

CURRICULUM VITAE

Charles B. Fenster

1. Personal Information

Name and Professional Address:

Charles B. Fenster
Department of Biology
University of Maryland
College Park, MD 20742

Rank: Full Professor (University of Maryland)

Education:

Ph.D. - Biology, The University of Chicago, Chicago, IL. 1988
Organization of Tropical Studies, Costa Rica, Winter 1984
University of Michigan Biological Station, Pellston, MI. Summer 1982
B.A. - Amherst College, Amherst, MA. 1979
Stuyvesant High School, NY, NY

Academic Activities:

Percentage of official time devoted to:

Research and Instruction 100%

Professional Experience:

Assistant, Associate, Full Professor, Department of Botany and Department of Biology,
University of Maryland 8/89- present.
Director of Graduate Studies, BEES, 7/2010- 6/2013.
Adjunct Professor, Xishuangbanna Tropical Botanical Garden, Chinese Academy of
Sciences, Yunnan 666303, China, 8/2005-present.
Adjunct Professor, College of Life Sciences, Wuhan University, Wuhan, 430072 China,
8/2005-present.
Professor, Botanisk Institutt, NTNU, 8/99- 8/2001.
NSERC Postdoctoral Fellowship, University of Toronto, Toronto, Ontario, Canada
10/87-8/89.
Graduate Student, The University of Chicago, Chicago, IL 9/81-10/87.
Research Assistant, The University of Chicago, Chicago, IL 5/81- 9/81.
Research Assistant, Pennsylvania Hospital, Philadelphia, 9/79-9/80.
Webster Fellowship, Amherst College, 6/79-8/79.

Research Assistant, Pennsylvania Hospital, Metabolism of Vit E, summers of 1977 and 1978.

NSF Pre-College Fellowship, The Jackson Laboratory, Bar Harbor, Maine, 6/73-8/73.

2. Research, Scholarly, and Creative Activities

Bold "C. B. Fenster" indicates Fenster senior (anchor) or corresponding author. I have a long-term collaboration with M. R. Dudash quantifying the floral biology of *Silene*. In all of our *Silene* papers we are both senior and/or corresponding authors.

^{HS/Y} high school student or younger mentored by C. B. Fenster

^U undergraduate student mentored by C. B. Fenster

^G graduate student mentored by C. B. Fenster

^P postdoctoral researcher mentored by C. B. Fenster

Total Citations: ~ 3200 (Google Scholar)

H - Index (Google Scholar): 33

H - Index (Web of Science, with chapters): 37

a. Peer reviewed articles published or submitted (ISI listed)

1. **Fenster, C. B.** and V. Sork. 1988. Effect of crossing distance and male parent on in vivo pollen tube growth in *Chamaecrista (=Cassia) fasciculata* (Leguminosae). *American Journal of Botany*, 75: 1898-1903.
2. **Fenster, C. B.** 1991a. Effect of seed parent and pollen donor on the allocation of resource to developing seeds and fruit in *Chamaecrista fasciculata*. *American Journal of Botany*, 78:13-23.
3. **Fenster, C. B.** 1991b. Gene flow in *Chamaecrista fasciculata* (Leguminosae). I. Gene dispersal. *Evolution*, 45: 398-409.
4. **Fenster, C. B.** 1991c. Gene flow in *Chamaecrista fasciculata* (Leguminosae). II. Gene establishment. *Evolution*, 45: 410-422.
5. **Fenster, C. B.** 1991d. Evidence for selection on floral traits in hummingbird pollinated flora. *Biotropica*, 23: 98-101.
6. **Fenster, C. B.** and K. Ritland. 1992. Chloroplast DNA and isozyme diversity in two *Mimulus* species (Scrophulariaceae) with contrasting mating systems. *American Journal of Botany*, 79: 1440-1447.
7. Inouye, D. W., D. E. Gill, M. R. Dudash and C. B. Fenster. 1994. A model and a lexicon for pollen fate. *American Journal of Botany*, 12: 1517-1530.
8. **Fenster, C. B.** and K. Ritland. 1994a. The quantitative genetics of mating system divergence in the yellow monkeyflower species complex. *Heredity*, 73: 422-435.
9. **Fenster, C. B.** and K. Ritland. 1994b. Evidence for natural selection on mating system in *Mimulus* (Scrophulariaceae). *International Journal of Plant Sciences*, 155: 588-596.
10. Carr, D. E. and **C. B. Fenster**. 1994. Levels of genetic variation and covariation for *Mimulus* (Scrophulariaceae) floral traits. *Heredity*, 72: 606-618.
11. **Fenster, C. B.** and S. C. H. Barrett. 1994. Inheritance of mating-system modifier genes in

- Eichhornia paniculata* (Pontederiaceae). *Heredity*, 72: 433-445.
12. **Fenster, C. B.** 1995. Mirror image flowers and mating system in *Chamaecrista fasciculata* (Leguminosae). *American Journal of Botany*, 82: 46-50.
 13. **Fenster, C. B.**, P. K. Diggle, K. Ritland and S. C. H. Barrett. 1995. The genetics of floral development differentiating two species of *Mimulus*. *Heredity*, 74: 258-266.
 14. **Fenster, C. B.**, C. L. Hassler^U and **M. R. Dudash**. 1996. Fluorescent powder is a good analog of pollen in *Silene virginica* (Caryophyllaceae). *Canadian Journal of Botany*, 74: 189-193.
 15. **Dudash, M. R.** and **C. B. Fenster**. 1997. Multiyear study of pollen limitation and cost of reproduction in iteroparous *Silene virginica*. *Ecology*, 78: 484-493.
 16. Dudash, M. R., D. E. Carr and C. B. Fenster. 1997. Five generations of enforced selfing and outcrossing in *Mimulus guttatus*: Inbreeding depression variation at the population and family level. *Evolution*, 51:54-65.
 17. **Fenster, C. B.** 1997. Ecotypic differentiation for flood tolerance and its morphological correlates in *Chamaecrista fasciculata*. *Aquatic Botany*, 56: 215-231.
 18. Carr, D. E., C. B. Fenster and M. R. Dudash. 1997. The relationship between mating-system characters and inbreeding depression in *Mimulus guttatus*. *Evolution*, 51: 363-372.
 19. **Fenster, C. B.**, L. Galloway^P, and L. Chao. 1997. Epistasis and its consequences for the evolution of natural populations. *Trends in Ecology and Evolution*, 12:282-286.
 20. **Fenster, C. B.** and D. E. Carr. 1997. Genetics of sex allocation in *Mimulus* (Scrophulariaceae). *Journal of Evolutionary Biology*, 10: 641-661.
 21. **Fenster, C. B.** and L. Galloway^P. 1997. Developmental homeostasis: Evolutionary Consequences and Genetic Basis. *International Journal of Plant Sciences*, S158: S121-S130.
 22. Williams, H. L.^G, and **C. B. Fenster**. 1998. Genetic and ecological factors which constrain the spread of male sterility in *Chamaecrista fasciculata* (Fabaceae). *American Journal of Botany*, 85:1243-1250.
 23. Galloway, L. F.^P and **C. B. Fenster**. 1999. The effect of nuclear and cytoplasmic genes on fitness and local adaptation in annual legume, *Chamaecrista fasciculata* (Fabaceae). *Evolution*, 53: 1734-1743.
 24. **Fenster, C. B.** and L. F. Galloway^P. 2000a. Population differentiation in an annual legume: genetic architecture. *Evolution*, 54: 1157-1172.
 25. Galloway, L. F.^P, and **C. B. Fenster**. 2000. Population differentiation in an annual legume: local adaptation. *Evolution*, 54: 1173-1181.
 26. **Fenster, C. B.** and L. F. Galloway^P. 2000b. Inbreeding and outbreeding depression in natural populations of *Chamaecrista fasciculata* (Fabaceae): consequences for conservation biology. *Conservation Biology*, 14: 1406-1412.
 27. **Fenster, C. B.** and **M. R. Dudash**. 2001. Spatiotemporal variation in the role of hummingbirds as pollinators of *Silene virginica* (Caryophyllaceae). *Ecology*, 82: 844-851.
 28. Galloway, L. F. and **C. B. Fenster**. 2001. Nuclear and cytoplasmic contribution to intraspecific divergence in an annual legume. *Evolution*, 55: 488-497.
 29. **Dudash, M. R.**, and **C. B. Fenster**. 2001. The role of breeding system and inbreeding depression in the maintenance of an outcrossing mating strategy in *Silene virginica* (Caryophyllaceae). *Amer. J. Bot.*, 88: 1953-1959.
 30. Stenoien, H. K.^P, C. B. Fenster, H. Kuittinen, and O. Savolainen. 2002. Quantifying latitudinal clines to light responses in natural populations of *Arabidopsis thaliana* (Brassicaceae). *Amer. J. Bot.*, 89:1604-1608.

31. **Fenster, C. B.**, O. J. Hardy and X. Vekemans. 2003. Quantifying gene flow from spatial genetic structure data in a metapopulation of *Chamaecrista fasciculata* (Leguminosae). *Evolution*, 57:995-1007.
32. Erickson, D. E.^P, **C. B. Fenster**, H. K. Stenøien^P and D. Price. 2004. QTL analyses and the study of evolutionary process. *Molecular Ecology*, 13:2505-2522.
33. **Fenster, C. B.**, W. S. Armbruster, P. Wilson, J. D. Thomson and M. R. Dudash. 2004. Pollination Syndromes and Floral Specialization. *Annual Review of Ecology, Evolution and Systematics*, 35: 375-403.
34. Stenøien, H. K.^P, C. B. Fenster, A. Tonteri and O. Savolainen. 2005. High genetic variability in natural populations of *Arabidopsis thaliana* from Northern Europe. *Molecular Ecology*, 14:137-148.
35. Kephart, S., R. J. Reynolds^G, M. T. Rutter^P, **C. B. Fenster**, and **M. R. Dudash**. 2006. Pollination and seed predation by moths on *Silene* and allied Caryophyllous species: A model system to study the evolution of mutualisms. *New Phytologist*, 169:667-680.
36. Erickson, D. E.^P and **C. B. Fenster**. 2006. Intraspecific hybridization and the recovery of fitness in the native legume *Chamaecrista fasciculata*. *Evolution*, 60: 225-233.
37. **Fenster, C. B.**, G. Cheely^U, R. J. Reynolds^G and **M. R. Dudash**. 2006. Nectar Reward and Advertisement in Hummingbird-Pollinated *Silene virginica*, (Caryophyllaceae). *American Journal of Botany*, 93: 1800-1807.
38. **Fenster, C. B.** and S. Martén-Rodríguez^G. 2007. Pollination specialization and the evolution of reproductive assurance mechanisms through autonomous selfing. *International Journal of Plant Sciences*, 168: 215-228.
39. Rutter, M. T.^P and **C. B. Fenster**. 2007. Testing for adaptation to climate in *Arabidopsis thaliana*: A calibrated common garden approach. *Annals of Botany*, 99: 529-536.
40. Huang, S.-Q. and **C. B. Fenster**. 2007. Absence of long-tongued pollinators for long corolla-tube Himalayan *Pedicularis* species: implications for the evolution of corolla length. *International Journal of Plant Sciences*, 168: 315-331.
41. Reynolds, R. J.^G, and **C. B. Fenster**. 2008. Simulating point and interval estimates of pollinator importance: a study using pollination data of *Silene caroliniana*. *Oecologia*, 156: 325-332.
42. Martén-Rodríguez, S.^G, and **C. B. Fenster**. 2008. Pollination ecology and breeding systems of five *Gesneria* species from Puerto Rico. *Annals of Botany*, 103: 23-30.
43. Martén-Rodríguez, S.^G, A. Almarales-Castro, and **C. B. Fenster**. 2009. An evaluation of pollination syndromes in Caribbean Gesneriaceae: evidence for bat, hummingbird and generalized flowers. *Journal of Ecology*, 97: 348-359.
44. Reynolds, R. J.^G, M. J. Westbrook^U, A. S. Rhode^U, J. M. Cridland^U, **C. B. Fenster**, and **M. R. Dudash**. 2009. Pollinator specialization and pollination syndromes of three related North American *Silene*. *Ecology*, 90: 2077-2087.
45. **Fenster, C. B.**, S. Martén-Rodríguez^G, and D. W. Schemske. 2009. Pollination syndromes and the evolution of floral diversity in *Ichroma* (Solanaceae). *Evolution*, 63: 2758-2762.
46. **Fenster, C. B.**, S. W. Armbruster, and **M. R. Dudash**. 2009. Specialization of flowers: Is floral orientation an overlooked first step? *New Phytologist*, 183: 502-506.
47. Chen, X.^G, S. Martén-Rodríguez^G, Q. – J. Li and **C. B. Fenster**. 2009. Potential autonomous selfing in *Gesneria citrina* (Gesneriaceae), a specialized hummingbird pollinated species with variable herkogamy. *Journal of Integrative Plant Biology*, 51: 973-978.
48. Martén-Rodríguez, S.^G, and **C. B. Fenster**. 2010. Pollen limitation and reproductive

- assurance in Antillean Gesnerieae: are specialists more vulnerable to reproductive failure than their generalist congeners? *Ecology*, 91: 155-165.
49. Reynolds, R. J.^G, **M. R. Dudash** and **C. B. Fenster**. 2010. Multi-year study of multivariate linear and non linear phenotypic selection on floral traits of hummingbird-pollinated *Silene virginica*. *Evolution*, 64: 358-369.
 50. Rutter, M. T.^P, F. H. Shaw and **C. B. Fenster**. 2010. Spontaneous mutation parameters for *Arabidopsis thaliana* measured in the wild. *Evolution*, 64: 1825-1835.
 51. Martén-Rodríguez, S.^G, C. B. Fenster, I. Agnarsson, L. E. Skog, and E. A. Zimmer. 2010. Evolutionary breakdown of pollination specialization in a Caribbean plant radiation. *New Phytologist*, 188: 403-417.
 52. **Dudash, M. R.**, C. Hassler^U, P. M. Stevens^U, and **C. B. Fenster**. 2011. Experimental approaches to assess the consequences of floral trait variation on male reproductive success in hummingbird pollinated *Silene virginica* (Caryophyllaceae). *Amer. J. Bot.*, 98: 275-282.
 53. Frankham, R., J. D. Ballou, M. D. B. Eldridge, R. C. Lacy, K. Ralls, M. R. Dudash and C. B. Fenster. 2011. Predicting the risk of outbreeding depression: Critical information for managing fragmented populations. *Conservation Biology*, 25: 465-475.
 54. Reynolds, R.J.^G, A. A. R. Kula^G, **C.B. Fenster** and **M.R. Dudash**. 2012. Quantifying the sign of the interaction in a non obligate nursery pollinator system, *Hadena ectypa* (Lepidoptera: Noctuidae) and its host, *Silene stellata* (Caryophyllaceae). *Oecologia*, 168: 439-448. DOI: 10.1007/s00442-011-2095-9.
 55. Eaton, D. A. R.^G, C. B. Fenster, J. Hereford^P, S.-Q. Huang, and R. H. Ree. 2012. Floral diversity and community structure in *Pedicularis* (Orobanchaceae). *Ecology*, 93: Supplement, S182-S194.
 56. Rutter, M., A. Roles, J. Conner, R. Shaw, F. Shaw, K. Schneeberger, S. Ossowski, D. Weigel and **C. B. Fenster**. 2012. Brief Communication: Fitness of *Arabidopsis thaliana* mutation accumulation lines whose spontaneous mutations are known. *Evolution*, 66: 2335-2339.
 57. Frankham, R., J. D. Ballou, M. R. Dudash, M. D. B. Eldridge, C. B. Fenster, R. C. Lacy, J. R. Mendelson III, I. J. Porton, K. Ralls, O. A. Ryder. 2012. Implications of different species concepts and delineations for conserving biodiversity. *Biological Conservation*, 153: 25-31.
 58. Samis, K. E., C. J. Murren, O. Bossdorf, K. Donohue, C. B. Fenster, R. L. Malmberg, M. D. Purugganan, and J. R. Stinchcombe. 2012. Longitudinal trends in climate drive flowering time clines in North American *Arabidopsis thaliana*. *Ecology and Evolution*, 2: 1162-1180.
 59. Castillo, D. M.^U, A. A. R. Kula^G, K. A. D. Fenster^U, **C. B. Fenster** and **M. R. Dudash**. 2013. Specialist pollinating seed predators exhibit oviposition strategy consistent with optimal foraging and optimal oviposition theories. *Journal of Ecological Entomology*, 38: 164-172.
 60. Maad, J.^P, W. S. Armbruster and **C. B. Fenster**. 2013. Floral evolution in *Campanula rotundifolia* (Campanulaceae) along altitudinal gradients: patterns and mechanisms. *Nordic Journal of Botany*, 31: 361-371.
 61. Kula, A. A. R.^G, **M. R. Dudash**, and **C. B. Fenster**. 2013. Choices and consequences of oviposition by a pollinating seed predator, *Hadena ectypa* (Noctuidae), on its specialized host plant, *Silene stellata* (Caryophyllaceae). *American Journal of Botany* 100: 1148-1154.
 62. Stearns, F. W.^G and **C. B. Fenster**. 2013. Evidence for parallel adaptation to climate from natural populations of *Arabidopsis thaliana*. *Ecology and Evolution*, doi: 10.1002/ece3.622.

63. Castillo, D. M.^U, A. A. R. Kula^G, S. Dötterl, **M. R. Dudash** and **C. B. Fenster**. 2014. Invasive *Silene latifolia* benefits from a native pollinating seed predator, *Hadena ectypa*. *International Journal of Plant Sciences*, 175:80–91.
64. Diller, C.^G, and C. B. Fenster. Corolla chirality in *Hypericum irazuense* and *H. costaricense* (Hypericaceae): parallels with monomorphic enantiostyly. *Journal of the Torrey Botanical Garden*, in press.
65. Roles, A. J., M. T. Rutter, C. B. Fenster and J. K. Conner. Field measurement of genotype by environment interaction for fitness caused by spontaneous mutations in *Arabidopsis thaliana*. *Evolution*, in revision.
66. Huang, S.-Q., Y.-B. Gong, W. S. Armbruster, R. J. Reynolds^G, and **C. B. Fenster**. Floral trait variation in seven bumblebee pollinated *Pedicularis* species: testing pollinator-mediated selection. *Plant Biology*, accepted pending revision.
67. Kula, A. A. R.^G, D. M. Castillo^U, **M. R. Dudash** and **C. B. Fenster**. Isolated *Silene stellata* host plants experience decreased benefit and increased cost of interacting with their specialist pollinating seed predator, *Hadena ectypa*. *Ecology and Evolution*, submitted.
68. **Fenster, C. B.**, R. J. Reynolds^G, C. G. Williams^U, R. Makowsky and **M. R. Dudash**. Quantifying hummingbird preference for floral trait combinations: the role of selection on trait interactions in the evolution of pollination syndromes. *Evolution*, submitted.
69. O’Meara, B. C., S. D. Smith, W. S. Armbruster, L. D. Harder, C. Hardy, L. C. Hileman, L. Hufford, A. Litt, S. Magallón, S. A. Smith, P. F. Stevens, **C. B. Fenster**, P. K. Diggle. How micro and macroevolutionary processes, and a long extinct flower, shape extant floral diversity. *In prep. for PNAS*.

b. Book Chapters and Non ISI ranked articles (All peer-reviewed)

1. Schemske, D. W., and C. B. Fenster. 1983. Pollen-grain interactions in a neotropical *Costus*: Effects of clump size and competitors, pp. 405-410. IN D. L. Mulcahy and E. Ottaviano, editors. *Pollen: Biology and Implications for Plant Breeding*. Elsevier Press, New York.
2. **Fenster, C. B.**, and **M. R. Dudash**. 1994. Genetic considerations in plant population conservation and restoration. IN: *Restoration of Endangered Species: Conceptual Issues, Planning and Implementation*, pp. 34-62. M. L. Bowles and C. Whelan (eds.) Cambridge Univ. Press. 32.
3. **Fenster, C. B.** and L. F. Galloway^P. 2000c. The contribution of epistasis to the evolution of natural populations: a case study of an annual plant. Pp. 232-244 IN: J. B. Wolf, E. D. Brodie III and M. J. Wade eds. *Epistasis and the evolutionary process*. Oxford University Press, NY.
4. **Dudash, M. R.** and **C. B. Fenster**. 2000. Inbreeding and outbreeding depression in fragmented populations. Pp. 35-53 IN: *Genetics, Demography and Viability of Fragmented Populations*, A. Young and G. Clarke, eds. Cambridge University Press, United Kingdom.
5. Armbruster, W. S., **C. B. Fenster** and **M. R. Dudash**. 2000. Pollination “principles” revisited: specialization, pollination syndromes, and the evolution of flowers. *Det Norske Videnskaps-akademi. I. Matematisk Naturvidenskapelige Klasse, Skrifter, Ny Serie* 39: 139-148.
6. Marten-Rodriguez, S., and **C. B. Fenster**. 2007. Autogamia y polinización por aves, murciélagos e insectos en Gesneriáceas de Las Antillas. *Moscosa*, 15: 177-189.

c. Other Contributions: Letters, Natural History Observations, Encyclopedia Entries, Book Reviews & Thesis

1. **Fenster, C. B.** 1988. Gene flow and population differentiation in *Chamaecrista fasciculata* (Leguminosae). Ph. D. Thesis. The University of Chicago, IL.
2. Fenster, T. L. D.^{HS/Y} and **C. B. Fenster**. 1996. *Plethodon cinereus* (Red Back Salamander). Predation. *Herpetological Review*, 27: 194.
3. **Fenster, C. B.**, L. Galloway, and L. Chao. 1997. (LETTER) *Trends in Ecology and Evolution*, 12: 400. REPLY
4. **Fenster, C. B.** and H. C. Stenøien. 2001. *Clines and Ecotype*. Plant Sciences for Students, Robinson, R. (ed.), Macmillan Press, N.Y.
5. **Fenster, C. B.** 2011. Book Review. *Evolutionary perspectives from the molecular landscape: Evolution The Molecular Landscape*, 2009. Cold Spring Harbor Laboratory Press. Book review appeared in *Evolution*, 65: 2412-2418.
6. **Fenster, C. B.** 2012. Book Review. *Early Flowers and Angiosperm Evolution*, Else Marie Friis, Peter R. Crane, and Kaj Raunsgaard Pedersen. Cambridge University Press, Cambridge, United Kingdom. Book Review appeared in *Plant Science Bulletin*, 58 (no. 2, Summer Issue): 70-73.
7. Frankham, R, R. C. Lacy, J. D. Ballou, M. R. Dudash, M. D. B. Eldridge, **C. B. Fenster**, J. R. Mendelson III, I. J. Porton, K. Ralls, and O. A. Ryder. 2014. (LETTER). Species concepts for conservation: a reply to Russello and Amato. *Biological Conservation*, *in press*.

d. Papers In Preparation

- Mao, Y.-Y., J. Hereford, C. B. Fenster, and S.-Q. Huang. Long corolla tubes in *Pedicularis*: testing the hypothesis that long styles filter self-pollen. *To be submitted to Am. J. Bot. (manuscript available)*.
- Mao, Y.-Y., J. Hereford, C. B. Fenster, and S. Q. Huang. Is the evolution of corolla tube length driven by selection on style length? Test of a new hypothesis with *Pedicularis* (Orobanchaceae). *To be submitted to Evolution (manuscript available)*.
- R. J. Reynolds, **M. R. Dudash** and **C. B. Fenster**. Heritability of floral traits under selection in *Silene*: A field study.
- R. J. Reynolds, **M. R. Dudash** and **C. B. Fenster**. Phenotypic selection on floral traits in nursery pollinated *Silene stellata* (Caryophyllaceae).
- McKay, J., M. T. Rutter and **C. B. Fenster**. The effect of spontaneous mutations on physiological parameters.

e. Papers and Posters Presented

- Stearns, F. and **C. B. Fenster**. 2013. American Genetic Association. Evidence for parallel adaptation to climate across the natural range of *Arabidopsis thaliana*.
- Simpson, A. and **C. B. Fenster**. 2013. Society for the Study of Evolution. Response of BiSSE to Known Paleontological Violation of its Assumptions.

- Simpson, A., S. Wing and **C. B. Fenster**. 2013 Botanical Society of America. Relationships between Dispersal, Range Size, and Diversity in the Rosales.
- Simpson, A. and **C. B. Fenster**. 2012. Geological Society of America. When is BiSSE (Binary State Speciation and Extinction) useful, given what we know from fossils?
- Kula A.A.R., **M.R. Dudash** and **C.B. Fenster**. Temporal synchrony of *Silene stellata* and its pollinating seed predator *Hadena ectypa*, over three years. 2011. Ecological Society of America.
- Fenster, Charlie B**; Rutter, Matthew; Roles, Angela; Conner, Jeffrey K; Shaw, Ruth; Shaw, Frank; Schneeberger, Korbinian; Ossowski, Stephan; Weigel, Detlef. Spontaneous mutations and fitness. 2011. Society for the Study of Evolution.
- Simpson, A. G, and **C. B. Fenster**. Relationships between dispersal mode and geographic range in the Rosales. 2010. Geological Society of America.
- Kula, A. A. R., **C. B. Fenster** and **M. R. Dudash**. Nursery pollination by *Hadena ectypa* in small isolated populations of *Silene stellata*. 2010. Ecological Society of America.
- Roles, A. J., M. T. Rutter, C. B. Fenster, and J. Conner. Field measurements of GEI for spontaneous mutations in *Arabidopsis thaliana*. 2010. Society for the Study of Evolution.
- Kula, A. A. R., **M. R. Dudash** and **C. B. Fenster**. A nursery pollinator as a selective agent on floral traits through oviposition behavior. 2010. Society for the Study of Evolution.
- Mckay, J. M. T. Rutter and **C. B. Fenster**. The role of mutation in the origin of genetic variation for delta C-13. 2009. Society for the Study of Evolution.
- Eaton, D., J. Hereford, C. B. Fenster, S. Q. Huang and R. Ree. Patterns and causes of morphological diversification in Tibetan Pedicularis. 2009. Society for the Study of Evolution.
- Reynolds, R. J., **M. R. Dudash** and **C. B. Fenster**. 2008. Non linear selection on *Silene virginica* floral traits. Society for the Study of Evolution.
- Fenster, C.B.**, F. Shaw and M. Rutter. 2008. A comparison of mutation parameters in field and greenhouse environments: A study with *A. thaliana* MA lines. Society for the Study of Evolution.
- Martén-Rodríguez S, **Fenster C. B**, Zimmer LA. 2007. Evolución de sistemas de polinización especialistas y generalistas en una radiación de plantas de las islas del Caribe (Familia Gesneriaceae, Tribu Gesnerieae). IX Congreso Latinoamericano de Botánica. Santo Domingo, Republica Dominicana. Poster.
- Reynolds, R.J., **Fenster, C.B.**, and **M.R. Dudash**. 2006. Mutualism or parasitism? Nursery pollination of *Silene stellata* by the noctuid moth *Hadena ectypa*. Ecology Society of America.
- Reynolds, R.J., **Fenster, C.B.**, and **M.R. Dudash**. 2006. Heritability of floral traits in two related *Silene* (Caryophyllaceae): A field study. Society for the Study of Evolution.
- Marten-Rodríguez, S. and **C. B. Fenster**. 2005. Evolution of pollination systems in Caribbean *Gesneriae*. Scandinavian Association of Pollination Ecologists Meetings (SCAPE).
- Reynolds, R. J., **C. B. Fenster**, and **M. R. Dudash**. 2005. Quantifying pollinator mediated selection on floral traits of moth pollinated *Silene stellata* (Caryophyllaceae). Scandinavian Association of Pollination Ecologists Meetings (SCAPE).
- Fenster, C.B.**, C. Williams, R. J. Reynolds, and M. R. Dudash. 2005. Trait interaction and pollination syndrome evolution. Scandinavian Association of Pollination Ecologists Meetings (SCAPE).

- Rutter, M. T. and **C. B. Fenster**. 2005. Mutation effects on fitness in *Arabidopsis thaliana*. Society for the Study of Evolution (SSE).
- Fenster, C.B.**, R. J. Reynolds and **M. R. Dudash**. 2005. Quantifying pollinator mediated selection on floral traits in *Silene* (Caryophyllaceae). Society for the Study of Evolution (SSE).
- Rutter, M.T. and **C. B. Fenster**. 2004. Measuring the effects of mutation in the field with *Arabidopsis thaliana*. Society for the Study of Evolution (SSE), Poster.
- Erickson, D. E. and **C. B. Fenster**. 2003. The contribution of epistasis to adaptive differentiation among populations of *Chamaecrista fasciculata* (Leguminosae). Society for the Study of Evolution (SSE).
- Stenoien, H. K., Tontori, A., **Fenster, C.B.**, Savolainen, O. 2003. High genetic variability within and among populations of the model organism *Arabidopsis thaliana* from Northern Europe. European Society of Evolutionary Biology (ESEB). Poster.
- Stenoien, H. K., **Fenster, C.B.**, Kuittinen, H., and S astad, S. M. 2001. No association between hypocotyl elongation and flowering time in *Arabidopsis thaliana* populations exposed to different light regimes. European Science Foundation Programme on Plant Adaptation: Functional Evolutionary Genetics and Plant Adaptation, 9th-11th March, Jena, Germany.
- Dudash, M. R.** and **C. B. Fenster**. 2000. Hummingbirds and selection on floral traits in *Silene virginica*: tests of the pollination syndrome concept. Society for the Study of Evolution (SSE).
- Fenster, C.B.** and M. R. Dudash. 1999. Pollinator mediated selection on floral traits. Scandinavian Pollination Biology Meetings (SCAPE).
- Fenster, C.B.** and L. F. Galloway. 1997. Epistasis and the evolution of fitness in natural populations of *Chamaecrista fasciculata*. Meeting of British Population Geneticists. [published abstract].
- Finney, T. A. and **C. B. Fenster**. 1997. Ecological and reproductive factors limiting ecotype distribution in *Chamaecrista fasciculata*. Botanical Society of America. [published abstract].
- Fenster, C.B.** and L. F. Galloway. 1997. Genetic architecture of fitness in wild populations of *Chamaecrista fasciculata*. European Society of Evolution. [published abstract].
- Fenster, C.B.** and L. F. Galloway. 1997. Genetic architecture of fitness in *Chamaecrista fasciculata*. I. Native environment. Society for the Study of Evolution (SSE).
- Galloway, L. F. and **C. B. Fenster**. 1997. Genetic architecture of fitness in *Chamaecrista fasciculata*. I. Common garden experiment. Society for the Study of Evolution (SSE).
- Inouye, D., W., D. E. Gill, M. R. Dudash and **C. B. Fenster**. 1994. A lexicon for pollination biology. Botanical Society of America. [published abstract].
- Carr, D. E., C. B. Fenster and M. R. Dudash. 1994. Factors which effect the relative performance of self and outcross progeny: maternal autogamy rates, maternal herkogamy and male x female interactions. Society for the Study of Evolution (SSE).
- Fenster, C.B.** and **M. R. Dudash**. 1993. The role of pollinator mediated natural selection on floral traits of hummingbird pollinated *Silene virginica* (Caryophyllaceae). Ecology Society of America (ESA). [published abstract].
- Fenster, C.B.** and D. E. Carr. 1993. Inheritance of allocation of resources to pollen and ovules in *Mimulus* (Scrophulariaceae). Society for the Study of Evolution (SSE).
- Dudash, M. R.**, D. E. Carr and **C. B. Fenster**. 1993. Consequences of five generations of selfing in *Mimulus guttatus*. Society for the Study of Evolution (SSE).

- Carr, D. E. and **C. B. Fenster**. 1992. Quantitative genetics of floral traits associated with mating-system evolution in *Mimulus* (Scrophulariaceae). Society for the Study of Evolution (SSE).
- Fenster, C. B.** and K. Ritland. 1990. Breeding system evolution in *Mimulus* (Scrophulariaceae). The University of Maryland, College Park, MD and The University of Toronto, Toronto, Ontario, Canada M5S 1A1, (SSE). [published abstract].
- Fenster, C.B.** and S.C.H. Barrett. 1990. Genetic evidence for multiple origin of selfing within *Eichhornia paniculata* (Pontederiaceae). The University of Maryland, College Park, MD and The University of Toronto, Toronto, Ontario, Canada M 5S 1A1 (SSE). [published abstract].
- Fenster, C. B.** and Kermit Ritland. 1989. Botanical and Ecological Society of America: Breeding system evolution in *Mimulus*. (Abstract published in Supplement to American Journal of Botany 76:100).
- Diggle, P., **C.B. Fenster**, S.C.H. Barrett, and K. Ritland. 1989. Botanical and Ecological Society of America: Developmental genetics of breeding system evolution in *Mimulus*. (Abstract published in Supplement to American Journal of Botany 76:32).
- Fenster, C.B.** 1987. Botanical and Ecological Society of America: Gene flow and population differentiation in *Chamaecrista* (= *Cassia fasciculata*). (Abstract published in Supplement to American Journal of Botany 74:650).
- Fenster, C.B.** 1986. Society for the Study of Evolution: Components of gene flow in an annual prairie legume (*Cassia fasciculata*).
- Fenster, C.B.** 1985. Ecological Society of America: The role of paternity and maternal environment in the fecundity of *Cassia fasciculata* (Leguminosae). (Abstract published in the Bulletin of the Ecological Society of America, Program Issue 66:172).
- Fenster, C.B.** 1985. Society for the Study of Evolution: The effect of interparent distance on progeny fitness in *Cassia fasciculata*.
- Johnson, L. H., M. V. Beirao, D. K. Neff, C. B. Fenster and D. E. Martel. 1978. Vitamin-E, pregnancy duration and quality of labor. Annual Pediatric Meetings. (Abstract published in Supplement to Pediatric Research, vol 12: Supplement: 395. DOI: 10.1203/00006450-197804001

f. Invited Seminars

- 2014 Harvard Arboretum, Harvard University
- 2013 Department of Ecology and Evolution, University of Tennessee
Department of Ecology and Evolutionary Biology, University of Toronto
Department of Ecology and Evolution, Stony Brook University
Natural History Museum, National University of San Marcos, Lima Peru
Department of Integrative Biology, UC Berkeley
Department of Biological Sciences, University of Idaho
- 2012 Department of Botany, University of Hawaii, Manoa
- 2010 Department of Biology, NTNU, Trondheim, Norway

- Department of Ecology & Department of Botany, Charles University, Prague, Czech Republic
Department of Biology, Reed College, Portland, Oregon
Department of Biology, Pomona College, Claremont California
- 2008 Department of Ecology and Evolution, University of California, Irvine
Department of Ecology and Evolution, State University of New York, Stony Brook
Section of Ecology and Evolution, University of Pittsburgh
BEES, University of Maryland
- 2007 CNRS, Montpellier, Montpellier France
Rancho Santa Ana Botanic Garden, Botany Program of Claremont Graduate University
Chinese Academy of Sciences, Xishunagbanna Tropical Botanical Garden, China
Millersville University, Millersville, PA.
- 2005 Kellogg Biological Station, Michigan State University
Department of Biology, Georgetown University
Department of Plant Ecology, Uppsala University, Sweden
Department of Biology, Amherst College
- 2004 Department of Botany, Xi'an University, Xi'an, China
Institute of Botanical Sciences, Beijing University, Beijing, China
- 2002 Department of Plant Ecology, Uppsala University, Sweden
- 2000 Department of Systematic Botany, Lund University, Sweden
Oulanka Biological Station, Finland
- 1999 Department of Biology, University of Missouri, Columbia
Department of Zoology, NTNU, Norway
- 1998 Department of Botany, Swiss Federal Institute of Technology, Zurich, Switzerland
Institute of Animal, Cell and Population Biology, University of Edinburgh, U.K.
- 1997 Department of Ecology and Evolution, University of Minnesota
Department of Biology, University of Pennsylvania
Department of Botany, Norwegian University of Science and Technology
(NTNU = Trondheim University), Norway
Institute of Animal, Cell and Population Biology, University of Edinburgh, U.K.
Department of Biology, University of Oulu, Finland
Department of Biology, University of Jyvaskyla, Finland
- 1996 Mountain Lake Biological Station, University of Virginia, Pembroke, VA
- 1995 Department of Cell and Genetics, Washington State University, Pullman, WA
- 1994 College Park Scholars Program, University of Maryland, College Park, MD
Department of Botany, University of Maryland, College Park, MD
Department of Biology, University of Exeter, Exeter, U.K.
Department of Biology, University of St. Andrews, St. Andrews, U.K.
Institute of Cell, Animal and Population Biology, University of Edinburgh, U.K.
Kellogg Biological Station, Michigan State University, Michigan
- 1993 Blandy Experiment Farm, University of Virginia, Blandy, Virginia
- 1992 Department of Botany, University of Kansas, Lawrence, Kansas
Department of Evolution, Ecology and Systematics, University of Delaware
- 1991 Department of Ecology and Evolution, State University of New York, Stony Brook
Mountain Lake Biological Station, University of Virginia, Pembroke, Virginia
- 1990 Department of Botany, University of Maryland, College Park, MD.

- Department of Zoology, University of Maryland, College Park, MD.
Department of Biology, The University of Chicago, Chicago IL.
1989 Department of Biology, York University, York, Ontario, Canada
Department of Botany, University of Maryland, College Park, MD
1987 Department of Botany, University of Toronto, Toronto, Ontario, Canada
Department of Biology, University of Miami, Coral Gables, Florida
Department of Botany, University of Maryland, College Park, MD.

g. Invited Symposium/Work Shops

- 2012 AWIS Workshop on the contribution of implicit bias in the recognition of women scientists
SSE vision meeting, San Jose, Costa Rica
BioOne Publishers Symposium, Washington, D.C.
- 2011 Blackwell Publishers Symposium on Society Publishing, Washington, D.C.
- 2010 Blackwell Publishers Symposium on Society Publishing, Washington, D.C.
- 2009 AAAS: Human Rights and Scientific Societies
Fenster, C. B., R. J. Reynolds and **M. R. Dudash**. Natural selection and the evolution of a complex adaptation: hummingbirds, floral traits and *Silene virginica*. European Society for Evolutionary Biology. Turin, Italy. *In* Pollinator-mediated selection in floral evolution, Y. Sapir and W. S. Armbruster, organizers.
- Marten-Rodriquez, S., E. Zimmer, and **C. B. Fenster**. Evolutionary breakdown of specialization: generalized and autogamous pollination systems provide reproductive assurance in Antillean Gesneriaceae. European Society for Evolutionary Biology. Turin, Italy. *In* Pollinator-mediated selection in floral evolution, Y. Sapir and W. S. Armbruster, organizers.
- 2008 BioOne Publishers and Partners Meeting, Washington, D. C.
American Institute of Biological Sciences, Council Meeting, Washington, D. C.
HHMI: Invitational Summit on Undergraduate Biology: The Role of Disciplinary Societies
- 2007 Blackwell Publishers Symposium on Society Publishing, Washington, D.C.
- 2006 **Fenster, C. B.**, M. Rutter, D. Erickson. Outbreeding depression, heterosis and mutation: Studies with the North American annual legume *Chamaecrista fasciculata* and mutation analyses with *Arabidopsis thaliana*. In "Outbreeding depression," European Congress of Conservation Biology, Eger, Hungary, August 2006
- 2005 Participant of Blackwell Publishers Symposium on Society Publishing, Washington DC
- 2004 **Fenster, C. B.** Evolution of Pollination Specialization. Chinese Academy of Sciences, International Symposium on the Interactions Between Species and Coevolution, Xishunagbanna, China.
- Fenster, C. B.** Current topics in plant evolutionary biology and conservation genetics. Department of Botany, Wuhan University, Wuhan, China.
A three day work-shop where I presented two 2.5 hour lectures on our current understanding of the role of pollinator mediated selection in generating floral diversity, two 2.5 hour lectures on the importance of quantifying genetic architecture for our understanding of evolutionary process, and the methods used to quantify genetic

- architecture. One 2.5 hour lecture on conservation genetics and one 2.5 hour lecture on how an understanding of the developmental mechanisms underlying the expression of adaptations may provide insight into the evolutionary process of these very same adaptations. Approximately 40-70 people participated in this work shop (depending on the day), with faculty and graduate students coming from a number of institutions in China. I was the leader and sole lecturer in this work shop.
Host: Dr. Shuang-Quan Huang, Wuhan University.
- 2002 **Fenster, C. B.** PrePCR *Mimulus* Evolutionary Genetics. Botanical Society of America, Symposium Honoring the Accomplishments of Robert Vickery. Madison, WI.
- 2000 **Fenster, C. B.** Genetic consequences of small population size. NorFA and Academy of Finland sponsored graduate course on Metapopulations in plants: Implications for Conservation Biology, Oulanka Biological Station, Finland, K. Karkkainen and P. Siikamaki (organizers).
- 1999 **Fenster, C. B.** Population structure and the evolution of genetic background effects. ESF sponsored workshop, University of Edinburgh, N. Barton and B. Charlesworth (organizers).
- Fenster, C. B.** and L. F. Galloway. Evolution of an adaptive landscape: multiple peak epistasis in the native North American annual *Chamaecrista fasciculata* (Fabaceae). In: Epistasis and the evolution of complex adaptive landscapes: consequences for the origin and maintenance of plant biodiversity. **C. B. Fenster** and A. Korol (organizers). International Botanical Congress.
- Kruuk, L, **C. B. Fenster** and N. Barton. Genetic perspectives on hybridization. In: Epistasis and the evolution of complex adaptive landscapes: consequences for the origin and maintenance of plant biodiversity. **C. B. Fenster** and A. Korol (organizers). International Botanical Congress.
- 1997 **Fenster, C. B.**, J. Hughes and S. Spencer. Floral Heteromorphisms: Adaptive Significance and Developmental Mechanisms. In: Heteromorphism: intra-individual phenotypic polymorphism's, J. Shykoff and I. Dajoz (editors/organizers). Sixth Congress European Society for Evolutionary Biology. [published abstract].
- Galloway, L. F. and **C. B. Fenster**. The Evolution of Epistasis for Fitness and its Consequences for Conservation Biology. Plant Population Genetics: Bridging the Gap Between Research and Stewardship, Chicago Botanic Gardens, Glencoe, IL. [published abstract].
- Fenster, C. B.** and L. F. Galloway. Symposium on Small Population Biology, sponsored by the University of Maryland-Smithsonian Research Training Grant on Small Population Biology, Washington, D.C.
- 1996 **Fenster, C. B.** and L. Galloway. Developmental homeostasis: Evolutionary Consequences and Genetic Basis. In: The Morphology and Evolution of Flowers, A Tribute to the Work of Shirley Tucker, L. Hufford and P. Diggle (eds.). Published in the International Journal of Plant Sciences (1997). [published abstract].
- 1990 **Fenster, C. B.** and M. R. Dudash. Genetic considerations for plant population restoration. Society for Ecological Restoration. Chicago, IL.

h. Grants and Fellowships

2013

The National Science Foundation, **C. Fenster (PI)**, “Collaborative: RUI: The natural history of mutations: sequence and fitness data from *Arabidopsis thaliana* mutation accumulation lines” Charles B. Fenster, Principal Investigator, Department of Biology, University of Maryland, College Park, MD. Matthew T. Rutter, Co-Principal Investigator, Department of Biology, College of Charleston, Charleston, SC. Detlef Weigel, Senior Personnel, Department of Molecular Biology, Max Planck Institute for Developmental Biology, Tübingen, Germany. Stephen Wright, Senior Personnel, Dept. of Ecology and Evolution, University of Toronto. **C. Fenster (PI)** \$644,734 plus M. Rutter \$115,019 (PI on RUI). Starting date: July 15th 2013 (four years). DEB 1257902

2009

The National Science Foundation, C. Fenster (PI), “Collaborative: RUI: Quantifying mutation parameters in a fitness landscape: Spontaneous mutation in *A. thaliana* in its native range,” **C. Fenster (PI)** \$537,688 plus M. Rutter \$258,372 (PI on RUI). Starting date: September 1, 2009 (5 years). Arabidopsis 2010 0844820

2008

The National Science Foundation, Working Group, National Evolutionary Synthesis Center, **C. Fenster (PI and Group Leader)**, P. Diggle (co-Group Leader), W. S. Armbruster (co-Group Leader), “Floral Assembly: Quantifying the composition of a complex adaptive structure,” additional members: Michael Alfaro, Lawrence Harder, Christopher Hardy, Lena Heilman, Larry Hufford, Amy Litt, Susana Magallon, Silvana Marten-Rodriguez, Brian Moore, Peter Stevens, to fund travel of 12 investigators to the ESC, 4 meetings @ 4-6 days each. Starting date: January, 2009. This grant is administered through the National Evolutionary Synthesis Center.

2007

The National Science Foundation (DDIG), **C. Fenster (PI)** and S. M. Rodriguez (coPI), “Quantifying pollen limitation and reproductive assurance mechanisms in Gesneriaceae species with contrasting pollination systems,” \$12,000.00. May 1, 2007 (1 year).

The National Science Foundation, Postdoctoral Fellowships for Minorities. **C. B. Fenster** is sponsor for Dr. Joe Hereford who submitted the proposal. “Mutation Tests of the Evolution of Reproductive Isolation,” starting date January 1, 2007 (2 years). This grant carries no overhead and is awarded directly to Dr. Hereford, approximately \$120,000.

University of Maryland Graduate Research Board, Semester Award.

2006

The Nature Conservancy, MD/DC Chapter (with M. R. Dudash and R. R. Reynolds), “Quantifying mating system outcrossing rate and genetic variation in a small Potomac River Gorge population of *Silene carolinana* (Caryophyllaceae), Biodiversity Conservation Research Fund, \$2900.00, starting date: August 1, 2006 (1 year).

The National Science Foundation, REU Supplemental to “Quantifying the role of pollinator mediated selection in the evolution of pollination syndromes in *Silene* (Caryophyllaceae),” **C. B. Fenster** (P.I.) and M. R. Dudash (co-P.I.), \$5,000.00 (1 year) starting date: 07/01/06.

2004

The National Science Foundation, “Quantifying the role of pollinator mediated selection in the evolution of pollination syndromes in *Silene* (Caryophyllaceae),” **C. B. Fenster** (P.I.), M. R. Dudash (co-P.I.), with S. Kephart, ROA award of \$27,000, starting date: 07/01/04.

2003

The National Science Foundation, “Quantifying Mutation Parameters in the Wild,” **C. B. Fenster** (PI) and M. Rutter (coPI), \$320,000, Starting date: 07/01/03, 48 months.

The National Science Foundation, “FIBR Planning: Integrative studies of mutation biology,” **C. B. Fenster** (P.I.) and M.T. Rutter (co-P.I.), \$35,187.00 (1 year), starting date: 02/01/03.

2001

The National Science Foundation, “Quantifying the role of pollinator mediated selection in the evolution of pollination syndromes in *Silene* (Caryophyllaceae),” **C. B. Fenster** (PI) and M. R. Dudash (co-PI), \$342,000.00 (5 years), starting date: 07/01/01.

2000

Norges forskningsråd/The Research Council of Norway, “Quantifying the genetic architecture of local adaptation in a model organism, *Arabidopsis thaliana*,” approx. \$170,000, 24 months, Starting date: January 1, 2000. **C. B. Fenster** (PI).

Norges forskningsråd/The Research Council of Norway, equipment grant, “Automated DNA sequencing facility for population genetics and biotechnology,” approx. \$240,000. 1999 (with Arne Strom and W. Scott Armbruster).

1998

The National Science Foundation (DEB-9815780), “Quantifying Epistasis for Fitness in the Native Legume, *Chamaecrista Fasciculata*.” \$241,654, 36 months. Starting date: February 1, 1999. **C. B. Fenster** (PI) and E. A. Zimmer, LMS, Smithsonian Institute coPI).

1996

The National Science Foundation, Population Biology Research Training Grant, “The biology of small populations,” \$1,575,000, 60 months, starting date October 1, 1996, one of twelve participating University of Maryland faculty.

The National Science Foundation, Population Biology: REU Supplement to NSF DEB 9312067. \$4875, 12 months, starting date September 1, 1996.

R.O.A. supplemental to NSF DEB 9312067, “The role of heterozygosity and coadaptation in the regulation of developmental homeostasis in *Chamaecrista*”

fasciculata" \$18,000. Submitted with Dr. Robin Scribailio, Purdue University, North Central Campus, Starting Date: January, 1996. Duration: 20 months.

1995

The National Science Foundation, Population Biology: REU Supplement to NSF DEB 9312067. \$5000, 12 months, starting date September 1, 1995.

1994

The National Science Foundation, Population Biology: REU Supplement to NSF DEB 9312067. \$5000, 12 months, starting date September 1, 1994.

The University of Maryland College Park International Travel Fund. \$400.00.

1993

The National Science Foundation, Population Biology: The evolutionary role of epistasis for fitness in *Chamaecrista fasciculata*. \$210,000; 46 months, starting date October 1, 1993. **C. B. Fenster** (PI). NSF DEB 9312067

The National Geographic Society. Quantifying the role of pollinator driven evolution in *Silene virginica*. \$4000, 24 months, 1993-1995. (with M.R. Dudash)

Pratt Fellowship, University of Virginia Biological Station, Mountain Lake: Pollinator driven evolution of floral traits in *Silene virginica*, \$500, June - July 1993. (with M. R. Dudash)

1992

Maryland Agricultural Experiment Station Award: Genetic basis of seed size variation and tolerance to flooding: agronomic and ecological consequences, \$17,000, July 1992-June 1993.

Pratt Fellowship, University of Virginia Biological Station, Mountain Lake: Pollinator driven evolution of floral traits in *Silene virginica*, \$1000, June - July 1992. (with M. R. Dudash)

Biomedical Research Support Award: Detection of chloroplast DNA variation in native species: implications for the conservation of genetic resources, \$10,000, July 1991-March 1992.

1991

Maryland Agricultural Experiment Station Award: Genetic basis of seed size variation and tolerance to flooding: agronomic and ecological consequences, \$12,000, July 1991-June 1992.

Pratt Fellowship, University of Virginia Biological Station, Mountain Lake: Pollinator driven evolution of floral traits in *Silene virginica*, \$1000, June - July 1991. (with M. R. Dudash)

Graduate Research Board Summer Support Award, 1991. \$5,400.

1987

Natural Science and Engineering Research Council Post Doctoral Fellowship, 1987-1989.

1985

National Science Foundation, Population Biology. Doctoral Dissertation Improvement Grant (Douglas W. Schemske, PI): Gene flow and population differentiation in *Cassia fasciculata*. \$5,400; 2 years, starting date: June 1985.

1984

The University of Chicago Hinds Fund, 1984.

Sigma Xi Grant, 1984. Gene flow and population differentiation in *Cassia fasciculata*.

OTS/Noyes Post-Course Award, 1984. Corolla length variance in Hummingbird-pollinated plants.

1982

National Institute of Health Genetics Training Grant, 1982-1986.

1979

Amherst College Webster Fellowship, 1979.

1973

National Science Foundation Pre-College Summer Traineeship, The Jackson Laboratory, Bar Harbor, Maine, 1973.

i. Grants Pending

None at this time.

j. Foreign Collaborations

National Science Foundation, current award to fund collaboration with Detlef Weigel (Germany) and Stephen Wright (Canada)

Norwegian Research Council, Postdoctoral Project, Evolution of flower size in *Campanula rotundifolia* (Campanulaceae)- effects of selection by pollinators and gene flow. J. Maad (PI), project mentors S. Armbruster and C. Fenster, 2005-2006, approximately 120,000 US dollars

k. Awards and Honors

Board of Directors, AIBS (2011-present)

Executive Vice President, Society for the Study of Evolution (2008-2010)

Strategic Program for Asthma Research: Recognition as top 1% of cited authors in Environment and Ecology

3. Service

a. Society:

Board of Directors, AIBS (2011-present)
Chair of organizing committee for Evolution 2013, Snowbird, Utah (2011-2013)
Committee co-Chair for evaluating launch of new society journal (2013)
Committee Chair for evaluating launch of new society journal (2012)
Workshop to consider new directions in Academic Societies, San Jose, Costa Rica (2012)
Executive Vice-President, Society for the Study of Evolution (2008- 2010)

b. Scholarly Journals:

Editorial Board:

International Journal of Plant Sciences (1998-2012)
Ecology and Evolution (2011-present)

Associate Editor:

Evolution (2002-2005),
American Journal of Botany (2006-2008)

c. Reviewer of manuscripts:

Evolution
Ecology
Ecology Letters
International Journal of Plant Sciences
Oikos
Molecular Ecology
The American Journal of Botany
The Journal of Heredity
The American Midland Naturalist
The Journal of Evolutionary Biology
The Journal of Ecology
Plant Systematics and Evolution Science
Annals of Botany
Journal of Caribbean Science
Genetics
Functional Ecology
PLOS One
Proceedings National Academies of Science, USA
Proceedings of the Royal Society

d. Reviewer of grants

Proposals for NSF, Netherlands Research Council, United Kingdom Research Council, Israel Science Foundation, U.S. Agency for International Development, Amherst College, Danish Research Council, Czech Academy of Sciences, South African Research Council, British Ecological Society, German Research Council

e. Panels

NSF Population Biology Panel, October 1999

National Academy of Sciences, Policy and Global Affairs Division Panel (to review proposals to U.S. Agency for International Development), October 2004

f. Tenure and Promotion Evaluator (Colby College, University of Connecticut University of Georgia, University of Oregon, University of Pittsburgh, Portland State University, Portsmouth University, UC Santa Cruz, University of Texas, University of Virginia)

2013: 2

2012: 3

2011: 1

2009: 1

2003: 1

2002: 1

2001: 1

g. University

i. Department, College and Campus Committee (UMCP)

Faculty Affairs Committee, UMD Campus Senate (2012-2014)

Chair, Faculty Affairs, UMD Campus Senate (2011-2012)

Director of Graduate Studies, BEES (interdepartmental program in organismal biology) (July 2010-June 2013)

Campus Senate (2009-2013)

Graduate Research Board (2008-2010)

College Advisory Council (2008-2009)

Bioinformatics Search (Winter 2002- 2004)

Tenure Review Committee for K. Shaw (Fall 2001)

Coordinator of BEES Seminar Program (2001-2002)

Bioinformatics Search Committee for Biology

Research Training Grant Steering Committee 1996-1997

BEES Seminar Committee, Co-Chair 1996-1997

Dept. of Plant Biology Curriculum Committee, 1994-1996

Plant Biology Seminar Committee, 1995-1996

Plant Molecular Systematist Search, Dept. of Plant Biology, Chair, 1995-1996

BEES Steering Committee 1995-1997

College Review of Department of Entomology. 1994-1995

Salary Review Committee, 1995
 Greenhouse Committee (College Level) 1994
 Curriculum Committee 1994-1995
 Awards Committee 1993-1995
 Organized Interdepartmental Seminar Program on Genetic Variation with
 Depts of Zoology, Agronomy, and Entomology. 1991-1992
 Chairperson Botany Greenhouse Committee 1990-1991
 Botany Seminar Committee 1990-1992, 1994-1995, Chair 1993-1994,
 Botany/ Zoology Seminar Committee 1990-1991
 Salary Review Committee 1989-90
 Botany Greenhouse Committee 1989-90
 Graduate Student Recruitment Committee 1989-90

ii. Non UMD University Service

Evolutionary Biologist Search Committee, NTNU, Trondheim Norway 2012

h. Community

Science Fair Judge:
 Eleanor Roosevelt High School, Greenbelt, MD
 University Park Elementary School, University Park, MD
 Trondheim Little League, Chairman Trondheim Little League Association
 Rawlings Group, "Baseball Equipment for Five Teams to Facilitate the Growth of
 Baseball in Trondheim, Norway." \$7000
 LUP Basketball, Coach

4. Teaching

i. Courses taught at UMCP

Course	Semester	Credit	Enrollment
BIOL 106 (team taught)	Fall 1990	4	210
BOTN 698	Fall 1990	1	11
ZOOL 671 (Guest Lecturer, one 3 hour lecture)	Fall 1990	4	15
BOTN 411 (Evolution)	Spring 1991	3	5
BOTN 699D (Reading course)	Spring 1991	1	1
BIOL 106 (team taught)	Fall 1991	4	221
BOTN 699D	Fall 1991	1	1

(Reading course)			
BOTN 698	Fall 1991	1	10
(team taught)			
ZOOL 671	Fall 1991	4	12
(Guest Lecturer, one 3 hour lecture)			
BOTN 699L	Fall 1991	1	6
(Evolutionary significance of epistasis- in conjunction with seminar series)			
BOTN 699D	Spring 1992	1	1
BOTN 699P	Spring 1992	2	2
(Ecological Genetics)			
BOTN 684	Spring 1992	2	8
(Participant in Adv. Plant Phys. Lab)			
BIOL 106	Fall 1992	4	254
(team taught)			
BOTN 699D	Fall 1992	1	2
(Reading course)			
BOTN 211	Fall 1992	3	9
(Guest Lecturer, one 1 hour lecture)			
BOTN 411	Spring 1993	3	5
BOTN 414	Spring 1993	25	3
(Guest Lecture, three x 1 hour lectures)			
BOTN 699D	Fall 1993	1	2
(Reading course)			
BOTN 653	Spring 1994	3	6
(Ecological Genetics)			
BOTN 414	Spring 1994	25	3
(Guest Lecture, three x 1 hour lectures)			
BOTN 698D	Spring 1994	1	7
BOTN 698D	Fall 1994	1	14
(Plant-Pathogen Interactions- Team Taught)			
BOTN 699D	Fall 1994	2	1
BOTN 699D	Fall 1994	2	4
(team taught)			
BIOL 101	Spring 1995	3	193
(Introductory Biology for Non-Science Majors)			
BOTN 411	Spring 1995	3	9
PLT BIOL 379	Spring 1996	2	1
(Tutorial: The use of allozymes in evolutionary biology)			
PLT BIOL 445	Spring 1996	3	12
(Plant Evolution)			
PLT BIOL 745	Spring 1996	3	9
(Plant Ecological Genetics)			

PLT BIOL 699 Fall 1996 1 10
(Evolution of Floral Form)

PLT BIOL 379 Fall 1996 2 1
(Tutorial: Conservation Genetics)

PLT BIOL 445 Spring 1997 3 12
(Plant Evolutionary Biology)

Sabbatical Leave Fall 1997-Spring 1998

ZOOL 609 Fall 1998 2 1
(Tutorial: Readings in the Evolution of Development)

PLT BIOL 745 Fall 1998 3 2
(Plant Ecological Genetics)

On Leave to NTNU, Trondheim, Fall 1999-Spring 2001

BIOL 608 J Fall 2001 2 14
(Evolutionary Genetics)

CPS Fall 2001 1 23
(College Park Scholars)

BEES 608E Fall 2001 1 4
(BEES Seminar Course)

BSCI 222 Spring 2002 4 110
(Genetics)

College Park
Scholars Spring 2002 1 22

BIOL 608J Fall 2002 2 9
(Evolutionary Genetics)

BIOL 609 Fall 2002 1-2 8

BSCI 222 Spring 2003 4 124
(Genetics)

College Park
Scholars Spring 2003 1 14

BIOL 609 Spring 2003 1 3

BIOL 608J Fall 2003 2 2
(Evolutionary Genetics)

BSCI 222 Spring 2004 4 132
(Genetics)

BIOL 608J (Evolutionary Genetics)	Fall 2004	2	9
BEES 608A (Introduction to BEES Graduate Faculty)	Fall 2004	2	5
BSCI 222	Spring 2005	4	120
BIOL 608J (Evolutionary Genetics)	Fall 2005	3	4
BSCI 222 (Genetics)	Spring 2006	4	170
BEES 608J (Evolutionary Genetics)	Fall 2006	3	3
(One credit courses, 608 or 609, reflect readings in either Pollination Ecology or Evolutionary Genetics)			
Sabbatical leave Spring 2007-Fall 2007			
BEES 608J (Evolutionary Genetics)	Spring 2008	3	5
BSCI 370 (Evolution)	Fall 2008	3	90
BEES 608J (Evolutionary Genetics)	Spring 2009	3	5
BSCI 370 (Evolution)	Fall 2009	3	90
BEES 608J (Evolutionary Genetics)	Spring 2010	3	2
BSCI 370 (Evolution)	Fall 2010	3	100
BSCI 370 (Evolution)	Winter 2011	3	21
BSCI 370 (Evolution)	Summer 2011	3	20

BSCI 370 (Evolution)	Fall 2011	3	100
BEES 608	Fall 2011	1	11
BSCI 370 (Evolution)	Winter 2012	3	13
BSCI 370 (Evolution)	Summer 2012	3	18
BSCI 370 (Evolution)	Fall 2012	3	100
BEES 608 (Intro to Graduate School)	Fall 2012	1	11
BSCI 370 (Evolution)	Fall 2013	3	100
BEES 608 (Intro to Graduate School)	Fall 2013	1	12

ii. Courses taught at NTNU

Course	Semester	Credit	Enrollment
MNKBI 230 (Ecology 2, with 4 other lecturers)	Fall 1999	3	75
MBKBI 310 (Population Genetics)	Fall 1999	2	7
BO 430 (Advanced Plant Ecology)	Fall 1999	1	6
MBKBI 310 (Population Genetics)	Fall 2000	2	7
MNKBI 211 (Genetics, with 1 other lecturer)	Spring 2001	3	40
MNKBI 232 (Evolution, with 2 other lecturers)	Spring 2001	3	40

iii. Courses taught elsewhere

The University of Toronto, Guest Lecturer in Plant Population Genetics (1988 & 1989).
The University of Chicago, Graduate Teaching Assistant Introductory Biology, Plant Taxonomy, Field Ecology, Evolutionary Ecology (undergraduate and grad levels).
Amherst College, Undergraduate Teaching Assistant Neurobiology, Developmental Biology

5. Advising

a. Graduate Supervision

Note, no graduate students were mentored from 1996-2001 because I was either on sabbatical in Edinburgh, negotiating with NTNU over an offer, or at NTNU (1999-2001) with the option of returning to UMD. I decided not to recruit students during this time because of uncertainty as to where I would be located.

- Holly Williams (M.S., Spring 1995). Genetics and ecology of male sterility in *Chamaecrista fasciculata* (Leguminosae). Present Position: Instructor, Valencia Community College.
- Tanya Finney (M.S., Summer 1996). Ecological trade-offs associated with the evolution of flood tolerance in *Chamaecrista fasciculata* (Leguminosae).
Position after leaving lab: Ph. D. program University of California, Irvine.
- Richard Reynolds (Ph. D., May 2008, coadvised with M. R. Dudash). Pollinator specialization and the evolution of pollination syndromes in three closely related North American *Silene*. Position after leaving lab: Postdoctoral fellow at the University of Alabama, Birmingham, statistical genetics, now Asst. Professor at same institution
- Sylvana Martén-Rodriguez (Ph. D., December 2008, coadvised with E. Zimmer). Evolution of pollination and breeding systems of Antillean Gesneriaceae. Position after leaving lab: Postdoctoral fellow at the Smithsonian Institute, floral evolution, now Asst Prof. Inst. Ecology, Xalapa, Mexico.
- Abby Kula (Ph. D., May 2012), coadvised with M. R. Dudash. Quantifying context dependent outcomes of the interaction between *Silene stellata* and its nursery pollinator *Hadena ectypa*. Position after leaving lab: Post Doc College of William and Mary
- Sara Konkel (fourth year Ph. D. student), coadvised with M. R. Dudash. The reproductive biology of *Silene caroliniana*. Galludet Scholar. Advanced to candidacy.
- Frank Stearns (fourth year Ph. D. student). Quantifying mutation parameters on an adaptive landscape. Advanced to candidacy.
- Carolina Diller (fourth year Ph. D. student. Thesis topic: Evaluating patterns of floral variation within specialized and generalized pollination systems. Advanced to candidacy.
- Juannan Zhou (third year Ph. D. student) coadvised with M. R. Dudash and E. A. Zimmer. Thesis Topic: Natural selection, population genetics and trait diversification of *Silene stellata* and its pollinating seed predator *Hadena ectypa*. Advanced to candidacy.
- Andy Simpson (fourth year Ph. D. student) coadvised with Scott Wing Smithsonian

Institution. Thesis topic: Quantifying the assembly of fruit dispersal syndromes.
Advanced to candidacy.

b. Postdoctoral Supervision

Laura F. Galloway, Present Position: Professor, University of Virginia
Martha R. Weiss (with M.R. Dudash), Present position: Associate Professor,
Georgetown University.
Eric Nagy (with M.R. Dudash), Present position: Assistant Director Mountain Lake
Biological Station, University of Virginia.
Stanley Spencer, Present Position: Biological surveys consultant, Utah
Hans Stenøien, Present Position: Professor NTNU, Trondheim, Norway.
David Erickson, Present Position: Research Scientist at the Smithsonian Institute
Johanne Maad (coadvised with W. Scott Armbruster), Position after Postdoc: Global
Biodiversity Information Facility, Swedish Museum of Natural History, Stockholm.
Present position: High School Math Teacher, Dalarna, Sweden
Matt Rutter, Present Position: Associate Professor, College of Charleston
Joe Hereford, Present Position: Position after Postdoc: Post Doctoral Fellow, UMD.
Present position: Presidential Postdoc, UC Davis/Berkeley

c. Mentoring of High School Students and Undergraduates

Kathryn Fenster (High School Intern)
Will Dwyer (High School Intern)
Jason Klinofski (High School Intern)
Nenna Kalu (Undergraduate Research Assistant Program)
Arshon Parker-volunteer
Christi Jennings-volunteer (Undergraduate Research Assistant Program)
Bridgette Byers-volunteer (Undergraduate Research Assistant Program)
John Lee-volunteer
Yung Kum Chi-volunteer
Jason Denkevitz (Undergraduate Research Assistant Program)
Kalika Agrawal (Undergraduate Research Assistant Program)
Sruthi Kasuba (Undergraduate Research Assistant Program)
Laura Caputo (Undergraduate Research Assistant Program)
Chao Feng (Undergraduate Research Assistant Program)
Lev Vainshtein (Undergraduate Research Assistant Program)
Naveda Mahmood (Undergraduate Research Assistant Program)
Julie Cridland (Undergraduate Research Assistant Program)
Mara Sanchez (NSF REU), "Quantifying environmental effects on functional gender in
Silene virginica." (with M. R. Dudash)
Cynthia Hassler (NSF REU), "Determining the effectiveness of fluorescent dye as a
pollen analog in *Silene virginica*." (with M. R. Dudash)
Cynthia Hassler (NSF REU), "The role of hummingbird mediated selection on floral
morphology in *Silene virginica*." (with M. R. Dudash)
Chris Hardy (NSF REU), "Patterns of genetic variation in *Chamaecrista fasciculata*."

(Currently Asst. Professor at Millersville State University, Pennsylvania)
Colin Jones (NSF REU), "Levels of Heterozygosity in a breeding program"
(Currently employed by Maryland Department of Natural Resources)
Sadie Jernnagen (NSF REU), "The role of hummingbird mediated selection on floral morphology in *Silene virginica*." (with M. R. Dudash)
George Cheely (NSF REU), "The role of hummingbird mediated selection on floral morphology in *Silene virginica*." (with M. R. Dudash)
Peter Stevens (NSF REU), "The role of hummingbird mediated selection on floral morphology in *Silene virginica*." (with M. R. Dudash)
(Currently a graduate student at Cornell University)
Jeremy Ash (NSF REU), "The role pollinator mediated selection on floral morphology in *Silene stellata*." (with M. R. Dudash) (Currently a graduate student at Ohio State University)
Jody Westbrook (NSF REU), "The role of diurnal vs. nocturnal pollination in *Silene stellata*." (with M. R. Dudash) (Currently a graduate student at University of California, Berkely)
Chis Williams (NSF REU), "The role of hummingbird mediated selection on floral morphology in *Silene virginica*." (with M. R. Dudash) (Currently a graduate student at Georgetown University).
Sasha Rhodie (NSF REU), "Quantifying pollinator effectiveness in two species of *Silene*" (with M. R. Dudash).
Josh Pearl (special topics course), "Quantifying outcrossing rates in *Silene stellata*."
Ana Chuquin (NSF REU), "Quantifying outcrossing rates in *Silene caroliniana*," (with M. R. Dudash).
Roslyn Boateng (NSF REU), "Quantifying outcrossing rates in *Silene caroliniana*," (with M. R. Dudash).
Dean Castillo (NSF REU), "Conditional mutualism within a metapopulation context," (with M. R. Dudash).
Michael Davis, Work Study Student, Arabidopsis Mutation Technician
Yaw Amponash, Assistant for *Silene* Research with Michele Dudash
Paul Montalvo (Undergraduate Research)

d. Graduate Student Advisory Committees (in **Bold**, international faculty opponent or off campus committee)

Luis Mauro Rosa (UMCP, Botany), awarded Ph. D., Fall 1993
Grey Stirling (UMCP, Zoology), awarded Ph. D, Spring 1994
Gene Sattler (UMCP, Zoology), awarded Ph. D., Spring 1996
Douglas Fuller (UMCP, Geography), awarded Ph. D., Summer 1995
Thomas Henry (UMCP, Entomology), awarded Ph. D., Fall 1995
Man-Miao Yang (UMCP, Entomology), awarded Ph. D., Spring 1995
Mark Monaco (UMCP, MEES), awarded Ph. D., Fall 1995
Robb Brumfield (UMCP, Zoology), awarded Ph. D., Spring 1999
Patrik Waldmann, Lund University, Sweden, awarded Ph. D., 2000, Faculty

Opponent

Johanna Maad, Uppsala University, Sweden, awarded Ph. D., 2002, Faculty

Opponent

David Hyten (UMCP, Agronomy), awarded Ph. D., Fall 2006

Brian Davidson (UMCP, BEES), awarded M. S., Spring 2011

Ashley D. Choiniere, (UMCP, Animal and Avian Sciences, awarded M.S., Fall 2008

Kevin Barry (UMCP, BIOL, Ph.D. 2013)

Sverre Lundemo, NTNU, Norway, awarded Ph. D. 2010, Faculty Opponent

Wei Yuan, New York University, Ph. D. candidacy 2011, External Member

Karen A. Johnson, University of Tasmania, Australia, Faculty Opponent 2012, awarded Ph. D. 2012

Mani Shrestha, School of Biological Sciences, Monash University, Australia, Faculty Opponent 2013, awarded Ph. D. 2013.

Jason Berg (UMCP, BEES)

6. Awards and Honor

Best Student Paper Award (Ecological Section), presented by Bot. Soc. of Amer., 1988.

Strategic Program for Asthma Research: Recognition of top 1% of cited authors for journals in environment and ecology, 2009.

University of Maryland Research Leader (campus wide recognition of research contributions), 2010.

7. Current and Recent Collaborators (2001-present):

Douglas W. Schemske (Ph.D. Advisor), University of Washington

Kermit Ritland (Postdoctoral Advisor), University of British Columbia

Jon Agren, Uppsala University, Sweden.

Michael Alfaro, UCLA

W. Scott Armbruster, NTNU

David E. Carr, University of Virginia

Jeff Conner, Michigan State University

Pamela Diggle, University of Colorado

Michele Dudash, University of Maryland

David Erickson (postdoc), Smithsonian Institute

Richard Frankham, Macquarie University

Laura F. Galloway (postdoc), University of Virginia

Thomas Hansen, Florida State University

Lawrence Harder, Calgary University

Chris Hardy, Millersville University

Joe Hereford, postdoc, University of Maryland

Lena Heilman, University of Kansas

Shuang-Quan Huang, Wuhan University

Eric Imbert, Montpellier University

Amy Litt, New York Botanical Garden

Thomas Lenormand, CNRS, Montpellier
Qing-Jun Li, Chinese Academy of Sciences, Xishuangbanna Tropical Botanical Garden
John McKay, Colorado State University
Brian O'Meara, University of Tennessee
Matt Rutter (postdoc), College of Charleston
Outi Savolainen, Oulu University
Ruth Shaw, University of Minnesota
Frank Shaw, University of Minnesota
Larwence Skog, Smithsonian Institute
Stacey De Witt Smith, University of Nebraska
Peter Smith, Brown University
Hans Stenøien (postdoc), NTNU Vitenskapsmuseet
Peter Stevens, Missouri Botanical Garden
James Thomson, University of Toronto
Stephen Tonsor, University of Pittsburgh
Gunter Wagner, Yale University
Detlef Weigel, Max Planck Institute Developmental Biology
Paul Wilson, CSU, Northridge
Elizabeth Zimmer, Smithsonian Institute