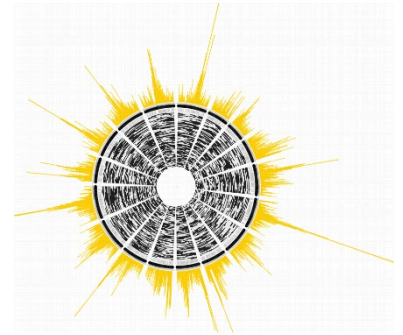


Nolan C. Kane

EBIO Department of Ecology and Evolutionary Biology (EBIO)
University of Colorado, Boulder, CO 80309, USA
cell: 206-200-0859 | office: 303-492-3726
email: nolan.kane@colorado.edu
website: <http://nkane.weebly.com/>



Positions

Associate Professor, University of Colorado, Boulder 2020-present.

Assistant Professor, University of Colorado, Boulder, 2013-2020.

Post-doctoral Fellow, University of British Columbia, Vancouver, Canada, 2008-2013.

Education

Ph.D. in Evolution, Ecology and Behavior, Indiana University in Bloomington. “Genetics and ecology of adaptation and speciation in *Helianthus*” with Loren H. Rieseberg, 2001-2007.

Sc. B. Biology, *magna cum laude*, Brown University, Honors dissertation on the genetics of flowering time evolution with Drs. J. Schmitt and L. Dorn, 1995-1999.

Awards and Fellowships

- 2018 Outstanding paper of the year for 2017, Crop Sciences Society, C08 Division, for the paper “Accelerating Silphium Domestication: An Opportunity to Develop New Crop Ideotypes and Breeding Strategies”
- 2013 Most cited paper in *Botany*, “Progress towards a reference genome for sunflower”
- 2008 Sigma Xi, Full Member
- 2002 NSF Evolution, Development and Genomics, IGERT fellowship
- 2001 NSF Graduate Research Fellowship
- 1999 Sigma Xi
- 1999 Phi Beta Kappa

RESEARCH

Grants

- 2020 Genomic Structural Variation in Sunflower. USDA. \$165,000 to CU.
- 2020 Understanding How Sunflower Soil Microbiome Impacts Resistance to Sclerotinia Stalk Rot. PI- Brent Hulke, USDA-ARS, Fargo, ND, and co-PIs Kane and Quandt, CU. \$70,694 to CU.
- 2019 Refining genomic tools for Sclerotinia resistance and agronomic breeding of sunflower – towards dissection of the resistance phenotype. Sclerotinia stalk rot. co-PI for genomics and bioinformatics PI-Brent Hulke, USDA-ARS, Fargo, ND, Total \$49,900, \$33,900 to CU.
- 2019 Understanding how sunflower soil microbiome impacts resistance to Sclerotinia stalk rot. co-PI for genomics and bioinformatics, PI- Brent Hulke, USDA-ARS, Fargo, ND, and co-PI Alisha Quandt, CU. \$73,964.
- 2018 Refining Genomic Tools for Sclerotinia Resistance and Agronomic Breeding of Sunflower-towards Dissection of the Resistance Phenotype. USDA#58-3060-8-019 \$45,014.00. co-PI for genomics and bioinformatics, PI- Brent Hulke, USDA-ARS, Fargo, ND.
- 2017 Using Genomic Selection (GS) to optimize Prediction of *Sclerotinia* Phenotypes for More Efficient Breeding. USDA #58-5442-4-021 A3. co-PI for genomics and

- bioinformatics, PI- Brent Hulke, USDA-ARS, Fargo, ND.
Total budget \$313,883 \$85,565 to CU
- 2016 Using Genomic Selection (GS) to optimize Prediction of *Sclerotinia* Phenotypes for More Efficient Breeding. USDA #58-5442-4-021 A2. co-PI for genomics and bioinformatics, PI- Brent Hulke, USDA-ARS, Fargo, ND. Total \$228,318, \$130,800 to CU
- 2016 *Silphium* of the future: developing resources and methods to cross the bridge from wild species to domesticated crop. sole PI. The Land Institute, a non-profit research organization based in Salina, KS. CU: \$250,500
- 2015 Using Genomic Selection (GS) to optimize Prediction of *Sclerotinia* Phenotype for More Efficient Breeding. USDA #58-5442-4-021 A1. co-PI for genomics and bioinformatics, PI- Brent Hulke, USDA-ARS. CU: \$53,898
- 2015 NSF Dimensions Award 1542629, Biodiversity Gradients in Obligate Symbiotic Organisms: A Case Study in Lichens in a Global Diversity Hotspot. co-PI for genomics and bioinformatics, PI E. Tripp, CU and co-PI C. McCain, CU, James Lendemer (PI, NYBG) \$1,795,204 total, CU: \$1,035,332
- 2014 Using Genomic Selection to optimize Prediction of *Sclerotinia* Phenotypes for More Efficient Breeding. USDA #58-5442-4-021. co-PI for bioinformatics and genomics, PI Brent Hulke, USDA-ARS. \$135,336 total, CU: \$61,750
- 2013 Genomic Investigation of Genetic Rescue in Natural Populations. Genomics co-PI, PI – Andrew Martin, CU Boulder. CU Seed Grant. CU: \$40,000
- 2009 Genome Canada, *Genome of Sunflower*. Genome Canada. Co-PI for bioinformatics. With PI L. Rieseberg, UBC, co-PI J. Burke, UGA, co-PI P. Vincourt, INRA. \$10,481,589

Patent applications

Pauli*, C., Clancy*, K., Vergara, A., D. and Kane, N.C. 2019. Method for differentiating cannabis plant cultivars based on cannabinoid synthase paralogs.

Publications h-index: 43 i10-index: 70 Total citations: 5216 Total papers: 111

* CU graduate student authors (28 total) ** CU undergraduate student authors (30 total)

Peer reviewed publications

92. Pogoda, C.S., Reinert, S., Talukder, Z.I., Attia, Z., Collier-Zans**, E.C., Gulya, T.J., Kane, N.C. and Hulke, B.S. 2020. Genetic loci underlying quantitative resistance to necrotrophic pathogens *Sclerotinia* and *Diaporthe* (Phomopsis), and correlated resistance to both pathogens. *Theoretical and Applied Genetics* 1-11.
91. Hamann, E., Pauli**, C.S., Joly-Lopez, Z., Groen, S.C., Rest, J.S., Kane, N.C., Purugganan, M.D. and Franks, S.J., 2020. Rapid evolutionary changes in gene expression in response to climate fluctuations. *Molecular Ecology*.
90. O'Hara, N. B., Franks, S. J., Kane, N. C., Tittes*, S., and Rest, J. S. 2020. Evolution of pathogen response genes associated with increased disease susceptibility during adaptation to an extreme drought in a *Brassica rapa* plant population.
89. Reinert, S., Price, J.H., Smart**, B.C., Pogoda, C.S., Kane, N.C., Van Tassel, D.L. and Hulke, B.S., 2020. Mating compatibility and fertility studies in an herbaceous perennial Aster undergoing de novo domestication to enhance agroecosystems. *Agronomy for Sustainable Development* 1-10.
88. Carter*, J.K., Innes*, P., Goebel*, A.M., Johnson**, B., Gebert*, M., Attia, Z., Gabani**, Z., Li**, R., Melie**, T., Dart**, C., Mares*, A., Greidanus**, C., Paterson**, J., Wall**, B.,

- Cortese**, G., Thirouin*, K., Glime*, G., Rutten*, J., Poyd**, C., Post*, E., Wall**, B., Elhadi**, A. A., Feldmann*, K., Danz*, A., Blanchard*, T., Amato**, S., Reinert, S., Pogoda, C. S., Scordato, E. S. C., Hund, A. K., Safran, R. J., **Kane, N. C.** 2020. Complete mitochondrial genomes provide current refined phylogenomic hypotheses for relationships among ten *Hirundo* species. *Mitochondrial DNA Part B* 2899-2903.
87. Kovalchuk, I., Pellino, M., Rigault, P., van Velzen, R., Ebersbach, J., Ashnest, J.R., Mau, M., Schranz, M.E., Alcorn, J., Laprairie, R.B. McKay, J.K., Burbridge, C. Schneider, D., Vergara, D., **Kane, N. C.**, and Sharbel, T. F. 2020. The Genomics of Cannabis and Its Close Relatives. *Annual Review of Plant Biology* 713-739.
86. Guidini, R., Reinert, S., Hulke, B., **Kane, N. C.**, Korah, M., Pogoda, C., Braun, N., Okello, P.N., Marek, L.F. and Mathew, F.M. 2019. Forty-one accessions have possible resistance to *Diaporthe gulyae* causing Phomopsis stem canker of sunflower (*Helianthus annuus*). *Plant Health* 2019.
85. Pogoda, C. S., Keepers, K. G., Stanley, J. T., and **Kane, N. C.** 2019. A CURE-based approach to teaching genomics using mitochondrial genomes. *CourseSource*.
84. Vergara, D., Huscher, E.L., Keepers, K.G., Givens, R.M., Cizek, C.G., Torres, A., Gaudino, R. and **Kane, N.C.** 2019. Gene copy number is associated with phytochemistry in *Cannabis sativa*. *AoB PLANTS* 11:plz074.
83. Reinert, S., Van Tassel, D.L., Schlautman, B., **Kane, N.C.** and Hulke, B.S., 2019. Assessment of the biogeographical variation of seed size and seed oil traits in wild *Silphium integrifolium* Michx. genotypes. *Plant Genetic Resources* 17:427-436.
82. Lendemer, J.C., Keepers, K.G., Tripp, E.A., Pogoda, C.S., McCain, C.M. and **Kane, N.C.**, 2019. A taxonomically broad metagenomic survey of 339 species spanning 57 families suggests cystobasidiomycete yeasts are not ubiquitous across all lichens. *American Journal of Botany* 106:1090-1095.
81. Keepers, K.G., Pogoda, C.S., White, K.H., Anderson Stewart, C.R., Hoffman, J.M., Ruiz, A.M., McCain, C.M., Lendemer, J.C., **Kane, N.C.** and Tripp, E.A., 2019. Whole genome shotgun sequencing detects greater lichen fungal diversity than amplicon-based methods in environmental samples. *Frontiers in Ecology and Evolution* 7:484.
80. Brown, P., Tan, A.C., El-Esawi, M.A., Liehr, T., Blanck, O., Gladue, D.P., Almeida, G.M., Cernava, T., Sorzano, C.O., Yeung, A.W. **Kane, N. C.** and Engel, M.S.. 2019. Large expert-curated database for benchmarking document similarity detection in biomedical literature search. *Database* 2019.
79. Hamsher, S. E., Keepers*, K. G., Pogoda*, C. S., Stepanek, J. G., **Kane, N. C.** , Kociolek, J. P. 2019. Extensive chloroplast genome rearrangement amongst three closely related *Halamphora* spp. (Bacillariophyceae), and evidence for rapid evolution as compared to land plants. *PLoS One* 14:e0217824.
78. Tripp, E. A., Morse, C. A., Keepers*, K. G., Stewart*, C. A., Pogoda*, C. S., White*, K. H., Hoffman, J. R., **Kane, N. C.** and McCain, C.M., 2019. Evidence of substrate endemism of lichens on Fox Hills Sandstone: Discovery and description of *Lecanora lendemeri* as new to science. *The Bryologist* 122:246-259.
77. Hulke, B. S., Markell, S. G., **Kane, N. C.**, and Mathew, F. M. 2019. *Phomopsis* stem canker of sunflower in North America: correlation with climate and solutions through breeding and management. *OCL*, 26:13.

76. Pogoda*, C. S., Keepers*, K. G., Nadiadi**, A. Y., Bailey**, D. W., Lendemer, J. C., Tripp, E. A. and **Kane, N. C.**, 2019. Genome streamlining via complete loss of introns has occurred multiple times in lichenized fungal mitochondria. *Ecology and Evolution*. 9:4245–4263.
75. Weiss-Lehman*, C., Tittes*, S., **Kane, N. C.**, Hufbauer, R. A. and Melbourne, B. A., 2019. Stochastic processes drive rapid genomic divergence during experimental range expansions. *Proceedings of the Royal Society B*, 286:20190231.
74. Streich*, S. P., Keepers*, K. G., Griffin, K. A., **Kane, N. C.**, and Martin, A. P. 2019. The complete mitochondrial genome of Gunnison’s prairie dog subspecies (*Cynomys gunnisoni gunnisoni*) and phylogenetic relationship within the genus *Cynomys*. *Mitochondrial DNA Part B* 4:397-398.
73. Hübner, S., Bercovich, N., Todesco, M., Mandel, J.R., Odenheimer, J., Ziegler, E., Lee, J.S., Baute, G.J., Owens, G.L., Grassa, C.J. Ebert, D.P., Ostevik, K.L., Moyers, B.T., Yakimowski, S., Masalia, R.R., Gao, L., Calic, I., Bowers, J.E., **Kane, N.C.**, Swanevelder, D.Z.H., Kuback T., Munos, S., Langlade, N.B., Burke, J.M., and Rieseberg, L.H. 2019. Sunflower pan-genome analysis shows that hybridization altered gene content and disease resistance. *Nature Plants* 5:54-62.
72. Pogoda*, C. S., Keepers*, K. G., Hamsher*, S. E. Stepanek**, J. G., and **Kane, N. C.** 2019. Comparative analysis of the mitochondrial genomes of six newly sequenced diatoms reveals group II introns in the barcoding region of *cox1*. *Mitochondrial DNA Part A*, 30:1-9
71. Stewart*, C.R.A., Lendemer, J.C., Keepers*, K.G., Pogoda*, C.S., **Kane, N.C.**, McCain, C.M. and Tripp, E.A., 2018. *Lecanora markjohnstonii* (Lecanoraceae, lichenized Ascomycetes), a new sorediate crustose lichen from the southeastern United States. *The Bryologist* 121:498-513.
70. Reinert, S., Money, K. L., Rockstad, G. B., **Kane, N. C.**, Van Tassel, D. L., and Hulke, B. S. 2018. Two contrasting laboratory methods improve *Silphium integrifolium* Michx. germination rate to agronomically acceptable levels. *Euphytica*, 214: 156.
69. Smith*, C. C. R., Flaxman, S. M., Scordato, E. S., **Kane, N. C.**, Hund*, A. K., Sheta, B. M., and Safran, R. J. 2018. Demographic inference in barn swallows using whole genome data shows signal for bottleneck and subspecies differentiation during the Holocene. *Molecular ecology* 27:4200-4212.
68. Smith*, C. C. R., *Tittes, S., Mendieta**, J. P., Collier-zans**, E., Rowe, H. C., Rieseberg, L. H. and **Kane, N. C.** 2018. Genetics of alternative splicing evolution during sunflower domestication. *Proceedings of the National Academy of Sciences* 115:6768-6773.
67. Brigham*, L. M., Allende*, L. M., Shipley**, B. R., Boyd**, K. C., Higgins**, T. J., Kelly*, N., Stewart**, C. A., Keepers*, K. G., Pogoda*, C. S., Lendemr, J. C., Tripp, E. A., and **Kane, N. C.** 2018. Genomic insights into the mitochondria of 11 eastern North American species of *Cladonia*. *Mitochondrial DNA Part B* 3:508-512.
66. Funk*, E.R., Adams*, A. A., Spotten**, S. M., **Van Hove, R. A., **Whittington, K. T., Keepers*, K. G., Pogoda*, C. S., Lendemer, J. C., Tripp, E. A., and **Kane, N. C.** 2018. The complete mitochondrial genomes of five lichenized fungi in the genus *Usnea* (Ascomycota: Parmeliaceae). *Mitochondrial DNA Part B* 3:305-308.
65. Pogoda* C.S., Keepers*, K.G., Lendemer, J.C., **Kane, N.C.** and Tripp, E.A., 2018. Reductions in complexity of mitochondrial genomes in lichen-forming fungi shed light on genome architecture of obligate symbioses. *Molecular ecology* 27:1155-1169.

64. Pisupati, R., Vergara, D., and **Kane, N.C.** 2018. Diversity and evolution of the repetitive genomic content in *Cannabis sativa*. *BMC Genomics* 19: 156.
63. Gao, Q.M., **Kane, N. C.**, Hulke, B.S., Reinert, S., *Pogoda, C., *Tittes, S. and Prasifka, J.R. 2018. Genetic architecture of capitate glandular trichome density in florets of domesticated sunflower (*Helianthus annuus* L.). *Frontiers Plant Science* 8:2227.
62. Semenov, G. A., Scordato, E. S., Khaydarov, D. R., *Smith, C. C., **Kane, N. C.**, and Safran, R. J. 2018. Effects of assortative mate choice on the genomic and morphological structure of a hybrid zone between two bird subspecies. *Molecular Ecology* 26:6430-6444.
61. Scordato, E.S., *Wilkins, M.R., Semenov, G., Rubtsov, A.S., **Kane, N.C.** and Safran, R.J., 2018. Genomic variation across two barn swallow hybrid zones reveals traits associated with divergence in sympatry and allopatry. *Molecular Ecology* 26:5676-5691.
60. Vergara, D., Bidwell, L.C., Gaudino, R., Torres, A., Du, G., Ruthenburg, T.C., deCesare, K., Land, D. P., Hutchison, K. E. and **Kane, N. C.** 2017. Compromised external validity: Federally produced *Cannabis* does not reflect legal Markets. *Scientific Reports* 7:46528.
59. Badouin, H., Gouzy, J., Grassa, C.J., Murat, F., Staton, S.E., Cottret, L., Lelandais-Brière, C., Owens, G.L., Carrère, S., Mayjonade, B., Legrand, L., Gill, N., **Kane, N. C.**, Bowers, J. E., Hubner, S., Bellec, A., Bérard, A., Bergès, H., Blanchet, N., Boniface, M., Brunel, D., Catrice, O., Chaidir, N., Claudel, C., Donnadiou, C., Faraut, T., Fievet, G., Helmstetter, N., King, M., Knapp, S. J. Lai, Z., Le Paslier, M., Lippi, Y., Lorenzon, L., Mandel, J. R., Marage, G., Marchand, G., Marquand, E., Bret-Mestries, E., Morien, E., Nambeesan, S., Nguyen, T., Pegot-Espagnet, P., Pouilly, N., Raftis, F., Sallet, E., Schiex, T., Thomas, J., Vandecasteele, C., Varès, D., Vear, F., Vautrin, S., Crespi, M., Mangin, B., Burke, J. M., Salse, J., Muñoz, S., Vincourt, P., Rieseberg L. H., and Langlade, N. B. 2017. The sunflower genome provides insights into oil metabolism, flowering and Asterid evolution. *Nature* 546:148-152.
58. Van Tassel, D.L., Albrecht, K.A., Bever, J.D., Boe, A.A., Brandvain, Y., Crews, T.E., Gansberger, M., Gerstberger, P., González-Paleo, L., Hulke, B.S. and **Kane, N.C.** 2017. Accelerating domestication: An opportunity to develop new crop ideotypes and breeding strategies informed by multiple disciplines. *Crop Science* 57:1274-1284.
57. Leff*, J. W., Lynch*, R. C., **Kane, N. C.**, and Fierer, N. 2017. Plant domestication and the assembly of bacterial and fungal communities associated with strains of the common sunflower, *Helianthus annuus*. *New Phytologist* 214:412-423.
56. Vergara, D., Baker**, H., Clancy**, K., Keepers*, K. G., Mendieta**, J. P., Pauli**, C. S., Tittes*, S. B., White*, K. H., and **Kane, N. C.** 2017. Genetic and genomic tools for *Cannabis*. *Critical Reviews in Plant Sciences* 35:364-377.
55. Lynch*, R.C., Vergara, D., Tittes*, S., White*, K., Schwartz, C.J., Gibbs, M.J., Ruthenburg, T.C., Land, D.P. and **Kane, N.C.** 2017. Genomic and chemical diversity in *Cannabis*. *Critical Reviews in Plant Sciences* 35:349-363.
54. Grassa, C. J., Ebert, D. P., **Kane, N. C.**, and Rieseberg, L. H. 2016. Complete mitochondrial genome sequence of sunflower (*Helianthus annuus* L.). *Genome Announcements* 4:e00981-16.



53. Safran, R. J., Scordato, E. S. C., Hubbard*, J. K., Jenkins, B. R., Albrecht, T., Flaxman, S. M., Pap, P., Shen, S., Chan, F., Parchman, T., and **Kane, N. C.** 2016. Genome-wide differentiation in closely related populations: the roles of selection and geographic isolation. *Molecular Ecology* 25: 3865–3883. (Cover photo)
52. Franks, S. J., **Kane, N. C.**, O'Hara, N. B., Tittes*, S., and Rest, J. S. 2016. Rapid genome-wide evolution in *Brassica rapa* populations following drought revealed by sequencing of ancestral and descendant gene pools. *Molecular ecology* 25:3622-3631. (From the cover)
51. Keepers*, K., Martin, A. P., and **Kane, N. C.** 2016. The complete mitochondrial genome of the Warm Springs pupfish, *Cyprinodon nevadensis pectoralis*. *Mitochondrial DNA Part A* 27:2349-2350.
50. White*, K. H., Vergara, D., Keepers*, K. G., and **Kane, N. C.** 2016. The complete chloroplast genomes of *Cannabis sativa* and *Humulus lupulus*. *Mitochondrial DNA Part B* 1:715-716.
49. Vergara, D., White*, K. H., Keepers*, K. G., and **Kane, N. C.** 2016. The complete chloroplast genomes of *Cannabis sativa* and *Humulus lupulus*. *Mitochondrial DNA Part A* 27:3793-3794.
48. Kantar, M. B., Sosa, C. C., Khoury, C. K, Castañeda-Álvarez, N. P., and **Kane, N. C.** 2015. Ecogeography and utility to plant breeding of the crop wild relatives of sunflower (*Helianthus annuus* L.). *Frontiers in Plant Science* 6:841.
47. Delmore, K. E., Hübner, S., **Kane N. C.**, Schuster, R., Andrew, R. L., Câmara, F., Guigó, R., Irwin, D. E. 2015. Genomic analysis of a migratory divide reveals candidate genes for migration and implicates selective sweeps in generating islands of differentiation. *Molecular Ecology* 24:1873-1888.
46. Baute, G. J., **Kane, N. C.**, Grassa, C. J., Lai, Z., Rieseberg, L. H. 2015. Genome scans reveal candidate domestication and improvement genes in cultivated sunflower, as well as post-domestication introgression with wild relatives. *New Phytologist* 206:830-838.
45. Whitney, K. D., Broman, K. W., **Kane, N. C.**, Hovick, S. M., Randell, R. A., Rieseberg, L. H. 2015. QTL mapping identifies candidate alleles involved in adaptive introgression and range expansion in a wild sunflower. *Molecular Ecology* 24:2194-2211.
44. Lynch*, R.C., Darcy*, J.L., **Kane, N. C.**, Nemergut, D.R., and Schmidt, S.K. 2014. Metagenomic evidence for metabolism of trace atmospheric gases by high-elevation desert Actinobacteria. *Frontiers in Microbiology* 5:698.
43. Tittes*, S., and **Kane, N. C.** 2014. The genomics of adaptation, divergence and speciation: a congealing theory. *Molecular Ecology* 23:3938-3940.
42. Marchand, G., Huynh-Thu, V. A., **Kane, N. C.**, Arribat, S., Varès, D., Rengel, D., Balzergue, S., Rieseberg, L. H., Vincourt, P., Geurts, P., Vignes, M., Langlade, N. B. 2014. Bridging physiological and evolutionary time scales in a gene regulatory network. *New Phytologist* 203:685–696.
41. Gill, N., Buti, M., **Kane, N. C.**, Bellec, A., Helmstetter, N., Berges, H., Rieseberg, L. H. 2014. Sequence-based analysis of structural organization and composition of the cultivated sunflower (*Helianthus annuus* L.) *Genome Biology* 3:295-319.
40. Bock, D. G., **Kane, N. C.**, Ebert, D. P, Rieseberg, L. H. 2014. Genome skimming reveals the origin of the Jerusalem Artichoke tuber crop species: neither from Jerusalem nor an Artichoke. *New Phytologist* 201:1021-1030.



39. Hodgins, K., Lai, Z., Oliveira, L., Still, D. W., Scascitelli, M., Barker, M., **Kane, N. C.**, Dempewolf, H., Kozik, A., Kesseli, R. V., Burke, J. M., Michelmore, R. W., Rieseberg, L. H. 2014. Genomics of Compositae crops: Reference transcriptome assemblies, and evidence of hybridization with wild relatives. *Molecular Ecology Resources* 14:166-177.
38. Natalia, L., Cossua, R. M., Barghinia, E., Giorania, T., Butia, M., Mascagnia, F., Gill, N., **Kane, N. C.**, Rieseberg, L., Cavallini, A. 2013. The repetitive component of the sunflower genome: comparative analyses using different approaches for assembling NGS reads. *BMC Genomics* 14: 686.
37. **Kane, N. C.**, Marek, L., Burke, J. M., Seiler G. and Rieseberg, L. H. 2013. Sunflower genetic, genomic and ecological resources. *Molecular Ecology Resources* 13:10-20. (Cover illustration)
36. Yang, J. Y., Scascitelli, M., Motilal, L. A., Sveinsson, S., Engels, J. M. M., **Kane, N. C.**, Dempewolf, H., Zhang, D., Maharaj, K., and Cronk, QCB. 2013. Complex origin of Trinitario-type *Theobroma cacao* (Malvaceae) from Trinidad and Tobago revealed using plastid genomics. *Tree Genetics and Genomes* 9:829-840.
35. Vines, T. H., Andrew, R. L., Bock, D. G., Franklin, M.T., Gilbert, K. J., **Kane, N.C.**, Kleynhans, E., Moore, J-S., Moyers, B. T. Renaut, S., Rennison, D. J., Veen, T. and Yeaman, S. 2013. Mandated archiving greatly improves access to research data. *FASEB* 27:1304-1308.
34. Bell, G. D. B., **Kane, N.C.**, Rieseberg, L. H., and Adams, K.L. 2013. RNA-seq analysis of allele-specific expression, hybrid effects, and regulatory divergence in hybrids compared with their parents from natural populations. *Genome Biology and Evolution* 5:1309-23.
33. Renaut, S., Grassa, C. J., Yeaman, S., Moyers, B. T., Lai, Z., **Kane, N. C.**, Bowers, J. E., Burke, J. M. and Rieseberg, L. H. 2013. Number and size of genomic islands of differentiation do not vary with geography of speciation. *Nature Communications* 4:1827.
32. Sveinsson, S., Gill, N, **Kane, N. C.**, and Cronk, Q. 2013. Transposon fingerprinting using low coverage whole genome shotgun sequencing in Cacao (*Theobroma cacao* L.) and related species. *BMC Genomics* 14:502.
31. Andrew, R. L., Bernatchez, L., Bonin, A., Carstens, B. C., Emerson, B. C., Garant, D., Giraud, T., **Kane, N. C.**, Rogers, S. M., Slate, J., Smith, H., Sork, V. L., Stone, G. N., Vines, T. H., Waits, L., Widmer, A., Rieseberg, L. H. 2013. A roadmap for molecular ecology. *Molecular Ecology* 22:2605-2626.
30. Andrew, R. L., **Kane, N. C.**, Baute, G. J., Grassa, C. J. and Rieseberg, L. H. 2013. Recent non-hybrid origin of sunflower ecotypes in a novel habitat. *Molecular Ecology*. 22:799-813.
29. Renaut, S., Grassa, C., Moyers, B., **Kane, N. C.** and Rieseberg, L.H. 2012. The population genomics of sunflowers and genomic determinants of protein evolution revealed by RNAseq. *Biology* 1:575-596.
28. Koziol, L., Rieseberg, L. H., **Kane, N. C.**, and Bever, J. D. 2012. Reduced drought tolerance results from trade-off against resource allocation towards growth and fecundity during domestication and the evolution of weediness. *Evolution* 66:3803-14.
27. Rieseberg, L. H., Blackman, B. K., Scascitelli, M., and **Kane, N. C.** 2012. On the origin of sunflowers: Fossils, genes, genomes, and hybridization. Proceedings of 18th International Sunflower Conference, 2012, Mar del Plata & Balcarce, Argentina.



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Editorials and other non-peer-reviewed scientific publications

20. Rieseberg, L., Warschefsky, E., O'Boyle, B., Taberlet, P., Ortiz-Barrientos, D., Kane, N.C. and

- Sibbett, B., 2021. Editorial 2021. *Molecular Ecology* 30.
19. Molecular Ecology Editorial Board. 2020. Sharing and reporting benefits from biodiversity research. *Molecular Ecology* 29:1.
 18. Rieseberg, L., Geraldes, A., Chambers, K. Belkin, K.E. and **Kane, N.** 2019. Editorial 2019. *Molecular Ecology*, 28:1-28.
 17. Rieseberg, L., Geraldes, A., Chambers, K. and **Kane, N.** 2018. Editorial 2018. *Molecular Ecology*, 27:1-34.
 16. Gray, H. B., Clancy**, K., Clarke, R. C deCesare, K., Fike, J., Gibbs, M. J., Grotenhermen, F., **Kane, N. C.**, Keepers*, K. G., Land, D., Lynch*, R. C., Mendieta**, J. P., Merlin, M., Müller-Vahl, K., Pauli**, C. S., Pearson, B. J., Rhan, B., Ruthenberg, T. C., Schwartz, C. J., Tittes*, S. B., Vergara, D., White*, K. H., Trigiano, R. N. 2017. Current and future needs and applications for *Cannabis*. *Critical Reviews in Plant Sciences*. 35:425-426.
 15. Rieseberg, L., Vines, T. and **Kane, N.** 2014. Editorial 2014. *Molecular Ecology* 23:1-15.
 14. Rieseberg, L., Vines, T. and **Kane, N.** 2013. Editorial 2013. *Molecular Ecology*, 22:1-14.
 13. Rieseberg, L., Vines, T. and **Kane, N.** 2012. Editorial 2012. *Molecular Ecology* 21:1-22.
 12. Rieseberg, L., Vines, T. and **Kane, N.** 2011. Editorial – 20 years of Molecular Ecology. *Molecular Ecology* 20:1-21.
 11. Geraldes, A. and **Kane, N. C.** 2010. Pushing north one bottleneck at a time: site frequency spectra tell the history of Sitka spruce. *Molecular Ecology* 19:3837–3839.
 10. Moyers, B. and **Kane, N. C.** 2010. Genetics of adaptation during colonization. *Molecular Ecology* 19:1270-1272.
 9. Rieseberg, L., Vines, T. and **Kane, N.** 2010. 2010 Editorial and Retrospective. *Molecular Ecology* 19:1-22.10.
 8. Hudson, M. E., and **Kane, N. C.** 2009. Plant genomes do a balancing act. *Molecular Ecology* 18:2743-2745.
 7. **Kane, N. C.** and King, M. 2009. Using parentage analysis to examine gene flow and spatial genetic structure. *Molecular Ecology*. 18:1551-1552.
 6. Rieseberg, L., Vines, T. and **Kane, N.** 2009. 2009 Editorial and Retrospective. *Molecular Ecology* 18: 1-13.
 5. **Kane, N. C.** and Baack, E. J. 2007. Hybridization and the origin of weedy rice. *Molecular Ecology* 16: 4423-4425.
 4. Ortiz-Barrientos, D. and **Kane, N. C.** 2007. The genetics of speciation. *Molecular Ecology* 16: 2852-2854.
 3. **Kane, N. C.**, Gross, B. L., and Rieseberg, L. H. 2006. Transgressive segregation (plant breeding). pp. 331-334 in “McGraw-Hill Yearbook of Science & Technology.” McGraw-Hill, New York.
 2. **Kane, N. C.** and Rieseberg, L. H. 2005. Maize genetics: The treasure of the Sierra Madre. *Current Biology* 15: R137-R139.
 1. **Kane, N. C.**, Gross, B. L., and Rieseberg, L. H. 2002. Book review: Hey, J. Genes, categories, and species - The evolution and cognitive cause of the species problem. *Plant Systematics and*

Patent applications

Pauli**, C. S., Clancy**, K. M., Vergara, D. and **Kane, N. C.** 2018. Provisional Patent Application. Method for differentiating *Cannabis* plant cultivars based on cannabinoid synthase paralogs. SR Ref. 2848B-274-PROV. CU TTO Ref. CU45238B-PPA1.

Presentations

Invited talks

44. Goebel, A. G., **Kane, N. C.**, Ostevik, K., Rieseberg, L. H., and Doak, D. 2019. Life stage-dependent selection maintains a unique subspecies in the face of gene flow. Spotlight talk. Evolution 2019, Providence, Rhode Island.
43. **Kane, N. C.** 2019. Genomic analysis explains discrepancies between common knowledge and the *Cannabis* medical literature. EEB Departmental seminar, Calgary, Canada.
42. **Kane, N. C.** 2019. The evolutionary importance of alternative splicing. Plant and Animal Genome Conference, San Diego, California.
41. **Kane, N. C.** 2018. Keynote Presentation: Plant Biology of Cannabis. Cannabis and Epilepsy Symposium, presented by the Epilepsy Foundation of Colorado. Denver, Colorado.
40. **Kane, N. C.** 2018. Implications of phytochemistry variations for interpreting human health studies on Cannabis. CUREACH symposium, CU, Boulder, Colorado.
39. **Kane, N. C.** 2017. *Cannabis* used in research does not reflect legal markets. CannMed 2017 conference, Harvard Medical School, Boston, Massachusetts.
38. **Kane, N. C.** 2017. *Cannabis* genetics, evolution and phytochemistry. Departmental Seminar. University of Northern Colorado, Greeley, Colorado.
37. **Kane, N. C.** 2017. *Cannabis* genetics, evolution and phytochemistry. Boulder Cannabis Industry Meetup, Boulder, Colorado.
36. **Kane, N. C.** 2017. Genetic regulation and evolution of alternative splicing changes during sunflower domestication. Plant and Animal Genome XXIII Conference, San Diego, California.
35. **Kane, N. C.** 2016. Alternative splicing evolution during sunflower domestication. Departmental Seminar. Colorado State University, Ft. Collins, Colorado.
34. **Kane, N. C.** 2015. The evolutionary impact of hybridization. Botany Departmental Seminar. University of Wyoming, Laramie, Wyoming.
33. **Kane, N. C.** 2015. Disease resistance and introgression. National Sclerotinia Initiative, St. Paul, Minnesota.
32. **Kane, N. C.** 2015. Genomic diversity of *Cannabis*. Plant and Animal Genome XXIII Conference, San Diego, California.
31. **Kane, N. C.** 2014. The origins of cultivated *Cannabis*. Cannabis Grand Cru. Aspen, Colorado.
30. **Kane, N. C.** 2014. The evolutionary importance of hybridization. Departmental Seminar. University of Arizona, Tucson, Arizona.
29. O'Hara, N.B., Franks S.J., **Kane, N.C.**, Tittes, S., Amidi-Abraham, G., Rest, J.S. Genomic

- signatures of rapid evolution in drought response and disease susceptibility in an annual plant, *Brassica rapa*. Society for Molecular Biology and Evolution, Puerto Rico.
28. **Kane, N. C.** 2014. Population genomic approaches shed light on the hybrid origins of modern sunflowers. 2nd Plant Genomics Congress, USA, St. Louis, Missouri.
 27. **Kane, N. C.** 2013. The role of hybridization during domestication and feralization. SMBE meeting, Chicago, Illinois.
 26. **Kane, N. C.** 2013. The evolutionary importance of hybridization. Colorado State University, Fort Collins, Colorado.
 25. **Kane, N. C.** 2013. The evolutionary importance of hybridization. University of Minnesota, St. Paul, Minnesota.
 25. **Kane, N. C.** 2013. The evolutionary importance of hybridization. University of Colorado, Boulder, Colorado.
 24. **Kane, N. C.** 2013. The evolutionary importance of hybridization. University of Nevada, Reno, Nevada.
 23. **Kane, N. C.** 2013. Hybridization and introgression associated with range expansion and invasion in sunflowers. Plant and Animal Genome XXI Conference, San Diego, California.
 22. **Kane, N. C.** 2013. Sunflower genome update. Plant and Animal Genome XXI Conference, San Diego, California.
 21. **Kane, N. C.** 2012. Hybridization and the origins of novelty. Iowa State University, Ames, Iowa.
 20. **Kane, N. C.** 2012. Hybridization and the origins of novelty. Washington State University, Pullman, Washington.
 19. **Kane, N. C.** 2012. Hybridization and the origin of novelty. University of Arkansas, Fayetteville, Arkansas.
 18. **Kane, N. C.** 2012. Hybrid origins of modern chocolate, cultivated sunflowers and several invasive plants. University of Connecticut, Storrs, Connecticut.
 17. **Kane, N. C.**, Grassa, C. J., Gill, N., Bowers, J., Berges, H., Gouzy, J., King, M. G., Bachlava, E., Langlade, N., Burke, J. M., Vincourt, P., Knapp, S. J., and Rieseberg, L. H. 2012. The sunflower genome and its evolution. Plant and Animal Genome XX. San Diego, California.
 16. **Kane, N. C.** 2011. Crop-wild hybridization is associated with evolution of weedy sunflowers. ESA, Austin, Texas.
 15. **Kane, N. C.**, Grassa, C., Andrew, R., Renaut, S., Rieseberg, L. H. 2011. Genetic underpinnings of divergence and adaptation in *Helianthus*. Symposium talk, Botany 2011, St. Louis, Missouri.
 14. **Kane, N. C.**, King, M. G., Rieseberg, L. H., Andrew, R. 2011. Gene flow, hybridization and adaptation in wild, domesticated, and weedy sunflowers. Symposium, International Botanical Congress, Melbourne, Australia.
 13. Rieseberg, L. H., **Kane, N. C.**, Andrew, R., Renaut, S., Scasitelli, M., Strasburg, J. 2011. The nature of species boundaries in plants. Keynote symposium, International Botanical Congress, Melbourne, Australia.
 12. **Kane, N. C.**, Grassa, C., Andrews, R. and Rieseberg, L. H. 2011. RAD sequencing in

- sunflowers: Genomics, evolution and ecology. 2011 RAD Sequencing symposium. Portland, Oregon.
11. **Kane, N. C.** 2011. Next-gen sequencing illuminates the nature of species and speciation. Boyce Thompson Institute, Ithaca, New York.
 10. **Kane, N. C.** 2011. Evolutionary genomics of adaptation and speciation in sunflowers. University of Vermont, Burlington, Vermont.
 9. Rieseberg, L. H., **Kane, N. C.** 2011. Physical mapping and sequencing of the sunflower genome. Oral presentation. Plant and Animal Genome XIX, San Diego, California.
 8. Rieseberg, L. H., **Kane, N. C.**, 2011. The nature of species boundaries in plants. Plant and Animal Genome XIX, San Diego, California.
 7. **Kane, N. C.** 2010. The sunflower genome and related genomic resources. J. Craig Venter Institute, Rockville, Maryland.
 6. **Kane, N. C.** 2010. Sequencing the sunflower genome. Oral presentation. Plant and Animal Genome XVIII, San Diego, California.
 5. Dlugosch, K. M., Lai, Z., **Kane, N. C.**, Mayrose, M. and Rieseberg, L. H. 2009. The evolution of genomic responses to stress in Compositae weeds. International Plant Molecular Biology Congress, St. Louis. Missouri.
 4. **Kane, N. C.** Barker, M. S. and Rieseberg, L. H. 2008. Molecular evolution across the Asteraceae: micro- and macroevolutionary processes. Plant and Animal Genome XVI, San Diego, California.
 3. **Kane, N. C.** and Rieseberg, L. H. 2006. The genetics of drought tolerance, salt tolerance, and weediness in *Helianthus annuus*. Plant and Animal Genome XIV, San Diego, California.
 2. **Kane, N. C.** 2006. Selective sweeps, gene flow and species boundaries in *Helianthus annuus*. AGA Symposium, Speciation Genetics, Vancouver, British Columbia.
 1. **Kane, N. C.** and Brunick, B. 2005. Analysis of phenotypic variation in sunflowers. Compositae genome meetings, Athens, Georgia.

Contributed talks and posters

37. Hamann, E., Pauli**, C. S., **Kane, N. C.**, Franks, S. J. Differential gene expression associated with rapid evolution to consecutive drought episodes in a *Brassica rapa* resurrection study. Talk. Evolution 2019, Providence, Rhode Island.
36. Pogoda*, C., **Kane, N. C.**, Keepers*, K., and Stanley, J. 2019. Mitochondrial Genomes as Tools for Teaching of Comparative Genomics and Evolution. Poster. Evolution 2019, Providence, Rhode Island.
35. Vergara, D. Huscher, E., Keepers*, K., Gaudino, R., **Kane, N.** 2019. When science becomes political: studying NIDA's Cannabis. Talk. Evolution 2019, Providence, Rhode Island.
34. Reinert, S., Corwin, J., Gao, Q., Prasifka, J, **Kane, N.**, Hulke, B. 2019. W342 Understanding the Role of Plant Genetics in Provisioning and Regulating Ecosystem Services: Two Examples in Sunflower. Plant and Animal Genome Conference, San Diego, California.
33. Vergara, D. Huscher, E., Keepers* K., Gaudino, R., **Kane, N.** 2017. Gene duplications associated with phytochemistry in *Cannabis sativa*. Talk. Evolution 2017, Portland, Oregon.

32. Semenov, G., Scordato, E., Khaydarov, D., Smith*, C., **Kane, N.**, Badyaev, A., Koblik, E., Red'kin, Y., and Safran, R. 2017. Assortative mate choice and maintenance of reproductive barriers: lessons from a phenotypically diverse avian species. Talk. Evolution 2017, Portland, Oregon.
31. Weiss-Lehman*, C., Tittes*, A., **Kane, N.**, Hufbauer, R., and Melbourne, B. 2017. Genetic signatures of adaptation and gene surfing in replicated biological range expansions. Talk. Evolution 2017, Portland, Oregon.
30. Tittes*, A., Hufbauer, R., **Kane, N.**, Melbourne, B., and Weiss-Lehman*, C. 2017. Surfing in pools of beetles: using replicated landscape experiments to disentangle signatures of selection and drift. Talk. Evolution 2017, Portland, Oregon.
29. Goebel*, A. Tittes*, S. and **Kane, N. C.** 2017. Population genomic study of adaptation and selection in a dune sunflower. Poster. Evolution 2017, Portland, OR.
28. Safran, R., Scordato, E. and **Kane, N. C.** 2016. Divergent phenotypes and their influence on genome-wide divergence in barn swallows. Talk. Evolution 2016, Austin, Texas.
27. Scordato, E., Safran, R., and **Kane, N. C.** 2016. Genomic basis of hybridization in two barn swallow contact zones. Spotlight session talk. Talk. Evolution 2016, Austin, Texas.
26. Franks, S.J., and **Kane, N. C.** 2016. Selection causes rapid genome-wide evolution in *Brassica rapa* following a climatic change. Talk. Evolution 2016, Austin, Texas.
25. Goebel*, A., **Kane, N. C.**, and Tittes, S. 2016. Studying adaptation of sunflowers in Great Sand Dunes National Park using genotyping-by-sequencing. Poster. Evolution 2016, Austin, Texas.
24. Keepers*, K., **Kane, N. C.**, and Martin, A. 2016. A Rescue in the Desert: Fitness in Inbred Fish Recovered After Admixture. Poster. Evolution 2016, Austin, Texas.
23. Collier-Zans**, E. and **Kane, N. C.** 2016. Recombination in the chloroplasts of the Andean subtribe Iochrominae (Solanaceae). Poster. Evolution 2016, Austin, Texas.
22. Franks, S.J., and **Kane, N. C.**, 2014. Genome-wide analysis reveals rapid genetic changes in natural *Brassica rapa* populations following drought. Evolution, Raleigh, North Carolina, June 23.
21. Grassa, C. J., Ebert, D. P., **Kane, N. C.** and Rieseberg, L. H. 2013. Cytoplasmic genomes of sunflowers: Assembly, evolution, structure, and function. Poster P0442. Plant and Animal Genome XXI. San Diego, California.
20. Baute, G. J., **Kane, N. C.**, Grassa, C. J., and Rieseberg, L. H. 2013. The genetics of domestication and improvement in sunflowers (*Helianthus annuus*). Poster P0444. Plant and Animal Genome XXI. San Diego, California.
19. Gill, N., **Kane, N. C.**, Berges, H., Burke, J. M., Vincourt., P., Knapp, S. J., and Rieseberg, L. H. 2012. A sequence-based physical map of the sunflower (*Helianthus annuus* L.) genome. Poster P0700. Plant and Animal Genome XX. San Diego, California.
18. Grassa, C. J., **Kane, N. C.**, Bowers, J., Knapp, S. J., Burke, J. M., and Rieseberg, L. H. 2012. Ultra- high density genetic map of sunflower. Poster P0701. Plant and Animal Genome XX. San Diego, California.
17. Andrew, R. L., **Kane, N. C.**, Grassa, C. J., Baute, G. J., and Rieseberg, L. H. 2012. Genome-wide patterns of divergence between sunflower ecotypes. Poster P0072. Plant and Animal Genome XX. San Diego, California.

16. **Kane, N. C.**, Whitney, K., Bonin, A. and Rieseberg, L. H. 2010. Genomics of invasiveness in *Helianthus*. Oral presentation. Evolution 2010, Portland, Oregon.
15. **Kane, N. C.** and Rieseberg, L. H. 2009. Genes under selection during domestication and adaptation in *Helianthus*. Oral presentation. Evolution 2009, Moscow, Idaho.
14. **Kane, N. C.** 2008. Chloroplast genome sequencing using Solexa and SOLiD. Oral presentation. Botany 2008, Vancouver, British Columbia.
13. **Kane, N. C.**, Barker, M. S. and Rieseberg, L. H. 2007. Molecular evolution across the Asteraceae: micro- and macroevolutionary processes. Oral presentation. ESEB meeting, Uppsala, Sweden.
12. Barker, M. S., **Kane, N. C.** and Rieseberg, L. H. 2007. Widespread paleopolyploidy across the Viridiplantae. Poster presentation. AGA meeting, Bloomington, Indiana.
11. Barker, M. S., **Kane, N. C.** and Rieseberg, L. H. 2007. Widespread paleopolyploidy across the Viridiplantae. Oral presentation. BSA meetings, Chicago, Illinois.
10. Barker, M. S., **Kane, N. C.** and Rieseberg, L. H. 2007. Widespread paleopolyploidy across the Viridiplantae. Poster presentation. MBE meetings, Halifax, Canada.
9. **Kane, N. C.** 2007. The evolution of agricultural weed ecotypes of *H. annuus*. Oral presentation. GSA 2007. UBC, Vancouver, Canada.
8. **Kane, N. C.** and Rieseberg, L. H. 2005. Selective sweeps reveal candidate genes for adaptation to drought and salt tolerance in *Helianthus annuus*. Oral presentation. Evolution 2005. Fairbanks, Alaska.
7. **Kane, N. C.** 2004. Selective sweeps, linkage disequilibrium, and speciation. Poster presentation. Evolution of Gene Regulation Minisymposium, Eugene, Oregon.
6. **Kane, N. C.** 2004. Documenting selective sweeps in wild sunflowers: genetics of adaptation. Oral presentation. IGERT seminar series, Indiana University, Bloomington, Indiana.
5. **Kane, N. C.**, Gross, B. L. and Rieseberg, L. H. 2003. Reconstructing the hybrid origins of *Helianthus deserticola*: selection experiments on the desert floor. Oral presentation. Evolution 2003, Chico, California.
4. **Kane, N. C.** 2002. Molecular evolution of genes in pathways. Poster presentation. Mini-symposium on the Microevolution of Development, Indiana University, Bloomington, Indiana.
3. **Kane, N. C.** 2001. Genetics of speciation and divergence in *Helianthus*. Poster presentation. Evolution of gene networks 2001 conference, Eugene, Oregon.
2. **Kane, N. C.**, Dorn, L. A. and Schmitt, J. 2000. Novel phenotypes for novel environments: responses to seasonal cues in *Arabidopsis* recombinant inbreds. Oral presentation. Evolution 2000, Bloomington, Indiana.
1. **Kane, N. C.**, Dorn, L. A. and Schmitt, J. 1999. Maternal environmental effects in *Arabidopsis* recombinant inbreds. Poster presentation. XVI International Botanical Congress, St. Louis, Missouri.

Selected popular press coverage

- August 26, 2019, *The Scientist* “DEA Again Promises to Improve Access to Marijuana for Research”
 June 11, 2018, *CU Boulder Today* “The sunflower's rapid evolutionary transformation”
 June 11, 2018, *Earth.com* “Evolution of sunflowers was fast-tracked by changes in their RNA”

June 12, 2018, *Rolling Stone* “How Mapping Marijuana DNA Could Change the Future of Pot”
February 9, 2018, *Science Daily* “When it comes to genes, lichens embrace sharing economy”
October 13, 2017, *CU Boulder Today* “Mapping the genetics of cannabis”
November 11, 2016. *Science Magazine* “Government pot is less potent than commercial pot, questioning dozens of scientific studies”
Fall 2016. *Boulder Magazine* “A map into uncharted territory”
February 17, 2016 *Colorado Arts and Sciences Magazine* “Greenhouses grow better students, biologists say”
January 12, 2015, *KUNC* “Hemp's Legality Has Stunted Research, But That's Starting To Change”
June 2015. *National Geographic* “Science Seeks to Unlock Marijuana’s Secrets” (Cover)
February 6, 2014. *Boulder Weekly* “Professor launches plan to map Cannabis genome”
February 10, 2014. *Daily Camera* “CU-Boulder prof pursues deepest-ever exploration of the *Cannabis* genome.” Front page, two photos, Sunday edition
January 14, 2010. *Science Daily* “Sunflower genome holds the promise of sustainable agriculture”
January 13, 2010. *Vancouver Sun* “Scientists seek sunflowers' secrets: Cracking the plant's DNA code could lead to food, energy improvements”

TEACHING AND MENTORSHIP

Undergraduate courses:

Transcriptomics EBIO 4460-10, University of Colorado, Spring 2019.
Evolution, EBIO 3080-001, University of Colorado, Spring 2014, 2015, 2017, 2019.
Genomics, EBIO 4460-020, University of Colorado, Fall 2013-2019.
Plant Evolution University of British Columbia, 2009.

Graduate courses

Evolutionary Genomics, EBIO 6300, University of Colorado, Spring 2015, Spring 2017.
Comparative Genomics, EBIO 6210, University of Colorado, Spring 2014.
Genomics, EBIO 5460-001, University of Colorado, Fall 2013-2016.

Short courses

Workshop *Next generation sequencing data in ecology and evolution*, Ottawa, 2012.

Postdoctoral mentoring

Daniela Vergara *Evolutionary genomics of Cannabis* (2014-)
Qingming Gao *Quantitative genetics for sunflower breeding and improvement* (2017-2018, now at Cibus - Pioneering precision gene-editing)
Stephan Reinert *Using genomic tools to domesticate a new species, Silphium integrifolium* (2017-)
Ryan Lynch *Major lineage diversification in Cannabis* (2015, now at: Boulder Hemp)
Cloe Pogoda *Genetics and evolution of sunflower disease resistance* (2018-)
Jared Stewart, *Genetic architecture of hydraulic performance and cold tolerance in the common sunflower; Helianthus annuus* (2019-)
Ziv Attia, *Using physiology and genomics to develop of a new, drought tolerant perennial crop species* (2019-)

Graduate students (primary mentor)

Peter Innes (IQ Biology 1-year fellowship, Title tbd, 2019-)
Kristin White *Evolution of separate sex chromosomes* (2015-)
April Goebel *The genetics of survival and adaptation during habitat restoration* (IQ Biology, 2-year fellowship, NSERC, 2-year fellowship, 2015-)
Kyle Keepers *Evolutionary genetics of lichens* (IQ Biology, 2-year fellowship, 2013-)
Cloe Pogoda *Genetic underpinnings of domestication and improvement in sunflower* (IQ Biology, 2-year fellowship, PhD, 2014-2018)
Ryan Lynch *Genomics of adaptation and diversification* (PhD, 2014-2015, now at: Boulder Hemp)
Silas Tittes *Predicting evolution and inferring its consequences* (2014-2019)

Graduate students (coadvised)

Chris Smith *Demography, genetics, and speciation* (IQ Biology, 2-year fellowship, NSF GRFP, 3-year fellowship, 2015-)

Graduate students committee member, CU

Blake Stevison (2014-2017)	Margaret Mitter (2015-2018, MS)
Katherine B. Wolfson (M.S., 2014-2015)	Eric Funk (2017-)
Jon Leff (2014-2017, PhD)	Amy Benefield (2017-)
E. L. "Abbey" Paulson (Ph.D., 2013-2016)	David Zonana (2015- 2019)
Marek Romášek (2014-2016)	Lara Vimarcatti (2014- 2019)
Robert Roscow (2014-2016)	Sean Streich (2015-2018, M.S., 2018- PhD)
Tobin Hammer (2014-2018 PhD)	Alexandra Alexiev (2016-)
Aaron Wacholder (2013-2017, PhD)	Chelsea Pretz (2016-)
Jared Stewart (2014-2017, PhD)	Carly Stewart (2016-)
Sierra Stowell (Ph.D., 2013-2016)	Kathryn Grabenstein (2016-)
Rachel E. Thayer, (2013-2017, PhD)	Katherine Feldman (2019-2020, M.S.)
Tophier Weiss-Lehman (2014-2017, PhD)	Katherine Kariatsumari (2020-)
Jack Darcy (2014-2017, PhD)	Lindsey Ray (2017-)

Graduate students committee member, other institutions

Anna Schwabe (University of Northern Colorado, 2016-2019)

Graduate student independent study:

Sean Streich (Spring 2017)
Carly Anderson (Spring 2017)
Kristin White (Spring 2017)
Javan Carter (Fall 2019)

Undergraduate independent study and/or UROP students

Sarah Michaud (Spring 2013)	Dane Grosvenor (Fall 2018-Spring 2019)
John "Pablo" Mendieta (2014-2015, UROP)	Tianna Meyers (Summer 2017-Fall 2017)
Brian Smart (Spring 2015)	Ayushi Sinha (Summer 2015)
Alyssa Countway (Spring 2017, Summer 2015)	Mathew Bell (Fall 2015)
Tyler Underwood (Spring 2015)	Halie Baker (Fall 2015-Fall 2016)
Allen DeHoff (Spring 2017-Fall 2017)	Christopher Pauli (Fall 2014-Spring 2017)
Surabhi Nair (Spring 2017, Summer 2017)	Kayla Clancy (Fall 2014-Spring 2016)
	Dustin Bailey (Fall 2018)

Caitlin Tiehen (Spring 2019)

Honors undergraduates, primary mentor:

Erin Collier-Zahns *Recombination in the Chloroplasts of the Florally Diverse Andean Subtribe Iochrominae (Solanaceae)*, (*summa cum laude* Fall 2015)

John Paul Mendieta *Transposable Element Abundance and Variability in 28 Different Species in the Family Solanaceae*, (*magna cum laude* Fall 2015)

Christopher Pauli *Differential mRNA Expression of Cannabis Treated with Colloidal Silver* (*summa cum laude* Spring 2017)

Dustin Bailey *Genetic tools for understanding and breeding new crops from wild relatives*. (*magna cum laude* Spring 2019)

Zachary Girard. *The Flowering Time Pathway and Related Genes in Hemp*. Expected Spring 2021.

Roy Rutherford. *Ecology, evolution, and population genetics of urban sunflowers in Colorado*. Expected spring 2021.

Honors Undergraduates, committee member:

Chiara Dart *Azacitidine and MCL1 inhibitors in combination may provide novel treatment for patients with melanoma*. *Magna cum laude* Fall 2020)

SERVICE

Scientific Journal Editorships

Senior Editor, <i>Molecular Ecology</i>	2015-present
Associate Editor, <i>Molecular Ecology Resources</i>	2015-present
Board of Advisors to the Editors, <i>New Phytologist</i>	2012-present
Advisory Board member, <i>Evolutionary Applications</i>	2011-present
Guest editor, <i>Plant Communications</i>	
Special Issue on Plant Evolutionary Adaptation	November, 2020
News and Views Editor, <i>Molecular Ecology Resources</i>	2009-2015
News and Views Editor, <i>Molecular Ecology</i>	2006-2015

Reviewer

American Journal of Botany, Annals of Botany, BAOJ Biotechnology, BMC Evolutionary Biology, BMC Genomics, Cannabis and Cannabinoid Research, Conservation Genetics, Evolution, Evolutionary Applications, Genetic Resources and Crop Evolution, Genetics, Genome Biology and Evolution, Helia, Journal of Applied Research on Medicinal and Aromatic Plants, Journal of Cell Biology and Genetics, Journal of Heredity, Journal of Molecular Evolution, Marine Genomics, Molecular Biology and Evolution, Molecular Ecology, Molecular Ecology Resources, Nature Communications, New Phytologist, Oecologia, Philosophical Transactions of the Royal Society, Plant Biology, PLoS One, Theoretical and Applied Genetics.

Grant reviewer

National Science Foundation, Israel Science Foundation

Professional Societies

Botanical Society of America, Ecological Society of America, Society for the Study of Evolution

Community service

- 2019 Judge, undergraduate poster session, EBIO Spring Symposium
2018-2019 Board of Directors of the Industrial Hemp Research Foundation
2015- Board member, Agricultural Genomics Foundation.
2014-2016 Science fair judge, Foothill Elementary, Boulder, CO.

Outreach

- 2014-2016. Yearly talks to 1-3 grade classrooms at Foothill Elementary, Boulder, CO.
2014. Public discussion “The future of Cannabis research at CU.” Boulder, CO.
2013. Public talk “Whole genome sequencing reveals the origins of modern chocolate”. Sigma Xi *Cafe Scientifique*, Boulder, Colorado.
2012. Full day, hands-on student workshop on “Next generation sequencing data in ecology and evolution”, sponsored by the Canadian Institute of Ecology & Evolution (CIEE) and Canadian Society for Ecology & Evolution (CSEE). July 11, 2012, Ottawa.
2011. Three exhibits on domestication and speciation in *Helianthus* and *Guizotia*, Beaty Biodiversity Museum, Vancouver.
2011. Blog article on the use of F_{st} vs Jost's D for population genetics on The Molecular Ecologist, <http://www.molecularecologist.com/>
2006. Lecture and discussion on domestication and speciation in sunflowers, Trout Creek public high school, Trout Creek, Utah.

Departmental service

- EBIO Executive Committee 2016-2017
EBIO graduate Committee 2015-2016
Curriculum Committee 2014-2016, 2019
Population Geneticist search committee 2014-2015
EBIO Greenhouse Committee 2018-
EBIO Merit Committee 2019-2020

University service

- IQ Biology graduate admissions committee 2014-2018
Biofrontiers Task Force 2013-2016
The BioFrontiers Next-Gen Sequencing Facility Advisory Board 2015-2019