

## CURRICULUM VITAE

(12/24/19)

### Mitchell B. Cruzan

Google Scholar: <http://scholar.google.com/citations?user=7Cwa7VQAAAAJ>

Research Gate: [http://www.researchgate.net/profile/Mitchell\\_Cruzan](http://www.researchgate.net/profile/Mitchell_Cruzan)

## BIOGRAPHICAL INFORMATION

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## EDUCATION

1981	B.A. in biology. California State University, Fullerton. (with honors)
1983	M.A. in biology (Botany). California State University, Fullerton.  Thesis title: "The effect of stigmatic position, pollen density and source on pollen tube growth in <i>Nicotiana glauca</i> ." Advisor: C. Eugene Jones.
1989	Ph.D. in biology (Ecology and Evolution). State University of New York at Stony Brook.  Thesis title: "Post-pollination selection in <i>Erythronium grandiflorum</i> ." Advisor: James D. Thomson.

## **SCHOLARSHIPS, AWARDS, AND HONORS**

- 2002 CNRS Visiting Professor Fellowship, Terrestrial Ecology Laboratory, Université Paul Sabatier, Toulouse, France
- 1988 Graduate School Dissertation Fellowship, State University of NY at Stony Brook.
- 1983 Departmental Associations Council Scholarship, California State University, Fullerton.
- 1982 Southern California Botanists Award for Research in the Botanical Sciences.
- 1980 Ralph Barton Scholarship for the Botanical Sciences, California State University, Fullerton.

## **EXPERIENCE AND EMPLOYMENT**

- 2014-present Professor, Portland State University.
- 2002-2014. Associate Professor, Portland State University.
- 2002 CNRS Visiting Professor Fellowship, Terrestrial Ecology Laboratory, Université Paul Sabatier, Toulouse, France
- 1993-2002 Assistant Professor, University of Tennessee, Knoxville.
- 1991-1993 Post-doctoral research associate with Michael L. Arnold and James L. Hamrick in the Department of Genetics at the University of Georgia. I used molecular markers to analyze the genetic structure and mating systems of hybrid Louisiana iris populations.
- 1989-1991 Post-doctoral fellow with Dr. Spencer C.H. Barrett in the Department of Botany at the University of Toronto. I collaborated with Dr. Barrett on investigations of pollen-style interactions using microscopy and genetic marker techniques with the tristylous *Eichhornia paniculata*.
- 1983-1987 Research assistant for Dr. James D. Thomson at the State University of New York at Stony Brook. Duties included the spectrophotometric analysis of sugar content in nectar samples, analysis of pollen samples using an electronic particle counter, an electrophoretic survey of enzyme variation in *Erythronium grandiflorum*, and statistical data analysis.
- 1984-1986 Summer research assistant for Dr. James D. Thomson and Dr. Lev Ginzburg at the Rocky Mountain Biological Lab: Established field plots and conducted a three year census on four rare or endemic plant species in Colorado to assess the amount of variation in life history parameters. The information collected was used to produce models to predict the probability of extinction of rare species.

## **SYMPOSIA ORGANIZED**

- 1999 “Intraspecific Phylogeography.” XVI International Botanical Congress. St Louis, Missouri. (in collaboration with Kunihiro Ueda and Silvia Fineschi).

## **CONFERENCES – ORGANIZER**

- 2016 to the present – Chief Meeting Officer for the Society for the Study of Evolution.  
Responsible for assisting with the planning and organization of the annual Evolution conference: Portland, OR 2017; Providence, RI 2019.
- 2015 Evolution 2015 - Joint annual meeting of the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists. This conference will be held in Guarujá, Brazil. I am serving as a consultant for the Brazilian-based organizing committee led by Reinaldo de Brito.
- 2013 Evolution 2013 - Joint annual meeting of the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists. Snowbird, Utah. Co-organizer with Charles Fenster and Michelle Dudash (University of Maryland).
- 2012 Ecological Society of America Annual Meeting in Portland, Oregon. Oregon Convention Center, Portland, Oregon. Co-Host with Todd Rosenstiel.
- 2010 Evolution 2010 - Joint annual meeting of the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists. Oregon Convention Center, Portland, Oregon. Principle Organizer.
- 2001 Evolution 2001 - Joint annual meeting of the Society for the Study of Evolution. the American Society of Naturalists, and the Society of Systematic Biologists. UT Conference Center. Knoxville, TN. (Co-organizer with M. Pigliucci).
- 1998 Annual meeting of the Southeastern Population Ecology and Genetics Group. Wesley Woods Camp. Townsend, TN. (Co-organizer with M. Pigliucci).

## **PROFESSIONAL SERVICE**

- 2019-present Deciding Editor for the Journal of Evolutionary Biology
- 2016-present Chief Meeting Officer, Society for the Study of Evolution
- 2010-present Associate Editor for Molecular Ecology
- 2013-2018 Associate Editor, Applications in Plant Sciences (continuation of American Journal of Botany, Primer Notes & Protocols)
- 2010-2018 Reviewing Editor for the Journal of Evolutionary Biology
- 2017 NSF-DEB Evolutionary Genetics Pre-Proposal Panel

2015 NSF-DEB Evolutionary Ecology Full Proposal Panel  
 2013 Botanical Society of America, Selection Committee for the new Editor in Chief of the American Journal of Botany  
 2013 EPA STAR Grants Award Panel  
 2012-2015 Botanical Society of America Publications Committee (Chair in 2015)  
 2012 EPA STAR Grants Award Panel  
 2011 NSF-DEB Evolutionary Ecology Panel  
 2010 Nominated Treasurer, Botanical Society of America  
 2009-2012 Associate Editor, American Journal of Botany, Primer Notes & Protocols  
 2009 Oregon Invasive Species Council Advisory Committee  
 2007 NSF-DEB Phylo/Biogeography Panel  
 2007 EPA STAR Grants Award Panel  
 2006 NSF/DEB Evolutionary Genetics, panel member.  
 2003 USDA CSREES Biology of Invasive Species, panel member.  
 2001 Joint annual meeting of the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists. UT Conference Center. Knoxville, TN. (Co-organizer with M. Pigliucci).  
 2000 Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel. "Preliminary Risk & Benefit Assessments for *Bt* Plant-Pesticides" session on "Outcrossing and Hybridization." U.S. Environmental Protection Agency.  
 2000 Southeastern Population Ecologists and Genetics Group, host and organizer for the annual meeting.  
 1997 National Science Foundation Panel: Postdoctoral Research in Environmental Biology.  
 Reviews for refereed journals: The American Naturalist, Evolution, Molecular Ecology, American Journal of Botany, Ecology, Canadian Journal of Botany, Biological Journal of the Linnean Society, Castanea, Journal of Evolutionary Biology, Journal of Heredity, Sexual Plant Reproduction, Plant Ecology, International Journal of the Plant Sciences, and many others.

## ACADEMIC SERVICE

2019-present Faculty Senate Budget Committee Co-Chair  
 2016-2019 Faculty Senate Representative  
 2012-present Chair, Greenhouse Oversight Committee  
 2013-present Department of Biology, Scholarship Committee Chair  
 2013-present Faculty Senate Budget Committee  
 2009-present Director of the Portland State University Herbarium  
 2015-2017 Department of Biology, Promotion and Tenure Committee  
 2013-2015 Faculty Senate Graduate Council  
 2012-2013 Faculty Senate Grievance Committee  
 2012-2015 Chemical Hygiene Committee  
 2012-2013 St Helens Field Station Organizing Committee (inter-institutional)  
 2011-2013 Department of Biology, Undergraduate Curriculum Committee

2011-2012	Center for Academic Excellence Advisory Committee.
2010-2011	Department of Biology, Search Chair: "Integrative Plant Biologist"
2009-2011	University-Wide Task Force: "Instructional response system standard"
2009-2010	Preparation of lab manual for General Biology Lab (Bi106)
2009-2010	Department of Biology, Search Committee: "Integrative Plant Biologist"
2008-2009	Department of Biology, Search Committee: "Ecologist"
2006-2010	UNST Executive Council - Chair in 2009 and 2010
2005-2006	AAUP Executive Council
2004-2005	AAUP/PSU Administrative Joint Compensatory Task Force
2004-2005	Department of Biology, Search Committee Chair: "Plant Systematics"
2004-2005	Department of Biology, Search Committee Chair: "Plant Physiology"
2003-2004	Department of Biology, Search Committee Chair: "Plant Ecology"
2002-2003	Department of Biology, Search Committee Member: "Genomics"
2002-2005	Department of Biology, Tenure and Promotion Committee.
1996-1999	Department of Botany: Graduate admissions committee.
1996-2000	Department of Ecology and Evolutionary Biology: Graduate admissions.
1999	Department of Ecology and Evolutionary Biology, seminar coordinator
1996	Preparation and editing of the "General Ecology Lab Manual."
1995-1996	Department of Ecol. and Evolutionary Biology: Graduate curriculum committee.
1995	Department of Botany, search committee: "Plant Ecologist."
1995	Department of Botany, departmental seminar coordinator.
1995-1998	Threshold Program in the Biological Sciences, mentor.
1995-1998	Upward Bound Math and Science Regional Center, mentor.

## COMMUNITY SERVICE

2016-2018	Tualatin Hills Parks and Recreation Trails and Natural Areas Advisory Committee
2011-2012	Fanno Creek Greenway Trail-Hall Blvd. Crossing Stakeholders Advisory Committee. Representing THPRD-NRAC.
2010-2015	Tualatin Hills Parks and Recreation Natural Resources Advisory Committee (chair from 2013 – 2015)
2010	Special lecture: "The Science of Evolution" Concordia College, Portland (on behalf of the National Center for Science Education)
2009	Advisor to the Oregon Invasive Species Council
2007	Public lecture: "Peering into Darwin's black box: A critical analysis of evolution and intelligent design" Portland Unitarian Church.
2006	Public lecture: "Peering into Darwin's black box: A critical analysis of evolution and intelligent design" Darwin Day Celebration, Portland State University Department of Biology (organized by the biology graduate students).
2004	Public lecture: "The molecular basis of life: Evidence for intelligent design or evolution?" Darwin Day Celebration, Willamette University.

## RESEARCH GRANTS

- 2016 NIH Build EXITO – Exploratory Research. “A Plant Model for Investigation into Clonal Evolution.” \$50,000 for one year.
- 2014 NSF-MSB “Collaborative Research: Scaling to regional controls over prairie plant range distributions under future climate change.” Co-PI with Scott Bridgham (UO), Bart Johnson (UO), Bitty Roy (UO), and Daniel Doak (University of Colorado). Funds to PSU: \$1,061,935 for five years. 2016 REU Supplement \$23,500. 2018 REU Supplement \$24,500.
- 2009 NSF-DDIG for Tanya Cheeke. “Dissertation Research: Evaluating the effects of genetically modified *Bt* maize on symbiotic arbuscular mycorrhizal fungi in the soil ecosystem.” \$14,997 for three years.
- 2006 CIPM Research Grant G238-07-W0094 “Growth and Demography of the Newly Invasive Grass, *Brachypodium sylvaticum*.” \$4,000 for one year.
- 2004 USDA/CSREES National Research Initiative grant: “Evolution of invasive species: A test study using the newly invasive grass, *Brachypodium sylvaticum*.” \$400,000 for three years (with Alisa Ramakrishnan).
- 2004 National Science Foundation Small Grants for Exploratory Research. “SGER: mRNA expression traits in the *Piriqueta caroliniana* complex.” \$26,033 for one year.
- 2004 National Science Foundation REU supplement on the *Piriqueta* grant. \$6,000 one year.
- 2003 National Science Foundation REU supplements on the *Piriqueta* and *Arabidopsis* grants. \$12,000 for one year.
- 2001 National Science Foundation REU supplements on the *Piriqueta* and *Arabidopsis* grants. \$10,000 for one year.
- 2001 National Science Foundation. "Co-evolution of shade avoidance and response to photoperiod in *Arabidopsis thaliana*." \$330,000 for three years (with M. Pigliucci).
- 2000 National Science Foundation. "Geographic variation and hybridization in the *Piriqueta caroliniana* complex." \$293,000 for three years.
- 1998 USAF/TNC. “Ecological Genetics of *Helianthus eggertii*.” \$266,000 for three years.
- 1998 FWS/TDEC “Population genetics of *Pityopsis ruthii* and *Astragalus bibulattus* .” \$17,500 for one year.
- 1998 National Wetlands Research Center/USGS. “Population genetics of red mangroves in Florida.” \$7000 for one year (with Susan Grace).

- 1996 FWS/ Tennessee Department of Environment and Conservation. "Phylogeographic population genetic studies in *Scutellaria montana*." \$17,000 over three years.
- 1996 FWS/ Tennessee Department of Environment and Conservation. "Demography and ecological genetics of *Pityopsis ruthii*." \$7,000 over two years.
- 1986 National Science Foundation Dissertation Improvement Grant. "Post-pollination selection in *Erythronium grandiflorum*." \$6800 for a two years.

**REFEREED PUBLICATIONS (72 publications with > 4,025 citations. Google Scholar H index = 41, i10 index = 57; Since 2014 > 1,195 citations, H index = 20, i10 index = 48)**

- Grasty M.R., Thompson P.G., Pheil A.E., Hendrickson E.C., Cruzan M.B. 2019. Fine-scale habitat heterogeneity and vole runways influence seed dispersal in *Plagiobothrus nothofulvus*. American Journal of Botany: (in press).
- Cruzan, M.B. 2019. How to Make a Weed—The saga of the slender false brome invasion in the North American West and lessons for the future. BioScience 69:496-507. (<https://doi.org/10.1093/biosci/biz051>)
- Marchini, G.L., C.A. Maraist, and M.B. Cruzan. 2019. Functional trait divergence, not plasticity, determines the success of a newly invasive plant. Annals of Botany 123: 667-679. (<https://doi.org/10.1093/aob/mcy200>)
- Marchini, G.L., T.M. Arredondo, and M.B. Cruzan. 2018. Selective differentiation during the colonization and establishment of a newly invasive species. Journal of Evolutionary Biology 31:1689-1703. (<https://doi.org/10.1111/jeb.13369>)
- Arredondo, T.M., G.L. Marchini, and M.B. Cruzan. 2018. Evidence for human-mediated range expansion and gene flow in an invasive grass. Proceedings of the Royal Society B 285: 20181125. (<https://doi.org/10.1098/rspb.2018.1125>)
- Hendrickson, E.C., P.G. Thompson, and M.B. Cruzan. 2018. Density dependent pollination and germination in the patchy vernal pool species *Lasthenia californica*. International Journal of Plant Sciences 179: 583-591. (<https://doi.org/10.1086/697967>)
- Kohn, B. F., J. M. Persinger, and M. B. Cruzan. 2017. An efficient pipeline to generate data for studies in plastid population genomics and phylogeography. Applications in Plant Sciences 5(11):1700053. (<https://doi.org/10.3732/apps.1700053>)
- Cruzan, M.B., B.G. Weinstein, M.R. Grasty, B.F. Kohn, E.C. Hendrickson, T.M. Arredondo, P.G. Thompson. 2016. Small unmanned aerial vehicles (micro-UAVs, drones) in plant ecology. Applications in Plant Sciences 4(9):1600041. (<https://doi.org/10.3732/apps.1600041>)

- Workman, R.E. and M.B. Cruzan. 2016. Mycelial networks impact competition in an invasive grass. *American Journal of Botany* 103:1041-1049. Doi: 10.3732/ajb.1600142
- Marchini, M.L, N. Cole Sherlock, A.P. Ramakrishnan, D.M. Rosenthal, and M.B. Cruzan. 2016. Rapid purging of genetic load in a metapopulation and consequences for range expansion in an invasive plant. *Biological Invasions* 18:183-196. Doi: 10.1007/s10530-015-1001-5
- Cruzan, M.B. and S.C.H. Barrett. 2016. Post-pollination discrimination between self- and outcross-pollen covaries with the mating system of a self-compatible flowering plant. *American Journal of Botany* 103:568-576. Doi:10.3732/ajb.1500139
- Cheeke, T.E., U.M. Schütte, C.M. Hemmerich, M.B. Cruzan, T.N. Rosenstiel, and J.D. Bever. 2015. Spatial soil heterogeneity has a greater effect on symbiotic arbuscular mycorrhizal fungal communities and plant growth than genetic modification with *Bacillus thuringiensis* toxin genes. *Molecular Ecology* 24: 2580–2593.
- Taylor, L. A. V., E. A. Hasenkopf, and M. B. Cruzan. 2015. Barriers to invasive infilling by *Brachypodium sylvaticum* in Pacific Northwest forests. *Biological Invasions* 17:2247-2260.
- Taylor, L. A. V. and M. B. Cruzan. 2015. Propagule pressure and disturbance drive the invasion of perennial false brome (*Brachypodium sylvaticum*). *Invasive Plant Science and Management* 8:169-180.
- Cheeke, T. E., H. Darby, T. N. Rosenstiel, J. Bever, and M. B. Cruzan. 2014. Effect of *Bacillus thuringiensis* (*Bt*) maize cultivation history on arbuscular mycorrhizal fungal colonization, spore abundance and diversity, and plant growth. *Agriculture Ecosystems & Environment* 195:29-35.
- Rhode Ward, J. M., M. L. Cowart, J. Clifford, M. Camp, and M. B. Cruzan. 2014. Variation in sex allocation and floral morphology in an expanding distylous plant hybrid complex. *Int. J. Plant Sci.* 175:518-525.
- Cheeke, T.E., M.B. Cruzan, and T.N. Rosenstiel. 2013. A field evaluation of arbuscular mycorrhizal fungal colonization in *Bt* and non-*Bt* maize. *Applied and Environmental Microbiology* 79: 4078-4086.
- Fox, S. E., J. Preece, J. A. Kimbrel, G. L. Marchini, A. Sage, K. Youens-Clark, M. B. Cruzan, and P. Jaiswal. 2013. Sequencing, assembly and characterization of a transcriptome resource for *Brachypodium sylvaticum* (Poaceae). *Applications in the Plant Sciences* 1:1200011.
- Anton, K.A., J. Rhode Ward, and M.B. Cruzan. 2013. Pollinator-mediated selection on floral morphology: evidence for transgressive evolution in a derived hybrid lineage. *Journal of Evolutionary Biology* 26:660-673.



- Sochacki, P., J. Rhode Ward, and M.B. Cruzan. 2013. Consequences of mycorrhizal colonization for *Piriqueta* morphotypes under drought stress. *International Journal of Plant Sciences* 174:65-73.
- Cheeke, T.E., T.N. Rosenstiel, and M.B. Cruzan. 2012. Evidence of reduced arbuscular mycorrhizal fungal colonization in multiple *Bt* maize lines. *American Journal of Botany* 99:700-707.
- Cheeke, T. E., B. A. Pace, T. N. Rosenstiel, and M. B. Cruzan. 2011. The influence of fertilizer level and spore density on arbuscular mycorrhizal colonization of transgenic Bt 11 maize (*Zea mays*) in experimental microcosms. *Fems Microbiology Ecology* 75:304-312.
- Andalo, C., M. B. Cruzan, C. Cazettes, B. Pujol, M. Burrus, and C. Thebaud. 2010. Post-pollination barriers do not explain the persistence of two distinct *Antirrhinum* subspecies with parapatric distribution. *Plant Syst. Evol.* 286:223-234.
- Machado, H.E. and M.B. Cruzan. 2010. Intraspecific variation in gene expression under prolonged drought in *Piriqueta* hybrids and their parental taxa. *Plant Science* 178:429-439.
- Ramakrishnan, A. P., T. Musial, and M. B. Cruzan. 2010. Shifting dispersal modes at an expanding species' range margin. *Molecular Ecology* 19:1134-1146.
- Picotte, J.J., J.M. Rhode, and M.B. Cruzan. 2009. Leaf morphological responses to variation in water availability for plants in the *Piriqueta caroliniana* complex. *Plant Ecology* 200:267-275.
- Rosenthal, D.M., A.P. Ramakrishnan, and M.B. Cruzan. 2008. Evidence for multiple sources and intraspecific hybridization at early stages of the invasion of *Brachypodium sylvaticum* (Hudson) Beauv. in North America. *Molecular Ecology* 17:4657-4669.
- Ramakrishnan, A.P., D.M. Rosenthal, T. Musial, and M.B. Cruzan. 2008. Isolation and characterization of nine microsatellite markers for *Brachypodium sylvaticum* (Huds.) Beauv., a recently invasive grass species in Oregon. *Molecular Ecology Resources* 8:1297-1299.
- Picotte, J.J., D.M. Rosenthal, J.M. Rhode, and M.B. Cruzan. 2007. Plastic responses to temporal variation in moisture availability: consequences for water use efficiency and plant performance. *Oecologia* 153:821-832.
- Banta, J., J. Dole, M.B. Cruzan, and M. Pigliucci. 2007. Local adaptation to conditions besides the photoperiodic regime in *Arabidopsis thaliana*. *Evolution* 61:2419-2432.
- Benz, B.R., J.M. Rhode, and M.B. Cruzan. 2007. Aerenchyma development and elevated alcohol dehydrogenase activity as alternative responses to hypoxic soils in the *Piriqueta caroliniana* complex. *American Journal of Botany* 94: 542-550.

- Rhode, J. M., and M. B. Cruzan. 2005. Contributions of heterosis and epistasis to hybrid fitness. *The American Naturalist* 166:E124-E139
- Cruzan, M. B. 2005. Patterns of introgression across an expanding hybrid zone: analyzing historical patterns of gene flow using non-equilibrium approaches. *New Phytologist* 167:267-278.
- Baucom, R. S., J. C. Estill, and M. B. Cruzan. 2005. The effect of deforestation on the genetic diversity and structure in *Acer saccharum* (Marsh): Evidence for the loss and restructuring of genetic variation in a natural system. *Conservation Genetics* 6:39-50.
- Handy, S.M., K. McBreen, and M.B. Cruzan. 2004. Patterns of fitness and fluctuating asymmetry across a broad hybrid zone. *International Journal of Plant Sciences* 165: 973-981.
- Morris A.B., R.L. Small, and M.B. Cruzan. 2004. Variation in frequency of clonal reproduction among populations of *Fagus grandifolia* Ehrh. in response to disturbance. *Castanea* 69:38-51.
- McBreen, K. and M.B. Cruzan. 2004. A Case of Recent Long-Distance Dispersal in the *Piriqueta caroliniana* Complex. *Journal of Heredity*: 95: 356-361.
- Pigliucci, M., H. Pollard, and M.B. Cruzan. 2003. Comparative studies of evolutionary responses to light environments in *Arabidopsis*. *American Naturalist* 161:68-82.
- Morris A.B., R.L. Small, and M.B. Cruzan. 2003. Investigating the relationship between *Cryptococcus fagisuga* and *Fagus grandifolia* in Great Smoky Mountains National Park. *Southeastern Naturalist* 1:415-424.
- Morris, A.B., R. Baucom, and M.B. Cruzan. 2002. Stratified analysis of the soil seed bank in the cedar glade endemic, *Astragalus bibullatus*: Evidence for historical changes in genetic structure. *American Journal of Botany* 2002: 89 29-36.
- Cruzan, M.B. 2001. Population size and fragmentation thresholds for the maintenance of genetic diversity in the endemic, *Scutellaria montana* (Lamiaceae). *Evolution* 55:1569-1580.
- Estill, J.C., and M.B. Cruzan. 2001. Phytogeography of rare plant species endemic to the Southeastern United States. *Castanea* 66:3-23.
- Pollard, H., M. Pigliucci, and M.B. Cruzan. 2001. Evolution of phenotypic plasticity in response to photoperiod. *Evolutionary Ecology Research* 3:129-155.
- Cruzan, M.B., and A.R. Templeton. 2000. Paleogeography and coalescence: analysis of phylogeographic hypotheses from the fossil pollen record. *Trends in Ecology and Evolution* 15:492-497.
- Templeton, A.R., S.D. Maskas, and M.B. Cruzan. 2000. Gene trees: A powerful tool for

- exploring the evolutionary biology of species and speciation. *Plant Species Biology* 15:211-222.
- Maskas, S.D. and M.B. Cruzan. 2000. Intraspecific diversification in the *Piriqueta caroliniana* complex in Florida and the Bahamas. *Evolution* 54:815-827.
- Martin, L.J. and M.B. Cruzan. 1999. Patterns of hybridization in the *Piriqueta caroliniana* complex in central Florida: Evidence for an expanding hybrid zone. *Evolution* 53:1037-1049.
- Cruzan, M.B. and M.L. Arnold. 1999. Consequences of cytonuclear epistasis and assortative mating for the genetic structure of hybrid populations. *Heredity* 82:36-45.
- Jones, C.E. and M.B. Cruzan. 1999. Floral morphological changes and reproductive success in deer weed. *American Journal of Botany* 86:273-277.
- Gavrilets, S. and M.B. Cruzan. 1998. Neutral gene flow across single locus clines. *Evolution* 52:1277-1284.
- Wang, J. and M.B. Cruzan. 1998. Interspecific mating in the *Piriqueta caroliniana* (Turneraceae) complex: effects of pollen load size and composition. *American Journal of Botany* 85:1172-1179.
- Cruzan, M.B. 1998. Genetic markers in plant evolutionary ecology. *Ecology* 79:400-412.
- Cruzan, M.B. and J.D. Thomson. 1997. Pollen-style interactions and pollen competition in *Erythronium grandiflorum*: consequences for offspring vigor. *Journal of Evolutionary Biology* 10:295-314.
- Barrett, S.C.H., W.C. Cole, J. Arroyo, M.B. Cruzan, and D.G. Lloyd. 1997. Sexual polymorphisms in *Narcissus triandrus* (Amaryllidaceae): Is this species tristylous? *Heredity* 78:135-145.
- Cruzan, M.B. and S.C.H. Barrett. 1996. Post-pollination mechanisms influencing mating patterns and fecundity: an example from *Eichhornia paniculata*. *American Naturalist* 147:576-598.
- Cruzan, M.B. and M.L. Arnold. 1994. Assortative mating and natural selection in an *Iris* hybrid zone. *Evolution* 48:1946-1958.
- Carney, S.A. M.B. Cruzan, and M.L. Arnold. 1994. Patterns of pollen tube growth and fertilization in hybridizing irises. *American Journal of Botany* 81:1169-1175.
- Cruzan, M.B. J.L. Hamrick, M.L. Arnold, and B.B. Bennett. 1994. Mating system variation in hybridizing irises: effects of phenology and floral densities on family outcrossing rates. *Heredity* 72:95-105.

- Cruzan, M.B. and M.L. Arnold. 1993. Ecological and genetic associations in an *Iris* hybrid zone. *Evolution* 47:1432-1445.
- Cruzan, M.B. 1993. Pollen-style interactions in *Petunia hybrida*: consequences for male reproductive success. *Sexual Plant Reproduction* 6:275-281.
- Cruzan, M.B. and S.C.H. Barrett. 1993. The contribution of cryptic incompatibility to the mating system of *Eichhornia paniculata* (Pontederiaceae). *Evolution* 47:925-944.
- Cruzan, M.B., M.L. Arnold, S.E. Carney, and K.R. Wollenberg. 1993. CPDNa inheritance in interspecific crosses and its effect on evolutionary inference in Louisiana irises. *American Journal of Botany* 80:344-350.
- Harder, L.D., M.B. Cruzan, and J.D. Thomson. 1993. Unilateral incompatibility and the potential consequences of interspecific pollination for *Erythronium americanum* and *Erythronium albidum* (Liliaceae). *Canadian Journal of Botany* 71:353-358.
- Rigney, L.P., J.D. Thomson, M.B. Cruzan, and J. Brunet. 1993. Differential success of pollen donors in a self-compatible lily. *Evolution* 47:915-924.
- Harder, L.D. and M.B. Cruzan. 1990. An evaluation of the physiological and evolutionary influences of inflorescence size on nectar production. *Functional Ecology* 4: 559-572.
- Cruzan, M.B. 1990. Variation in pollen size, fertilization ability, and postfertilization siring ability in *Erythronium grandiflorum*. *Evolution* 44: 843-856.
- Cruzan, M.B. 1990. Pollen-pollen and pollen-style interactions during pollen tube growth in *Erythronium grandiflorum* (Liliaceae). *American Journal of Botany* 77: 116-122.
- Cruzan, M.B. 1989. Pollen tube attrition in *Erythronium grandiflorum*. *American Journal of Botany* 76: 562-570.
- Thomson, J.D., M. McKenna, and M.B. Cruzan. 1989. Temporal patterns of nectar and pollen production in *Aralia hispida*: implications for reproductive success. *Ecology* 70: 1061-1068.
- Cruzan, M.B., P.R. Neal, and M.F. Willson. 1988. Floral display in *Phyla incisa*: consequences for male and female reproductive success. *Evolution* 42: 505-515.
- Cruzan, M.B. 1985. Pollen tube distributions in *Nicotiana glauca*: evidence for density dependent growth. *American Journal of Botany* 73: 902-907.
- Harder, L.D., J.D. Thomson, M.B. Cruzan, and R. Unnasch. 1985. Pollination, selfing, and sexual allocation in *Erythronium americanum*. *Oecologia* 67: 286-291.

## BOOKS

Cruzan, M.B. 2018. *Evolutionary Biology—A Plant Perspective*. Oxford University Press, New York. 537 pages.

## BOOK CHAPTERS

Cruzan, M.B. 2019. Adaptive Genetic Differentiation of Invasive Species; Slender False Brome as a Model. *In*: eLS. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0028733

Cruzan, M.B., and D.M. Weinreich. 2012. Adaptive landscapes. *In*: Encyclopedia of Genetics, 2<sup>nd</sup>. Edition. S. Brenner and J.H. Miller, (eds.). Academic Press.

Cruzan, M. B., and J. M. Rhode. 2004. Experimental analysis of adaptive landscape topographies. Pp. 61-69 in Q. C. B. Cronk, J. Whitton, R. H. Ree and I. E. P. Taylor, eds. Plant Adaptation: Molecular Genetics and Ecology. National Research Council of Canada, Vancouver, B.C.

Cruzan, M.B. 2001. Adaptive landscapes. *In*: Encyclopedia of Genetics, S. Brenner and J.H. Miller, (eds.). Academic Press.

Barrett, S.C.H. and M.B. Cruzan. 1994. Incompatibility in heterostylous plants. *In*: Genetic Control of Incompatibility and Reproductive Development in Flowering Plants, E.G. Williams, R.B. Knox, and A.E. Clarke (eds.). Kaluwer.

Barrett, S.C.H., J.R. Kohn, and M.B. Cruzan. 1992. Experimental studies of mating-system evolution: the marriage of marker genes and floral biology. *In*: Ecology and Evolution of Plant Reproduction: New Approaches, R. Wyatt (ed.). Chapman and Hall.

## BOOK REVIEWS

Cruzan, M.B. 2001. Pollen and Pollination. A. Dafni, M. Hesse, and E. Pacini (eds.). The Quarterly Review of Biology 76: 358-359.

## INVITED SEMINARS

2019 Symposium on Ecological Factors that Drive Patterns of Population Genetic Structure in Plants; Botany 2019, Tucson, AZ.

2019 Department of Biology, University of St Louis, MO.

2018 Department of Biology, Reed College, Portland OR.  
 2018 International Congress of Genetics, Foz do Iguaçu, Brazil.  
 2014 International Symposium of Ecology and Evolution, 2<sup>nd</sup>. Universidade Federal de Viçosa, Brazil.  
 2014 Brazilian Congress on Genetics, 60<sup>th</sup> Annual. Guarujá, Brazil.  
 2013 Biological Evolution Workshop, 4<sup>th</sup> Annual. Porto Alegre, Brazil.  
 2013 Botanical Society of America, Education Symposium, New Orleans, Louisiana.  
 2009 Center for Ecology and Evolutionary Biology, University of Oregon, Eugene.  
 2006 Department of Biology, Washington State University, Vancouver.  
 2006 Department of Botany and Plant Pathology, Oregon State University, Corvallis OR.  
 2004 Department of Botany, University of Toronto.  
 2004 Department of Biology, University of Guelph  
 2004 Department of Biology, Willamette University, Salem OR.  
 2003 Department of Biology, Reed College, Portland OR.  
 2003 Department of Botany and Plant Pathology, Oregon State University, Corvallis OR.  
 2002 University of British Columbia, Vancouver, Canada. Symposium: Plant Adaptation.  
 2002 Missouri Botanic Garden, St. Louis, MO. Symposium: Conservation Genetics, annual Missouri Botanic Garden Systematics Symposium.  
 2002 Universite Paul Sabatie, Toulouse, France.  
 2002 Department of Biology, Rutgers University, New Brunswick, NJ.  
 2002 Department of Biology, San Diego State University, San Diego, CA.  
 2002 Department of Biology, Portland State University, Portland, OR.  
 2002 Department of Biology, University of Mississippi, Oxford, MS.  
 2001 Biodiversity Symposium, Kaohsiung, Taiwan.  
 2001 Department of Biology, University of Kentucky, Lexington, KY.  
 2001 Department of Biology, University of New Orleans, New Orleans, LA.  
 2001 Department of Biology, California State University, San Jose, CA.  
 2000 Department of Biology, University of South Florida, Tampa, FL.  
 1999 Department of Biology, University of Florida, Gainesville, FL.  
 1999 ASB symposium on Southeastern Endemics, Wilmington, SC.  
 1998 Department of Biology, Western Carolina University, Cullowhee, NC.  
 1997 Department of Biology, Colorado State University, Fort Collins, CO  
 1997 University of Florida, Sea Grant Extension Service. St. Petersburg, FL.  
 1997 Ecological Society of America, Albuquerque NM. Symposium on the ecology of pollen.  
 1997 Southeastern Section of the Botanical Society of America/Association of Southeastern Biologists, Regional Meeting.  
 1996 16th annual meeting for the American Society for Reproductive Immunology. University of Tennessee, Knoxville.  
 1996 E.O. Groundset Lecture Series. Southern College, Collegedale, TN.  
 1995 Department of Biological Sciences, East Tennessee State University.  
 1994 Department of Biology, Vanderbilt University, Nashville, Tennessee.  
 1994 Rocky Mountain Biological Laboratory, Crested Butte, Colorado.  
 1992 XII International Congress on Sexual Plant Reproduction. Univ. of Ohio, Columbus.  
 1991 Department of Biology, Queens University, Kingston, Ontario.  
 1990 Plant Development and Morphology Workshop, Royal Ontario Museum, Toronto.  
 1989 Department of Biology, York University, North York, Ontario.

1989 Rocky Mountain Biological Laboratory, Crested Butte, Colorado.

## PAPERS PRESENTED AT NATIONAL MEETINGS

Schwoch, J.A. and M.B. Cruzan. Somatic mutation and cell lineage selection during vegetative growth promote rapid adaptation in plants. ESEB 2019, Turku, Finland.

Schwoch, J.A. and M.B. Cruzan. Somatic mutation and cell lineage selection during vegetative growth promote rapid adaptation in plants. Evolution 2019, Providence, RI.

Schwoch, J.A. and M.B. Cruzan. Somatic mutation and cell lineage selection during vegetative growth promote rapid adaptation in plants. American Genetics Association 2019 conference: Sex and Asex: The genetics of complex life cycles. Portland, OR.

Arredondo, T.M. and M.B. Cruzan. Impact of suburban landscape features on gene flow of an invasive grass. Botany 2018, Rochester, MN.

Diaz, N., J.M. Persinger, P.G. Thompson, and M.B. Cruzan. Ploidy-mediated seed dispersal in an intervarietal hybrid zone of *Eriophyllum lanatum*. Botany 2018, Rochester, MN.

Persinger, J.M., P.G. Thompson, and M.B. Cruzan. Hybridization and species delimitation in an Oregon *Ranunculus* species complex. Botany 2018, Rochester, MN.

Schwoch, J.A. and M.B. Cruzan. Accumulation of Somatic Mutations during Vegetative Growth. Botany 2018, Rochester, MN.

Hendrickson, E.C. and M.B. Cruzan. Density dependent pollination and germination in the patchy vernal pool species *Lasthenia californica* (poster). Botany 2018, Rochester, MN.

Schwoch, J.A. and M.B. Cruzan. The effects of cell-lineage selection on clonal evolution and adaptation in *Mimulus guttatus*. Evolution 2017, Portland, OR.

Grasty, M.R., M.B. Cruzan, P.G. Thompson, B.F. Kohn, and E.C. Hendrickson. Let the seeds fall where they may: Investigating the influence of landscape features on fine-scale seed dispersal. Evolution 2017, Portland, OR.

Thompson, P.G. and M.B. Cruzan. Different landscape features influence seed and pollen movement in the small forb *Lasthenia californica*, as seen through whole chloroplast genome sequencing and nuclear genotyping-by-sequencing. Evolution 2017, Portland, OR.

Arredondo, T.M. and M.B. Cruzan. Impact of suburban landscape features on dispersal of *Brachypodium sylvaticum*, an invasive grass. Evolution 2017, Portland, OR.

Kohn, B.F., J.M. Persinger, and M.B. Cruzan. An efficient pipeline for assaying whole-genome plastid variation for population genetics and phylogeography (poser). Evolution 2017,

Portland, OR.

- Persinger, J.M., P.G. Thompson, B.F. Kohn, M.B. Cruzan. Hybridization and Species Delimitation in Oregon Buttercups (poster). Evolution 2017, Portland, OR.
- Pérez, E., M.B. Cruzan, and J.A. Schwoch. Analyzing Potential for Gametophytic Selection & Selective Ovule Abortion in *Mimulus guttatus* (poster). Evolution 2017, Portland, OR.
- Pheil, A., M.B. Cruzan, and P.G. Thompson. Landscape genetics of fine-scale seed dispersal in *Lasthenia californica* (poster). Evolution 2017, Portland, OR.
- Cruzan, M.B., P.G. Thompson, M.R. Grasty, B.F. Kohn, T.M. Arredondo, E.C. Hendrickson, A. Pheil, and J.M. Persinger. 2016. Plastid population genomics for estimating gene flow via seed dispersal. Evolution 2016, Austin, TX.
- Grasty, M., P.G. Thompson, and M.B. Cruzan. 2016. The effect of landscape features on fine-scale seed dispersal in upland prairie plants. Botany 2016, Savannah, GA.
- Schwoch, J.A. and M.B. Cruzan. 2016. Clonal Adaptation in *Mimulus guttatus*. Botany 2016, Savannah, GA.
- Marchini, G.L. and M.B. Cruzan. 2015. Enhanced drought tolerance in the invasive bunchgrass *Brachypodium sylvaticum* (slender false brome). Botany 2015, Edmonton, Alberta.
- Marchini, G.L. and M.B. Cruzan. 2015. Enhanced drought tolerance in the invasive bunchgrass *Brachypodium sylvaticum* (slender false brome). Evolution 2015, Gaurujá, Brazil.
- Cruzan, M.B. and J. Thompson 2015. Somatic adaptation in *Mimulus guttatus*. Evolution 2015, Gaurujá, Brazil.
- Marchini, G.L. and M.B. Cruzan. 2014. Enhanced drought tolerance in the invasive bunchgrass *Brachypodium sylvaticum* (slender false brome). Botany 2014, Boise, Idaho.
- Cruzan, M.B. 2014. Why plants evolve faster (than animals). Botany 2014, Boise, Idaho.
- Marchini, G.L. and M.B. Cruzan. 2014. Enhanced drought tolerance in the invasive bunchgrass *Brachypodium sylvaticum* (slender false brome). Botany 2014, Boise, Idaho.
- Marchini, G.L. and M.B. Cruzan. 2013. The consequences of gene diversity and nitrogen deposition for competitive success of the newly invasive grass *Brachypodium sylvaticum*. Botany 2013, New Orleans, Louisiana.
- Marchini, G.L. and M.B. Cruzan. 2012. Evolution of an Aggressively Invasive Plant; Evidence for Purging Genetic Load in *Brachypodium sylvaticum*. Botany 2012, Columbus, Ohio.
- Cheeke, T.E., J.D. Bever, M.B. Cruzan and T.N. Rosenstiel. 2012. A field evaluation of arbuscular mycorrhizal fungal colonization in split plots of conventional and genetically



- modified *Bt* maize. Annual meeting of the Ecological Society of America, Portland, OR.
- Musial, T.S., M.B. Cruzan and L.A. Ruedas. 2012. Landscape genetics of the North American mountain lion. Annual meeting of the Ecological Society of America, Portland, OR.
- Cheeke, T.E., T.N. Rosenstiel and M.B. Cruzan, Portland State University. 2011. A field evaluation of arbuscular mycorrhizal fungal colonization in multiple transgenic *Bt* maize lines. Annual meeting of the Ecological Society of America, Austin, TX.
- Cheeke, T.E., T.N. Rosenstiel, and M.B. Cruzan. 2010. Transgenic *Bt* maize: An evaluation of nine different *Bt* maize isolines on arbuscular mycorrhizal fungi. Evolution 2010, Portland, Oregon.
- Ramakrishnan, A. and M.B. Cruzan. 2010. Colonization events associated with founder events and bottlenecks lead to patchy evolution in phenotypic traits during range expansion. Evolution 2010, Portland, Oregon.
- Cheeke, T.E., T. Rosenstiel, and M.B. Cruzan. 2009. Colonization of mycorrhizal fungi in transgenic *Bt* corn. Annual meeting of the Ecological Society of America, Albuquerque, NM.
- Cheeke, T.E., T. Rosenstiel, and M.B. Cruzan. 2008. Effects of nutrient stress on the colonization of mycorrhizal fungi in transgenic *Bt* corn. Annual meeting of the Ecological Society of America, Milwaukee, WI.
- Rosenthal, D.M. and M.B. Cruzan. 2007. Biological invasions: do genetic bottlenecks matter? Society for the Study of Evolution annual meeting, Christchurch, NZ.
- Henderson, A and M.B. Cruzan 2007. Costs and benefits of plasticity to temporally variable environments in the *Piriqueta caroliniana* complex. Annual meeting of the Ecological Society of America, San Jose, CA.
- Sochacki, P., J.M. Rhode, and M.B. Cruzan 2007. Effects of different mycorrhizal associations on performance within a plant-hybrid complex. Annual meeting of the Ecological Society of America, San Jose, CA.
- Machado, H.E., and M.B. Cruzan 2007. Drought-induced differences in gene expression in parental and hybrid plants of the *Piriqueta caroliniana* complex. Annual meeting of the Ecological Society of America, San Jose, CA.
- Ramakrishnan, A, Dobberstein, T. and M.B. Cruzan. 2007. Patterns of gene flow and population evolution during a recent range expansion of an invasive plant. Annual meeting of the Ecological Society of America, San Jose, CA.
- Rosenthal, D.M., M.B. Cruzan, A. Ramakrishnan, and T. Dobberstein. 2006. Phylogeographic origins of an invasive species: a role for hybridization? Society for the Study of Evolution annual meeting, Stony Brook, NY.

- Rosenthal, D.M., A. Ramakrishnan and M.B. Cruzan. 2005. Discovering the origin of a recently invading grass *Brachypodium sylvaticum* (Beauv.): a phylogeographic analysis. Society for the Study of Evolution, Fairbanks, Alaska.
- Cruzan, M.B., K.A. Anton, B.R. Benz, J.J. Picotte, and J.M. Rhode. 2005. Evidence of adaptive plasticity in *Piriqueta caroliniana* recombinant hybrids. Society for the Study of Evolution annual meeting, Fairbanks, Alaska.
- Ramakrishnan, A., Dobberstein, T., and M.B. Cruzan. 2005. Range expansion: Edge vs. central populations in a newly invasive species. Society for the Study of Evolution annual meeting, Fairbanks, Alaska.
- Rhode, J.M., and M.B. Cruzan. 2004. Genotype x environment interactions affect survival and performance of plants in the *Piriqueta caroliniana* hybrid complex. Ecological Society of America, Portland, Oregon.
- Ramakrishnan, A., and M.B. Cruzan. 2003. Nested clade analysis of phenotypic associations. Society for the Study of Evolution annual meeting, Chico, California.
- Rhode, J.M., and M.B. Cruzan. 2003. Consequences of cytonuclear interactions for plant hybrid zone expansion. Society for the Study of Evolution annual meeting, Chico, California.
- Dole, J., M. Pigliucci, and M.B. Cruzan. 2003. Patterns of AFLP diversity among wild populations of *Arabidopsis thaliana*. Society for the Study of Evolution annual meeting, Chico, California.
- Cruzan, M.B. and J.M. Rhode. 2003. Hybrid fitness distributions: evidence for adaptive landscape topography. Society for the Study of Evolution annual meeting, Chico, California.
- McBreen, K. and M.B. Cruzan. 2001. Origin of an anomalous population: evidence for recent long-distance dispersal. Society for the Study of Evolution annual meeting, Knoxville, Tennessee.
- Cruzan, M.B. 1999. Intraspecific diversification; plants as model systems for phylogeographic studies. XVI International Botanical Congress, St. Louis, Missouri.
- Pigliucci, M. and M.B. Cruzan. 1999. Evolution and mechanistic basis of phenotypic plasticity in *Arabidopsis thaliana*. XVI International Botanical Congress, St. Louis, Missouri.
- Cruzan, M.B. 1998. Geographic variation and hybridization in the *Piriqueta caroliniana* complex. Society for the Study of Evolution annual meeting, Vancouver, Canada.
- Cruzan, M.B. 1996. Mating locus effects on pollen fertility in the distylous *Piriqueta caroliniana*. Society for the Study of Evolution annual meeting, St Louis, MO.

- Cruzan, M.B. and M.L. Arnold. 1993. Selection and assortative mating in an iris hybrid zone. Society for the Study of Evolution annual meeting, Snowbird, Utah. (by Cruzan).
- Cruzan, M.B. and M.L. Arnold. 1992. Ecological and genetic associations of cpDNA and RAPD markers in a hybrid iris population. Society for the Study of Evolution annual meeting, Berkeley, California. (delivered by Cruzan).
- Cruzan, M.B. and S.C.H. Barrett. 1992. Ecological and physiological determinants of the mating system in *Eichhornia paniculata*. Society for the Study of Evolution annual meeting, Berkeley, California. (delivered by Cruzan).
- Cruzan, M.B. and S.C.H. Barrett. 1990. The contribution of pollen-style interactions to disassortative mating in tristylous *Eichhornia paniculata*. Society for the Study of Evolution annual meeting, College Park, Maryland. (delivered by Cruzan).
- Cruzan, M.B. 1989. Female choice and partial compatibility in plants. Society for the Study of Evolution annual meeting, College Park, Pennsylvania.
- Cruzan, M.B. 1989. Styler selection and pollen competition in *Erythronium grandiflorum*: consequences for offspring vigor. Botanical Society of America annual meeting, Toronto, Ontario, Canada.
- Cruzan, M.B. 1988. Pollen tube attrition in *Erythronium grandiflorum*. Botanical Society of America annual meeting, Davis, California.
- Cruzan, M.B. 1987. Variation in pollen grain size and its consequences for fertilization ability. Society for the Study of Evolution annual meeting, Bozeman, Montana.
- Cruzan, M.B., J.D. Thomson, and L.D. Harder. 1985. Comparative breeding systems in *Erythronium*: the role of seed abortion and pollen tube growth in incompatibility. Ecological Society of America annual meeting, Minneapolis, MN.
- Cruzan, M.B. and J.D. Thomson. 1985. Allocation of resources to sexual function in *Erythronium grandiflorum*: relationship of gamete ratios to fruit set probabilities. Botanical Society of America annual meeting, Gainesville, Florida.
- Stratton, D.L., M.B. Cruzan, and J.D. Thomson. 1985. Pollen tube growth rate and outcrossing distance in *Erythronium grandiflorum*. Botanical Society of America annual meeting, Gainesville, Florida.
- Neal, P.R. and M.B. Cruzan. 1985. Patterns of herbivory within and between sexes in dioecious plants. Society for the Study of Evolution annual meeting, Chicago, IL.

## **INSTRUCTIONAL EXPERIENCE**

### **Courses Taught at Portland State University**

<b>Term</b>	<b>Courses</b>	
2019 fall	Evolutionary Genetics	Bi427/527
2019 summer	Senior Capstone: Research and Society	UNST421
2019 winter	Evolution (with clickers)	Bi358
2019 winter	Principles of Evolution	Bi426/526
2018 fall	Plant Evolutionary Biology	Bi410/510
2018 summer	Senior Capstone: Research and Society	UNST421
2018 spring	Plant Reproductive Biology	Bi410/510
2018 winter	Evolution (with clickers)	Bi358
2017 winter	Evolution (with clickers)	Bi358
2016 fall	Plant Reproductive Biology	Bi410/510
2016 summer	Senior Capstone: Research and Society	UNST421
2016 winter	Evolution (with clickers)	Bi358
2015 fall	Plant Diversity and Evolution	Bi432/532
2015 summer	Senior Capstone: Research and Society	UNST421
2015 spring	Fund. of Biology and labs (with clickers)	Bi203/206
2015 winter	Evolution (with clickers)	Bi358
2014 fall	Plant Diversity and Evolution	Bi432/532
2014 summer	Senior Capstone: Research and Society	UNST421
2014 spring	Fund. of Biology and labs (with clickers)	Bi203/206
2014 winter	Evolution (with clickers)	Bi358
2013 fall	Plant Diversity and Evolution	Bi432/532
2013 summer	Senior Capstone: Research and Society	UNST421
2013 spring	Fund. of Biology and labs (with clickers and Mobi)	Bi203/206
2013 winter	Evolution (with clickers and Mobi)	Bi358
2012 fall	Principles of Evolution	Bi526
2012 summer	Senior Capstone: Research and Society	UNST421
2012 summer	Senior Capstone: Nature in the Neighborhood	UNST421
2012 spring	Fund. of Biology and labs (with clickers and Mobi)	Bi203/206
2012 winter	Evolution (with clickers and Mobi)	Bi358
2011 fall	Plant Diversity and Evolution	Bi432/532
2011 summer	Senior Capstone: Research and Society	UNST421
2011 summer	Senior Capstone: Nature in the Neighborhood	UNST421
2011 spring	Biology of Invasives	Bi510
2011 spring	General Biology and labs (with clickers and Mobi)	Bi103/106
2011 winter	Evolution (with clickers and Mobi)	Bi358
2010 fall	Senior Capstone: Research and Society	UNST421
2010 fall	Principles of Evolution	Bi526
2010 summer	Senior Capstone: Nature in the Neighborhood	UNST421
2010 spring	General Biology and labs (with clickers and Mobi)	Bi103/106
2010 winter	Evolution (with clickers and Mobi)	Bi426
2009 fall	Senior Capstone: Research and Society	UNST421
2009 fall	Principles of Evolution	Bi526
2009 summer	Senior Capstone: Nature in the Neighborhood	UNST421
2009 spring	General Biology and labs (with clickers)	Bi103/106
2009 winter	Evolution (with clickers)	Bi426

2008	fall	Senior Capstone: Research and Society	UNST421
2008	fall	Principles of Evolution	Bi526
2008	summer	Senior Capstone: Nature in the Neighborhood	UNST421
2008	spring	General Biology and labs (with clickers)	Bi103/106
2008	winter	Evolution	Bi426
2007	fall	Senior Capstone: Research and Society	UNST421
2007	fall	Principles of Evolution	Bi526
2007	summer	Senior Capstone: Nature in the Neighborhood	UNST421
2007	spring	General Biology and labs	Bi103/106
2007	winter	Evolution	Bi426
2006	fall	Senior Capstone: Research and Society	UNST421
2006	fall	Principles of Evolution	Bi526
2006	summer	Senior Capstone: Nature in the Neighborhood	UNST421
2006	spring	General Biology and labs	Bi103/106
2006	winter	Evolutionary Genetics	Bi427/527
2005	fall	Plant Reproductive Ecology	Bi410/510
2005	fall	Graduate Prospectus	Bi598
2005	summer	Senior Capstone: Nature in the Neighborhood	UNST421
2005	spring	Graduate seminar: Non-equilibrium Ecological Genetics	Bi510
2005	spring	General Biology and labs	Bi103/106
2005	winter	Evolutionary Genetics	Bi427/527
2004	fall	Graduate Prospectus	Bi598
2004	fall	Plant Ecology	Bi471/571
2004	summer	Senior Capstone: Nature in the Neighborhood	UNST421
2004	spring	Graduate seminar: Metapopulation biology	Bi510
2004	spring	General Biology and labs	Bi103/106
2004	winter	Conservation Biology	Bi429/529
2004	winter	Evolutionary Genetics	Bi427/527
2003	fall	Graduate Prospectus	Bi598
2003	fall	Plant Reproductive Ecology	Bi410/510
2003	spring	General Biology and labs	Bi103/106
2003	winter	Conservation Biology	Bi429/529
2003	winter	Plant Ecology	Bi471/571

### **Courses Taught at University of Tennessee, Knoxville**

1994 - 2002    General Ecology and labs  
1994 - 2002    Plant Ecology and lab  
1994 - 2002    Graduate course: Principles of Evolution

### **GRADUATE ADVISING**

Completed Degrees (20):

Jiongqian Wang (MS, spring 1997). Reproductive interactions among species of hybridizing *Piriqueta*.

Lori Martin (MS, fall 1997). Patterns of hybridization in the *Piriqueta caroliniana* complex in central Florida.

Stephanie Maskas (MS, summer 1998). Phylogeography of the *Piriqueta caroliniana* complex in the southeastern United States and the Bahamas.

Maureen Cunningham (PhD, fall 1999). Status survey, characterization of habitats and hosts, and monitoring for *Aureolaria patula*.

Ashley Morris (MS, fall 2000). Clonal population genetics of American beech. Currently Assistant Professor at Middle Tennessee University.

Bryan Benz (MS, fall 2006). Adaptive responses to flooding in the *Piriqueta caroliniana* hybrid complex. Currently Forest Service Botanist, Umpqua National Forest.

Josh Picotte (MS, fall 2006). Leaf morphological responses to environmental change in the *Piriqueta caroliniana* complex. Currently working for the USGS.

Heather Machado (MS, fall 2007). Patterns of gene expression in response to drought in the *Piriqueta caroliniana* complex. Currently a PhD candidate, Stanford University.

Kristin Anton (MS, winter 2008). Pollinator responses to floral morphological variation in the *Piriqueta caroliniana* complex.

Trieste Musial (MS, spring 2009). Landscape and population genetics of the North American mountain lion (*Puma concolor*) in Oregon (co adviser- Luis Ruedas). Currently a PhD candidate, Emory University.

Paul Sochacki (MS, fall 2009). Mycorrhizal associations in *Piriqueta caroliniana* parental morphotypes and hybrids. Currently working as a Technician/ Statistical Consultant, OHSU Pathology Core Lab.

Alisa Ramakrishnan (PhD, spring 2010). Genetic patterns of dispersal and colonization during initial invasion and spread of an invasive grass, *Brachypodium sylvaticum*. Currently a post-doctoral researcher at the University of British Columbia.

Laura Taylor (MS, spring 2011). Propagule pressure and disturbance drive the spread of an invasive grass, *Brachypodium sylvaticum*. Currently working as a Natural Resources Technician for the Tualatin Hills Parks and Recreation Department.

Tanya Cheeke (PhD, spring 2013). An evaluation of the nontarget effects of transgenic *Bacillus thuringiensis* maize on arbuscular mycorrhizal fungi in the soil ecosystem. Currently a Post-Doctoral Research Fellow, Uppsala, Sweden.

Rachael Workman (MS, winter 2014). Effects of soil fungi on invasive plant competition. Currently engaged in an organic farming internship.

Caitlin Lee (MS, fall 2014). An assessment of arbuscular mycorrhizal symbiosis on invasion success in *Brachypodium sylvaticum*.

Gina Marchini (PhD, fall 2015). Mechanisms of adaptation in the newly invasive species *Brachypodium sylvaticum* (Hudson) Beauv.

Monica Grasty (MS, spring 2017). Let the seeds fall where they may: Investigating the influence of landscape features on fine-scale seed dispersal.

Brendan Kohn (MS, spring 2017). An efficient pipeline for assaying whole-genome plastid variation for population genetics and phylogeography.

Tina Arredondo (MS, spring 2018). Evidence for human-mediated range expansion and gene flow in an invasive grass.

#### Current Students:

Jaime Schwoch (PhD candidate)

Nicolas Diaz (MS candidate)  
Jessica Persinger (MS candidate)  
Elizabeth Hendrickson (PhD candidate)

Graduate committees:

Amy McCaskill (MS completed in December 1995).  
John Young (MS completed in December 1995).  
Ellen Russell (MS completed in August of 1996).  
Stacy Smith (MS completed in August 1998).  
Jessica Bier (MS completed in August 1999).  
Heidi Pollard (MS completed in December 1999).  
Carolyn Wells (MS completed in June 2001).  
Monica Beals (MS completed in August 2001).  
Corey Samuels (Ph.D. completed in June 2001).  
Anna Maleszyk (Ph.D. completed in December 2002).  
Diego Vazquez (Ph.D. completed in August 2002).  
Bruce Barbarash (MS completed in June 2005, ESR Department, PSU)  
Toni Pennington (Ph.D. completed in 2008, ESR Department, PSU)  
Sharon Stanton (Ph.D. completed in 2008)  
Brian Knaus (Ph.D. completed in 2009, Department of Botany and Plant Path., OSU)  
David Chuba (Ph.D. completed in 2009)  
Kevin Weitemier (MS completed in 2010)  
Charlene Mercer (MS completed in 2010)  
Sarah Courbis (Ph.D. completed in 2011)  
Andrea Melnychenko (MS completed 2013)  
Andrew Gibbs (PhD completed 2017)  
Bret Younginger (PhD completed 2017)  
Jacob Loveless (MS candidate)  
Emily Wolfe (PhD candidate)

## UNDERGRADUATE MENTORING

Samantha Hopkins++. Reproductive biology of the endangered plant, *Scutellaria montana*. Currently Professor of Paleontology, University of Oregon.  
Regina Baucom \*\*++. Genetic consequences of historical land use practices in the Great Smoky Mountains National Park. 1999. Currently Professor of Biology, University of Michigan.  
Charles Price++. Concerted evolution in the rDNA multigene family in *Piriqueta* hybrids. 2000. Currently Assistant Professor of Biology, University of Western Australia.  
Sara Handy\*\*+. Patterns of fitness and fluctuating asymmetry across a broad hybrid zone. 2001. Currently Research Scientist, US FDA Center for Food Safety and Applied Nutrition.  
Matt Heard++. Patterns of mating in *Piriqueta* hybrids. 2002. Currently Assistant Professor of Biology at Winthrop University, South Carolina, USA.  
Allison Fortner\*+. Fitness consequences of cytonuclear epistasis in *Piriqueta* hybrids. 2002. Currently Research Scientist, Oak Ridge National Lab.

Bryan Benz\*\*+. Flood adaptations in parental and hybrid genotypes of the *Piriqueta caroliniana* complex. 2003. Completed a MS degree at Portland State University. Currently Forest Service Botanist, Umpqua National Forest.

Jon Martin+. Development of an enriched genomic library for SSR development in *Piriqueta*. 2003. Completed a MS degree at Portland State University.

Kristin Anton\*\*+. Floral morphological variation in parental and hybrid genotypes of the *Piriqueta caroliniana* complex. 2004. Completed a MS degree at Portland State University. Currently working as a Science Teacher, Traverse City Area Schools.

Paul Sochacki\*\*+. Mycorrhizal associations in parental and hybrid genotypes of the *Piriqueta caroliniana* complex. 2004. Completed a MS degree at Portland State University. Currently working as a Technician/ Statistical Consultant, OHSU Pathology Core Lab.

Heather de Glanville (Machado)\*\* + Development of a cDNA library for mRNA expression in the *Piriqueta caroliniana* complex. 2005. Completed a MS degree at Portland State University. Currently PhD a Candidate, Stanford University.

**Trieste Musial\*\*+**. Inference of small scale dispersal patterns using SSR markers in a newly invasive grass species in the Willamette Valley. 2005. **McNair Scholar**. Completed a MS degree at Portland State University. Currently a PhD Candidate, Emory University.

Jennifer Lawson\*. Demography and seedling fitness for source and sink populations in metapopulations of the newly invasive species, *Brachypodium sylvaticum*. Currently working as an Environmental Assessment Crew Manager.

Brian Pace\*\*+. Honors Thesis: Mycorrhizal associations in transgenic corn. Currently a PhD Candidate, The Ohio State University.

Matthew LaPlant. Mycorrhizal associations in transgenic corn.

Luke Reyes. Enzyme activity in the roots of transgenic corn.

Anne Rasmussen+. Mycorrhizal associations in false brome. Currently a PhD candidate at Mississippi State University.

**Erik Hasenkopf\*\***. Honors thesis: Effects of leaf litter on false brome invasion.

Jennifer Jones+. Phylogenetic patterns of invasion success and persistence under urbanization pressure. Currently a PhD candidate and the University of Illinois.

**Caitlin Maraist\*+**. Honors thesis: Functional trait plasticity in drought in false brome.

**Michelle Williamson\***. Functional trait variation across populations of false brome.

Nena Cole\*\*. Simulations of genetic load purging during range expansion.

Jered Thompson. Effects of gametophytic selection on somatic mutation accumulation in *Mimulus guttatus*.

Darla Boyle. Effects of AMF on plant growth in *Brachypodium sylvaticum*.

Elinor Webb+. Effects of AMF on competition and seedling growth in *Brachypodium sylvaticum*.

**Jamie Schwoch\*+**. Effects of cell-lineage selection on somatic mutation accumulation in *Mimulus guttatus*. **McNair Scholar**. Currently an MS student in my lab.

**Elizabeth Hendrickson\*\*+**. Maternal inheritance of chloroplast genomes in upland prairie plants. Bioinformatics technician 2018. Currently an MS student in my lab.

**Elizabeth Pérez\***. Clonal evolution in common monkeyflower (**EXITO, LSAMP, McNair Scholar**)



Jessica Persinger\*\*+. University of Colorado. REU student, 2016, bioinformatics technician 2017. Currently an MS student in my lab.

Avery Pheil\*. Scripps University. REU student, 2016.

**Katie Gerloff\***. Environmental niche modeling in two Oregon buttercups.

Ashley Hamilton. Texas A&M, Corpus Christie. REU student 2018.

Katie Kline. York College. REU student 2018.

Hannah Machiorlete. Lewis & Clark College. Pollinator-mediated selection in a *Ranunculus* hybrid zone.

*Key:\*= author on ms in preparation; \*\*=author on published manuscript; +=continued postgraduate education; ++=currently holds tenure-track faculty position.*

**Bold = Senior Honors Thesis**

## HIGH SCHOOL MENTORING

Amanda Henderson. Clackamas High School. Plasticity responses to temporal variation environmental variation in modular organisms.

Alessandra Eliot and Kiernan Garrett. West View High School. Responses of symbiotic soil fungi to elevated carbon dioxide in a native and an invasive grass.

Sanjana Potnis. Northwest Academy. Adaptive responses of slender false brome during range expansion.

Lucianna Edenlord. Northwest Academy. Project tbd.

## AFFILIATIONS

Botanical Society of America

Society for the Study of Evolution

Sigma Xi (full member since 1994)

American Association of University Professors

Molecular Ecology

American Society of Naturalists

National Center for Science Education

European Society for Evolutionary Biology