

PRISCILLA ASHLEY ERICKSON

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EDUCATION:

- 2016 PhD: Molecular and Cell Biology, University of California at Berkeley
Dissertation advisor: Dr. Craig T. Miller
- 2009 BA with highest honors, *summa cum laude*: Molecular Biology, Kenyon College
Thesis advisor: Dr. Robert A. Mauck
- 2007 Universidad San Francisco de Quito, Ecuador (Spanish immersion semester)

RESEARCH AND TEACHING APPOINTMENTS:

- 2021— Assistant Professor of Biology, University of Richmond
- 2016-21 Jane Coffin Childs Postdoctoral Fellow, Department of Biology, University of Virginia
Postdoc advisor: Dr. Alan O. Bergland
- 2019-20 Visiting Assistant Professor of Biology, University of Richmond
- 2019 Instructor, Department of Biology, University of Virginia (summer session)

GRANTS AND AWARDS:

AT UR:

- 2023 Beckman Scholars Program Award (supporting; PI Carol Parish)
- 2022 NIH AREA R15: Tracking adaptive evolution in real time in an invasive insect (\$415,000)
(written prior to starting faculty position but all work conducted at UR)

Prior to UR:

- 2018 Postdoc Poster Award; Population, Evolutionary and Quantitative Genetics Conference (Genetics Society of America)
- 2018 DeLill Nasser Travel Award; Genetics Society of America
- 2017 Jane Coffin Childs postdoctoral fellowship
- 2015 Finalist, Walter Fitch Award, Society for Molecular Biology and Evolution
- 2015 Student Talk Award (runner-up), International Conference on Stickleback Behavior and Evolution
- 2015 American Genetic Association Travel Award
- 2012 Outstanding Graduate Student Instructor Award, UC Berkeley
- 2012 Student Poster Award, International Conference on Stickleback Behavior and Evolution
- 2010,11 Honorable Mention, National Science Foundation Graduate Research Fellowship
- 2010 University Fellowship, UC Berkeley
- 2008 Phi Beta Kappa
- 2009 Robert Bowen Brown Prize for Biology Research, Kenyon College
- 2009 Franklin Miller Award, Kenyon College
- 2009 Distinction on Senior Exercise, Kenyon College
- 2008 Summer Science Scholar, Kenyon College
- 2007 Barry M. Goldwater Scholar
- 2005 Kenyon Science Scholarship
- 2005 American Chemical Society Scholarship –Indiana division
- 2005 Drug, Chemical, and Allied Technologies Scholarship

PUBLICATIONS: (§ undergraduate mentee, # postbaccalaureate mentee, * undergraduate coauthor, † equal contribution)

Started and completed at UR:

- 2025 Walsh-Antzak, CR and **PA Erickson**. Strength of enemy release from parasitoids is context-dependent in the invasive African Fig Fly, *Zaprionus indianus*. *Ecology and Evolution* 15:e70754. <https://doi.org/10.1002/ece3.70754>
- 2025 Gray, WJ, Rakes, LM, Cole, C, Gunter, A, He, G, Morgan, S, Walsh-Antzak, CR, Yates, JA, and **PA Erickson**. Rapid wing size evolution in African fig flies (*Zaprionus indianus*) following temperate colonization. In press, *Evolution*. Preprint: <https://www.biorxiv.org/content/10.1101/2024.11.15.623845v1>
- 2023 Rakes, Logan M[#], Delamont, M, Cole, C[§], Yates, JA[§], Blevins LJ^{*}, Hassan, FN^{*}, Bergland, AO, and **PA Erickson**. A small survey of introduced *Zaprionus indianus* (Diptera: Drosophilidae) in the Eastern United States." *Journal of Insect Science* 23:5, 21. <https://doi.org/10.1093/jisesa/iead092>

Started during postdoc and completed at UR:

- 2024 **Erickson, PA**, Bangerter, A, Gunter, A^{*}, Polizos, NT and AO Bergland. Limited population structure but signals of recent selection in introduced African Fig Fly (*Zaprionus indianus*) in North America. In revision. Preprint: <https://www.biorxiv.org/content/10.1101/2024.09.20.614190v1>
- 2024 Nunez, J, Lenhart, BA, Bangerter A, Murray, CS, Yu, Y, Nystrom, TL, Tern, C, **Erickson, PA**, and AO Bergland. A cosmopolitan inversion facilitates seasonal adaptation in overwintering *Drosophila*. *Genetics* 226:2 iyad207. <https://doi.org/10.1093/genetics/iyad207>
- 2022 Barnard-Kubow, K, Becker D, Murray C, Porter R, Gutierrez G, **Erickson PA**, Nunez J, et al. "Genetic Variation in Reproductive Investment Across an Ephemerality Gradient in *Daphnia Pulex*." *Molecular Biology and Evolution* 39: 6: msac121. <https://doi.org/10.1093/molbev/msac121>.

Completed prior to UR:

- 2020 **Erickson PA**, Weller CA, Song DY, Bangerter AS, Schmidt P, Bergland AO. Unique genetic signatures of local adaptation over space and time for diapause, an ecologically relevant complex trait, in *Drosophila melanogaster*. *PLoS Genet.* 2020 Nov;16(11):e1009110. PubMed Central PMCID: PMC7717581.
- 2019 Stone, HM[§], **Erickson, PA**[†], and AO Bergland[†]. Phenotypic plasticity, but not genetic adaptation, underlies seasonal variation in the cold hardening response of *D. melanogaster*. *Ecology and Evolution* 2019. 10(1):217-231. DOI: 10.1002/ece3.5887
- 2018 **Erickson, PA**, Baek, J[§], Hart, JC, Cleves, PA, and CT Miller. Genetic dissection of a supergene cluster implicates *Tfap2a* in stickleback craniofacial evolution. *Genetics* 209: 591-605. doi: 10.1534/genetics.118.300760
** Issue highlight: <http://www.genetics.org/content/209/2/NP>

- 2018 Cleves, PA, Hart, JC, Agoglia, RM*, Jimenez, MT*, **Erickson, PA**, Gai, L*, Eisen, MB, and CT Miller. An intronic enhancer of *Bmp6* underlies evolved tooth gain in sticklebacks. *PLoS Genetics* 14 (6): e1007449. doi: 10.1371/journal.pgen.1007449
- 2018 Mojaddidi, H*, Fernandez, F*, **Erickson PA**, and ME Protas. Embryonic and genetic differences between cave and surface-dwelling forms of the isopod crustacean *Asellus aquaticus*. *Scientific Reports*, 8: 16589. Doi: 10.1038/s41598-018-34405-8
- 2017 Martin, CH, **Erickson, PA**, and CT Miller. The genetic architecture of novel trophic specialists: larger effect sizes are associated with exceptional oral jaw diversification in a pupfish adaptive radiation. *Molecular Ecology* 26: 624-638. doi: 10.1111/mec.13935
- 2016 **Erickson, PA**, Glazer, AM, Killingbeck, EK*, Agoglia, RM*, Baek, J[§], Carsanaro, SM*, Lee, AM, Cleves, PA, Schluter, D, and CT Miller. Partially predictable genetic basis of benthic adaptation in threespine sticklebacks. *Evolution*. 70(4): 887-902. doi: 10.1111/evo.12897
- 2016 **Erickson, PA**, Ellis, NA, and CT Miller. Microinjection for transgenesis and genome editing in threespine sticklebacks. *Journal of Visualized Experiments*. (111), e54055, doi:10.3791/54055
- 2015 **Erickson, PA**, Cleves, PA, Ellis, NA, Schwalbach, KT, Hart, JC, and CT Miller. A 190 base pair, TGFβ responsive tooth and fin enhancer is required for stickleback *Bmp6* expression. *Developmental Biology* 401(2): 310-323. doi: 10.1016/j.ydbio.2015.02.006
** Cover article: goo.gl/Phs5HG ** F1000 Prime Recommended: goo.gl/4SSyT0
- 2014 **Erickson, PA**, Glazer, AM, Cleves, PA, Smith, AS[§], and CT Miller. Two developmentally temporal quantitative trait loci underlie convergent evolution of branchial bone length in sticklebacks. *Proceedings of the Royal Society of London B* 281(1788): 20140822. doi: 10.1098/rspb.2014.0822
- 2014 Glazer, AM, Cleves, PA, **Erickson, PA**, Lam, AY*, and CT Miller. Parallel developmental genetic features underlie stickleback gill raker evolution. *EvoDevo* 5:19. doi:10.1186/2041-9139-5-19
- 2011 Maness, NJ, Walsh, AD, Rudersdorf, RA, **Erickson, PA**, Piaskowski SM, Wilson NA, and DI Watkins. Chinese origin rhesus macaque major histocompatibility complex class I molecules promiscuously present epitopes from SIV associated with molecules of Indian origin; implications for immunodominance and viral escape. *Immunogenetics* 63: 587-597. doi:10.1007/s00251-011-0538-4.
- 2010 Giraldo-Vela, JP, Bean, AT, Rudersdorf, R, Wallace, LT, Loffredo, JT, **Erickson, P**, Wilson, NA, and DI Watkins. Simian immunodeficiency virus-specific CD4+ T cells from successful vaccines target the SIV Gag capsid. *Immunogenetics* 62(10): 701-707. doi:10.1007/s00251-010-0473-9.

OPEN-SOURCE PUBLICATIONS OF EDUCATIONAL RESOURCES

- 2023 Kristine Grayson, **Priscilla Erickson**. "Building the island biogeography equilibrium model over two class periods." *HHMI BioInteractive Educator Resource Library*, <https://doi.org/10.57929/ys4d-4076>.

PREVIOUS RESEARCH POSITIONS:

2009-10 Research Associate, University of Wisconsin AIDS Vaccine Research Laboratory
 2007 Summer Intern, Bioproducts R&D, Eli Lilly and Company, Indianapolis, IN
 2005-06 Undergraduate Researcher, Indiana University School of Medicine

ORAL PRESENTATIONS (* INVITED):

2024* Tracking rapid evolution in an introduced fruit fly: *Zaprionus indianus*. College of William and Mary, Department of Biology
 2024 Tracking rapid evolution in an introduced fruit fly: *Zaprionus indianus*. SouthEastern Population Ecology and Evolutionary Genetics Meeting, Clemson, SC
 2024* Tracking rapid evolution in an introduced fruit fly: *Zaprionus indianus*. University of Kansas, Department of Biology,
 2024* Studying evolution in real time with an invasive fruit fly. Virginia Women in High Performance Computing Meetup
 2022* Tracking adaptive evolution in a newly introduced species: *Zaprionus indianus* (African fig fly). Entomological Society of America—Eastern Branch Meeting. April 2022; Philadelphia, PA
 2022* Rapid evolution in seasonally variable environments. Randolph Macon College Department of Biology.
 2021 “Rapid evolution in seasonally variable environments” Jane Coffin Childs Fellowship Annual Symposium.
 2019 “Diapause-associated SNPs vary clinally but not seasonally in natural populations of *D. melanogaster*” *Drosophila* 2019 meeting, Dallas TX
 2019 “Genetics and evolution of an ecologically relevant trait in *Drosophila melanogaster*” University of Virginia Ecology and Evolutionary Biology Seminar
 2018* “Winter is coming: the genetics of seasonal adaptation in *Drosophila*” Kenyon College
 2018* “Evolution of ecologically functional alleles in *Drosophila*” Duke University
 2018 “Genetics and evolution of ovarian diapause and overwintering in *Drosophila melanogaster*” Southeast Population Ecology and Evolutionary Genetics (SEPEEG) meeting
 2017* “Genetics and evolution of ecologically relevant traits: from fish to flies” Wake Forest University
 2017 “Uncovering the genetic basis of photoperiodic time measurement in insects” University of Virginia Biology Department Retreat
 2016 “Genetic dissection of a supergene cluster in threespine sticklebacks” University of Virginia Ecology and Evolution Seminar
 2015* “Functional genetic analysis of stickleback craniofacial evolution” Society for Molecular Biology and Evolution, Vienna, Austria (Fitch Award symposium)
 2015 “Functional genetic analysis of stickleback craniofacial evolution” 8th International Conference on Stickleback Behavior and Evolution, Stony Brook, NY
 2015 “Functional genetic analysis of stickleback craniofacial evolution” Genetics, Development, and Evolution Symposium, UC Berkeley
 2014 “Supersize me: a supergene cluster controlling pleiotropic craniofacial evolution in sticklebacks” Molecular and Cell Biology Retreat, UC Berkeley

SELECTED POSTERS AT NATIONAL MEETINGS:

2024 "Repeatability of evolution varies across timescales in the introduced African Fig Fly, *Zaprionus indianus*". The Allied Genetics Conference, Washington, DC
 2023 “Evolution in Real Time: Rapid evolution in temperate habitats in an introduced fruit fly, *Zaprionus indianus*”. Gordon Research Conference in Ecological and Evolutionary Genomics, Providence, RI

- 2018 “Hybrid swarm-based association mapping and evolution of ovarian diapause in *Drosophila melanogaster*” Population, Evolutionary and Quantitative Genetics Conference, Madison, WI
- 2018 “Genetics and evolution of temperature- and photoperiod-dependent reproductive diapause in *Drosophila melanogaster*” The Biology of Time Symposium, The Salk Institute, San Diego, CA
- 2015 “Functional genetic analysis of stickleback craniofacial evolution” Pan-American Society for Evolutionary Developmental Biology, Berkeley, CA
- 2015 “Partially predictable genetic basis of benthic adaptation in threespine sticklebacks” 8th International Conference on Stickleback Behavior and Evolution, Stony Brook, NY
- 2012 “Developmental genetics of branchial skeleton evolution in threespine sticklebacks” 7th International Conference on Stickleback Behavior and Evolution, Seattle, WA
- 2009 “Don’t put all your eggs in one basket: Growth, oxidative stress, and fledgling survival in Savannah sparrow chicks raised in experimentally manipulated broods” Society for Integrative and Comparative Biology, Boston, MA

UNDERGRADUATE MENTORING:

- 2024- Noor Abdullah (UR '26)
- 2024- Alexandra Stellwagen (UR '26)
- 2023-present Camille Walsh-Antzak (UR '24)
- 2023-present Michelle Pogrebetskaya (UR '24)
- 2022-present Ansleigh Gunter (UR '24)
- 2022-present Jillian Yates (UR '24)
- 2022-present Jerry He (UR '25)
- 2022-2023 Catherine Jalbert (UR '26)
- 2022 Christine Cole (UR '24)
- 2022 Liam Dugan (UR '23)
- 2022 Sam Morgan (UR '23)
- 2022 Anush Margaryan (UR '25)
- 2019 Liam Miller (UVA '23)
- 2018-19 Sasha Bilal (UVA '20)
- 2017-19 Helen Stone (UVA '19)
- Katz Prize for Best Undergraduate Biology Honors Thesis (UVA, 2019)
 - Victoria Finnerty Undergraduate Travel Award, Genetics Society of America (2019)
 - Platform talk at Undergraduate Research Symposium, *Drosophila* meeting (2019)
- 2016-19 Daniel Song (UVA '19)
- 2015-16 Aloukika Shah (UCB '17)
- 2015 Kristen Huang (UCB '16)
- 2013-16 Joan Baek (UCB '16)
- 2011-13 Alyson Cook Smith (UCB '13)
- 2011 Clement Kao (UCB '13)

COURSES TAUGHT:

- Biology 200: Integrated Biological Principles I with Lab (4 semesters)
- Biology 202: Integrated Biological Principles II with Lab (3 semesters)
- Biology 327: Genetics of Biodiversity with Lab (3 semesters)
- Biology 351: Advanced Genetics (1 semester)

PEDAGOGY TRAINING:

- 2024 Inclusive Pedagogy Student Partnership Program, University of Richmond
- 2023 Inclusive Pedagogy Cohort, University of Richmond
- 2022 Teaching Squares Program, University of Richmond
- 2021-22 Early Career Faculty Seminar, University of Richmond
- 2019 New Faculty Inclusive Teaching Seminar, University of Richmond
- 2019 Course Design Institute, University of Virginia
- 2015 Mentoring (semester long course for graduate students at UCB)
- 2014 Motivational Theories of Learning for Course Design (semester long elective course for graduate students at UCB)

UNIVERSITY SERVICE:

- 2023- Undergraduate Research Committee (School of Arts and Sciences)
- 2024 President, Phi Beta Kappa, University of Richmond
- 2023 Vice President, Phi Beta Kappa, University of Richmond
- 2023 Data Analytics and Data Science Committee (sabbatical replacement member)
- 2022- Belonging Committee, University of Richmond
- 2022- Coordinator, Gottwald Games, University of Richmond
- 2021 Guest Instructor, University of Richmond Integrated Science Experience (URISE)

PROFESSIONAL SERVICE:

- 2023 SouthEastern Population Ecology and Evolutionary Genetics (SEPEEG) meeting organizer
- 2019 Genetics Society of America Peer Review Committee
- 2019 Facilitator, GSA Peer Review Workshop at *Drosophila* 2019 meeting, Dallas, TX
- 2018 Organizer, UVA Fly Club (*Drosophila* research group meeting)
- 2012 Systems Biology Faculty Search Committee, UC Berkeley
- 2012 Graduate Admissions Committee, UC Berkeley

SCIENCE OUTREACH AND GUEST LECTURES:

- 2021-23 University of Richmond Integrated Science Experience (URISE summer program)
- 2018 Guest lecturer, Kenyon College, OH
- 2017-18 Piedmont Virginia Science Fair Judge, Charlottesville, VA
- 2016 "Dinner with a Scientist," Oakland Unified Schools, CA
- 2014-15 Guest lecturer, Dominican University, San Rafael, CA
- 2014 Science fair judge, Richmond Public Schools, CA
- 2014 Guest teacher, Quantum Camp, Berkeley, CA
- 2011,13 Science fair judge, Alameda Public Schools, CA
- 2011 Guest teacher, MetWest High School, Oakland, CA
- 2009 Field trip leader, Brown Family Environmental Center, Kenyon College

PEER REVIEWER-MANUSCRIPTS:

GENETICS
Heredity
Evolution Letters

Journal of Visualized Experiments
Journal of Biological Rhythms
Scientific Reports
Frontiers in Zoology
Biological Reviews
Evolution
PLoS One
Frontiers in Genetics
Molecular Ecology
Molecular Biology and Evolution
Frontiers in Physiology
Biology Letters
Proceedings of the Royal Society B: Biological Sciences
Genetics Society of America (GSA) – Peer Review Training Program (completed summer 2018)

PEER REVIEWER-GRANTS:

2024 National Institutes of Health-Molecular Genetics and Genomics R15 Study Section
2023 National Institutes of Health-Genetics, Variation, and Evolution Study Section
2016 Gordon and Betty Moore Foundation emerging marine model systems grant program

SOCIETY MEMBERSHIPS

Genetics Society of America
Entomological Society of America
Pan-American Society for Evolutionary Developmental Biology