C U R R I C U L U M V I T A E

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EDUCATION

Ph.D.	Cornell University	Ecology and Evolutionary Biology Minor Degree in Biometry (MA equivalent)	January 2005
M.S.	Humboldt State University	Ecology	May 1997
B.S.	University of Michigan	School of Natural Resources and the Environment	December 1991

RESEARCH INTERESTS

Integrative evolutionary ecology: phenotype evolution, gene x environment influences on phenotype, evolution by sexual and natural selection, role of adaptation in the evolution of reproductive isolation, behavioral reproductive isolation, patterns of genomic divergence in speciation, genetic and hormonal control of behavior and morphology, relationships between scales of analysis: individuals to populations

APPOINTMENTS

Associate Professor, Department of Ecology and Evolutionary Biology. University of Colorado, Boulder, Colorado. August 2014 – present.

Assistant Professor, Department of Ecology and Evolutionary Biology. University of Colorado, Boulder, Colorado. January 2008 – August 2014.

Postdoctoral Fellow, Council on Science and Technology and Department of Ecology and Evolutionary Biology, Princeton University, Princeton, New Jersey. September 2005 – December 2007

AWARDS & HONORS

2016	Elected Fellow, American Ornithological Society
2016	Invited Participant**,** Presidential Debate, Conference of the American Society of Naturalists, Asilomar, CA
2015	Elected co-chair (2017)/chair (2019): Gordon Conference on Speciation
2015	Faculty Sustainability Award, University of Colorado
2015	Invited Speaker: Gordon Conference on Speciation, Ventura California
2015	Storer Lecture: College of Biological Sciences, University of California, Davis

2014	Invited Speaker: National Evolutionary Synthesis Center, Evolutionary Synthesis, Past and Future. Durham, NC [closing symposium]
2013	Invited Plenary Address: Animal Behavior Society, 50th Anniversary Annual Meeting
2013	Invited Speaker: Genetics of Speciation, Cornell University: President's Symposium on Speciation, American Genetics Association, Cornell University
2013	Invited Participant, Catalysis Group on New Directions in Sexual Selection, National Evolutionary Synthesis Center
2012	National Science Foundation, CAREER award ($850,000)
2011	Elected Member, American Ornithologists' Union (lifetime)
2010	Alfred P. Sloan Foundation Research Fellowship Nomination
2010	Elected Member, Sigma Xi
2009	University of Colorado nomination for the Packard Fellows Program.
2005	Princeton University, Council on Science and Technology Postdoctoral Fellowship ($155,000), Fall 2005 to Fall 2008
2004	Cole Award for Best Published Paper as a Graduate Student, presented by the faculty of the Department of Ecology and Evolutionary Biology, Cornell
2003	American Association of University Women – American Fellowship ($20,000)
1998	National Science Foundation – Research Training Graduate Fellowship in Computational Biology ($75,000), fall 1998 to fall 2000

PUBLICATIONS

* = graduate student co-authors / + = postdoc co-authors / ** = undergraduate student co-authors that I have supervised or co-supervised

All publications from 2008 – present are part of my University of Colorado record

I. Empirical papers

*(manuscripts **in review** and **in revision** are listed at the end)*

1. Safran, R.J., Vortman, Y.* Jenkins, BR*, Hubbard, J.K.*, Wilkins, M.R.*, Wildrick, R.J.*, and A. Lotem. 2016.. Divergent sexual selection predicts phenotype differences among closely related populations. Evolution. *In press*
2. Mendelson TC, Fitzpatrick CL, Hauber ME, Pence CH, Rodríguez RL, Safran RJ, Stern CA, Stevens JR. Cognitive Phenotypes and the Evolution of Animal Decisions. Trends in Ecology and Evolution
3. Wilkins MR, Karaardıç, H, Vortman Y, Parchman TL, Albrecht T, Petrželkov A, Özkan, L, Pap P Hubbard JK, Hund AK, Safran RJ. Divergent sexual selection explains phenotypic differentiation among closely related barn swallow populations. Journal of Evolutionary Biology. *In press.*
4. Hubbard,JK, Hund, AK, Levin II, McGraw KJ, Wilkins MR, Safran RJ. The importance of cross-validation, accuracy, and precision for measuring plumage color: a comment on Vaquero-Alba et al. (2016). Auk, Ornithological Advances. *In press.*

5. Safran RJ, Scordato ESC, Wilkins MR, Hubbard, JK, Jenkins, BR, Albrecht T, Flaxman SM, Karaardıç H, Vortman Y, Lotem A, Nosil P, Pap P, Shen S, Chan, S-F, Parchman T, Kane NC. 2016, Genome-wide differentiation in closely related populations: the roles of selection and geographic isolation. Molecular Ecology. *In press.*
6. Wells, S, Safran RJ, Dale, J. 2016. Piecing together female extra-pair mate choice: females really do prefer more ornamented males. *In press.* Molecular Ecology
7. Huber G, Turbek S, Bostwick KS, Safran RJ. 2016. Comparative analyses reveal migratory swallows (Hirundinidae) have less pointed wings than residents. Biological Journal of the Linnean Society. *In press.*
8. Levin, I.I., Zonana, D. M., Fosdick, B.K., Song, S.J., Knight, R., and Safran. R.J. 2016. Stress response, gut microbial diversity, and sexual signals correlate with social interactions. Biology Letters 12: 20160352. http://dx.doi.org/10.1098/rsbl.2016.0352
9. Toews, DPL, Campagna, L., Taylor, SA, Balakrishnan, CN, Baldassarre, DT, Deane-Coe, PE, Harvey, MG, Hooper, DM, Irwin, DE, Judy, CD, Mason, NA, McCormack, JE, McCracken KG, Oliveros CH, Safran, RJ, Scordato, ESC, Stryjewski, KF, Tigano, A, Uy JAC, and Winger B. 2016. Genomic Approaches to Studying and Quantifying Avian Diversity. The Auk: Ornithological Advances. 133: 13-30.
10. Vitousek, MN, Tomášek, O., Albrecht, T, Wilkins, MR and Safran R.J. 2016. Signal Traits and Oxidative Stress: A Comparative Study Across Populations with Divergent Signals. Frontiers in Ecology and Evolution 4:56.doi: 10.3389/fevo.2016.00056 Invited Submission for a Special Theme Issue on Oxidative Stress.
11. Hubbard J.K.*, Jenkins B.R.*, and R.J. Safran. 2015. Quantitative genetics of plumage color: lifetime effects of early nest environment on a colorful sexual signal. Ecology and Evolution. 5: 3436-3449
12. Wilkins, M.R.*, Joseph, M.B., Hubbard, J.K.* and R.J. Safran. 2015. Multimodal signaling in the North American barn swallow: influences of intra- and intersexual selection on signal evolution. Proceedings of the Royal Society of London. 282: 20151574
13. Levin, IL+, Zonana DM*, Burt J, Safran RJ. 2015. Performance of Encounternet tags: field tests of miniaturized proximity loggers for use on small animals. PLoS ONE 10(9): e0137242.doi:10.1371/journal.pone.0137242.
14. Hund, A.K. *, Aberle, M.**, and R.J. Safran. 2015. Do parents alter provisioning rates across the nestling period in response to ectoparasites: an experimental test in the North American barn swallow Hirundo rustica erythrogaster. Animal Behavior 110: 187-196.
15. Vortman Y.*, Safran, R.J., Dor, R.+, and Lotem. A. 2015. Expression of multiple sexual signals by fathers and sons in the East-Mediterranean barn swallow: are advertising strategies heritable? PLoS ONE 10: e0118054.
16. Rodríguez RL, Araya–Salas M, Gray DA,Reichert MS, Symes LB, Wilkins MR, Safran RJ & Höbel G. 2015. How acoustic signals scale with body size: common trends in static allometry across diverse taxa. Behavioral Ecology 26: 168–177
17. Rathbun N., Grunst A., Grunst M., Hubbard J., Safran, R.J., Gonser R.A., and E.M. Tuttle. 2015. Quantitative Color Variation Within And Across Morphs Of The Polymorphic White-Throated Sparrow. Auk, Ornithological Advances 132:92-104
18. Scordato, E.S.C., and Safran R.J. 2014. Geographic variation in sexual selection and implications for speciation in the barn swallow. Avian Research 5:8

19. Safran, RJ and Vitousek MN. 2014. Ecological and evolutionary connections between morphology, physiology, and behavior Current Zoology 60: 736-738. Introduction to special theme issue put together by Safran and Vitousek

20. Vitousek MN, Zonana DM, Safran RJ. 2014. An integrative view of the signaling phenotype: Dynamic links between signals, physiology, behavior and social context. Current Zoology 60:739–754.

21. Vitousek, M.N, Jenkins, B.R., and R.J. Safran. 2014. Stress and success: individual differences in the glucocorticoid stress response predict behavior and fitness under high predation risk. Hormones and Behavior 66: 812-819.

22. Wildrick R.J.*, Jenkins B.R.*, Hubbard J.K.*, and R.J. Safran. 2014. Predictors of age-related reproductive performance: a longitudinal perspective. Behavioral Ecology and Sociobiology 68:1883–1892

23. Scordato, E.S.C., Symes, L.B., Mendelson, T.C., and Safran, R.J. 2014. The role of ecology in speciation by sexual selection: a systematic empirical review. Journal of Heredity. 14: 782–794. Invited as part of a special theme issue on the Speciation Continuum, organized by Dr. Kerry Shaw

24. Jenkins B.R.*, Vitousek M.N+, Hubbard J.K.* and R.J. Safran. 2014. An experimental analysis of the heritability of variation in glucocorticoid concentrations in a wild avian population. Proc. R. Soc. B 281: 20141302. http://dx.doi.org/10.1098/rspb.2014.1302

25. Wildrick, R.J.* and Safran R.J. 2014. Predictors of age-related reproductive performance: conceptual framework and synthesis. Ethology 120: 411-426.

26. Botero, C.A.B, Dor, R.+, McCain, C.M. and R.J. Safran. 2014. Environmental harshness ispositively correlated with intraspecific divergence in mammals and birds. Molecular Ecology 23: 259-268. Featured in News and Views, Molecular Ecology by Jason Weir http://onlinelibrary.wiley.com/doi/10.1111/mec.12606/abstract

27. Basey, J.M., Maines, A.P, Francis, C.D., Melbourne, B.M., Wise, S.M., Safran, R.J. and P.T. J. Johnson. 2014. Impact of a pre-lab, a write-to-learn post lab, and content reduction on evolution-based learning in an undergraduate plant biodiversity lab. Evolution: Outreach and Education 7:10

28. Jenkins B.R.*, Vitousek M.N+, and R.J. Safran. 2013. Signaling stress? An analysis of phaeomelanin-based plumage color and individual corticosterone levels at two temporal scales in North American barn swallows, Hirundo rustica erythrogaster. Hormones and Behavior 74: 665-672.

29. Vortman, Y.*, Dor, R.+, Lovette, I.J., Lotem, A., and R.J. Safran. 2013. Multiple signals and behavioral reproductive isolation in a diverging population. American Naturalist. 182:514-523.

30. Safran R.J., Scordato E.,Symes, L., Rodríguez, R. and T.C. Mendelson. 2013 Contributions of natural and sexual selection to the evolution of premating reproductive isolation: a research agenda. Trends in Ecology and Evolution 28: 643-650.

31. Uy, J.A.C. and Safran R.J. 2013. Multimodal signal divergence and speciation. Behavioral Ecology and Sociobiology 67: 1499-1511. Invited as part of a special issue on multimodal signaling.

32. Vitousek, M.N+, Stewart, R. A. and R.J. Safran. 2013. Signal colour drives seasonal oxidative damage and testosterone profiles in a songbird. Biology Letters 9: 20130539. Featured in Science Magazine's 'Editor's Choice' 20 September 2013

33. Seddon, N., Botero, C.A.B., Dunn, P.O., MacGregor, H., Rubenstein, D.R., Tobias, J.A., Uy, J.A.C., Weir, J., Whittingham, L.W., and Safran, R.J. 2013. Sexual selection accelerates the evolution of phenotypic divergence and reproductive isolation in birds. Proceedings of the Royal Society of London 280: 20131065.

34. Wilkins, M.R.*, Seddon, N., and R.J. Safran. 2013. The role of acoustic divergence in speciation. Trends in Ecology and Evolution. 28: 156-166. Featured with the cover photo.

35. Safran, R.J., Flaxman, S.M., Kopp, M., Irwin, D.E., Briggs, D., Evans, M.R., Funk, W.C., Gray, D.A. Hebets, E.A., Seddon, N., Scordato, E., Symes, L.B., Tobias, J.A., Toews, D.P.L., and Uy, J.A.C. 2012. A robust new metric of phenotypic distance to estimate and compare multiple trait differences among populations. Current Zoology 58: 423-436. Invited for Special theme Issue on Sexual Selection and Speciation

36. Dor, R.+, Safran, R.J., Vortman, Y.*, Lotem, A., McGowan, A.+, Evans, M., and Lovette I. 2012.Population genetics of migratory European (Hirundo rustica rustica) and sedentary East-Mediterranean (H. r. transitiva) Barn Swallows. Journal of Heredity 103:55-63.

37. Dor, R.+, Lovette, I.J., Safran, R.J., Billerman, S.M., Huber, G.H., Vortman, Y.*, Lotem, A., McGowan, A., Evans, M.R., Cooper, C.B., and Winkler, D.W. 2011 Low variation in the polymorphic clock gene Poly-Q Region despite population genetic structure across barn swallow (Hirundo rustica) populations. PLoS ONE 6(12): e28843.

38. Vortman, Y.*, Lotem, A., Dor, R.+, Lovette, I.J., and R.J. Safran. 2011. The sexual signals of the East-Mediterranean barn swallow (Hirundo rustica transitiva): evidence for geographic variation in patterns of signal-based reproductive performance. Behavioral Ecology 22:1344–1352.

39. Lifjeld, J.T., Kleven, O., Jacobsen F., McGraw, K.J., Safran, R.J. and Robertson, R.J. 2011. Age before beauty in barn swallows: an analysis of reproductive consequences in terms of morphological variation and age in male barn swallows. Behavioral Ecology & Sociobiology 65:1687–1697.

40. Billerman, S, G., Huber, R.J. Safran and I.J. Lovette. 2011. Population genetics of the recent transcontinental colonization of South America by breeding barn swallows. Auk 128:506-513.

41. Weiss, S.L., E.A. Kennedy, R.J. Safran, and K.J. McGraw. 2011. Signals of reproductive quality in females: female ornamentation predicts yolk antioxidants in striped plateau lizards. Journal of Animal Ecology 80: 519-527.

42. Safran, R.J., M.N. Vitousek+, M.E. Hauber, and C.K. Ghalambor. 2010. Sexual selection: a dynamic state of affairs. Trends in Ecology and Evolution. 25: 430-431.

43. Dor. R.*, Safran, R.J., Sheldon, F.H., Winkler, D.W., and Lovette, I.J. 2010. Phylogeny of the genus Hirundo and the Barn Swallow subspecies complex. Molecular Phylogenetics and Evolution 56: 409-418.

44. Safran, R.J., K.J. McGraw, K.M. Pilz, and S. Correa. 2010. Egg-yolk androgen and carotenoid deposition as a function of maternal social environment in barn swallows Hirundo rustica. Journal of Avian Biology. 41: 470-478.

45. Hubbard, J.*, Uy, J.A.C., Hauber, M.E., Hoekstra, H.E., and Safran, R.J. 2010. Vertebrate pigmentation: From genes to adaptive function. Trends in Genetics 26: 231-239. Featured with the cover photo.

46. Safran, R.J., K.J. McGraw, M.R. Wilkins*, J.K. Hubbard*, and J. Marling*. 2010. Positive antioxidant balance over the breeding season predicts reproductive performance in a wild bird. PLoS ONE 5(2) e9420.

47. Maguire, S.E.** and R.J. Safran. 2010. Paternity, ornamentation and patterns of parental care in the North American barn swallow. Journal of Avian Biology 41:74-82.

48. Tibbetts, E.A., and R.J. Safran.δ 2009. Co-evolution of badges of status and winter sociality in new and old world sparrows. Journal of Evolutionary Biology 22: 2376-2386. δBoth authors contributed equally. Featured with cover photo

49. Safran, R.J., J. Adelman, K.J. McGraw and M. Hau. 2008. Sexual signal exaggeration affects physiological state in a social vertebrate. Current Biology 18: R461-462. Rated by Faculty of 1000 as “Must Read”, highlighted in a Trends in Ecology and Evolution article.

50. Safran, R.J., K.M. Pilz, K.J. McGraw, S. Correa, and H. Schwabl. 2008. Maternal deposition of egg yolk androgens and carotenoids in barn swallows: Is allocation related to indicators of parental quality? Behavioral Ecology Sociobiology 62:427-438.

51. Safran, R.J., V.A.J. Doerr, P.W. Sherman, M.E. Doerr, S. M. Flaxman, and D. W. Winkler. 2007.Group breeding in vertebrates: linking individual and population-level approaches. Evolutionary Ecology Research 9: 1163-1185.

52. Doerr, E., Doerr, V.A.J., and Safran, R.J. 2007. Integrating delayed dispersal into broader concepts of social group formation. Behavioural Processes 76: 114-117.

53. Safran, R.J. 2007. Settlement patterns of female barn swallows across different group sizes: access to colorful males or favored nests? Behavioral Ecology and Sociobiology. 61: 1359-1368

54. C.R. Neuman**, R.J. Safran, and I.J. Lovette. 2007. Male tail streamer length does not predict paternity in a population of North American Barn Swallows. Journal of Avian Biology 38: 28-36.

55. Safran, R.J. 2006. Nest-Site Selection Decisions in Barn Swallows: What Predicts Reproductive Performance? Canadian Journal of Zoology 84: 1533–1539.

56. Safran, R.J., C.R. Neuman**, K.J. McGraw, and I.J. Lovette. 2005. Dynamic paternity allocation as a function of male plumage color in barn swallows. Science. 309: 2210-

2212. Featured with the cover photo and in "Science Magazine's News of the Week". Rated by Faculty of 1000

57. McGraw, K.J., R.J. Safran, and K. Wakamatsu. 2005. How feather colour reflects its melanin content. Functional Ecology 19:816-821.

58. Safran, R.J. 2004. Adaptive site selection rules and variation in group size of barn swallows: individual decisions predict population patterns. American Naturalist 164: 121-131.

59. Safran, R.J. and K.J. McGraw. 2004. Plumage coloration, not length or symmetry of tail-streamers, is a sexually selected trait in North American barn swallows. Behavioural Ecology 15: 455-461.

60. McGraw, K.J., R.J. Safran, M.R. Evans, and K. Wakamatsu. 2004. European barn swallows use melanin pigments to color their feathers brown. Behavioural Ecology 15: 889-891.

61. McGraw, K.J., K. Wakamatsu, S. Ito, P.M. Nolan, P. Jouventin, F.S. Dobson, R.E. Austic, R.J.Safran, L. Siefferman, G. Hill and R. Parker. 2004. You Can't Always Judge a Plumage Pigment by its Color: Carotenoid and Melanin Content of Yellow and Brown Feathers in Swallows, Bluebirds, Penguins, and Domestic Chicks. Condor 106:390-395.

62. Taft, O.W., M.A. Colwell, C.R. Isola, and R.J. Safran. 2002. Waterbird responses to experimental drawdown: implications for multispecies management of wetland mosaics. Journal of Applied Ecology 39: 987-1001.

63. Safran, R.J., M.A. Colwell, O.E. Williams and C.R. Isola. 2000. Foraging site selection by nonbreeding White-faced Ibis. Condor 102: 211-215.

64. Isola, C.R., M.A. Colwell, O.E.W. Taft, and R.J. Safran. 2000. Interspecific differences in habitat use of shorebirds and waterfowl foraging in managed wetlands of California's San Joaquin Valley. Waterbirds 23: 196-203.

65. Safran, R.J., C.R. Isola, M.A. Colwell, and O.E. Williams. 1997. Benthic invertebrates at foraging locations of nine waterbird species in managed wetlands of the northern San Joaquin Valley, California. Wetlands 17: 407-415.

66. Shuford, W.D., C.M. Hickey, R.J. Safran, and G.W. Page. 1996. A review of the status of the White-faced Ibis in winter in California. Western Birds 27: 169-196.

II. Invited commentaries (peer reviewed)

1. Vitousek, M.V.+, Dor, R.+, and **R.J. Safran**. Sexual signaling: climate carry-over. 2012 Current Biology R61-R63.
2. **Safran, R.J**. and M. Vitousek+. 2008. Evolutionary Biology: Arms Race in the Eye of the Beholder. Current Biology. 18: R734-736.
3. **Safran R.J**. and Hauber M.E. 2007. Evolutionary Biology: Variation Isn't Always Sexy. Current Biology 17: R368-R 370.
4. M.E. Hauber and **R.J. Safran**. 2006. Promiscuous fathers sire young that recognize true family. Current Biology 16: R797-R800.

III. Invited Encyclopedia articles (editor reviewed)

5. **Safran, R.J**. and Nosil, P.N. 2012. Speciation: The Origin of New Species. Nature Education Knowledge 3(3):17.
6. **Safran R.J.** 2010. Barn Swallows: Sexual and Social Behavior. In: Breed M.D. and Moore J., (eds.) Encyclopedia of Animal Behavior, volume 1, pp. 139-144. Oxford: Academic Press.

IV. Book Review (editor reviewed)

7. **Safran, R.J.** 2002. A Review of Bird Nests and Construction Behavior. Auk 119: 892-894.

In revision

1. Riesch, R, Gompert Z, Villoutreix R, Comeault A, Muschick M, Farkas T, Lucek K, Hellen E, Soria-Carrasco V, Lindtke D, Dennis S, **Safran RJ**, Feder J, Gries R, Crespi BJ, Gries G, and Nosil P. Ecological genomics uncovers relaxed and difficult aspects of speciation. Nature Ecology and Evolution

2. Vitousek MN, Jenkins BR, Hubbard JK, Kaiser SA, **Safran RJ**. An experimental test of the effect of brood size on glucocorticoid responses, parental investment, and offspring phenotype.

In review

1. Grunst, AS, Grunst, ML, Rathbun, NL, Hubbard, JK, **Safran, RJ**, Gonser, RA, Tuttle, EM. Phenotypic selection in a polymorphic species I: Disruptive selection on plumage coloration across genetically determined morphs. Animal Behavior.

RESEARCH GRANTS

<u>Awarded</u>

2016 **National Science Foundation** – IOS/Behavioral Processes. Doctoral Dissertation Improvement Grant, Amanda Hund. Summer 2016. **$19,831**

2016 **National Science Foundation** – DEB/Evolutionary Processes/Evolutionary Ecology/CAREER. REU for summer research. Summer 2016. **$17,952**

2016 **National Science Foundation** – DEB/Evolutionary Processes/Evolutionary Ecology/CAREER. RET for summer research. Summer 2016. **$34,549**

2014 **CU Innovative SEED grant competition.** Integrating behavior, engineering and mathematics: Applying modern network theory to social transmission of parasites. **$49,950 with Dr. Iris Levin (NSF postdoc fellow) and Dr. Juan Restrepo (CU, Applied Math)**

2014 **National Center for Evolutionary Synthesis**. Short-Term Visit: Sexual Selection, comparative synthesis (all costs covered for two one-week visits).

2014 **National Science Foundation** – DEB/Evolutionary Processes/Evolutionary Ecology/CAREER. REU for summer research. Summer 2014. **$12,100**

2013 **National Science Foundation/European Research Council** – Young Investigator/CAREER collaboration grant with Patrik Nosil (Sheffield Univ) *covers*

costs of collaborative meetings at Sheffield University and six month stay in the UK for entire family

2013 **Society for the Study of Organic Evolution**. Symposium on Sexual Selection and Speciation for 2014 annual meeting; with collaborator Dr. Maria Servedio (Univ North Carolina) **$9,000** for travel and registration costs for symposium participants

2013 **National Science Foundation, Postdoctoral Fellowship,** fellowship funding for Dr. Iris Levin. National Science Foundation Postdoctoral Research Fellowship in Biology (PRFB), Intersection of Biology and Math, Physical Science and Engineering 2014 – 2017. **$138,000**

2013 **National Science Foundation** – DEB/Evolutionary Processes/Evolutionary Ecology/CAREER. REU for summer research. Summer 2013. **$11,400**

2013 **National Evolutionary Synthesis Center**. Working Group Proposal. Evolutionary Perspectives on Decision-Making and its Population Consequences (PI) 2013 – 2014 (all costs covered).

2012 **National Science Foundation** – DEB/Evolutionary Processes/Evolutionary Ecology/CAREER: Isolation by Distance or Adaptation: The extent of population genomic differentiation that results from adaptive divergence in sexual signals and migratory behavior. PI: Safran (sole). 2012 – 2017. **$850,000**

2011 **National Center for Evolutionary Synthesis**. Short-Term Visit: Sexual Selection and Speciation, comparative synthesis (all costs covered).

2010 **National Center for Evolutionary Synthesis**: workshop on Comparative Phylogenetic Analysis with Carlos Botero and Liam Revell. (all costs covered)

2008 **National Center for Evolutionary Synthesis**: An Integrative Evolutionary Approach to Examine Sexual Selection as a Mechanism of Speciation. Lead PI with co-PI J. Albert Uy, Syracuse University. 2009 – 2011. (all costs covered)

2007 **Israel Science Foundation Research Grant** Function of Multiple Sexual Signals in the Mediterranean Barn Swallow *Hirundo rustica transitiva.* PI: Dr. Arnon Lotem, Tel-Aviv University. Collaborator. 2007 – 2012. **($250,000** USD)

2008 **National Science Foundation** – IOS/Research Initiation Grant The underlying behavior and genetics of phenotypic differentiation: geographic variation in the barn swallow species complex. Sole PI. 2008 – 2011. **($175,000**)

2007 **National Geographic Society**, Committee for Research and Exploration **($15,005**)

2006 National Science Foundation Travel Award to the North American Ornithological Congress, Veracruz, Mexico. October 2006 ($771)

2006 National Science Foundation Travel Award to International Society for Behavioral Ecology Meeting, Tours, France. July 2006 ($1,000)

2003 **National Science Foundation** –Doctoral Dissertation Improvement Grant **($7,579**)

2003, 2001, 2000 Cornell University Graduate School Travel Award ($1,800)

2003, 1999 American Ornithologists' Union – Travel Grant ($1,000)

2002 **American Museum of Natural History** – Chapman Award for Research **($1,200**)

2002, 2001, 2000 Sigma Xi – Grant in Aid of Research **($1,800**)

2001, 2000, 1999 Department of Ecology and Evolutionary Biology – Grant for Research **($1,800**)

2001 American Ornithologists' Union – Grant for Research **($1,300**)

2001 Animal Behavior Society – Grant for Research **($500**)

2001 Wilson Ornithological Society – Grant for Research **($500**)

2001 Purple Martin Conservation Association - Grant for Research **($500**)

1998 Student Presentation Prize: Annual Meeting of the Waterbird Society

1995 Frances Peacock Award – through the Cornell Lab of Ornithology and Garden Club of America - Funds for Research **($4,000**)

1995 Funds for Research – Humboldt County Chapter of the Audubon Society **($250**)

1995 Marin County Rod and Reel Club – Funds for Research **($1,500**)

University of Colorado – Internal Grants

a. For Research

2014 Innovative SEED Grant Program, $49,950
2010 Dean's Fund for Excellence, $700
2010 Chancellor's Fellowship for Postdoctoral Support in my lab $10,000
2009 CRCW Junior Faculty Development Award. An Integrative Approach for Understanding the Underlying Physiology of Adaptive Morphological Variation in Barn Swallows. $5,000

b. For Student Research

2016 UROP Team Grant for summer field research, phenotype ($3000) and gene expression ($3,000) research
2015 UROP Team Grant for summer field research, phenotype ($3000) and social network ($2,400) research
2014 UROP Team Grant for summer field research, phenotype ($3000) and parasite ($3000) research
2014 UROP Team Grant for molecular ($3000) and parasite ($3000) research
2013 BURST/BSI studentship for Michael Byars ($2,500)
2013 UROP independent research for Ryan Higgins ($2,400)
2013 UROP Team Grant for molecular ($3000) and parasite ($3000) research
2013 UROP Team Grant for summer field research ($2,400)
2013 BURST/BSI – Summer Studentships ($2,500 each to Francesca Navarette and Megan Miller)
2012 UROP Team Grant for lab ($3,000) and aviary ($3,000)
2012 UROP student assistantships ($800 each to Abdul Hussein, Hannah Burk and Anita Shiwach)
2013 UROP Student Grant for summer research (creative project; $2,500, Stephanie Hayden)
2012 BURST/BSI – Summer Studentships ($2,500 to Lauren Brooks)

2012 UROP independent research ($2,000 to Courtney van Der Linden)
2012 UROP independent research ($2,000, Martin Merz)
2012 UROP assistantship ($800, Matthew Aberle)
2012 UROP Team Grant for 2012 summer ($2,400)
2011 UROP Team Grant for 2011-2012 Academic Year ($3,000)
2011 UROP Independent Research Grant ($1,200 to Ian Harold)
2011 BURST/BSI – Summer Studentship x 3 (Audrey Tobin, Martin Merz, Stephen Alderfer(@$2,500 each), UROP Assistantship (Ian Harold, $800)
2010 UROP Team Grant for 2010-2011 academic year, $3,000
2010 UROP Assistantship Research Grant, Eric Lord, $800
2010 BURST/BSI – Summer Studentship for Tessa Warner, $2,500
2010 UROP/Two summer assistantships (Kate Gloeckner, $800/Rachel Wildrick, $2,000)
2009 UROP – Team Grant for 2009 – 2010, $2,400
2008 HHMI Fellowship for Connor Fitzhugh ($2,500) and Andrew Flynn ($2,500)
2008 BURST/BSI – Summer Studentship for Lori Fraser ($2,500)
2008 UROP Summer Assistantships (Connor Fitzhugh, $800/Andrew Flynn, $800

c. For Teaching

2014 ASSETT – equipment purchase for film course, **$4,412**

2012 The Exploratory Committee on Information, Communication, and Technology and the Steering Committee for Information, Communication, Journalism, Media, and Technology for new interdisciplinary course development plans with Professors Max Boykoff – ENVS and Beth Osnes – Theatre and Dance. **$8,000**

2011 EBIO – use of Student Fees for General Biology improvement **$4,800**

2011 ASSETT – equipment purchase for film course, **$3,600**

2011 EBIO – use of student fees for video equipment, **$1,700**

2010 ASSETT – equipment purchase for film course **$960**

2009 ATLAS new course development grant. **$6,000**

RESEARCH PRESENTATIONS & MEDIA COVERAGE

Invited Seminars

2016. Department of Ecology, Evolution and Conservation Biology, Columbia University.
2016. Department of Integrative Biology, Oregon State University. *Graduate Student invitation*
2016. Department of Fisheries and Wildlife. University of Idaho. *Graduate Student invitation*
2015. Department of Biological Sciences, Notre Dame.
2015. Keynote Speaker. Guild of Rocky Mountain Ecologists and Evolutionary Biologists.
2015. Department of Biology, Bowdoin College.
2015. Department of Ecology and Evolutionary Biology, Indiana University. *Graduate Student invitation*
2015. University of Colorado Medical School, Department of Reproductive Health, Denver, CO
2015. Invited Speaker, Gordon Conference on Speciation, Ventura, California.
2015. Department of Biological Sciences, University of Wisconsin, Milwaukee
2015. Storer Lecture. College of Biological Sciences, University of California, Davis
2015. Department of Ecology and Evolutionary Biology, University of California, Davis
2014. National Evolutionary Synthesis Center, Evolutionary synthesis, past and future. Durham, NC
2014. Department of Ecology and Evolutionary Biology, University of Connecticut

2014. Department of Ecology and Evolutionary Biology, 50th Anniversary Seminar Series, Cornell University
2014. Biology Centre of the Academy of Sciences, České Budějovice, Czech Republic
2014. Institute of Vertebrate Biology, Academy of Sciences, Czech Republic
2013. Department of Integrative Biology, University of Colorado, Denver
2013. Invited Talk, President's Symposium, American Genetic Society
2013. Invited Plenary Address, International Conference of the Animal Behavior Society
2013. Department of Biology, Dartmouth College (New Hampshire)
2013. Department of Biology, Queen's University (Ontario, Canada)
2013. Department of Biology, Miami University (Florida)
2012. Department of Biology, University of Arizona
2012. Department of Biology, University of Maryland, Baltimore County
2012. Department of Biology, University of Nebraska
2012. Department of Biology, University of Northern Colorado
2011. Department of Biology, Kansas State University, Manhattan
2011. University of Wyoming, Department of Biological Sciences, Laramie
2011. University of Colorado, Miramontes (Minority Arts & Sciences) Program, Boulder.
2010. Department of Biological Sciences, University of Colorado, Denver
2010. Department of Biology, University of North Carolina, Chapel Hill
2010. Biodiversity Research Centre, University of British Columbia
2009. Department of Biology, Virginia Tech.
2009. Seminar in Behavior and Conservation Science. Hunter College, New York
2009. Department of Biology, Colorado State Univ.
2008. Roger Tory Peterson Institute, Jamestown, New York.
2006. Department of Zoology, Tel-Aviv University, Department of Zoology.
2006. Department of Ecology and Evolutionary Biology University of Colorado, Boulder
2006. Department of Biological Sciences George Washington University
2005. Department of Ecology and Evolutionary Biology, Postdoctoral Group, Princeton University
2005. Department of Zoology/Edward Grey Institute of Ornithology, Oxford University, UK
2005. Max Planck Institute of Ornithology, Seeweisen, Germany.
2005. Department of Ecology and Evolutionary Biology, Cornell University
2004. Cornell Lab of Ornithology Lecture Series, Cornell University
2004. Department of Ecology and Evolutionary Biology, Queen's University, Canada

Conference Presentations
[*lead author in parentheses, # presentations/conference noted*]

2016. *Society for the Study of Evolution* (Austin, Texas). 3 talks (Safran, Scordato, Wilkins)

2016. *National Ornithological Societies of North America* (Washington, DC). 6 talks (Hund, Levin, Safran, Semenov, Turbek, Wilkins)

2016. *American Society of Naturalists* (Asilomar, CA). 5 talks (Hubbard, Hund, Levin, Scordato, Wilkins) 2 posters (Donahue, Zonana). Hund won best graduate student talk award.

2016. *Society for Integrative and Comparative Biology* (Portland, OR). Levin (talk)

2015 – *Conference on Communication and the Environment.* 1 invited talk on climate change "Using media to creatively communicate climate challenges" with Osnes and Boykoff

2015 – *Gordon Conference on Speciation*. 1 invited talk (Safran), 2 poster presentations (Scordato, Hund)

2015. *Society for Integrative and Comparative Biology* (West Palm Beach, FL). Levin (talk)

2014 - Joint international meeting: *National Ornithological Societies of North America* (Estes Park, CO), **6** contributed talks: 4 invited talks (Safran, Scordato, Hund, Levin), 2 contributed talks (Hubbard, Wilkins) and **1** poster presentation (Zonana)

2014 - *Society for the Study of Organic Evolution* (Raleigh, NC) **6** contributed talks (Wilkins, Hubbard, Hund, Uy, Symes, Safran), Co-organized special symposium on the role of Sexual Selection in Speciation which comprised 7 speakers.

2013 – *Congress for European Society for the Study of Evolutionary Biology* (Lisbon, Portugal) Environmental harshness predicts subspecies diversification in birds and mammals (Botero, McCain, Dor and Safran)

2013 – *President's Symposium, American Genetic Association* (Ithaca, New York). The role of divergent sexual selection in speciation, **invited speaker** (Safran)

2013 - *Animal Behavior Society* (Boulder, Colorado), **invited plenary speaker** (Safran)

2013 – *Animal Behavior Society* (Boulder, Colorado), **3** contributed talks (Wilkins, Hubbard, Hund)

2013 – *Society for the Study of Organic Evolution* (Snowbird, Utah) Environmental harshness predicts subspecies diversification in birds and mammals (Botero, McCain, Dor and Safran)

2012 – *International Society for the Study of Behavioral Ecology* (Lund, Sweden), Reproductive isolation through multiple sexual signals in a diverging barn swallow population (Vortman)

2012 – Joint international meeting: *National Ornithological Societies of North America* (Vancouver, Canada), **2** contributed talks (Safran, Vitousek), **5** contributed posters (Hubbard, Hund, Jenkins, Wildrick, Wilkins)

2012 – Joint international meeting: *Society for the Study of Organic Evolution/European Society for Evolutionary Biology* (Ottawa, Canada), **1** contributed talk (Safran), **1** contributed poster (Wilkins)

2012 – *Society for Integrative and Comparative Biology* (Charleston, SC)
Signal color drives seasonal oxidative stress and testosterone profiles in a songbird. Vitousek, M.N., Stewart, R.A., Safran, R.J.

2011 – *Ornithological Societies of North America* (Kearny, Nebraska) (**6**) Presentations by Safran, Hubbard, Wilkins, Flynn, Wildrick and Jenkins.

2011 - *Society for Integrative and Comparative Biology* (Salt Lake City, Utah) (**1**). Dynamics of physiology-trait relationships: implications for honest signal theory (Safran)

2010 - *International Society for Behavioral Ecology Congress*, (Perth, Australia) Measuring animal coloration in nature: A digital photography software tool and a new scoring method based on the RGB color model. (Vortman)

2010 – *Animal Behavior Society* (William and Mary College, MD) (**2**) Heritability of Melanin-based Color in North American Barn Swallows (Hubbard), Geographic variation in the song of the barn swallow, *Hirundo rustica,* (Wilkins)

2010 – *American Ornithologists' Union Conference* (San Diego, CA). Morphology of Melanosomes In Black, Brown and Grey Feathers (Shawkey)

2009 – *American Ornithologists' Union Conference* (University of Pennsylvania, Philadelphia) (**4**) First Author on 1 paper and co-author on 2 additional papers and 1 poster presentation

2008 – *International Society for Behavioral Ecology Congress*, (Cornell University, New York) (**3**) – First Author on 1 paper, co-author on 2 others.

2007 – *Animal Behavior Society* (University of Vermont, Vermont) Sexual signal elaboration increases testosterone levels in a highly social vertebrate (Safran)

2006 – *International Society for Behavioral Ecology Congress*, (Tours, France) (**2**) Adaptive Dynamics of Paternity Allocation (Safran), Age and Reproductive Performance in North American Barn Swallows (Kleven)

2006 – *National American Ornithological Congress* (Mexico) Geographic variation in the expression and function of mate choice signals. **Invited Symposium Speaker** (Safran)

2004 – *American Association of Field Ornithologists, Wilson Ornithological Society* (Cornell University, NY) Geographic differences in the function of sexual ornaments: plumage coloration, not tail-streamers, is a sexually selected trait in North American barn swallows (Safran)

2004 –*American Ornithologists' Union Conference* (Université Laval Québec, Canada) Is there a positive relationship between male tail-streamer length and paternity in a population of North American Barn Swallows? (Neuman)

2003 – *American Ornithologists' Union Conference* (University of Illinois) Geographic differences in the function of sexual ornaments: plumage coloration, not tail-streamers, is a sexually selected trait in North American barn swallows (Safran)

2002 – *Graduate Student Symposium* (Dept Ecology and Evolutionary Biology, Cornell) Individual decisions and population-level patterns: age-related female reproductive strategies and variation in group size of barn swallows *Hirundo rustica*. (Safran)

2001 – *American Ornithologists' Union Conference* (University of Washington, Seattle) Female Reproductive Strategies and Variation in Group Size of Barn Swallows: Individual-level Strategies and Population-level Patterns (Safran)

2000 – *Animal Behavior Society (Morehouse College, Atlanta, Georgia)* Individual dispersal decisions explain patterns of sociality in vertebrates. **Invited Symposium Speaker**, (Safran)

1998 – *American Ornithologists' Union Conference* (St. Louis, Missouri) Waterbird foraging locations in managed wetlands of California's Central Valley (Safran)

Media Coverage

- ***Features:*** Featured Scientist, Current Biology Q & A, August 2011, Science 'Editor's Choice', September 2013
- ***Press Releases*****:** Hundreds of national and international press coverage including press releases by AAAS, Reuters, the Associated Press, New York Times Syndicate, and Bloomberg News.
- ***Articles***: hundreds in print and on-line including New York Times Science Times, National Geographic (2), Science News, the Economist, LA Times, US News, London Telegraph, London Daily, Washington Post, LA Sun, Boulder Daily Camera
- ***Radio***: Over 20 interviews including international, national and local, e.g.: CBC Quirks and Quarks, coverage on various NPR programs including Voice of America
- ***Television Coverage***: CNN interview, Good Morning America, several local cable station interviews, featured scientist on PBS Nature series on Sexual Selection, April 2008 entitled: "What Females Want" and "What Males Will Do".

CU related coverage

- CU Science News, Fall 2008: http://www.youtube.com/watch?v=i3KAgBww8wA
- Undergraduate recruiting film (2009) http://www.youtube.com/watch?v=AjB6rSRSPLQ
- Undergraduate recruiting brochure "Find your Place" (2012, 2013)

TEACHING EXPERIENCE & QUALIFICATIONS

TEACHING-RELATED AWARDS

2008 **CU - ATLAS (Alliance for Technology, Leaning and Society).** Award for new course development. Global warming: science and expression through video-production and presentation. $6,000. In collaboration with Dr. Kendi Davies and Michael Liguori

2003 **Outstanding Graduate Teaching Assistant Award,** College of Agriculture and Life Sciences, Cornell University.

2003 **Excellence in Teaching Award** – Department of Ecology and Evolutionary Biology, Cornell University.

TEACHING & PROFESSIONAL DEVELOPMENT WORKSHOPS

I. Teaching Workshops - designed and taught/ Lead Organizer

University of Colorado

Summer 2014. Preparing to make the most of your conference. Summer 2014. Department of EBIO, CU, 2 hour workshop, 25 attendees. Co-organized by Safran and Dr. Stacey Smith.

Fall 2008. Achieving Your Goals in Graduate School. Fall 2008, Department of EBIO, CU 3-hour workshop; funded by LEAP; 25 attendees. Organized by Safran

Fall 2008. Work-Life Balance, Fall 2008, Department of EBIO, CU 3-hour workshop; funded by LEAP; 26 attendees. Organized by Safran

Cornell

Teaching Writing to Undergraduates. Cornell University. Fall 2004. Cornell Knight Writing Program.

II. Teaching Workshops - Attended:

CU

Science Education Initiative, Ecology and Evolutionary Biology teaching retreat, August 2012, 2013, 2014
Teaching Sustainability, Peak to Peak 2012 workshop, CU, August 2012
BURST: mentor training workshop, Summer 2010
FTEP: series workshops. Teaching on your first day. Fall 2008
LEAP: workshop for new faculty. Spring 2008.
FTEP: Videotape & Evaluation of Lecture, Spring 2009

Princeton

Assistant Professor Excellence Program. Various workshops. Fall 2005 – 2007.

Cornell

Excellence in Teaching: Graduate Teaching Assistant Training. Fall 2000.

III. Courses Taught

a. Courses Taught at CU

note: IR = instructor rating (out of 6 points) and CR = course rating (out of 6 points)

Fall 2011. The Ecology and Evolution of Physiological Stress University of Colorado, EBIO 6300 A graduate seminar co-taught with Dr. Maren Vitousek (n = 11 students) (did not do course evaluations as this was mainly a reading group)

Fall 2010. Grant Writing in EBIO. **EBIO 6300-001**, with Dr. Sam Flaxman. This graduate course focused on scientific proposal writing in the field of Ecology and Evolutionary biology with an emphasis on experimental design, statistics, hypothesis-testing, and broader impact statements. N = 19 students. ***CR =4.2, IR= 5.2***

Spring 2010. Physiological Dynamics of Sexual Signals. **EBIO 6300-005.** Co-taught graduate seminar with postdoc Dr. Maren Vitousek. N = 7 enrolled students plus several informal attendees.
CR = 5.0, IR = 5.5

Spring 2015. Population Genomics. **EBIO 6300-002.** Co-taught graduate seminar with Professors Sam Flaxman, Nolan Kane, Stacey Smith and Erin Tripp. N = 9 enrolled graduate students plus several informal attendees. ***CR = 6.0, IR = 5.8***

Fall 2009, 2010, 2011, 2012, 2013, 2014. Global Climate Change: the Art and Science of Information. **ATLS 3519/EBIO 4460**. Student produced and presented films on global climate change.

Fall 2009, CU (n = 10 students); With co-instructors Dr. Kendi Davies, Michael Liguori (media specialist). ***CR = 5.6, IR = 5.8.***

Fall 2010, CU (n = 20 students); With co-instructor Dr. Kendi Davies. ***CR = 5.6***, ***IR = 5.7***
Fall 2011, CU (n = 20 students); taught solo with undergraduate TA. ***CR = 5.5, IR = 5.4***
Fall 2012, CU (n = 20 students); taught solo with undergraduate TA. ***CR = 5.4, IR = 5.4***
Fall 2013, CU (n = 21 students); With co-instructor, Ph.D. candidate Tyler Jones, with undergraduate TA. ***CR = 5.6, IR = 5.8***
Fall 2014, CU (n = 19 students), taught solo with undergraduate TA. ***CR = 5.4, IR = 5.3***
Fall 2015, CU (n = 19 students), taught solo with undergraduate TA. ***CR = 5.7, IR = 5.4***

Funded by the Alliance for Technology, Learning and Society (ATLS).
See films at http://vimeo.com/cuebio/channels.

Fall 2008. Research Design in Ecology and Evolutionary Biology**. EBIO 5100.** Graduate level course, CU (n = 11 students). Students produced NSF Graduate Research Fellowship and Doctoral Dissertation Improvement Grants. ***CR = 5.7, IR = 6.0***

Spring 2008, 2009, 2010, 2012, 2013, 2014, 2015. General Biology **EBIO 1220.**
My part of the course focuses on Evolution and Human Physiology.
Spring 2008 (n = 562) section 003, ***CR = 3.3, IR = 2.9***, section 004, ***CR = 2.9, IR = 2.7***
Spring 2009 (n = 627) section 003, ***CR = 4.5, IR = 4.8***, section 004, ***CR = 4.9, IR = 5.3***
Spring 2010 (n = 665) section 003, ***CR = 4.5, IR = 5.0***, section 004, ***CR = 4.5, IR = 5.2***
Spring 2012 (n = 656) section 003, ***CR = 3.6, IR = 3.7***, section 004, ***CR = 4.4, IR = 4.8***
Spring 2013 (n = 643) section 003, ***CR = 4.5, IR = 4.9***, section 004, ***CR = 4.8, IR = 5.3***
Spring 2014 (n = 698) section 003, ***CR = 4.9, IR = 5.2***, section 004, ***CR = 4.9, IR = 5.3***
Spring 2015 (n = 604) section 003, ***CR = 4.9, IR = 5.3***, section 004, ***CR = 5.1, IR = 5.5***

b. Courses Taught at Princeton
General Biology. Majors course. EEB 211. Fall 2007, Princeton University (n = 155 students)

Statistical Analysis for Biologists. I designed and taught an undergraduate-level workshop on experimental design and statistical analysis, which included developing a tutorial run by 2 graduate students. Princeton University. Winter/Spring 2007

Dynamics of Living Systems. EEB 221. I co-taught an undergraduate-level integrative ecology/evolutionary biology course. Princeton University. Spring 2006 (n = 38 students)

c. Courses Taught at Cornell

***Evolutionary Biology*.** I designed and taught three separate writing-intensive courses in Evolutionary Biology. Cornell University. Spring 2001, 2003, 2005. (21 students per section)

IV. Student Training

a. Undergraduate Training at the University of Colorado
At CU, I have supervised/am supervising a total of **41** students, many of whom have pursued independent studies and received/are receiving CU funding for their research experiences.
Andrew Flynn (Spring 2008 – spring 2012, UROP, HHMI, honor's student, BA-MA student)
Connor Fitzhugh (Spring 2008 – Spring 2009, UROP, HHMI, graduated in Spring 2009)
Lori Fraser (Spring 2008, Fall 2008 (BURST)
Rachel Wildrick (Spring 2009 – present, UROP, independent study honor's student, BA-MA student, Sigma Xi Undergraduate Research Award, van Ek Award)
Alexander Oesterle (Spring 2009 – Fall 2009)
Sally Voyles (Summer 2009, Independent Study, Fall 2009)
Kathy Chmiel (Summer 2009, Independent Study, Fall 2009)
Katherine Gloeckner (Summer and Fall 2010, Spring 2011, UROP, Independent study)
Tessa Warner (Summer 2010, BURST, independent study)
Haley Biddle (Summer 2010)
Eric Lord (Spring 2010 – Fall 2011, independent study)
Julie Marling (Summer 2008 – Spring 2010)
Courtney van der Linden (Fall 2010 – Spring 2011, Summer 2013, independent study)
Lindie Peckham (Fall 2010)
Ian Harold (Spring 2011 – spring 2013 UROP, independent study)
Stephen Alderfer (Spring 2011 – Spring 2013, BURST, independent study)
Audrey Tobin (Spring 2011- Spring 2012, BURST, independent study)
Martin Merz (Summer 2011 – Summer 2012, UROP)
Matt Aberle (Summer 2012 – spring 2014, UROP, NSF REU student, independent study, honor's thesis)
Caroline Glidden (Summer 2012 – spring 2013, work-study, independent study, honor's thesis 2013, summer 2013, NSF REU student)
Lauren Brooks (Summer 2012 – Spring 2013, UROP, independent study)
Abdullahi Hussein (Summer 2012 – Fall 2012, Spring 2013, UROP)
Allison Mitchell (Summer 2012 – Fall 2012 UROP)
Michelle Foreman (Summer 2012 – UROP, independent study)
Amanda Martone (Summer 2012 – Fall 2012, independent study)
Andrew Garcia (Summer 2012 – Fall 2013, independent study)
Chengxu Fan (Summer 2012 – Fall 2012)
Victoria Madden-Beatly (Summer 2012 – Fall 2012, Spring 2013, independent study)
Emily Burley (Fall 2012 – Fall 2013, independent study, work-study)
Zachary Dix (Spring 2013 – Fall 2013)

Francesca Navarette (Summer 2013 – BURST, Fall 2013 independent study, summer 2014, work- study)
Megan Miller (Summer 2013 – BURST, Fall 2013 independent study, summer 2014 – UROP grant)
Jessica Blair (Summer 2013, Fall 2013 independent study)
Ryan Higgins (Summer 2013 – Spring 2014)
Whitney Edgington (Spring 2013 – Fall 2014, independent study)
Ben Kim (Summer 2013, Fall 2013 and spring 2014– independent study)
David Barud (Fall 2013 – spring 2014)
Michael Byers (Fall 2013 – present/work study)
Holly D'Oench (Fall 2013 – spring 2014, independent study, summer NSF REU student)
Kyle Donahue (Spring 2014 – present, honor's student)
Rohit Rao (Spring 2014, Summer 2014 – NSF REU student)
Grant Bonesteele (Spring 2014 – present, independent study)
Travis Bildahl (Spring 2014 – Summer 2014, independent study)
Alexandra Haskell (summer 2014 – present, independent study)
Whitney Gabbert (summer 2014 – present, independent study)
Olivia Iannone (fall 2014 – present, independent study)
Emily Sheridan (spring 2014 – present, independent study)
Geoff Meyerhoff (fall 2013 – present, independent study)
Nick Richter (fall 2014 – present, independent study)
Genevieve Gaffigan (fall 2014 – present, independent study)
Ciara Green (spring 2014 – present, independent study)
John Ternest (fall 2014 – present, independent study)
Adian Goldie (fall 2014 – present, independent study)
Sean Race (spring 2015, independent study)
Kristen Vaccarello (fall 2014 – present, independent study)

b. High School Student
Monica Brandhuber: student from *New Vista High School* (Fall 2008 – Spring 2012), currently an honor's pre-vet student at Colorado State University

c. Graduate Students in my Lab
Matthew Wilkins: (PhD, Chair of Committee, Fall 2009 – spring 2014 **NSF Graduate Fellow**)
Joanna Hubbard: (PhD, Chair of Committee, Fall 2009 – fall 2014, **GTPI Fellow**)
Brittany Jenkins (MA, Chair of Committee, Fall 2010 - December 2012)
Rachel Wildrick (BA-MA; Chair of Committee, Fall 2009 - May 2013)
Andrew Flynn (BA-MA; Chair of Committee, Fall 2008 - May 2012)
Yoni Vortman (PhD, Tel-Aviv University; co-chair of Committee with Dr. Arnon Lotem, Fall 2009 – Fall 2013)
Amanda Hund (PhD, Chair of Committee, Fall 2011 - **NSF GK-12 Fellow**, **NSF Graduate Fellow**)
David Zonana (PhD, Chair of Committee Fall 2013 -) **National Evolutionary Synthesis Center Fellow**
Kyle Donahue (BA-MA; Chair of Committee, Fall 2012 – May 2016)
Sheela Turbek (PhD, Chair of Committee, Fall 2015 -) **NSF Graduate Fellow**

d. Graduate Committee Service
Completed: Clinton Francis (PhD 2010), Chrissy Mott (MA 2010), Rachel Egley (MA 2011), Michelle Ochomogo (PhD 2012), Catherine Driscoll (PhD 2014), Michael Rodriquez (MA 2014), Chelsea Cook (PhD 2015), Jennifer Wilkening (PhD 2015), Caitlin Kelly (PhD 2016), Ty Tuff (PhD 2016), Sierra Love Stowell (PhD 2016)

Active: Nathan Kleist (PhD), Helen McCreery (PhD), Silas Tittes (PhD) Chris Smith (PhD)

Committee Service - Other Universities. Gernot Huber (MS, Cornell University 2012), Tali Brodetzki (MS, Tel-Aviv University 2009), Nathan Rathbun (MS, Indiana State Univ 2009), Roslyn Dakin (PhD Queen's University, Canada, 2013), Laurel Symes (PhD Dartmouth Univ 2013), Akiko Matsuda (Max Planck Institute for Ornithology, current)

e. Postdoctoral Associates

Maren Vitousek: Max Planck Research Fellow, Chancellor's Fellow (summer 2008 – fall 2012), currently Assistant Professor, Department of Ecology and Evolutionary Biology, Cornell
Roi Dor (summer 2011 – summer 2012), currently assistant professor Tel-Aviv University, Israel
Cait Dmitriew: NSERC postdoctoral fellow (spring 2012 – spring 2014)
Elizabeth Scordato (fall 2012 -)
Iris Levin: NSF Graduate Fellowship (spring 2014 – summer 2016)

SERVICE

Professional Service

Primary Literature Peer-Reviews (currently: 20+ per year***)*:** The Auk: a Quarterly Journal of Ornithology, The American Naturalist, Animal Migration, Animal Behavior, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biology Letters, The Condor: an International Journal of Avian Biology, Current Biology, Ecology Letters, Evolution, Journal of Animal Ecology, Journal of Avian Biology, Diversity and Distributions, Functional Ecology, Ibis: the International Journal of Ornithology, the Journal of Field Ornithology, Proceedings of the Royal Society of London B, Proceedings of the National Academy of Sciences, Trends in Ecology and Evolution, Waterbirds, Wilson Journal of Ornithology

Elected Professional Society Councilor Member

Wilson Ornithological Society, 2010 - 2013
American Ornithologists' Union, 2014 -

Editorial Board:

The American Naturalist (2014 -)
Proceedings of the Royal Society of London, B (2012 -)
Wilson Journal of Ornithology (2012-)
The Auk: Ornithological Advances (2013 -)

Grant Panel Service:

National Science Foundation: Evolutionary Processes, Dissertation Improvement Grant Panel, Spring 2010.
National Science Foundation: Behavioral Processes, Research Grant Panel, Spring 2011.
National Science Foundation: Evolutionary Processes, Research Grant Panel, Fall 2012.

Grant Reviews*:*

National Science Foundation (Evolutionary Processes; CAREER, Behavioral Processes), Marsden Fund, Wellcome Trust, Graduate Women in Science, Czech Republic Science Foundation, Colorado Ornithological Society, National Geographic Society, Animal Behavior Society (Student Grant Awards 2010, 2011)

Textbook Reviews:

How Life Works, W.H. Freeman & Co. Publishers

American Ornithologists Union:

Student Award Committee (Fall 2006 to present)

Publication Committee (Fall 2008 to present)
Scientific Program Committee, Annual Meeting, 2014

***Society for the Study of Evolution*:**
Hamilton Award - (best student presentation award) Judge (2012)
American Society of Naturalists
Young Investigator Prize Committee (2014 -2017)

CU-EBIO Departmental Service:
1) Voting Committee (to revise voting rules related to new faculty hires). Spring 2008 – Fall 2009
2) Web Site Development Committee (Spring 2009 – Spring 2011)
3) EBIO – LEAP workshops for graduate students and postdoctoral students. Funded by NSF-LEAP program at CU. Evening workshops related to professional development and work/life balance issues (Fall 2008; continued for academic year 2009 - 2010)
4) Merit Evaluation Review Committee (EBIO Fall 2009 – Spring 2010)
5) Graduate Student Committee (EBIO, Fall 2009 – Spring 2010, Fall 2013 – Spring 2014)
6) General Biology Committee (EBIO, Spring 2008 – present)
7) Executive Committee (EBIO, Fall 2011 – Spring 2012, Fall 2014 -).
8) Job Search Committee (EBIO, Fall 2012): two positions in Evolutionary Biology (EBIO, Fall 2014): one position for Population Genomics.

CU-Campus Service:
1) Boulder Faculty Assembly. Elected Member: Diversity Committee. Spring 2008 – Spring 2011, second term, Fall 2011 – Spring 2012
2) Women's Leadership Group in association with LEAP (Leadership Education for Advancement and Promotion). Work with women faculty at CU to discuss and explore ways to support faculty, especially those with diverse backgrounds. Invited Member. Fall 2008 –
3) Elected Councilor, CU Chapter of Sigma Xi, Executive Board Summer 2011 – Summer 2012
4) Admitted student day participation (meet and greet with parents and admitted students; set up booth for EBIO with Professor Michael Breed) – Spring 2014
5) Admitted student day participation (meet and greet with parents and admitted students; set up booth for EBIO with Professor Andrew Martin) – Spring 2015
6) Graduate School Committee: Chancellor's Fellowship Committee

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AFFILIATIONS AND MEMBERSHIPS
The American Association of University Women, The American Ornithologists' Union, American Society of Naturalists, The Animal Behavior Society, Graduate Women In Science, The International Society for Behavioural Ecology, The National Geographic Society, the Society for the Study of Evolution, Sigma Xi

COLLABORATORS (last 12 months)
Tomas Albrecht (Charles University, Czech Republic), Carlos Botero (Washington University), Alex Buerkle (University of Wyoming, USA), Mark Hauber (Hunter College, USA), Nolan Kane (Univ Colorado, USA), Michael Kopp *(*Aix-Marseille University, France*),* Arnon Lotem (Tel-Aviv University, Israel), Christy McCain (University of Colorado, USA), Tamra Mendelson *(*University of Maryland, USA), Patrik Nosil (Sheffield, UK), Tom Parchman (University of Nevada, USA), Nathalie Seddon (Oxford University, UK), Maria Servedio (University of North Carolina, USA), Al Uy (University of Miami, USA)

BROADER IMPACTS

In Relation to Course on Climate Change and Film and endowment on creative climate communication

- Keynote Speaker: Conference on Controversial Topics in Biology (2015)
- Invited Panelist, 10th anniversary CIRES Center for Science & Technology Policy (2012)
- "Public Engagement in Science and Technology: when the stakes are high and debates are lively"
- Presentation on using film to teach climate change: UCAR 2010 Annual Members' Meeting Forum and 50th anniversary conference.
- Participation in Peak to Peak 2012 workshop on teaching sustainability at CU.
- Class visits at CU and Horizons K-8 school with students and their films (2009, 2010, 2011)
- End of term Public Film Festival on Climate Change (2009, 2010, 2011, 2012).
- The Art of Chasing Ice, a discussion of climate change communication with James Balog, co-organized with Professors Beth Osnes and Max Boykoff, CU (Macky Auditorium, April 2013, > 1,500 guests)
- Climate Wise Women, an interview and discussion with members of the Climate Wise Women Organization, a global platform for the promotion of Women's leadership on climate change; co-organized with Professors Beth Osnes and Max Boykoff (University Theatre, October, 2013, > 300 guests)
- An interview with Andrew Revkin, environmental journalist: a discussion of climate change communication with Andrew Revkin, co-organized with Professors Beth Osnes and Max Boykoff, CU (Macky Auditorium, April 2014, > 500 guests)
- Indigenous Women Speak about climate change: an evening with Winona LaDuke and Nani Chacone; co-organized with co-organized with Professors Beth Osnes and Max Boykoff (University Theatre, October, 2014, > 500 guests)

Outreach, Workshops, and Lectures

- Boulder County Audubon Society, Chapter Meeting Speaker, January 2012.
- Swallow Surveillance, outreach to private landowners associated with our research on barn swallows. End of season symposia of talks by myself and students Sept 2008, 2011
- Bus Birding exhibit and live banding demonstration at the swallow stop http://www.busbirding.societyrne.net/, Summer and Fall 2011.
- CU Natural History Museum, designed and co-executed a hand's on workshop for "All About Birds" Family Day, Fall 2011
- Horizons K – 8 Charter School, Boulder Colorado, Biodiversity and birds. Spring 2011.
- Boulder Journey School, Biodiversity and birds. Spring 2011.
- Public Lecture, Roger Tory Peterson Institute, Jamestown NY 2008
- Univ Colorado Biology Club, Invited Speaker: the Role of Sexual Selection in Speciation. 2009.
- CU Boulder Faculty Assembly, Elected to the Diversity Committee 2008 – 2010, and 2011
- American Association for University Women – many events 2003 –present
- Expanding Your Horizons - Hands on Workshops for Middle School Girls 2003 – 2005
- Lecture for the Public, Cornell Lab of Ornithology Monday Night Series, 2004