

Emily L. Behrman

19700 Helix Drive
Ashburn, VA 20147
571.209.4000

Behrmane@Janelia.HHMI.org
<http://www.emily-behrman.com>

EDUCATION

- Ph.D. Biology, *University of Pennsylvania*** 2011-17
Dissertation: The genetic architecture underlying rapid seasonal adaptation in natural populations of *Drosophila melanogaster*
Advisor: Dr. Paul Schmidt
- B.A. Biology (Highest Honors), *Williams College*** 2005-09
Honors Thesis: Hierarchical population structure of Western Chorus Frog (*Pseudacris triseriata*) at Isle Royale
Advisor: Dr. David Smith
- African Ecology and Conservation, *Organization for Tropical Studies*** 2008

PROFESSIONAL EXPERIENCE

- Postdoctoral Associate – *Janelia Research Campus*** 2017-present
Behavior evolution in Drosophilids. Advisor: Dr. David Stern
- Visiting Researcher - *University of Lausanne*** 2015, 2017
Learning in *Drosophila melanogaster*. Advisor: Dr. Tadeusz Kawecki
- Laboratory Technician - *University of Pennsylvania*** 2009-11
Adaptation in wild *Drosophila*. Advisor: Dr. Paul Schmidt
- Research Assistant - *Williams College*** 2007
Macronuclear organization in *Tetrahymena*. Advisor: Dr. Marsha Altschuler
- Research Assistant - *Marine Biology Laboratory*** 2006
EvoDevo in gastropods. Advisor: Dr. Robert Savage

RESEARCH GRANTS

- Dissertation Completion Fellowship, *University of Pennsylvania* (\$26,700) 2016
- Peachy Environmental Biology Award, *University of Pennsylvania* (\$2,000) 2015
- Teece Dissertation Research Fellowship, *University of Pennsylvania* (\$9,900) 2014
- Rosemary Grant Research Award, *Society for the Study of Evolution* (\$2,000) 2012
- Graduate Research Fellowship, *National Science Foundation* (\$136,000) 2011

AWARDS AND FELLOWSHIPS

- W.D. Hamilton Award for Best Graduate Student Talk 2017
Society for the Study of Evolution
- Ruth Shaw Award for Best Graduate Student Poster, Honorable Mention 2017
American Society of Naturalists
- Young Investigator Travel Award 2017
Society of Molecular Biology and Evolution
- Dean's Travel Subvention 2017
School of Arts and Sciences, University of Pennsylvania
- James F. Crow Early Career Award Finalist 2016
Genetics Society of America
- DeLill Nasser Award for Professional Development in Genetics 2016
Genetics Society of America

- Tefler Travel Award 2015
Department of Biology, University of Pennsylvania
- Outreach Award 2014
Society for the Study of Evolution
- Travel Award 2014
School of Arts and Sciences, University of Pennsylvania
- Travel Award 2012-16
Graduate & Professional Student Association, University of Pennsylvania
- President Gutmann Leadership Award 2012
University of Pennsylvania
- Sigma Xi Honor Society 2009
Williams College
- Summer Research Fellowship 2007-08
Williams College
- 1960s Scholar for Biochemistry and Molecular Biology 2007
Williams College
- Summer Science Research Fellowship 2006
Howard Hughes Medical Institute

PUBLICATIONS (H-Index=8)

Manuscripts in review

Behrman, E.L., T.J. Kawecki and P.S. Schmidt. Natural variation in *couch potato* mediates rapid evolution of learning and reproduction in natural populations of *Drosophila melanogaster*. *In review*.

Behrman, E.L., A.O. Bergland, D.A. Petrov and P.S. Schmidt. Intragenic epistasis in *couch potato* and its effect on climatic adaptation in natural populations of *Drosophila melanogaster*. *In review*.

Peer reviewed journal publications

12. **Behrman, E.L.**, V.M. Howick, F. Staubach, A.O. Bergland, D.A. Petrov, B.P. Lazzaro, and P.S. Schmidt. Genetic basis of seasonal change in innate immune response in *Drosophila melanogaster*. *In press at Proceedings of the Royal Society B*
11. Cogni, R., C. Kuczynski, S. Koury, E. Lavington, **E. Behrman**, K. O'Brien, P. Schmidt, and W. Eanes. 2017. On the long term stability of clines in *Drosophila melanogaster*. *Scientific Reports*, 7. (doi:10.1038/srep42766)
10. Rajpurohit, S, R. Hanus, V. Vrkoslav, **E.L. Behrman**, J. Cvacka and P.S. Schmidt. Spatiotemporal variation in cuticular hydrocarbons in natural populations of *Drosophila melanogaster*. 2017. *Journal of Evolutionary Biology*, 30(1):66-80. (doi:10.1111/jeb.12988)
9. Machado, H., A.O. Bergland, K.R. O'Brien, **E.L. Behrman**, P. Schmidt and D. Petrov. 2016. Clinal variation in *D. simulans* and *D. melanogaster*. *Molecular Ecology*, 5(3):723-40. (doi:10.1111/mec.13446)
8. Zhao, X, A.O. Bergland, **E.L. Behrman**, B.D. Gregory, D.A. Petrov and P.S. Schmidt. 2016. Global transcriptional profiling of diapause and climatic adaptation in *Drosophila melanogaster*. *Molecular Biology & Evolution*, 33 (3): 707-720. (doi:10.1093/molbev/msv263)

7. **Behrman, E.L.**, S. Watson, K.R. O'Brien, M.S. Heshel and P.S. Schmidt. 2015. Seasonal life history adaptation in two species of *Drosophila*. *Journal of Evolutionary Biology*, 28 (9) 1691-1704. (doi:10.1111/jeb.12690)
6. Cogni, R., K. Kuczynski, E. Lavington, S. Koury, **E.L. Behrman**, K.R. O'Brien, P.S. Schmidt, and W.F. Eanes. 2014. Variation in *Drosophila melanogaster* central metabolic genes appears driven by natural selection both within and between populations. *Proceedings of the Royal Society B: Biological Sciences*, 282 (1800), art. no. 20142688, 7. (doi:10.1098/rspb.2014.2688)
5. Paaby, A.B., A.O. Bergland, **E.L. Behrman** and P.S. Schmidt. 2014. An amino acid polymorphism in the *Drosophila* insulin receptor demonstrates pleiotropic and adaptive function in life history traits. *Evolution*. 68(12)3395-3409. (doi:10.1111/evo.12546)
4. Bergland, A.O. **E.L. Behrman**, K.R. O'Brien, P.S. Schmidt and D.A. Petrov. 2014. Genomic evidence of rapid and stable adaptive oscillations over seasonal time scales in *Drosophila*. *PLoS Genetics* 10(11), 19p. (doi:10.1371/journal.pgen.1004775)
3. Lavington, E., R. Cognai, C. Kuczynski, S. Koury, **E.L. Behrman**, K.R. O'Brien, P.S. Schmidt and W. Eanes. 2014. A small system – high resolution study of metabolic adaptation to temperate climates in *Drosophila melanogaster*. *Molecular Biology and Evolution*, 31 (8) 2032-2041. (doi:10.1093/molbev/msu146)
2. Cogni, R., C. Kuczynski, S. Koury, E. Lavington, **E. Behrman**, K. O'Brien, P. Schmidt, and W. Eanes. 2013. The intensity of selection acting on the couch potato gene – spatial-temporal variation in a diapause cline. *Evolution*. (68) 538-548. (10.1111/evo.12291. Epub 2013 Nov 8.)
1. Dean, D., C. Himes, **E. Behrman**, and R. Savage. 2009. Hunchback-like Protein in Ciliary Structures of Gastropod Veliger Larvae. *Biological Bulletin* (217) 189-201. (doi:10.1086/BBLv217n2p189)

PRESENTATIONS

Invited Presentations

- University of North Carolina Chapel Hill, Chapel Hill, NC 2018
- Duke University, Durham, NC 2017
- University of Virginia, Charlottesville, VA 2017
- Canadian Society of Ecology and Evolution, Victoria, BC 2017
- Janelia Research Campus, Ashburn, VA 2016

Contributed Talks (☉ Selected talk)

- ☉ Evolution Conference, Portland, OR **Hamilton Award Winner** 2017
- ☉ 58th *Drosophila Research Conference*, San Diego, CA. 2017
- ☉ *Allied Genetics Conference: Population, Evolutionary and Quantitative Genetics*, Orlando, FL **James F. Crow Early Career Award Finalist** 2016
- *Evolution Conference*, Austin, TX 2016
- ☉ *Evolution Conference*, Sao Paulo, BZ **Hamilton Award Finalist** 2015
- *American Society of Naturalists*, Asilomar, CA 2014
- *Evolution Conference*, Raleigh, NC 2014
- *Evolution Conference*, Snowbird, UT 2013
- ☉ *Evolution Conference*, Ottawa, ON **Hamilton Award Finalist** 2012
- *Penn Princeton Rutgers Columbia (PPRC) Graduate Research Conference*, Philadelphia, PA 2012

- 53rd *Drosophila Research Conference*, Chicago, IL 2012
- *Evolution Conference*, Norman, OK 2011
- *Evolution Conference*, Portland, OR 2010

Poster Presentations

- *Evolution Conference*, Portland, OR **Ruth Patrick Award Honorable Mention** 2017
- *Society of Molecular Biology and Evolution*, Austin, TX 2017
- *Allied Genetics Conference: Drosophila Research Conference*, Orlando, FL 2016
- *Evolution Conference*, Austin, TX 2016
- *Evolution Conference*, Raleigh, NC 2014
- 55th *Drosophila Research Conference*, San Diego, CA 2014
- *Evolution Conference*, Snowbird, UT 2013
- 54th *Drosophila Research Conference*, Washington, DC 2013
- Biodiversity: from Evolutionary Origins to Ecosystems Function Bicentennial Symposium of the Academy of Natural Sciences, Philadelphia, PA 2012
- *Evolution Conference*, Moscow, ID 2009

TEACHING EXPERIENCE

- Certificate of Teaching Excellence 2016
Center for Teaching and Learning, University of Pennsylvania

Guest lectures

- Evolutionary Biology, *University of Pennsylvania* 2013, 2016
- Humans in a Microbial World, *University of Pennsylvania* 2013
- Humans and their Environment, *University of Pennsylvania* 2013

Teaching assistant

- Humans and their Environment, *University of Pennsylvania* 2013
- Evolutionary Biology, *University of Pennsylvania* 2013
- Genomics and Genome Science, *University of Pennsylvania* 2012
- Introduction Biology: The Cell, *Williams College* 2007

Research mentorship

- Trained 14 undergraduate and 10 high school students in the Schmidt Lab, *University of Pennsylvania* 2009-17

EDUCATION OUTREACH

- DC Science Tent at County Fairs 2017-present
- Science Fair Judge, Penn Alexander School 2015
- Early Access to Graduate Research (EAGR) Volunteer 2013
- Philadelphia Area Girls Enjoying Science (PAGES) Volunteer 2012-14
- Biology Undergraduate Mentor, University of Pennsylvania 2012-14
- High School Science Day Lab Leader, University of Pennsylvania 2011-16
- Professional Development workshops for Philadelphia high school teachers, University of Pennsylvania 2011-16
- Science Talks, Merion Elementary School 2011
- Biology Majors Advisory Committee, Williams College 2008-09
- Biology Mentor, Williams College 2008-09
- Student science teacher, Williamstown Elementary School 2006-07

ACADEMIC SERVICE

- Organizer of presentation archiving for Evolution Conference 2016-17
- Founder and leader of the Philadelphia Evolution Group 2016-17

Conferences and symposia organized:

- Telfer Student Invited Lecture, University of Pennsylvania 2017
- Evolution in Philadelphia Conference (EPiC) 2017
 - Regional Meeting Award, American Society of Naturalists
 - Trainee Organized Symposium Award, Genetics Society of America
- Ecolunch Symposium, University of Pennsylvania 2012-15
- Penn Princeton Rutgers Columbia Research Conference 2012

Panel participant:

- Biology Graduate Student Panel, Williams College 2014
- Graduate School 101, Genetics Society of America 2012-13

Departmental Service:

- President of the Biology Graduate Student Group 2016-17
- Graduate student panel for Ecology Faculty Job Search Committee 2015
- Careers in Academia workshop organizer 2012
- Graduate Student Interview Day Committee 2011-17

Reviewer:

- Journals: PeerJ (2017)
- Grants: NSF Graduate Research Program

Society Memberships: American Society of Naturalists, Genetics Society of America, Society for the Study of Evolution