

CURRICULUM VITAE

NAME

John McKay

ADDRESS

Bioagricultural Sciences and Pest Management
College of Agricultural Sciences

PHONE

(970) 491-5730

EDUCATION

2001 Ph D, University of Montana

1995 BS, SUNY Albany

ACADEMIC POSITIONS

2017-2018 - Associate Professor (College of Agricultural Sciences)

2016-2017 - Associate Professor (College of Agricultural Sciences)

2015-2016 - Associate Professor (College of Agricultural Sciences)

2014-2015 (College of Agricultural Sciences)

2012-2013 (College of Agricultural Sciences)

2011-2012 (College of Agricultural Sciences)

2010-2011 (College of Agricultural Sciences)

2009-2010 (College of Agricultural Sciences)

SABBATICALS

(2013) Wenner-Gren Sweden, One year sabbatical at Uppsala University.

OTHER POSITIONS

2012 - Present Visiting Professor, Evolutionary Biology Center, Uppsala University, United States.

2011 - Present Associate Professor, BSPM, Colorado State University, Fort Collins, CO, United States.

2006 - 2011 Assistant Professor, BSPM, Colorado State University, Fort Collins, CO, United States.

2005 - 2006 Project Scientist, Department of Plant Sciences UC Davis.

2002 - 2005 Postdoctoral Researcher, Agronomy and Range Science, UC Davis, Davis, CA.

PUBLISHED WORKS

Refereed Journal Articles

- Monroe, J. G., Allen, Z. A., Tanger, P., Mullen, J. L., Lovell, J. T., Moyers, B. T., Whitley, D., McKay, J. K. (2017). TSPmap, a tool making use of traveling salesperson problem solvers in the efficient and accurate construction of high-density genetic linkage maps. *BioData mining*, 10(1), 38., Peer Reviewed/Refereed
- Becker, S. R., Byrne, P. F., Reid, S. D., Bauerle, W. L., McKay, J. K., Haley, S. D. (2016). Root traits contributing to drought tolerance of synthetic hexaploid wheat in a greenhouse study. *Euphytica*, 207(1), 213-224., Peer Reviewed/Refereed
- Tanger, P., Vega-Sánchez, M. E., Fleming, M. B., Tran, K., Singh, S., Abrahamson, J. B., Jahn, C. E., Santoro, N., Naredo, E. B., Baraoidan, M., Danku, J. M.C., Salt, D. E., McNally, K. L., Simmons, B. A., Ronald, P. C., Leung, H., Bush, D. R., McKay, J. K., Leach, J. E. (2015). Cell Wall Composition and Bioenergy Potential of Rice Straw Tissues Are Influenced by Environment, Tissue Type, and Genotype. *BioEnergy Research*, 1-18., Peer Reviewed/Refereed
- Reuning, G. A., Bauerle, W. L., Mullen, J. L., McKay, J. K. (2015). Combining quantitative trait loci analysis with physiological models to predict genotype-specific transpiration rates. *Plant, cell & environment*, 38(4), 710-717., Peer Reviewed/Refereed
- Lovell, J. T., McKay, J. K. (2015). Ecological genetics of range size variation in *Boechera* spp.(Brassicaceae). *Ecology and evolution*, 5(21), 4962-4975., Peer Reviewed/Refereed
- Lovell, J. T., McKay, J. K. (2015). Ecological genetics of range size variation in *Boechera* spp. (Brassicaceae). *Ecology and evolution*, 5(21), 4962-75., Peer Reviewed/Refereed
- Lovell, J. T., Mullen, J. L., Lowry, D. B., Awole, K., Richards, J. H., Sen, S., Verslues, P. E., Juenger, T. E., McKay, J. K. (2015). Exploiting Differential Gene Expression and Epistasis to Discover Candidate Genes for Drought-Associated QTLs in *Arabidopsis thaliana*. *The Plant cell*, 27(4), 969-83., Peer Reviewed/Refereed
- Easlon, H. M., Carlisle, E., McKay, J. K., Bloom, A. J. (2015). Does low stomatal conductance or photosynthetic capacity enhance growth at elevated CO₂ in *Arabidopsis*? *Plant physiology*, 167(3), 793-9., Peer Reviewed/Refereed
- Shafer, A. B., Wolf, J. B., Alves, P. C., Bergström, L., Bruford, M. W., Brännström, I., Colling, G., Dalén, L., De Meester, L., Ekblom, R., Fawcett, K. D., Fior, S., Hajibabaei, M., Hill, J. A., Hoebel, A. R., Höglund, J., Jensen, E. L., Krause, J., Kristensen, T. N., Krützen, M., McKay, J. K., Norman, A. J., Ogden, R., Österling, E. M., Ouborg, N. J., Piccolo, J., Popović, D., Primmer, C. R., Reed, F. A., Roumet, M., Salmons, J., Schenekar, T., Schwartz, M. K., Segelbacher, G., Senn, H., Thaulow, J., Valtonen, M., Veale, A., Vergeer, P., Vijay, N., Vilà, C., Weissensteiner, M., Wennerström, L., Wheat, C. W., Zieliński, P. (2015). Genomics and the challenging translation into conservation practice. *Trends in ecology & evolution*, 30(2), 78-87., Peer Reviewed/Refereed
- Tanger, P., Vega-Sánchez, M., Fleming, M., Tran, K., Singh, S., Abrahamson, J., Jahn, C. E., Santoro, N., Naredo, E., Baraoidan, M., Danku, J., Salt, D., McNally, K., Leung, H., Ronald, P., Bush, D., McKay, J. K., Leach, J. E. (2015). Cell wall composition of rice straw varies among environments, varieties, and tissue types: impacts on bioenergy potential. *BioEnergy Research*., Peer Reviewed/Refereed
- Kenney, A. M., McKay, J. K., Richards, J. H., Juenger, T. E. (2014). Direct and indirect selection on flowering time, water-use efficiency (WUE, δ (13)C), and WUE plasticity to drought in *Arabidopsis thaliana*. *Ecology and evolution*, 4(23), 4505-21., Peer Reviewed/Refereed

- Lovell, J. T., Grogan, K. A., Sharbel, T. F., McKay, J. K. (2014). Mating system and environmental variation drive patterns of adaptation in *Boechera spatifolia* (Brassicaceae). *Molecular ecology*, 23(18), 4486-97., Peer Reviewed/Refereed
- Lasky, J. R., Des Marais, D. L., Lowry, D. B., Povolotskaya, I., McKay, J. K., Richards, J. H., Keitt, T. H., Juenger, T. E. (2014). Natural variation in abiotic stress responsive gene expression and local adaptation to climate in *Arabidopsis thaliana*. *Molecular biology and evolution*, 31(9), 2283-96., Peer Reviewed/Refereed
- Des Marais, D. L., Auchincloss, L. C., Sukamtoh, E., McKay, J. K., Logan, T., Richards, J. H., Juenger, T. E. (2014). Variation in MPK12 affects water use efficiency in *Arabidopsis* and reveals a pleiotropic link between guard cell size and ABA response. *Proceedings of the National Academy of Sciences of the United States of America*, 111(7), 2836-41., Peer Reviewed/Refereed
- Easlon, H. M., Nemali, K. S., Richards, J. H., Hanson, D. T., Juenger, T. E., McKay, J. K. (2014). The physiological basis for genetic variation in water use efficiency and carbon isotope composition in *Arabidopsis thaliana*. *Photosynthesis research*, 119(1-2), 119-29., Peer Reviewed/Refereed
- (2012). 2b-RAD: a simple and cost-effective method for genotyping on a genome-wide scale. *Nature Methods*, 9, 808-810., Peer Reviewed/Refereed
- (2012). Harnessing genomics for delineating conservation units. *Trends in Ecology and Evolution*, 27, 489-96., Peer Reviewed/Refereed
- (2012). The role of geography, climate and phenology in explaining genomic variation of *Arabidopsis thaliana*. *Molecular Ecology*, 22, 5512-29., Peer Reviewed/Refereed
- (2012). Variation and conservation of gene expression and physiological responses to soil drying stress among *Arabidopsis thaliana* accessions. *Plant Cell*, 24, 893-914., Peer Reviewed/Refereed
- (2011). Backcrossing provides an avenue for gene introgression from wheat to jointed goatgrass in the Great Plains. *Weed Science*, 59, 188-194., Peer Reviewed/Refereed
- (2010). Exploring genetic and expression differences between physiologically extreme ecotypes: comparative genomic hybridization and gene expression studies of Kas-1 and Tsu-1 accessions of *Arabidopsis thaliana*. *Plant, Cell and Environment*, 33, 1268-84., Peer Reviewed/Refereed
- (2010). Genetic variation in biomass traits among 20 diverse rice varieties. *Plant Physiology*., Peer Reviewed/Refereed
- (2010). Patterns of introduction and adaptation during the invasion of *Aegilops triuncialis* (Poaceae) into Californian serpentine soils. *Molecular Ecology*, 19, 5308-5319., Peer Reviewed/Refereed
- (2010). The role of adaptive trans-generational plasticity in biological invasions of plants. *Evol Appl*, 3, 179-192., Peer Reviewed/Refereed
- (2009). Multiple Origins Promote the Ecological Amplitude of Allopolyploid *Aegilops* (Poaceae). *Am J Bot*, 96, 1262-1273., Peer Reviewed/Refereed
- (2008). Ecological Genomics of Model Eukaryotes. *Evolution*, 62, 2953-2957., Peer Reviewed/Refereed
- (2008). Genetic variation in *Arabidopsis thaliana* for night-time leaf conductance. *Plant Cell Environ*, 31, 1170-1178., Peer Reviewed/Refereed

- (2008). Genetics of Drought Adaptation in Arabidopsis Thaliana Ii Qtl Analysis of a New Mapping Population, Kas-1 X Tsu-1. *Evolution*, 62, 3014-3026., Peer Reviewed/Refereed
- (2008). Herbivores and edaphic factors constrain the realized niche of a native plant. *Ecology*, 89, 754-762., Peer Reviewed/Refereed
- (2007). Adaptive versus non-adaptive phenotypic plasticity and the potential for contemporary adaptation in new environments. *Funct Ecol*, 21, 394-407., Peer Reviewed/Refereed
- (2006). Experimental verification of ecological niche modeling in a heterogeneous environment. *Ecology*, 87, 2433-2439., Peer Reviewed/Refereed
- (2006). Molecular evidence for adaptive radiation of *Micromeria Benth* (Lamiaceae) on the Canary Islands as inferred from chloroplast and nuclear DNA sequences and ISSR fingerprint data. *Mol Phylogenet Evol*, 41, 566-578., Peer Reviewed/Refereed
- (2006). Molecular evidence for an extreme genetic bottleneck during introduction of an invading grass to California. *Biol Invasions*, 8, 1355-1366., Peer Reviewed/Refereed
- (2005). "How local is local?" - A review of practical and conceptual issues in the genetics of restoration. *Restor Ecol*, 13, 432-440., Peer Reviewed/Refereed
- (2005). Identification and characterization of QTL underlying whole-plant physiology in Arabidopsis thaliana. *Plant Cell Environ*, 28, 697-708., Peer Reviewed/Refereed
- (2004). Latitudinal variation in genetic divergence of populations and the potential for future speciation. *Evolution*, 58, 938-945., Peer Reviewed/Refereed
- (2003). Genetics of drought adaptation in Arabidopsis thaliana. *Mol Ecol*, 12, 1137-1151., Peer Reviewed/Refereed
- (2002). Adaptive population divergence. *Trends Ecol Evol*, 17, 285-291., Peer Reviewed/Refereed
- (2002). Genetic population divergence. *Trends Ecol Evol*, 17, 501-502., Peer Reviewed/Refereed

Non-Refereed Journal Articles

- Fletcher, R. S., Mullen, J. L., Yoder, S., Bauerle, W. L., Reuning, G., Sen, S., Meyer, E., Juenger, T. E., McKay, J. K. Development of a next-generation NIL library in Arabidopsis thaliana for dissecting complex traits. *BMC Genomics* 14: 655., Not Peer Reviewed/Refereed
- Lowry, D. B., Logan, T. I., Santuari, L., Hardtke, C. S., Richards, J. H., DeRose-Wilson, L. J., McKay, J. K., Sen, S., Juenger, T. E. Expression QTL mapping across water availability environments reveals contrasting associations with genomic features in Arabidopsis thaliana. *The Plant Cell*, DOI 10.1105/tpc.113.115352., Not Peer Reviewed/Refereed
- Ågren, J., Oakley, C., McKay, J. K., Lovell, J., Schemske, D. Genetic mapping of adaptation reveals fitness trade-offs in Arabidopsis thaliana. *Proceedings of the National Academy of Scienc.*, Not Peer Reviewed/Refereed
- McKay, J. K., Lovell, J., Juenger, T., Michaels, S., Lasky, J., Platt, A., Richards, J., Yu, X., Sen, S. Protagonistic pleiotropy of FRIGIDA promotes adaptation and positive assortative mating. *Proceedings of the Royal*

- Mekonnen, M., Mullen, J. L., Seshadri, A., Assefa, Y., K., Byrne, P. F. Quantitative trait loci mapping for carbon isotope discrimination and root pulling force in canola (*Brassica napus* L.) under well-watered and dry conditions. *Euphytica.*, Not Peer Reviewed/Refereed
- Mojica, J. P., Mullen, J. L., Lovell, J. T., Monroe, J. G., Paul, J. R., Oakley, C. G., McKay, J. K. (2016). Genetics of water use physiology in locally adapted *Arabidopsis thaliana*. *Plant science : an international journal of experimental plant biology*, 251, 12-22., Not Peer Reviewed/Refereed
- Monroe, J. G., McGovern, C., Lasky, J. R., Grogan, K. A., Beck, J., McKay, J. K. (2016). Adaptation to warmer climates by parallel functional evolution of CBF genes in *Arabidopsis thaliana*. *Molecular ecology*, 25(15), 3632-44., Not Peer Reviewed/Refereed
- Zhu, M., Monroe, J. G., Suhail, Y., Villiers, F., Mullen, J. L., Pater, D., Hauser, F., Jeon, B. W., Bader, J. S., Kwak, J. M., Schroeder, J. I., McKay, J. K., Assmann, S. M. (2016). Molecular and systems approaches towards drought-tolerant canola crops. *The New phytologist*, 210(4), 1169-89., Not Peer Reviewed/Refereed
- Fletcher, R. S., Herrmann, D., Mullen, J. L., Li, Q., Schrider, D. R., Price, N., Lin, J., Grogan, K. A., Kern, A., McKay, J. K. (2016). Identification of Polymorphisms Associated with Drought Adaptation QTL in *Brassica napus* by Resequencing. *G3 (Bethesda, Md.)*, 6(4), 793-803., Not Peer Reviewed/Refereed
- Fletcher, R. S., Mullen, J. L., Heiliger, A., McKay, J. K. (2014). QTL analysis of root morphology, flowering time, and yield reveals trade-offs in response to drought in *Brassica napus*. *Journal of experimental botany*, eru423., Not Peer Reviewed/Refereed
- Reuning, G., Bauerle, W. L., Mullen, J. L., McKay, J. K. (2014). Combining quantitative trait loci analysis with physiological models to predict genotype specific transpiration rates. *Plant, Cell and Environment.*, Not Peer Reviewed/Refereed
- Enjalbert, J.-N., Zheng, S., Johnson, J. J., Mullen, J. L., Byrne, P. F., McKay, J. K. (2013). Brassicaceae germplasm diversity for agronomic and seed quality traits under drought stress. *Industrial Crops and Products*, 47, 176–185., Not Peer Reviewed/Refereed
- Enjalbert, J.-N., Zheng, S., Johnson, J. J., Mullen, J. L., Byrne, P. F., McKay, J. K. (2013). Brassicaceae germplasm diversity for agronomic and seed quality traits under drought stress. *Industrial Crops and Products*, 47., 176-185., Not Peer Reviewed/Refereed
- Ågrena, J., Oakley, C. G., McKay, J. K., Lovell, J. T., Schemske, D. W. (2013). Genetic mapping of adaptation reveals fitness tradeoffs in *Arabidopsis thaliana*. *Proceedings of the National Academy of Sciences of the United States of America*, 110(52), 21077-82., Not Peer Reviewed/Refereed
- Fletcher, R. S., Mullen, J. L., Yoder, S., Bauerle, W. L., Reuning, G., Sen, S., Meyer, E., Juenger, T. E., McKay, J. K. (2013). Development of a next-generation NIL library in *Arabidopsis thaliana* for dissecting complex traits. *BMC genomics*, 14, 655., Not Peer Reviewed/Refereed
- Lowry, D. B., Logan, T. L., Santuari, L., Hardtke, C. S., Richards, J. H., DeRose-Wilson, L. J., McKay, J. K., Sen, S., Juenger, T. E. (2013). Expression quantitative trait locus mapping across water availability environments reveals contrasting associations with genomic features in *Arabidopsis*. *The Plant cell*, 25(9), 3266-79., Not Peer Reviewed/Refereed
- Lovell, J. T., Juenger, T. E., Michaels, S. D., Lasky, J. R., Platt, A., Richards, J. H., Yu, X., Easlon, H. M., Sen, S., McKay, J. K. (2013). Pleiotropy of FRIGIDA enhances the potential for multivariate adaptation.

- Lasky, J. R., Des Marais, D. L., McKay, J. K., Richards, J. H., Juenger, T. E., Keitt, T. H. (2012). Characterizing genomic variation of *Arabidopsis thaliana*: the roles of geography and climate. *Molecular ecology*, 21(22), 5512-29., Not Peer Reviewed/Refereed
- Funk, W. C., McKay, J. K., Hohenlohe, P. A., Allendorf, F. W. (2012). Harnessing genomics for delineating conservation units. *Trends in ecology & evolution*, 27(9), 489-96., Not Peer Reviewed/Refereed
- Wang, S., Meyer, E., McKay, J. K., Matz, M. V. (2012). 2b-RAD: a simple and flexible method for genome-wide genotyping. *Nature methods*, 9(8), 808-10., Not Peer Reviewed/Refereed
- Des Marais, D. L., McKay, J. K., Richards, J. H., Sen, S., Wayne, T., Juenger, T. E. (2012). Physiological genomics of response to soil drying in diverse *Arabidopsis* accessions. *The Plant cell*, 24(3), 893-914., Not Peer Reviewed/Refereed
- Econopouly, B. F., McKay, J. K., Westra, P., Lapitan, N. L. V., Chapman, P. L., Byrne, P. F. (2011). Backcrossing Provides an Avenue for Gene Introgression from Wheat to Jointed Goatgrass (*Aegilops cylindrica*) in the US Great Plains. *Weed science*, 59(2), 188–194., Not Peer Reviewed/Refereed
- (2011). Linkage illuminates a complex genome. *Nature Biotechnology*, 29, 717-718., Not Peer Reviewed/Refereed
- Jahn, C. E., McKay, J. K., Mauleon, R., Stephens, J., McNally, K. L., Bush, D. R., Leung, H., Leach, J. E. (2011). Genetic variation in biomass traits among 20 diverse rice varieties. *Plant physiology*, 155(1), 157-68., Not Peer Reviewed/Refereed
- Meimberg, H., Milan, N. F., Karatassiou, M., Espeland, E. K., McKay, J. K., Rice, K. J. (2010). Patterns of introduction and adaptation during the invasion of *Aegilops triuncialis* (Poaceae) into Californian serpentine soils. *Molecular ecology*, 19(23), 5308-19., Not Peer Reviewed/Refereed
- Dyer, A. R., Brown, C. S., Espeland, E. K., McKay, J. K., Meimberg, H., Rice, K. J. (2010). The role of adaptive trans-generational plasticity in biological invasions of plants. *Evolutionary applications*, 3(2), 179-92., Not Peer Reviewed/Refereed
- Meimberg, H., Rice, K. J., Milan, N. F., Njoku, C. C., McKay, J. K. (2009). Multiple origins promote the ecological amplitude of allopolyploid *Aegilops* (Poaceae). *American journal of botany*, 96(7), 1262-73., Not Peer Reviewed/Refereed
- McKay, J. K., Stinchcombe, J. R. (2008). Ecological genomics of model eukaryotes. *Evolution; international journal of organic evolution*, 62(12), 2953-7., Not Peer Reviewed/Refereed
- McKay, J. K., Richards, J. H., Nemali, K. S., Sen, S., Mitchell-Olds, T., Boles, S., Stahl, E. A., Wayne, T., Juenger, T. E. (2008). Genetics of drought adaptation in *Arabidopsis thaliana* II. QTL analysis of a new mapping population, KAS-1 x TSU-1. *Evolution; international journal of organic evolution*, 62(12), 3014-26., Not Peer Reviewed/Refereed
- Christman, M. A., Richards, J. H., McKay, J. K., Stahl, E. A., Juenger, T. E., Donovan, L. A. (2008). Genetic variation in *Arabidopsis thaliana* for night-time leaf conductance. *Plant, cell & environment*, 31(8), 1170-8., Not Peer Reviewed/Refereed
- Lau, J. A., McCall, A. C., Davies, K. F., McKay, J. K., Wright, J. W. (2008). Herbivores and edaphic factors constrain the realized niche of a native plant. *Ecology*, 89(3), 754-62., Not Peer Reviewed/Refereed

- Meimberg, H., Abele, T., Bräuchler, C., McKay, J. K., de Pérez Paz, P. L., Heubl, G. (2006). Molecular evidence for adaptive radiation of *Micromeria* Benth. (Lamiaceae) on the Canary Islands as inferred from chloroplast and nuclear DNA sequences and ISSR fingerprint data. *Molecular phylogenetics and evolution*, 41(3), 566-78., Not Peer Reviewed/Refereed
- Wright, J. W., Davies, K. F., Lau, J. A., McCall, A. C., McKay, J. K. (2006). Experimental verification of ecological niche modeling in a heterogeneous environment. *Ecology*, 87(10), 2433-9., Not Peer Reviewed/Refereed
- Martin, P. R., McKay, J. K. (2004). Latitudinal variation in genetic divergence of populations and the potential for future speciation. *Evolution; international journal of organic evolution*, 58(5), 938-45., Not Peer Reviewed/Refereed
- McKay, J. K., Richards, J. H., Mitchell-Olds, T. (2003). Genetics of drought adaptation in *Arabidopsis thaliana*: I. Pleiotropy contributes to genetic correlations among ecological traits. *Molecular ecology*, 12(5), 1137-51., Not Peer Reviewed/Refereed
- McKay, J. K., Bishop, J., Lin, J. Z., Richards, J. H., Sala, A., Mitchell-Olds, T. (2001). Local adaptation across a climatic gradient despite small effective population size in the rare sapphire rockcress. *Proceedings. Biological sciences / The Royal Society*, 268(1477), 1715-21., Not Peer Reviewed/Refereed
- Bradshaw, Jr, H. D., Otto, K., Frewen, B. E., McKay, J. K., Schemske, D. W. (1998). Quantitative trait loci affecting differences in floral morphology between two species of monkeyflower (*Mimulus*). *Genetics*, 149(1), 367-82., Not Peer Reviewed/Refereed

Non-Refereed Proceedings or Transactions

- McKay, J. K. Physiological Genetics of Drought Adaptation in *Brassica napus*. *Plant and Animal Genome XXIV Conference*.: Plant and Animal Genome., Not Peer Reviewed/Refereed
- Rice, K. J., Gerlach, J. D., Dyer, A. R., McKay, J. K. *Evolutionary ecology along invasion fronts of the annual grass *Aegilops triuncialis**.: Biological Invasions, DOI 10.1007/s10530-013-0471-6., Not Peer Reviewed/Refereed
- Mei, J., Ding, Y., Lu, K., Wei, D., Liu, Y., Disi, J., Li, J., Liu, L., Liu, S., McKay, J. K., Qian, W. *Identification of genomic regions involved in resistance against *Sclerotinia sclerotiorum* from wild *Brassica oleracea**.: . Theoretical and Applied Genetics, 126: 549-556., Not Peer Reviewed/Refereed
- Econopoly, B. F., McKay, J. K., Westra, P., Reid, S. D., Helm, A. L., Byrne, p. F. *Phenotypic diversity of *Aegilops cylindrica* (jointed goatgrass) accessions from the western United States under irrigated and dryland conditions*.: Agriculture, Ecosystems and Environment 164: 244-251., Not Peer Reviewed/Refereed
- Easlon, H. M., Nemali, K. S., Richards, J. H., Hanson, D. T., Juenger, T. E., McKay, J. K. *The physiological basis for genetic variation in water use efficiency in *Arabidopsis thaliana**.: Photosynthesis Research, DOI 10.1007/s11120-013-9891-5., Not Peer Reviewed/Refereed
- Kenney, A. M., McKay, J. K., Richards, J. H., Juenger, T. E. (2014). *Direct and indirect selection on flowering time, water-use efficiency (WUE, $\delta^{13}C$), and WUE plasticity to drought in *Arabidopsis thaliana**.: Ecology and Evolution., Not Peer Reviewed/Refereed
- Fletcher, R. S., Mullen, J. L., Heiliger, A., McKay, J. K. (2014). *QTL analysis of root morphology, flowering time*

and yield reveals tradeoffs in response to drought in Brassica napus.: Journal of Experimental Botany., Not Peer Reviewed/Refereed

Lovell, J. T., Grogan, K., Sharbel, T., McKay, J. K. (2014). *Combining quantitative trait loci analysis with physiological models to predict genotype specific transpiration rates.*: Molecular Ecology., Peer Reviewed/Refereed

Lasky, J. R., Des Marais, D. L., Lowry, D. B., Povolotskaya, I., McKay, J. K., Richard, J. H., Keitt, T. H., Juenger, T. E. (2014). *Natural variation in abiotic stress responsive gene expression and local adaptation to climate in Arabidopsis thaliana* (9th ed., vol. 31, pp. 2283-2296): Molecular Biology and Evolution., Not Peer Reviewed/Refereed

Des Marais, D. L., Auchincloss, L. C., Sukamtoh, E., McKay, J. K., Logan, T., Richards, J. H., Juenger, T. E. (2014). *Variation at MPK12 affects water use efficiency in Arabidopsis thaliana and reveals a pleiotropic link between guard cell size and ABA response* (7th ed., vol. 111, pp. 2836-41): Proceedings of the National Academy of Sciences., Peer Reviewed/Refereed

Lovell, J. T., Juenger, T. E., Michaels, S. D., Lasky, J. R., Platt, A., Richards, J. H., Yu, X., Easlont, H. M., Sen, S., McKay, J. K. (2013). *Pleiotropy of FRIGIDA enhances the potential for multivariate adaptation.*: Proceedings of the Royal Society., Not Peer Reviewed/Refereed

Abstract

Tanger, P., Vega-Sanchez, M., Jahn, C. E., Santoro, N., Ronald, P., McKay, J. K., Bush, D., Leach, J. E. (2013). *Environmental variation in plant cell wall composition and implications for bioenergy.*: Colorado Center for Biorefining and Biofuels., Not Peer Reviewed/Refereed

comment, news

McKay, J. K., Leach, J. E. (2011). *Linkage illuminates a complex genome.* (8th ed., vol. 29, pp. 717-8): Nature biotechnology., Not Peer Reviewed/Refereed

PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS

August 2016, "Adaptation to Climate, Genotype by Environment Interaction and Crop Breeding", International Rice Research Institute.

June 2016, "Genetics of complex traits in plants", University of Dusseldorf, Germany.

March 2016, "Adaptation to Climate, Genotype by Environment Interaction and Physiology", University of Arizona.

February 2016, "Genetics of complex traits in plants", Michigan State University.

November 2015, "Drought Adaptation and GxE", Invited Speaker, Plant Development and Drought Stress, Asilomar, CA, American Society for Plant Biology.

July 2015, "Evolutionary Genomics for Agriculture", International Humulus Symposium.

June 2015, "GxE and adaptation to climate", Quantitative Genomics Symposium, Michigan State University.

November 2014, "University of the Sacred Heart", University of the Sacred Heart, Piacenza, Italy, peer-reviewed/refereed.

November 16, 2014, "Traditional and field scale high throughput phenotyping reveal multiple QTL from a large mapping population", International Symposium on Rice Functional Genomics, IRFGC, Tucson, AZ.

October 28, 2014, "Field Scale High Throughput Phenotyping (HTP) for Gene Discovery and Agronomic Improvement", International Rice Congress, Bangkok, Thailand.

September 2014, "Invited Lecture", University of Maryland, peer-reviewed/refereed.

September 2014, "Symposium organizer and speaker", UC Davis, peer-reviewed/refereed.

May 2014, "Invited Lecture", University of Giessen, Germany, peer-reviewed/refereed.

April 2014, "New England Biolabs", Ipswich, MA, peer-reviewed/refereed.

April 2014, "Plant Breeding", Cornell University, Ithaca, NY, peer-reviewed/refereed.

March 2014, "Conservation Genomics meeting", Sweden, peer-reviewed/refereed.

January 10, 2014, "Straw composition variation between varieties, tissue types and environments and impacts on bioenergy performance", USDA/DOE Plant Feedstocks Genomics for Bioenergy PI/PD Meeting, DOE, Plant and Animal Genome Meetings, San Diego, CA.

November 3, 2013, "Tractor Based Precision Phenotyping of Diverse Rice Populations in the Field.", Annual Meeting Crop Science Society of America, Crop Science Society of America, (Presenter) Klassen, S., Tampa, FL.

October 17, 2013, "Environmental variation in plant cell wall composition and implications for bioenergy", Colorado Center for Biorefining and Biofuels Spring Semi-Annual Meeting, Colorado Center for Biorefining and Biofuels, (Presenter) Tanger, P., Fort Collins, CO.

September 24, 2013, "Plant Genomics Congress", St. Louis, MO, peer-reviewed/refereed.

June 1, 2013, "Abiotic Stress in Plants", EMBRAPA, Brazil, peer-reviewed/refereed.

June 1, 2013, "Drought Adaptation", EMBRAPA Rice and Beans, Brazil, peer-reviewed/refereed.

April 17, 2013, "International Rice Research Institute", Los Banos, Philippines, peer-reviewed/refereed.

April 16, 2013, "Graduate School on Genomes and Phenotypes", Evolutionary Biology Center, Uppsala, Sweden, peer-reviewed/refereed.

March 15, 2013, "University of Copenhagen", Copenhagen, Denmark, peer-reviewed/refereed.

March 1, 2013, "Plant Breeding Institute (IPK)", Gatersleben, Germany, peer-reviewed/refereed.

2012, "John McKay, Drought Acclimation and Adaptation, Arabidopsis and beyond. March 2012 – Invited Lecture, Dept. of Botany, University of Wyoming, Laramie, WY."

2012, "John McKay, Drought Acclimation and Adaptation. November 2012 - Invited Lecture, Max Planck

Institute of Developmental Biology, Tubingen, Germany."

2012, "John McKay, Drought Acclimation and Adaptation. November 2012 - Invited Lecture, University of Bologna, Bologna, Italy."

2012, "John McKay, Ecological and Evolutionary Genetics to Drought Adaptation and Acclimation. October 2012 – Plenary Speaker, Plant Sciences for Future Needs, Uppsala, Sweden."

2011, "Invited Lecture, CO/WY USDA-ARS Seminar, Fort Collins, CO."

2011, "Invited Lecture, Dept. of Genetics, Rutgers University, New Brunswick, NJ."

2011, "Keystone Meeting on Plant Abiotic Stress Tolerance Mechanisms, Water and Global Agriculture, Keystone, CO."

2010, "John McKay, Drought Acclimation and Adaptation, Arabidopsis and Beyond, February 2010, Dept. Horticulture, Purdue University, West Lafayette, IN."

2010, "John McKay, Drought Acclimation and Adaptation, Arabidopsis and Beyond, March 2010, Dept. of Biology, University of Washington, Seattle, WA."

2010, "John McKay, Drought Acclimation and Adaptation, Arabidopsis and Beyond, November 2010, Dept. Ecology and Evolutionary Biology, University of Kansas".

2010, "John McKay, Drought Acclimation and Adaptation, November 2010, Dept. Plant Biology, Michigan State University".

2010, "John McKay, Local Adaptation to Climate in Arabidopsis thaliana, Nov. 2010, 8th Annual Ecological Genomics Symposium, Kansas City, MO", peer-reviewed/refereed.

2010, "Richard Fletcher, Translational Genomics in the Brassicaceae: Predicting Candidate Genomic Regions Affecting Drought Avoidance in Brassica napus. August 2010, 17th Crucifer Genetics

Meeting, Saskatoon, Canada."

TEACHING:

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u>Cr. Hrs.</u>	<u>Enrollment</u>
2017	Fall	BSPM526 - Evolutionary Ecology	3	2
2017	Fall	BZ526 - Evolutionary Ecology	3	7
2017	Fall	BSPM798 - Research	67	14
2017	Fall	ECOL698 - Research	182	46
2017	Spring	BSPM799 - Dissertation	13	5
2017	Spring	BSPM596 - Group Study	3	1
2017	Spring	ECOL698 - Research	159	46
2016	Fall	BSPM799 - Dissertation	18	3
2016	Fall	BSPM526 - Evolutionary Ecology	3	2
2016	Fall	BZ526 - Evolutionary Ecology	3	11
2016	Fall	ECOL698 - Research	18	47
2016	Spring	BSPM799 - Dissertation	18	4
2016	Spring	ECOL698 - Research	18	51
2016	Spring	BSPM792 - Seminar	2	8
2015	Fall	BSPM799 - Dissertation	18	6
2015	Fall	BSPM526 - Evolutionary Ecology	3	6
2015	Fall	BZ526 - Evolutionary Ecology	3	15
2015	Fall	BSPM792 - Seminar	2	7
2014	Fall	BSPM526 - Evolutionary Ecology	3	1
2014	Fall	BZ526 - Evolutionary Ecology	3	9
2014	Fall	BSPM596 - Group Study	3	0
2014	Fall	ECOL698 - Research	18	63
2014	Spring	BSPM799 - Dissertation	18	5
2014	Spring	BSPM699 - Thesis	18	5
2013	Fall	BSPM526 - Evolutionary Ecology	3	5
2013	Fall	BZ526 - Evolutionary Ecology	3	14
2013	Fall	BSPM596 - Group Study	3	3
2013	Fall	BSPM698 - Research	18	8
2013	Fall	BSPM798 - Research	18	11
2013	Fall	BSPM699 - Thesis	18	4
2013	Spring	BSPM799 - Dissertation	18	6
2013	Spring	BSPM698 - Research	18	9
2013	Spring	BSPM798 - Research	18	8
2012	Fall	BSPM698 - Research	18	7
2012	Fall	BSPM798 - Research	18	10
2012	Summer	SOCR796 - Group Study: Plant Breeding for Drought Tolerance	3	15
2012	Summer	SOCR796 - Group Study: Plant Breeding for Drought Tolerance (International)	3	0
2012	Spring	BSPM596 - Group Study	3	6
2012	Spring	BSPM698 - Research	18	10
2012	Spring	BSPM798 - Research	18	6
2011	Fall	BSPM596 - Group Study	3	3
2011	Fall	BSPM596 - Group Study	3	6
2011	Fall	BSPM698 - Research	18	9
2011	Spring	BSPM596 - Group Study	3	6
2011	Spring	BSPM798 - Research	18	12
2010	Fall	BSPM596 - Group Study	3	3

2010	Fall	BSPM698 - Research	18	18
2010	Fall	BSPM798 - Research	18	12
2010	Summer	SOCR796 - Group Study: Plant Breeding for Drought Tolerance	3	17
2010	Summer	SOCR796 - Group Study: Plant Breeding for Drought Tolerance (International)	3	9
2010	Spring	BSPM596 - Group Study	3	8
2010	Spring	BZ571 - Molecular and Developmental Evolution	3	7
2010	Spring	BSPM798 - Research	18	10
2009	Fall	BSPM526 - Evolutionary Ecology	3	2
2009	Fall	BZ526 - Evolutionary Ecology	3	13
2009	Fall	BSPM596 - Group Study	3	4
2009	Spring	BSPM596 - Group Study	3	4
2009	Spring	MIP498 - Research	3	14
2009	Spring	BSPM492 - Seminar	3	3
2009	Spring	BSPM792 - Seminar	2	7
2008	Fall	BSPM596 - Group Study	3	4
2008	Fall	ECOL592 - Interdisciplinary Seminar in Ecology	3	7
2008	Fall	BSPM492 - Seminar	3	3
2008	Fall	BSPM592 - Seminar	3	1
2008	Fall	BSPM792 - Seminar	2	19
2008	Spring	BSPM596 - Group Study	3	4
2008	Spring	ECOL592 - Interdisciplinary Seminar in Ecology	3	12
2008	Spring	ECOL592 - Interdisciplinary Seminar in Ecology	3	2
2008	Spring	BSPM492 - Seminar	3	4
2008	Spring	BSPM792 - Seminar	2	10
2008	Spring	BZ492F - Seminar-Evolution	3	3
2008	Spring	BZ692G - Seminar-Evolution	3	5
2007	Fall	BSPM526 - Evolutionary Ecology	3	2
2007	Fall	BZ526 - Evolutionary Ecology	3	12
2007	Fall	BSPM492 - Seminar	3	1
2007	Fall	BSPM792 - Seminar	2	8

COMMITTEES

task force on graduate student diversity, (September 2015 - Present).

Search committee to hire Todd Gaines.

BSPM executive committee, (September 2013 - Present).

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Society for the Study of Evolution. (2011 - 2040).

AAAS. (2011 - 2014).

Colorado State University, Fort Collins, CO. (2012 - Present).

Evolution. (2012 - Present).

Nature. (2012 - Present).

New Phytologist. (2012 - Present).

Member, NSF Plant Genome Panel. (2012 - Present).

CROP SCIENCE. (2011 - Present).

Reviewer, Ad Hoc Reviewer, NSF. (2011 - Present).

Colorado State University, Fort Collins, CO. (2010 - Present).

Evolution. (2010 - Present).

Genetics. (2010 - Present).

Reviewer, Ad Hoc Reviewer, NSF. (2010 - Present).

Plant Physiology. (2010 - Present).

Member, Society for the Study of Evolution. (2011 - 2040).

Member, AAAS. (2011 - 2014).

Member, BSPM Education Committee. (2010 - 2012).

Member, GDPE Executive Committee. (2010 - 2011).
