

# Amanda A. Pierce

SPIRE Postdoctoral Fellow, University of North Carolina- Chapel Hill  
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## Research Interests

- Ecological and population genetics
- Range expansion and colonization
- Monarch butterfly migration behavior
- Role of behavior in species distribution

## Appointments

- Visiting Assistant Professor, Department of Biology, UNC Pembroke, 2017-Present
- SPIRE Postdoctoral Fellow, Department of Biology, University of North Carolina, 2015-Present
- Doctoral student/researcher, Department of Biology, Emory University, 2010-2015
- Undergraduate research assistant, Department of Biology, University of Kansas, 2009-2010

## Education

- August 2015     **Emory University**, Atlanta, GA  
Ph.D., Population Biology Ecology and Evolution  
Advisor: Jacobus de Roode
- May 2010        **University of Kansas**, Lawrence, KS  
B.S., Biology  
Concentration in Ecology and Evolutionary Biology  
Advisor: Jennifer Gleason

## Research & Training

- 2015-Present     **SPIRE Postdoctoral Fellow**  
University of North Carolina- Chapel Hill
- Seeding Postdoctoral Innovators in Research and Education (SPIRE) fellowship focusing on both research and teaching experience.
  - Investigating the role of interspecies hybridization in facilitating range expansion and adaptation to extreme environment.
  - Using population genetic methods to examine genetic trends across geospatial area.
- 2010-2015        **Doctoral student/researcher**  
Emory University
- Examined the effect of animal migration and dispersal on population structure and connectivity.
  - Used whole genome re-sequencing to identify genomic regions that are under selection and associated with migration behavior.

## Publications

\*denotes undergraduates I mentored

**A.A. Pierce**, R. Gutierrez\*, A.M. Rice, K.S. Pfennig (2017) Genetic variation during range expansion: effects of habitat novelty and hybridization. *Proceedings of the Royal Society B*. 284: 20170007.

K.S. Pfennig, A.L. Kelly, **A.A. Pierce**. (2016) Hybridization as a facilitator of species range expansion. *Proceedings of the Royal Society B*. 283: 20161329.

- Y.H. Li\*, **A.A. Pierce**, J.C. de Roode. (2016) Variation in forewing size linked to migratory status in monarch butterflies. *Animal Migration* DOI: 10.1515/ami-2016-0003
- A.A. Pierce**, J.C. de Roode, L. Tao. (2016) Comparative genetics of Na<sup>+</sup>/K<sup>+</sup>-ATPase in monarch butterfly populations with varying host plant toxicity. *Biological Journal of the Linnean Society* DOI: 10.1111/bij.12797
- A.A. Pierce**, S.M. Altizer, N. Chamberlain, M. Kronforst, J.C. de Roode. (2015) Unraveling the mysteries of monarch migration and global dispersal through molecular genetic techniques (pg 257-267). In: *Monarchs in a changing world: biology and conservation of an iconic insect* (eds. Oberhauser K, Nail KR, Altizer S). Cornell University Press, Ithaca, NY.
- A.A. Pierce**, M.P. Zalucki, M. Bangura\*, M. Udawatta\*, M. Kronforst, S. Altizer, J. Fernandez Haeger, J.C. de Roode. (2014) Serial founder effects and genetic differentiation during worldwide range expansion of monarch butterflies. *Proceedings of the Royal Society B*. 281: 20142230.
- A.A. Pierce**, J. C. de Roode, S.M. Altizer, R.A. Bartel. (2014) Extreme heterogeneity in parasitism despite low population genetic structure among monarch butterflies inhabiting the Hawaiian Islands. *PLoS ONE*. 9,6:e100061
- J. I. Lyons<sup>†</sup>, **A. A. Pierce**<sup>†</sup>, S. M. Barribeau, E. D. Sternberg, A. J. Mongue\*, & J. C. de Roode. (2012) Lack of genetic differentiation between monarch butterflies with divergent migration destinations. *Molecular Ecology* 21:14, 3433-3444. <sup>†</sup>**Co-first authorship listed in alphabetical order**
- J. M. Gleason, **A. A. Pierce**, A. L. Vezeau, S. F. Goodman. (2012) Different sensory modalities are required for successful courtship in two species of the *Drosophila willistoni* group. *Animal Behaviour* 83:1, 217-227.

### Teaching and Mentoring

- 2017 **Ecology and Evolution of Disease, undergraduate class (20 students)**  
University of North Carolina-Pembroke
- 2017 **Guest Lecture on Mendelian Genetics and Inheritance, Introductory Biology**  
University of North Carolina-Pembroke
- 2015-current **Research Mentor, University of North Carolina**  
Rafael Gutierrez (BSc Biology honors thesis), Sequoia Simon (volunteer from North Carolina Central University), Mary Dougherty (research credit)
- 2015 **Guest Lecture on Research & Evolution, Freshman Seminar**  
Emory University
- 2011-2015 **Research Mentor, Emory University**  
Aamina Ahmad (research credit), Maaz Ahmed (research credit), Marie Bangura (research credit), Beth Huang (high school student), Yiwen Li (research credit), Andrew Mongue (work study), Elizabeth Moore (Summer Undergraduate Research Program at Emory), Charisma Mylavarapu (volunteer), Rohini Swamy (BSc Biology honors thesis), Patricia Signe White (graduate student), Milan Udawatta (research credit)
- 2011 **Guest Lecture on Molecular Ecology, Graduate Ecology**  
Emory University
- 2011-2012 **Graduate Teaching Assistant, Evolutionary Biology**  
Emory University

### Fellowships and Awards

- SACNAS Summer Leadership Institute Fellow, 2016

- SMBE Satellite Workshop on the Genetics of Admixed Populations Travel Award, 2016
- EDEN Research Exchange Grant, NSF Evo-Devo-Eco Network, 2015
- Graduate Program in Biology Academic & Professional Achievement Award, Emory University, 2014
- Honorable Mention, Ford Foundation Fellowship Dissertation Competition, 2014
- Eugene Gangarosa Laboratory Research Mentoring Fellow, 2014
- National Evolutionary Synthesis Center, NESCent Academy Travel Award, 2012
- Honorable Mention, NSF Graduate Research Fellowship Program, 2011
- Research Fellow, NIH Training Grant Population Biology of Infectious Disease, 2011-2014
- Research Fellow, Emory Graduate Diversity Fellowship, 2010-2015
- Research Fellow, FACES Fellowship, Emory University, 2010
- Pauline Kimball Outstanding Senior Woman in Biology, University of Kansas, 2010
- George Gould Undergraduate Research Award in Entomology, University of Kansas, 2009
- Howieson Opportunity Fund Award, University of Kansas, 2009
- National Hispanic Scholar, 2006-2010

### **Papers and Posters Presented at Meetings**

- IRACDA Conference, Tucson, AZ. 2016 (poster)
- SMBE Satellite Workshop on the Genetics of Admixed Populations, San Antonio, TX. 2016 (talk)
- 7<sup>th</sup> International Conference on the Biology of Butterflies, Turku, Finland. 2014 (poster)
- Evolution meeting, Snowbird, UT. 2013 (talk)
- 1<sup>st</sup> Joint Congress on Evolutionary Biology, Ottawa, Ontario, Canada. 2012 (talk)
- Evolution meeting, Portland, OR. 2010 (poster)
- Undergraduate Research Symposium. University of Kansas, Lawrence, KS. 2010 (talk)
- Initiative for Maximizing Diversity Symposium, Haskell Indian Nations University, Lawrence, KS. 2010 (poster)
- SACNAS National Conference, Dallas, TX. 2009 (poster)

### **Invited Talks**

- University of Kansas, Graduation Banquet for Office for Diversity in Science Training, April 2016
- Johnson C. Smith University, Biology Department, March 2016
- University of North Carolina at Pembroke, Biology Department, February 2016
- North Carolina Central University, Department of Biological and Biomedical Sciences, February 2016
- North Carolina A&T, Biology Department, February 2016
- Personal presentation to President Jimmy Carter, Valle de Bravo, Mexico, February 2013

### **Service/Leadership**

- Symposium organizer, 15<sup>th</sup> Annual Distinguished Scholars Symposium, University of North Carolina, 2016
- Student Representative, Seminar Planning Committee, Program in Population Biology, Ecology, and Evolution. Emory University, 2012-2015
- Co-Founder & Co-Coordinator, PBEE Social Committee, Emory University, 2011-2015
- Student Representative, Division Students Advisory Council, Graduate Division of Biological and Biomedical Sciences. Emory University, 2011-2014
- Book chapter reviewer: [The Monarch Butterfly: Biology and Conservation](#)
- Invited scholarly journal article reviewer: *PLoS ONE*, *Journal of Biogeography*, *Ecology and Evolution*, *Proceedings of the Royal Society B*, *Freshwater Biology*, *Journal of Herpetology*, *Behavioral Ecology and Sociobiology*
- Ad-hoc grant reviewing for National Geographic, 2017; U.S. Army Corps of Engineers' Engineer Research and Development Center, 2017

**Professional Associations**

- American Association for the Advancement of Science
- Society for the Advancement of Chicanos/Hispanics and Native Americans in Science
- Society for Molecular Biology and Evolution
- Wildlife Society