative Study of Animal Behavior at Indiana University