

# Gideon Bradburd

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## EDUCATION & APPOINTMENTS

<b>Asst. Prof</b>	<i>Michigan State University</i> Department of Integrative Biology Ecology, Evolutionary Biology, and Behavior Group	Aug. 2016 - present
<b>Postdoc</b>	<i>University of California, Berkeley</i> Museum of Vertebrate Zoology Department of Env. Sci. Pol. and Mgmt Advisors: Michael Nachman, Bree Rosenblum	Sept. 2015 - Jul. 2016
<b>PhD</b>	<i>University of California, Davis</i> Population Biology Graduate Group Department of Ecology and Evolutionary Biology Advisors: Graham Coop, Brad Shaffer	Sept. 2009 - Aug. 2015
<b>BS</b>	<i>Yale University</i> Ecology and Evolutionary Biology Honors Thesis Advisor: Tom Near	Sept. 2004 - May 2008

## HONORS, AWARDS, & FELLOWSHIPS

<b>Fitch Award Finalist</b> , Society for Molecular Biology and Evolution (\$2000)	2015
<b>Hamilton Award Finalist</b> , Society for the Study of Evolution (\$500)	2015
<b>XSEDE SuperComputing Resource Allocation</b> , XSEDE (50,000 SUs)	2014-05
<b>Center for Population Biology Research Fellowship</b> CPB, UC Davis (\$4,000)	2011-13
<b>NSF Graduate Research Fellow</b> National Science Foundation (\$90,000)	2010-12
<b>Graduate Scholars Fellowship</b> in Population Biology, UC Davis (\$30,000)	2009-10
<b>Environmental Internship Award</b> Yale University (\$6,000)	2006-7
<b>Richter Summer Travel Fellowship</b> Yale University (\$1,000)	2007
<b>Mellon Forum Research Grant</b> Yale University (\$500)	2007

## FUNDING

<b>NSF Dimensions of Biodiversity</b> (2017-2021) Diversification of sensory systems in novel habitat: enhanced vision or compensation in other modalities? (co-PIs: J.W. Boughman, H. Hofmann, J. Keagy, D. Stenkamp)	<b>\$1,846,134</b>
<b>Beacon - NSF Center for the Study of Evolution in Action</b> (2016-present) Evolution of sensory systems in response to loss of visual information (co-PIs: J.W. Boughman, H. Hofmann, J. Keagy, D. Stenkamp)	<b>\$127,579</b>
<b>NSF Doctoral Dissertation Improvement Grant (DDIG)</b> (2014-15) The effect of intraspecific host variation on the structure of parasite populations (co-PIs: Graham Coop)	<b>\$13,918</b>

## PUBLICATIONS

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### Preprints and In Review

- Bradburd, G.S.**, G.M. Coop, and P.L. Ralph. (2018). Inferring continuous and discrete population structure across space *bioRxiv* <https://doi.org/10.1101/189688>.
- Shaffer, H.B., McCartney-Melstad, E., Ralph, P.L., **Bradburd, G.S.**, Lundgren, E., Vu, J., Hagerty, B., Sandmeier, F., Weitzman, C., Tracy, C.R. (2017). Desert Tortoises in the Genomic Age: Population Genetics and the Landscape *bioRxiv* <https://doi.org/10.1101/195743>.

### Published and Accepted Papers

- Weber, J.N., **G.S. Bradburd**, Y.E. Stuart, W.E. Stutz, D.I. Bolnick. (2017). Partitioning the effects of isolation by distance, environment, and physical barriers on genomic divergence between parapatric threespine stickleback. *Evolution* 71(2):342-56.
- Hoban, S.\*, J. L. Kelley\*, K. E. Lotterhos\*, M. F. Antolin, **G.S. Bradburd**, D. B. Lowry, M. L. Poss, L. K. Reed, A. Storfer, M. C. Whitlock. (2016). Finding the genomic basis of local adaptation in non-model organisms: pitfalls, practical solutions, and future directions. *American Naturalist* 188(4). (\*denotes equal authorship)
- Bradburd G.S.**, P.L. Ralph, G.M. Coop. (2016). A Spatial Framework for Understanding Population Structure and Admixture. *PLoS Genetics* 12(1): e1005703.
- Hammock, B.G., S. Lesmeister, I. Flores, **G.S. Bradburd**, F.H. Hammock, S.J. Teh. (2016). Low food availability narrows the tolerance of the copepod *Eurytemora affinis* to salinity, but not to temperature. *Estuaries and Coasts*. 39(1):189-200.
- Agrawal, A.A., A.P. Hastings, **G.S. Bradburd**, E.C. Woods, T. Züst, J. Harvey, T. Bukovinsky. (2015). Evolution of plant growth and defense in a continental introduction. *American Naturalist* 186(1): E1-E15.
- Wang, I.J.\* and **G.S. Bradburd.\*** (2014). Isolation by Environment. *Molecular Ecology* 23: 5649-5662. (\*denotes equal authorship)
- Bradburd, G.S.**, P.L. Ralph, and G.M. Coop. (2013). Disentangling the effects of geographic and ecological isolation on genetic differentiation. *Evolution* 67: 3258-3273.
- Rejmanek, D, P. Freycon, **G.S. Bradburd**, J. Dinstell, and J. Foley. (2013). Unique strains of *Anaplasma phagocytophilum* segregate among diverse questing and non-questing *Ixodes* tick species in the western United States. *Ticks and Tick-borne Diseases* 4: 482-487.
- Rejmanek, D., **G.S. Bradburd**, and J. Foley. (2012). Molecular characterization reveals distinct genospecies of *Anaplasma phagocytophilum* from diverse North American hosts. *Journal of Medical Microbiology* 61: 204-212.
- Near, T.J., C.M. Bossu, **G.S. Bradburd**, R.L. Carlson, R.C. Harrington, P.R. Hollingsworth Jr., B.P. Keck, D.A. Etnier. (2011). Phylogeny and temporal diversification of darters (*Percidae: Etheostomatinae*). *Systematic Biology* 60: 565-595

## SOFTWARE

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- Bradburd, G.S. 2018. conStruct. A genetic clustering method that accounts for isolation by distance. R package version 0.0.0.9000. <https://github.com/gbradburd/conStruct/code/conStruct>
- Bradburd, G.S. 2016. SpaceMix. A program for estimating geogenetic maps from allele frequency data. R package version 0.13. <https://github.com/gbradburd/SpaceMix>
- Bradburd, G.S. 2013. BEDASSLE. Bayesian Estimation of Differentiation in Alleles by Spatial Structure and Local Ecology. R package version 1.5. <https://cran.r-project.org/web/packages/BEDASSLE>

## TEACHING EXPERIENCE

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Evolutionary Biology (IBio 849)	Instructor	2018
Intro Statistical Methods in Ecology/Evolution (IBio 851)	Instructor	2017
Evolution Discussion Group (IBio 895)	Instructor	2017-18
UCLA/La Kretz Center Workshop in Conservation Genomics	Instructor	2014, 16
EVE100 Introduction to Evolution	Teaching Assistant	2015
EVE103 Macroevolution, Speciation, and Phylogeny (Lecture, Lab)	Teaching Assistant	2014
Herpetology (Field, Lab, Lecture)	Teaching Assistant	2012
Bodega Bay Applied Phylogenetics Workshop	Teaching Assistant	2012-13

## INVITED TALKS

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University of Toronto (St. George)	Dept. of Ecology and Evolutionary Biology	2018
University of Toronto (Mississauga)	Dept. of Biology	2017
University of Chicago	Dept. of Ecology and Evolution	2017
Michigan State University	Kellogg Biological Station	2017
University of Michigan	Center for Statistical Genetics	2016
University of Wyoming	Dept. of Botany	2016
University of Colorado Boulder	Dept. Ecology and Evolutionary Biology	2016
University of San Francisco	Dept. of Biology	2016
University of California Berkeley	Museum of Vertebrate Zoology	2015
Michigan State University	Ecology, Evolutionary Biology and Behavior	2015
Stanford University	Dept. Genetics and Biology	2015
University of Southern California	Molecular and Computational Biology	2014
University of Montana	Division of Biological Sciences	2014
University of Minnesota	Dept. of Plant Biology	2014
Sonoma State University	Biology Dept.	2014
University of Texas, Austin	Dept. Integrative Biology	2013

## CONTRIBUTED PRESENTATIONS

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Midwestern Population Genetics Meeting	2016
American Society of Naturalists	2016-18
Society for Molecular Biology and Evolution	2015
Society for the Study of Evolution	2012-13, 15, 17
Bay Area Population Genomics (BAPG)	2014
E&EB Senior Symposium, Yale University	2008

## MENTORSHIP & ADVISING

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### Postdocs

Dr. Emily Puckett	Aug 2017 - present
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### Undergraduates

Sarah Frocillo	Aug 2017 - present
Lindsay Guare	Aug 2017 - present
Nick Stants	Aug 2017 - present

### Grad student committees

Emily Dolson	Jan 2017-present
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## SERVICE & LEADERSHIP

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Strategic Hiring Planning Committee, Dept. Integrative Biology	2018
Organizing Committee, Midwest Population Genetics Conference	2016-present
Curriculum Planning Committee (Intro to Evolution - IBio 445)	2016-17
Student Representative, Population Biology Grad Group Steering Committee	2013-14
Chair of Student Research Symposium, Center for Population Biology/Pop Bio Grad Group	2013
Course Organizer, The Bodega Bay Applied Phylogenetics Workshop	2012-13
Chair, UC Davis Non-Model Genomics Workshop Committee	2010
Graduate Student Mentor	2009-2015

## REVIEWER

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Evolution; Genetics; Heredity; American Journal of Human Genetics; Molecular Ecology; Molecular Ecology Resources; Methods in Ecology and Evolution; New Phytologist; Bioinformatics; Diversity and Distributions; Integrative and Comparative Biology; Nature - Scientific Reports; Genes, Genomes, Genetics (G3); NSERC; Proceedings of the Royal Society B

## SOCIETY MEMBERSHIPS

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Society for the Study of Evolution (SSE); Society for Molecular Biology and Evolution (SMBE); American Society of Naturalists (ASN)