HELEN M. ALEXANDER
Department of Ecology and Evolutionary Biology
University of Kansas
Lawrence, KS 66045-2106
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Academic history and appointments

B.S. with distinction, Botany major
University of Wisconsin - Madison, May, 1977

Ph.D., Botany and Genetics major, Zoology minor (J.Antonovics, and M. Rausher, Advisors), Duke University, August, 1982
Ph.D. dissertation: Demography of and intraspecific variation in *Plantago lanceolata* in relation to infection by the fungus *Fusarium moniliforme* var. *subglutinans*.

Additional education: Tropical Biology - An Ecological Approach
8 week field course in Costa Rica, sponsored by the Organization for Tropical Studies, Summer, 1977

Research Associate (fungal pathogen genetics, working with Drs. J. V. Groth and A. P. Roelfs)
Department of Plant Pathology, University of Minnesota
August 1982 - November 1983

Consultant (plant disease epidemiology, working with Dr. A. P. Roelfs)
Department of Plant Pathology, University of Minnesota
February 1984 - April 1986

Adjunct Assistant Professor (1984 - 1985)
Research Associate (1985 - 1987)
Department of Biology, University of Louisville

Assistant Professor (1988-1993)
Associate Professor (1993-2002)
Professor (2002 -)
Departments of Botany and Systematics & Ecology (as of 1998, Department of Ecology and Evolutionary Biology), University of Kansas

Overseas sabbatical research: January – March 2002, worked with Drs. P. Thrall and J. Burdon at Division of Plant Industry, CSIRO, Canberra, Australia

Awards and honors

Phi Beta Kappa
Sigma Xi (full member)

Travel Awards
-American Phytopathological Society Award for travel to 5th International Congress of Plant Pathology, Kyoto, Japan. 1988, $1000.
-University of Kansas Endowment Association, International Travel Fund, for travel to 5th International Congress of Plant Pathology, Japan. 1988, $624.

Teaching and Advising Awards
-Outstanding Woman Teacher, Emily Taylor's Women's Resource Center and University of Kansas Commission on the Status of Women, 1991
-W. T. Kemper Fellowship for Teaching Excellence, 1997, $5000
-Excellence in Teaching Award, 1999 (from Center for Teaching Excellence; chosen by graduate students in Department of Ecology and Evolutionary Biology)
-2000-2001 J. Michael Young Academic Advisor Award, $500
-2006 TIAA-CREF Excellence in Teaching Award, $1000
-Hall of Fame, Emily Taylor's Women's Resource Center and University of Kansas Commission on the Status of Women, 2007
-Chancellors Club Teaching Professorship, 2007 (one of 12 in the university, $5000 added to yearly salary until retirement)
-2008 Mentor of the Year, Office for Diversity in Science Training, University of Kansas
-2011 Favorite Biology Teacher

Memberships in professional societies
American Association for the Advancement of Science
Ecological Society of America

Publications (asterisks indicates graduate student* or undergraduate **)
Motten, A. F., D. R. Campbell, D. E. Alexander, and H. L. Miller (Alexander). 1981. Pollination effectiveness of specialist and generalist visitors to a North Carolina population of *Claytonia virginica.* *Ecology* 62:1278-1287.

Alexander, H. M. 1984. Spatial patterns of disease induced by *Fusarium moniliforme* var. *subglutinans* in a population of *Plantago lanceolata*. *Oecologia* 62:141-143.

Alexander, H. M., A. P. Roelfs, and J. V. Groth. 1984. Pathogenicity associations in *Puccinia graminis* f. sp. *tritici* in the United States. *Phytopathology* 74:1161-1166.

Alexander, H. M. and J. J. Burdon. 1984. The effect of diseases induced by *Albugo candida* (white rust) and *Peronospora parasitica* (downy mildew) on survival and reproduction of *Capsella bursa-pastoris* (shepherd's purse). *Oecologia* 64:314-318.

Alexander, H. M., J. Antonovics, and M. D. Rausher. 1984. Relationship of phenotypic and genetic variation in *Plantago lanceolata* to disease caused by *Fusarium moniliforme* var. *subglutinans*. *Oecologia* 65:89-93.

Alexander, H. M. and R. Wulff. 1985. Experimental ecological genetics in

Plantago. X. The effects of maternal temperature on seed and seedling characters in *Plantago lanceolata*. *Journal of Ecology* 73:271-282.

Alexander, H. M., J. V. Groth, and A. P. Roelfs. 1985. Virulence changes in *Uromyces appendiculatus* after five asexual generations on a cultivar of bean (*Phaseolus vulgaris*). *Phytopathology* 75:449-453.

Wulff, R. and H. M. Alexander. 1985. Intraspecific variation in the response to CO_2 enrichment in seeds and seedlings of *Plantago lanceolata* L. *Oecologia* 66:458-460.

Gates, D. J., M. Westcott, J. J. Burdon, and H. M. Alexander. 1986. Competition and stability in plant mixtures in the presence of disease. *Oecologia* 68:559-566.

Alexander, H. M., A. P. Roelfs, and Gary Cobbs. 1986. Effects of disease and plant competition on yield in monocultures and mixtures of two wheat cultivars. *Plant Pathology* 35:457-465.

Alexander, H. M.. 1987. Pollination limitation in a population of *Silene alba* infected by the anther-smut fungus *Ustilago violacea*. *Journal of Ecology* 75:771-780.

Alexander, H. M. and J. Antonovics. 1988. Disease spread and population dynamics of anther smut infection of *Silene alba* caused by the fungus *Ustilago violacea*. *Journal of Ecology* 76: 91-104.

Alexander, H. M.. 1988. Spatial heterogeneity and disease in natural populations. Pp. 144-164 in *Spatial Components of Plant Disease Epidemics*, ed. by M. J. Jeger. Prentice-Hall Pub.

Groth, J. V. and H. M. Alexander. 1988. Genetic divergence in spatially-separated pathogen populations. Pp. 165-181 in *Spatial Components of Plant Disease Epidemics*, ed. by M. J. Jeger. Prentice-Hall Pub.

Alexander, H. M.. 1989. An experimental field study of anther-smut disease of *Silene alba* caused by *Ustilago violacea*: Genotypic variation and disease incidence. *Evolution* 43:835-847.

Antonovics, J. and H. M. Alexander. 1989. The concept of fitness in plant/fungal pathogen systems. Pp. 185-214 in *Plant Disease Epidemiology*, ed. by K. J. Leonard and W. E. Fry. McGraw-Hill.

Alexander, H. M.. 1990. Epidemiology of anther-smut infection of *Silene alba* caused by *Ustilago violacea*: patterns of spore deposition and disease incidence. *Journal of Ecology* 78:166-179.

Alexander, H. M. and A. Maltby*. 1990. Anther-smut infection of *Silene alba*

caused by *Ustilago violacea*: factors determining fungal reproduction. *Oecologia* 84:249-253.

Alexander, H. M. 1990. Dynamics of plant/pathogen interactions in natural plant communities. Pp. 31-45 in *Pests, Pathogens, and Plant Communities*., ed. by J. J. Burdon and S. R. Leather. Blackwell Sci. Pub.

Alexander, H. M.. 1991. Plant population heterogeneity and pathogen and herbivore levels: a field experiment. *Oecologia* 86:125-131.

Alexander, H. M. and P. Bramel-Cox. 1991. Sustainability of genetic resistance. Pp. 11-27 in *Plant Breeding and Sustainable Agriculture: Considerations for Objectives and Methods*. CSSA Special Pub. #18. Crop Science Society and American Society of Agronomy.

Marquis, R. J. and H. M. Alexander. 1992. Evolution of resistance and virulence in plant-herbivore and plant-pathogen interactions. *Trends in Ecology and Evolution* 7:126-129.

Alexander, H. M. 1992. Evolution of disease resistance in plant populations. Pp. 326-344 in *Ecology and Evolution of Plant Resistance*, ed. by R. S. Fritz and E. L. Simms. Univ. of Chicago Press.

Alexander, H. M. 1992. Fungal pathogens and the structure of plant communities. Pp. 481-497 in *The Fungal Community: its Organization and Role in the Ecosystem*., ed. by G. C. Carroll and D. T. Wicklow. Dekkor.

Antonovics, J. and H. M. Alexander. 1992. Epidemiology of anther-smut infection of *Silene alba* caused by *Ustilago violacea*: patterns of spore deposition in experimental populations. *Proceedings of the Royal Society of London* Series B 250:157-163.

Alexander, H. M., J. Antonovics, and A.W. Kelly*. 1993. Genotypic variation in plant disease resistance: physiological resistance in relation to field disease transmission. *Journal of Ecology* 81:325-333.

Roche*, B. M., H. M. Alexander, and A. D. Maltby*. 1995. Dispersal and disease gradients of anther-smut (*Ustilago violacea*) infection of *Silene alba* at different life stages. *Ecology* 76:1863-1871.

Alexander, H. M. and J. Antonovics. 1995. Spread of anther-smut disease (*Ustilago violacea*) and character correlations in a genetically variable experimental population of *Silene alba*. *Journal of Ecology* 83:783-794.

Alexander, H. M., N. A. Slade, and R. Gomulkiewicz. 1995. A Bayesian approach to the inference of diploid genotypes using haploid genotypes. *Theoretical and Applied Genetics* 91:1284-1287.

Davelos*, A. L., H. M. Alexander, and N. A. Slade. 1996. Ecological genetic interactions between a clonal host plant (*Spartina pectinata*) and associated rust fungi (*Puccinia seymouriana* and *Puccinia sparganiodes*). *Oecologia*. 105:205-213.

Alexander, H. M., P. H. Thrall, J. Antonovics, A. M. Jarosz, and P. V. Oudemans. 1996. Population dynamics and genetics of plant disease: a case study of anther-smut disease. *Ecology* 77:990-996.

Alexander, H. M., N. A. Slade, and W. D. Kettle. 1997. Application of mark-recapture models to estimation of the population size of plants. *Ecology* 78: 1230-1237.

Thrall, P. H., J. D. Bever, J. D. Mihail, and H. M. Alexander. 1997. The population dynamics of annual plants and soil-borne fungal pathogens. *Journal of Ecology* 85:313-328.

Slade, N. A., R. Gomulkiewicz, and H. M. Alexander. 1998. Alternatives to Robinson and Redford: assessing overharvest from incomplete demographic data. *Conservation Biology* 12: 148-155.

Oudemans, P. V., H. M. Alexander, J. Antonovics, S. Altizer*, P. H. Thrall, and L. Rose**. 1998. The distribution of mating type bias in natural populations of the anther-smut *Ustilago violacea* on *Silene alba* in Virginia. *Mycologia* 90:372-381.

Mihail, J. D., H. M. Alexander, and S. J. Taylor. 1998. Interactions between root infecting fungi and plant density in an annual legume. *Journal of Ecology* 86:739-748.

Alexander, H. M. and R. D. Holt. 1998. The interaction between plant competition and disease. *Perspectives in Plant Ecology, Evolution, and Systematics* 1 / 2:206-220.

Holah*, J. and H. M. Alexander. 1999. Soil pathogenic fungi have the potential to affect the coexistence of two tallgrass prairie species. *Journal of Ecology* 87:598-608.

Cummings*, C. L., H. M. Alexander, and A. A. Snow. 1999. Increased pre-dispersal seed predation in sunflower crop-wild hybrids. *Oecologia* 121:330-338.

Kettle, W. D., H. M. Alexander, and G. L. Pittman. 2000. An 11-year ecological study of a rare prairie perennial (*Asclepias meadii*): implications for monitoring and management. *American Midland Naturalist* 144:66-77.

Alexander, H. M. and J. D. Mihail. 2000. Seedling disease in an annual legume: consequences for seedling mortality, plant size, and population seed production. *Oecologia* 122:346-353.

Snow, A. A., L. H. Rieseberg, H. M. Alexander, C. Cummings*, and D. Pilson. 2000. Assessment of gene flow and potential effects of genetically engineered sunflowers on

wild relatives. pp. 19-25 in J. Schiemann (Ed.), The Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms: Fifth International Symposium, Biologischen Bundesanstalt fur Land-und Forstwirtschaft, Berlin und Braunschweig.

Alexander, H. M., C. L. Cummings*, L. Kahn*, and A. A. Snow. 2001. Seed size variation and predation of seeds produced by wild and crop-wild sunflowers. *American Journal of Botany* 88:623-627.

Cummings*, C. L. and H. M. Alexander. 2002. Population ecology of wild sunflowers: effects of seed density and post-dispersal vertebrate seed predation on numbers of plants per patch and seed production. *Oecologia* 130:274-280..

Pilson, D., A. A. Snow, L. H. Rieseberg, and H. M. Alexander. 2002. Fitness and population effects of gene flow from transgenic sunflower to wild *Helianthus annuus*. In: Proceedings of a Workshop on the Ecological Effects of Transgenic Crops, March 2002, Columbus, OH (http://www.biosci.ohio-state.edu/~lspencer/gene_flow.htm)

Snow, A.A., D. Pilson, L. H. Rieseberg, and H. M. Alexander. 2002. Ecological effects of pest resistance genes that disperse into weed populations. In: Proceedings of the 7th International Symposium on The Biosafety of Genetically Modified Organisms, October 2002 Beijing. (http://www.worldbiosafety.net/)

Cummings*, C. L., H. M. Alexander, A. A. Snow, L. H. Rieseberg, M. J. Kim, and T. M. Culley*. 2002. Fecundity selection in a sunflower crop-wild study: can ecological data predict crop allele changes? *Ecological Applications* 12:1661-1671.

Pilson, D., A. A. Snow, L. H. Rieseberg, and H. M. Alexander. 2003. Effects of a *Bacillus thuringiensis* (Bt) transgene on the fecundity and abundance of weeds: a case study of sunflower. Pages 173-189 in T. Lelley, E. Balaz, and M. Tepfer (Eds.), Ecological Impact of GMO Dissemination in Agro-Ecosystems. Proceedings of an OECD Workshop in Grossrssbach, Austria, Sept. 27-28 2002, Facultas Verlags- und Buchhandels AG, ISBN 3-85076-631-4.

Slade, N. A., H. M. Alexander, and W. Dean Kettle. 2003. Estimation of population size and probabilities of survival and detection in a population of Mead's milkweed. *Ecology* 84:791-797.

Alexander, H. M. and A. M. Schrag**. 2003. Role of soil seed banks and newly dispersed seeds in population dynamics of the annual sunflower, *Helianthus annuus.* *Journal of Ecology* 91:987-998.

Garrett, K. A., S. P. Dendy, A. G. Power, G. K. Blaisdell, H. M. Alexander, J. K. McCarron, 2004. Barley yellow dwarf luteovirus (BYDV) in natural populations of dominant tallgrass prairie species. *Plant Disease* 88:574.

Grman, E.** and H. M. Alexander. 2005. Factors limiting fruit production in *Asclepias meadii* in Northeastern Kansas. *American Midland Naturalist* 153:245-256.

Thrall, P. H., L. G. Barrett**, J. J. Burdon, and H. M. Alexander. 2005. Variation in pathogen aggressiveness within a metapopulation of the *Cakile maritime-Alternaria brassicicola* host-pathogen association. *Plant Pathology* 54:265-274.

Alexander, H. M., S. Price**, R. Houser, D. Finch* and M. Tourtellot. 2007. Is there reduction in disease and predispersal seed predation at the border of a host plant's range? – field and herbarium studies of *Carex blanda*. *Journal of Ecology* 95:446-457.

Moody-Weis*, J. and H. M. Alexander. 2007. The mechanisms and consequences of seed bank formation in wild sunflowers (*Helianthus annuus*) *Journal of Ecology* 95:851-864.

Moody-Weis*, J., J. Antonovics, H. M. Alexander, and D. Pilson. 2008. Predicting local colonization and extinction dynamics from coarser-scale surveys. *Ecography* 31:61-72.

Alexander, H. M., N. Slade, W. D. Kettle, G. L. Pittman, and A. W. Reed. 2009. Detection, survival rates, and dynamics of a cryptic plant, *Asclepias meadii*: applications of mark-recapture models to long-term monitoring studies. *Journal of Ecology* 97:267-276. [Article chosen by editor to be featured on the *Journal of Ecology* website as the "Editor's Choice" for the February issue]

Alexander, H. M., D. Pilson, J. Moody-Weis, and N. A. Slade. 2009. Geographic variation in dynamics of an annual plant with a seed bank. *Journal of Ecology* 97:1390-1400.

Tarr, D. E. and H. M. Alexander. 2009. TIR-NBS-LRR genes are rare in monocots: evidence from diverse monocot orders. *BMS Research Notes* 2:197 (10 page paper; page numbers not part of citation).

Alexander, H. M. 2010. Disease in natural plant populations, communities, and ecosystems: insights into ecological and evolutionary processes. (Invited by editor). *Plant Disease* 94:492-503.

Mercer, K. L., H. M. Alexander, and A. A. Snow. 2011. Selection on seedling emergence timing and size in an annual plant (common sunflower, *Helianthus annuus* (Asteraceae)).
American Journal of Botany 98:975-985.

Begay*, B., H. M. Alexander, and E. Questad. 2011. Effect of mid-summer haying on growth and reproduction in prairie forbs. *Transactions of the Kansas Academy of Science.* 114:108-114.

Moore, C. T., C. J. Fonnesbeck, K. Shea, K. J. Lah, P. M. McKenzie, L. C. Ball, M. C. Runge, and H. M. Alexander. 2011. An adaptive decision framework for the conservation of a threatened plant. *Journal of Fish and Wildlife Management* 2:247-261.

Emry*, D. J., H. M. Alexander, and M. Tourtellot. 2011. Modeling the local spread of invasive plants: importance of including spatial distribution and detectability in management plans. *Journal of Applied Ecology* 48: 1391-1400.

Finch*, D. and H. M. Alexander. 2011. Variation in plant traits and disease levels across a woodland/grassland ecotone. *American Midland Naturalist* 166:309-324.

Alexander, H. M., B.L. Foster, F. Ballantyne IV, C. D. Collins, J. Antonovics, and R. D. Holt. 2012. Metapopulations and metacommunities: combining spatial and temporal perspectives in plant ecology. *Journal of Ecology* 100:88-103. (Invited by editor; 100th year anniversary issue).

Alexander, H. M. 2012. An overview of ecological and evolutionary research on disease in natural systems: an annotated reference list. Pp. 97-102 in Sniezko, Richard A.; Yanchuk, Alvin D.; Kliejunas, John T.; Palmieri, Katharine M.; Alexander, Janice M.; Frankel, Susan J., tech. coords. Proceedings of the fourth international workshop on the genetics of host-parasite interactions in forestry: Disease and insect resistance in forest trees. Gen. Tech. Rep. PSW-GTR-240. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. http://www.fs.fed.us/psw/publications/documents/psw_gtr240/psw_gtr240.pdf

Alexander, H. M., A. W. Reed, W. D. Kettle, N. A. Slade, S. A. Bodbyl-Roels, C. D. Collins, and V. Salisbury. 2012. Detection and plant monitoring programs: lessons from an intensive survey of *Asclepias meadii* with five observers. *PLoS ONE* 7(12): e52762. doi:10.1371/journal.pone.0052762

Alexander, H.M., K. E. Mauck, A. E. Whitfield, K. A. Garrett, and C. M. Malmstrom 2014. Plant-virus interactions and the agro-ecological interface. *European Journal of Plant Pathology.* 138:529-547.

Roy, B. A., H. M. Alexander, J. Davidson, F. T. Campbell, J. J. Burdon, R. Sniezko, and C. Brasier. 2014. Increasing forest loss worldwide from invasive pests requires new trade regulations. *Frontiers in Ecology and the Environment* 12:457-465.
Mercer, K. L., D. J. Emry, A. A. Snow, M. A. Kost, B. A. Pace, and H. M. Alexander. 2014. Fitness of crop-wild hybrid sunflower under competitive conditions: Implications for crop-to-wild introgression *PLoS ONE DOI: 10.1371/journal.pone.0109001*

Alexander, H. M., J. Emry, B. A. Pace, M. A. Kost, K. A. Sparks, and K. L. Mercer. 2014. Roles of maternal effects and nucleic genetic composition change across the life cycle of crop-wild hybrids. *American Journal of Botany* 101:1176-1188.

Pace, B. A., H. M. Alexander, J. D. Emry, and K. L. Mercer. 2015. Seed fates in crop-wild hybrid sunflower: crop alleles and maternal effects. *Evolutionary Applications* 8:121-132.

Kost, M. A., H.M. Alexander, J. D. Emry, and K. L. Mercer. 2015. Life history traits and phenotypic selection among sunflower crop-wild hybrids and their wild counterpart: implications for crop allele introgression. *Evolutionary Applications* 8:510-524

Bever, J. D., S. Mangan, and H. M. Alexander. 2015. Maintenance of plant species diversity by pathogens. *Annual Review of Ecology, Evolution, and Systematics* 46: 305-325.

Pace, B., H. M. Alexander, J. Emry, and K. Mercer. Reliable method for assessing seed germination, dormancy, and mortality under field conditions. *Journal of Visualized Experiments* Nov. 6; (177) doi: 10.3791/54663.

Malmstrom, C. M. and H. M. Alexander. 2016. Effects of crop viruses on wild plants. *Current Opinion in Virology* 19:30-36.

Dendy, S. P., B. Tong, H. M. Alexander, P. A. Fay, L. Murray, Y. Xing, and K. A. Garrett. 2017. A long-term study of burning effects on a plant pathogen in tallgrass prairie. *Plant Pathology* (in press).

Alexander, H. M., E. Bruns, H. Schebor, and C. C. Malmstrom. 2017. Crop-associated virus infection in a native perennial grass: reduction in plant fitness and dynamic patterns of virus detection. *Journal of Ecology* (in press).

Publications (popular articles)

Haufler, C. H. and H. M. Alexander. 2001. Species and Speciation: Introduction, Discussion, and Example. Kansas Association of Biology Teachers Newsletter 42:1-4.

Alexander, H. M. 2015. Shared ancestry predicts disease levels. Nature 520:445-447. (News and Views section).

Invited seminars and symposia

-Panel discussion on opportunities for evolutionary research in agricultural systems. 1982 Annual Meeting, Society for the Study of Evolution.
-"Plant-pathogen interactions in natural and agricultural systems: ecological and evolutionary approaches". Department of Ecology and Behavioral Biology, University of Minnesota, April 1983.
-"The impact of disease on non-agricultural plant populations". Department of Biology, University of Louisville, December 1983.
-"Associations of virulence in fungal pathogen populations". Department of Plant Pathology, University of Kentucky, March 1985.
-"Spatial heterogeneity and disease in natural populations". Colloquium on the "Spatial Component of Epidemics", 1985 Annual Meeting, American Phytopathological Society.

-"Ecology of plant/fungus interactions: anther-smut infection of *Silene alba* by *Ustilago violacea*". Department of Biology, University of Louisville, November 1985.
-"Ecological and evolutionary interactions between plants and their fungal pathogens". Midwestern Population Biology meetings, Indiana University, March 1986.
-"Implications of intraspecific variation for host-pathogen interactions: *Silene alba* and *Ustilago violacea*. Departmental seminars at:
Division of Biological Sciences, University of Missouri, February 1987
Department of Biological Sciences, Rutgers University, March 1987
Department of Biological Sciences, University of California-Santa Barbara, March 1987
Departments of Botany and Systematics and Ecology, University of Kansas, March 1987
Department of Biology, University of Miami, March 1988
The Land Institute, Salina, KS, April 1988
-"The implications of intraspecific variation for ecological and evolutionary interactions between *Silene alba* and its fungal pathogen *Ustilago violacea*. Symposium on plant/fungus interactions, Ecological Society of America and Botanical Society of America, Ohio State University, August 1987
-"Methodology and interpretation of data from studies of disease in natural populations". Symposium on "Epidemiology in Natural Populations", 5th International Congress of Plant Pathology, Kyoto, Japan, August 1988.
-"Dynamics of plant/pathogen interactions in natural plant communities". Symposium on "Pests, Pathogens, and Plant Communities", British Society of Plant Pathologists, British Ecological Society, and Association of Applied Biologists, Bangor, Wales, April 1989.
-"Ecological genetics of natural plant-pathogen interactions". Department of Plant Pathology, Kansas State University, April 1989.
-"An ecological genetics approach to the study of plants and their pathogens." Dept. of Botany, University of Kansas, September 1989.
-"Sustainability of genetic resistance". Symposium on "Plant Breeding and Sustainable Agriculture: Considerations for Objectives and Methods", Crop Science Society of America, Las Vegas, Nevada, October 1989.
-"An ecological genetics approach to the study of plants and their pathogens". Dept. of Biology, University of Missouri-St. Louis, October 1989.
-"An ecological genetics approach to the study of plants and their pathogens". Division of Biology, Kansas State University, April 1990.
-"Implications of a floral disease for the reproductive biology of *Silene alba*". Symposium on "Host-Parasite Interactions and the Evolution of Reproductive Characters". Society for the Study of Evolution, July 1990.
-"Ecological genetics of a plant venereal disease". Department of Ecology and Evolution, SUNY-Stony Brook, November 1990.
-"Ecological genetics of a plant venereal disease". Biology Department, Benedictine College, November 1990.
-"An ecological genetics approach to the study of plant-pathogen interactions in natural systems". Dept. of Botany and Plant Pathology, Oregon State University. March 1991.
-"Ecological and evolutionary interactions between plants and their fungal pathogens". Dept. of Biology, University of Missouri, December 1992.

-"Ecological genetics of a plant venereal disease". Dept. of Biology, Indiana University, April 1993.
-"Population dynamics and genetics of plant disease". Symposium on "Disease as an Agent of Ecological Organization". Ecology Society of America, August 1993.
-"Ecological genetics of plant-pathogen interactions". Dept. of Ecology and Evolution, University of Chicago, December 1993.
-"Ecological genetics of a plant venereal disease". Dept. of Biology, Northeast Missouri State, March 1994.
-"Ecological genetics of a plant venereal disease". School of Biological Sciences, University of Nebraska, September 1994.
-"Units of Study: An ecologist's perspective". Kansas City Forum. Kansas City, October 1994.
-"Analysis of the mating system of the anther smut fungus: inference of diploid genotypes
from haploid data". Dept. of Botany, Duke University, December 1994.
-"Interactions between ecology and genetics in studies of plants and their pathogens". Dept. of Ecology, Evolution, and Behavior, Univ. of Minnesota, February 1995.
-"Reproductive biology of the anther-smut fungus". Dept. of Botany and Plant Pathology, Michigan State University, March 1995.
-Two talks on plant-pathogen interactions at University of Umea, Umea, Sweden, May 1995.
-"Mead's milkweed: biology of a rare plant and application of mark-recapture methodology to plants", Department of Systematics and Ecology, University of Kansas, September 1995.
-"Mead's milkweed: biology of a rare plant and application of mark-recapture methodology to plants", Department of Biology, Southwest Missouri State University, March 1996.
-"Mead's milkweed: biology of a rare plant and application of mark-recapture methodology to plants", Department of Biology, University of Nebraska-Omaha, October 1996.
-"Influence of pathogens on plant competition", Two talks in workshop on "Influence of insects and pathogens on plant competition", Delemont, Switzerland, February 1998.
-"Mead's milkweed: biology of a rare plant and application of mark-recapture methodology to plants". Biology Department, William Jewell College, April 1998.
-Two invited lectures on "Disease and Competition" in University of Virginia's course on "Plant Disease in Natural Systems", taught by Janis Antonovics and Michael Hood at Mountain Lake Biological Station. July 23, 1999.
-"Inconspicuous plants: challenges for population biologists" Seminar series at Mountain Lake Biological Station of the University of Virginia. July 22, 1999.
-"Inconspicuous plants: challenges for population biologists" Department of Ecology and Evolutionary Biology, University of California - Irvine. November 12, 1999.
-"Infectious diseases in natural systems: questions, approaches, and applications" Workshop on "Ecological and Evolutionary Aspects of Infectious Diseases in Natural Populations", W. K. Kellogg Biological Station, Michigan State University. April 1, 2000.

-"Epidemiology in natural systems: research questions and approaches". Symposium on "New Visions for Epidemiology: Concepts from Vanderplank into the New Millenium", American Phytopathological Society Meetings, New Orleans, August 14, 2000.
-"The population biology of a wild annual sunflower". Department of Ecology and Evolutionary Biology, University of Kansas, October 4, 2001.
-"Spatial and temporal ecology of wild sunflowers: seed banks, metapopulations, and rust disease". Department of Plant Pathology, Kansas State University, April 17, 2003
- "Spatial patterns of disease incidence in plants: metapopulations and beyond". Organized Oral Paper Session. Ecological Society of America meetings, August, 2003 (co-authors J. Antonovics, P. Thrall)
-"Disease ecology in natural plant populations: research overview and exploration of links to plant pathology". Invited speaker at the 2003 Department of Plant Pathology, University of Minnesota Graduate Student Symposium, "The Future of Plant Health: A Multidisciplinary Vision", September 8, 2003
-"Ecological effects of gene flow from transgenic sunflowers (*Helianthus annuus*)", European Union Joint Conference on Biodiversity Implications of Genetically Modified Plants, Monte Verita, Switzerland (Sept. 7-12, 2003) A. Snow, D. Pilson, L. Rieseberg, H. Alexander, and J. Burke (presented by A. Snow)
-"Geographical patterns of host-pathogen interactions of the sedge *Carex blanda* and an ovarian smut in the genus *Anthracoidea*". Short invited talk for *Silene-Microbotrum* meeting funded by FIBR initiative of NSF, Mountain Lake Biological Station, University of Virginia, August 28, 2004
-"Geographical patterns of host-pathogen interactions of the sedge *Carex blanda* and an ovarian smut in the genus *Anthracoidea*". Presentation to the University of Kansas Field Station and Ecological Reserve Informal Seminar Series. October 8, 2004
-"Presenting and publishing your work". Presentation at Haskell Indian Nations University for Ecological Society of America SEEDS workshop, January 22, 2005 (workshop on increasing minority representation in ecology)
-"Some stories of the spectacular smuts: fungal infections of plant reproductive parts". Kaw Valley Mycological Society, Lawrence, KS, February 16, 2005
- "Scaling relationships of occupancy and metapopulation dynamics in roadside plants". Organized Oral Paper Session. Ecological Society of America meetings, August, 2005 (Senior author and presented: J. M. Moody-Weis*; I was third author with J. Antonovics 2nd author and D. Pilson fourth author)
-"Ecology along the forest/grassland ecotone: a study of a woodland sedge and its pathogens and herbivores". Department of Ecology and Evolutionary Biology, Rice University, Houston, TX, February 20, 2006
-"Ecology along the forest/grassland ecotone: a study of a woodland sedge and its pathogens and herbivores". Ecology and Evolutionary Biology seminar series, Division of Biology, Kansas State University, KS, March 9, 2006
- "Crop-weed hybrids with enhanced fitness: causes and consequences for weed populations". Symposium on Hybridization as a Stimulus for the Evolution of Invasiveness in Plants, Botanical Society of America, 2006 (Authors in order: A. Snow, L. G. Campbell, D. Pilson, H. Alexander, J. Moody-Weis, and C. Ridley; A. Snow presenting)

- "A 20 year study of the population ecology of a cryptic plant, Mead's milkweed, population trajectories and estimates of survival and detection". Department of Plant Biology, Michigan State University, October 8, 2007
- "Detection, survival rates, and dynamics of a cryptic plant, *Asclepias meadii*: applications of mark-recapture models to long-term monitoring studies". Ecology and Evolutionary Biology seminar series, Division of Biology, Kansas State University, KS, March 5, 2009
- "Studies of disease in "natural" plant populations and communities: history, questions, and approaches". Second annual meeting of the Plant Virus Ecology Network (PVEN) , Ca' Tron di Roncade, Italy, April 22, 2009
- "Plant populations in a changing world", Department of Ecology and Evolutionary Biology, University of California – Santa Cruz, October 6, 2010
-- "Plant populations in a changing world", Biology Department, William Jewell College, Liberty, MO, October 12, 2010
- "Plant disease in natural systems: ecological and evolutionary research" Department of Plant Pathology, Kansas State University, Manhattan, KS, March 3, 2011
- "An overview of ecological and evolutionary research on disease in natural systems" Fourth International Workshop on the Genetics of Host-Parasite Interactions in Forestry, Eugene, Oregon, August 2, 2011
- "Metapopulations and metacommunities: combining spatial and temporal perspectives in plant ecology: British Ecological Society meetings, Sheffield, UK, September 12, 2011 (symposium celebrating 100th year anniversary of *Journal of Ecology*)
- "Introduced forest pathogens: problems, policy, and problems with policy." Community Genetics Group, Department of Ecology, Evolution, and Behavior, University of Minnesota, April 2, 2012
- "Plant populations in a changing world: sunflowers and the ecology of crop-wild hybridization" Department of Ecology, Evolution, and Behavior and Department of Plant Biology, University of Minnesota, April 3, 2012
- "Pathogen considerations in the deployment of bioenergy crops." Symposium on "Bioenergy and Biodiversity: Oxymoron or Opportunity. Ecological Society of America, Portland, OR, August 8, 2012 (Presented by C. Malmstrom; order of authors is Malmstrom, C., M., Schrotenboer, A., Alexander, H.M., Busch, A., and Trebick, P.)
- "Plant populations in a changing world," Department of Biology, University of Minnesota-Duluth, May 9, 2013
-"Plant-virus interactions and the agro-ecological interface" (Presented by H. Alexander; order of authors is Alexander, H. M., Mauck, K. E., Whitfield, A.E., Garrett, K. A., and Malmstrom, C.M." Wild Plant Pathosystems; 1st International Conference, Olomouc, Czech Republic, July 3, 2013
- "Plant-virus interactions and the agro-ecological interface" (Presented by H. Alexander; order of authors is Alexander, H. M., Mauck, K. E., Whitfield, A.E., Garrett, K. A., and Malmstrom, C.M." Department of Plant Pathology, Kansas State University, November 7, 2013
- "Plant populations in a changing world," Department of Ecology and Evolutionary Biology, University of Kansas, December 3, 2013
-"Effects of viruses on plant fitness: a plant ecologist's foray into plant virus ecology," Ecology seminar series, University of Kansas, November 7, 2014.

- "Effects of viruses on plant fitness: a plant ecologist's foray into plant virus ecology," Department of Botany, Oklahoma State University, November 12, 2014
- "Transforming a Free State High School football field into an emerging prairie" Silent Spring Conference, Audubon of Kansas, Lawrence, KS, April 9, 2016 (Order of authors: P. Schultz, J. Schwarting, and H. Alexander)
-Alexander, H. M. 2016. Exploring the ecology of rare plants: studies of *Asclepias meadii.* 2016 Mead's Milkweed Meeting, October 6, 2016, Columbia, MO (talk sent remotely because of illness).

Contributed papers (first author presented paper except as noted; asterisks indicates graduate student* or undergraduate **)

-Motten, A. F., H. L. Miller, D. E. Alexander, and D. R. Campbell. 1979. Pollination effectiveness of two insect species visiting the spring wildflower *Claytonia virginica.* Ecological Society of America. (Abstract: 1979. *Bulletin of the Ecological Society of America* 60:116)
-Miller, H. L.. 1980. Pests and *Plantago*: pathogen infection in a plant population. Southeastern Ecological Genetics Group. (Abstract with program).
-Miller, H. L.. 1981. Patterns of fungal infection in a population of *Plantago lanceolata*. Ecological Society of America. (Abstract: 1981. *Bulletin of the Ecological Society of America* 62:150).
-Miller, H. L.. 1981. Patterns of natural fungal infection in a population of *Plantago lanceolata*. American Phytopathological Society. (Abstract: 1981. *Phytopathology* 71:8950.
-Alexander, H. M.. 1982. Phenotypic and genotypic variation in *Plantago lanceolata* in relation to infection by *Fusarium moniliforme* var. *subglutinans*. Society for the Study of Evolution.
-Alexander, H. M., J. V. Groth, and A. P. Roelfs. 1983. Estimation of levels of heterozygosity for virulence genes in populations of bean rust, *Uromyces phaseoli* var. *typica*. American Phytopathological Society. (Abstract: 1983. *Phytopathology* 73:824).
-Alexander, H. M. and R. D. Wulff. 1984. The effect of maternal temperatures on seed and seedling characters in *Plantago lanceolata*. International Society of Plant Population Biologists, Vageningen, The Netherlands (Abstract with program; Wulff presented paper).
-Alexander, H. M., J. V. Groth, and A. P. Roelfs. 1984. Pathogenicity changes in *Uromyces appendiculatus* after five asexual generations on a bean cultivar. American Phytopathological Society. (Abstract: 1984. *Phytopathology* 74:794).
-Alexander, H. M., J. J. Burdon, and A. P. Roelfs. 1984. Application of population biology models to studies of yield in crop mixtures. American Phytopathological Society. (Abstract: 1984. *Phytopathology* 74:872).
-Alexander, H. M. 1984. Virulence changes in a plant pathogen, *Uromyces appendiculatus*, after five asexual generations on one host cultivar. Southeastern Ecological Genetics Group. (Abstract with program).
-Alexander, H. M., R. T. Walton**, and A. F. Motten. 1985. The relationship between dioecy in *Silene alba* and infection by the anther-smut fungus *Ustilago violacea*.

Ecological Society of America. (Abstract: 1985. *Bulletin of the Ecological Society of America* 66:134).
-Alexander, H. M. and A. P. Roelfs. 1985. Effect of disease and plant competition on crop yield in monocultures and mixtures of a resistant and susceptible wheat cultivar. American Phytopathological Society. (Abstract: 1985. *Phytopathology* 75:1371).
-Antonovics J., H. Alexander, and D. Stratton. 1990. Patriography and metapopulation dynamics of the *Silene-Ustilago* host-pathogen system. Population Biology of New England and South-Eastern Ecological Genetics Group Meetings. Virginia Polytechnic Institute.
-Alexander, H.. 1991. "Genetic variation in plant populations: implications for host/pathogen interactions".Prairie States Ecology Conclave. Gretna, Nebraska.
-Alexander, H., J. Antonovics, and A. Kelly*. 1992. "Genotypic variation in plant disease resistance: physiological resistance and field disease transmission" Prairie States Ecology Conclave, Bennett Springs, Missouri.
-Alexander, H. M., J. Antonovics, and P. Oudemans. 1992. Genotypic variation in host resistance and pathogen virulence: integration of inoculation and field transmission studies with *Silene alba* and *Ustilago violacea*. Society for the Study of Evolution.
-Davelos*, A. and H. M. Alexander. 1992. Genetic structure of *Spartina pectinata* and its interactions with a fungal pathogen, *Puccinia seymouriana*. (Abstract: *American Journal of Botany* 79:73-74).
-Taliaferro*, S. and H. M. Alexander. 1995. Spaced out smut: genetic variation in populations of an anther smut fungus. Prairie States Ecology Conclave. Prairie State Park, Missouri.
-Taliaferro*, S. and H. M. Alexander. 1995. An ecological genetics study of anther smut infection of *Silene virginica*. Society for the Study of Evolution.
-Davelos*, A. and H. M. Alexander. 1995. Ecological genetic interactions between a clonal host plant and its associated rust fungi. Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 76:60).
-Alexander, H. M., P. V. Oudemans, and B. M. Roche*. 1995.
Reproductive biology of the anther-smut fungus: integration of genetic and ecological approaches. Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 76:3).
-H. M. Alexander, N. A. Slade, and W. D. Kettle. 1996 Application of mark-recapture models to estimation of the population size of plants. Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 77: 7).
-Slade, N. A., H. Alexander, and R. Gomulkiewicz. 1997. Estimating maximum rates of population growth from minimal demographic data. American Society of Mammalogists.
-Mihail, J. D. and H. Alexander. 1997. Effects of root-infecting fungi on the population biology of an annual legume. Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 78:284) (Alexander presented paper).
-Holah*, J. and H. Alexander. 1997. Prairie plant coexistence and soil fungal pathogens. Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 78:110).
-Kahn*, L., K. Kindscher, and H. Alexander. 1997. Effects of microsite variation on the success of a prairie restoration. Ecological Society of America (Ecological Society of America. (Abstract: *Bulletin of the Ecological Society of America* 78:266).

-Alexander, H. M. and J. D. Mihail. 1998. A field study of the effects of seed and seedling diseases on an annual plant. Ecological Society of America Meetings, Baltimore, MD.
-Holah*, Jenny C. and H. M. Alexander. 1998. Feedback between soil biotic communities and their associated prairie grasses. Ecological Society of America Meetings, Baltimore, MD.
-Cummings*, C. L., H. M. Alexander, and A. A. Snow. 1998. Seed production and insect damage in wild and wild-crop F_1 hybrid sunflowers. Ecological Society of America Meetings, Baltimore, MD.
-Alexander, H. M., C. L Cummings*, L. Kahn, and A. A. Snow. 1999. Seed size variation and predation in wild and crop-wild hybrid sunflowers. Ecological Society of America Meetings, Spokane, Washington, (Cummings presented poster).
-Cummings*, C. L. and H. M. Alexander. 1999. Effects of seed density and vertebrate post-dispersal seed predation in experimental wild sunflower populations. Ecological Society of America Meetings, Spokane, Washington.
-Slade, N. A., H.M. Alexander, and D. Kettle. 2001. Estimation of population sze and probabilities of survival and detection in Mead's milkweed, a rare prairie plant. Ecological Society of America Meetings, Madison, WI.
-Alexander, H. M. and C. L. Cummings.* 2001. Patterns of extinction and colonization in wild sunflower populations. Ecological Society of America Meetings, Madison, WI.
-Schrag**, A., J. Nash**, and H. M. Alexander. 2001. The fate of wild sunflower seeds and its population biology consequences. Ecological Society of America Meetings, Madison, WI.
-Moody-Weis*, J., H. Alexander, D. Mott**, D. Pilson, A. Snow. 2001. Relationships among reproductive output, dispersal, and seedling establishment in experimental populations of wild sunflowers. Ecological Society of America Meetings, Madison, WI.
-Dendy, S. P, B. M. Broeckelman**, K. A. Garrett, P. A. Fay, H. M. Alexander. 2001. Effects of changes in rainfall timing and quantity on *Puccinia dioicae* infecting goldenrod. American Phytopathological Society meetings in Salt Lake City, Utah.
-Garrett, K. A., H. M. Alexander, H. U. Ahmed, and S. P. Dendy. 2001. *Uropysix petalostemonis* infecting white prairie clover may be limited by current levels of precipitation in the Kansas tallgrass prairie. American Phytopathological Society, Salt Lake City, Utah.
-Pilson, D., H. Alexander, A. Snow. 2002. Local and metapopulation dynamics of wild sunflower: effects of seed production and the seed bank. American Society of Naturalists meeting, Banff, Alberta.
-Moody-Weis*, J. and H. Alexander. 2003. Role of disturbance and seed density in seed bank formation of *Helianthus annuus*. Ecological Society of America meetings, Savannah, GA..
-Snow, A. A., D. Pilson, L. H. Rieseberg, H. M. Alexander, J. M. Burke. 2003. Consequences of crop-to-wild gene flow in sunflowers (*Helianthus annuus*): a case study. Workshop on Future Directions and Research Priorities for the USDA Biotechnology Risk Assessment Research Grants Program. Washington, DC. (June 9-11)

-Moody-Weis*, J., J. Antonovics, H. M. Alexander, and D. Pilson. 2004. Extrapolating extinction and colonization rates of *Helianthus annuus* across spatial scales. Ecological Society of America meetings, Portland, OR.
-Alexander, H.M., S. Price**, and J. Boggiano**. 2005. Geographic patterns of disease in the woodland sedge *Carex blanda*: infection by the smut fungus *Anthracoidea blanda*. Ecological Society of America meetings, Montreal, Canada.
-Tarr, E. and H. M. Alexander. 2005. Disease resistance genes in *Carex blanda*. American Phytopathological Society meetings, Austin, Texas.
-Pilson, D. and H. M. Alexander. 2005. Persistent effects of the seedbank on the dynamics of wild sunflower populations. Ecological Society of America meetings, Montreal, Canada.
-Alexander, H. M. 2006. Plant traits and pathogen infection from marginal and more central populations of the woodland sedge *Carex blanda*. Ecological Society of America meetings, Memphis, TN.
-Finch*, D. and H. M. Alexander. 2006. Spatial patterns of infection of two plant pathogens with different transmission modes. Ecological Society of America meetings, Memphis, TN.
- Alexander, H., D. Kettle, N. Slade, and G. Pittman. 2006. Research on Mead's milkweed at the Rockefeller Prairie in eastern Kansas: a 19-year perspective. Symposium on "Ecology, evolution, and conservation of a rare prairie plant: Mead's milkweed (*Asclepias meadii*). University of Kansas.
- Grman*, E. and H. Alexander. 2006. Factors limiting Mead's milkweed fruit production in eastern Kansas. Symposium on "Ecology, evolution, and conservation of a rare prairie plant: Mead's milkweed (*Asclepias meadii*). University of Kansas.
- Alexander, H. M., N. A. Slade, W. D. Kettle, and G. L. Pittman. 2007. A 19 year study of the Mead's milkweed (*Asclepias meadii*): insights on detection of individual plants and on population ecology. Ecological Society of America meetings, San Jose.
- Finch*, D. D. and H. M. Alexander. 2007. An experimental study of ecotones: The effect of habitat on the population biology of *Carex blanda*. Ecological Society of America meetings, San Jose, CA.
- Alexander, H. M. and Sparks, K.*. 2008. Population biology of wild sunflowers and studies of rust incidence using herbarium data. National Sunflower Association Research Forum. Fargo, ND (paper based on talk available at www.sunflowernsa.com)
- Begay*, B., Alexander, H. M., and Questad*, E. 2008. Effect of mid-summer haying on early and late flowering prairie plants. Ecological Society of America meetings, Milwaukee, WI.
- Sparks*, K. A. and Alexander, H. M. 2008. Using herbarium data to study stunflower rust (*Puccinia helianthi*) incidence in the sunflower species *Helianthus annuus* and *Helianthus petiolaris*. Ecological Society of America meetings, Milwaukee, WI.
- Alexander, H. M., Pilson, D., Moody-Weis, J., Slade, N., and Tourtellot, M. 2008. Comparative population dynamics as revealed by roadside surveys: *Helianthus annuus* in Kansas and Nebraska. Ecological Society of America meetings, Milwaukee, WI.
- Sparks, K.* and Alexander, H. M. 2009. Using herbarium data to study stunflower rust (*Puccinia helianthi*) incidence in the sunflower species *Helianthus annuus* and *Helianthus petiolaris*. National Sunflower Association Research Forum. Fargo, ND.

- Mercer, K., Snow, A., and Alexander H. M. 2010. Adaptive nature of sunflower emergence timing. Ecological Society of America meetings, Albuquerque. NM.
- Mercer, K., Alexander, H., Emry, J., Kost, M., Pace, B. A., Snow , A. A. 2013. Fitness of crop-wild sunflower hybrids affected by a range of competitive conditions, Ecological Society of America Meeting, Minneapolis, MN
-Malmstrom, C., and Alexander, H. M. 2013. Assessing the effects of viruses on the fitness of wild plants. Green viruses, from gene to landscape, 7-11 September 2013. Hyères-les-Palmiers, France.
-Keene, K.,K. Roccaforte, A. Wayabande, and H. Alexander. 2014. Assessing habitat restoration through comparison of leafhopper fauna between remnant and restored prairies. Summer undergraduate research symposium. University of Kansas.
- Alexander, H. and Malmstrom, C. 2014. Effects of barley yellow dwarf virus on plant fitness components in perennial switchgrass. Ecological Society of America Meeting, Sacramento, CA, August 2014.
- Alexander, H.M., Bruns, E., Schebor, H., and Malmstrom, C.M. 2016. Crop-associated virus infection in a native perennial grass: aster model assessment of fitness effects. Building bridges between disciplines for sustainable management of plant virus diseases, 13th International Plant Virus Epidemiology Symposium, 6-10 June 2016 Avignon, France. (Presented by C. Malmstrom).
-Alexander, H. M. 2017. Three years of a prairie restoration at Free State High School: research, education, and outreach. Ecology seminar series, University of Kansas February 10, 2017.

Grants

-Duke University Graduate School Research Award, 1979 - 1980. "Importance of plant genotype in patterns of infestation of herbivores and pathogens in a plant population".
-National Institutes of Health Traineeship, 1980 - 1982 administered by the University Program in Genetics, Duke University.
-Sigma Xi Grant-in-Aid, 1984, $500. "Epidemiology and genetic variation in susceptibility to disease in natural populations of *Silene alba* (Miller) Krause infected by *Ustilago violacea* (Pers.) Roussel.
-Post-doctoral Research Award, June - August 1984, $2000, June - August 1985. Mountain Lake Biological Station, University of Virginia
-National Science Foundation, 1985 - 1988, $134,000. "Ecological genetics of a natural plant/pathogen interaction: *Silene alba* and *Ustilago violacea*".
-University of Kansas New Faculty General Research Grant, 1988-1989, $5000. "Measuring pathogen fitness: effects of plant genotype and fungal isolate".
-National Science Foundation, 1989 - 1991, $188,000. "Ecological genetics of a natural plant/pathogen interaction: *Silene alba* and *Ustilago violacea*." (renewal grant; Co-P.I.: J. Antonovics).
-University of Kansas General Research Fund, 1989-1990, $5,043. "Frequency-dependent selection and host-pathogen interactions: *Helianthus annuus* and *Puccinia helianthi*".
-University of Kansas, General Research Fund, 1990-1991, $5,984. "Effects of genetic and ecological factors on host/parasite interactions".

-National Science Foundation, 1990-1992, $110,000. "Laboratory Building for the Kansas Ecological Reserves" (8 co-PI's).
-University of Kansas, General Research Fund, 1991-1992, $7,922. "Variation in resistance to fungal disease in a perennial sunflower: ecological and evolutionary consequences".
-National Science Foundation, 1992-1995, $191,173. "Population biology of the anther-smut fungus *Ustilago violacea*: genetic processes revealed by molecular markers". (P. Oudemans is a co-PI).
-University of Kansas, General Research Fund, 1992-1993, $7895. "Ecological genetics of the pathogenic fungus *Puccinia seymouriana*: interactions with multiple host species.
-University of Kansas, General Research Fund, 1993-1994, $3,300. "Spore dispersal and gene flow in an anther smut fungus: integration of genetic and ecological approaches".
-National Science Foundation, 1992-1995, $4,998. REU Supplement. "Description and elucidation of a mating type bias in *Ustilago violacea*.
-University of Kansas, General Research Fund, 1994-1995, $6,662. "The effect of soil pathogenic fungi on tall grass prairie species of varying mycorrhizal dependencies".
-University of Kansas, General Research Fund, 1995-1996, $5,092. "Effects of soil-borne pathogens on the population ecology of annual plants".
-National Science Foundation, 1996-1998, $84,000. "Enhancement of Research Facilities at the Kansas Ecological Reserves". (R. D. Holt was P.I.; H. M. A. was one of 4 co-P.I.'s).
-University of Kansas, General Research Fund, 1996-1997, $4,735. "Integration of theoretical and empirical studies of host-pathogen population dynamics".
-United States Department of Agriculture, 1996-1999, $210,000, $67,103 to University of Kansas. "The spread and ecological impact of fitness-related transgenes in wild sunflowers". (grant written by Allison Snow (Ohio State University), Loren Rieseberg (Indiana University) and myself; I was the P.I. for the Kansas portion)
-University of Kansas, General Research Fund. 1998–1999, $9521. "Effect of diseases of seeds and seedlings on host and pathogen population dynamics".
-United States Department of Agriculture, 2000-2003, $230,000 with $110,418 to University of Kansas. "Effects of transgenic resistance to insects on wild sunflower populations" (grant written by Allison Snow (Ohio State University), Diana Pilson (University of Nebraska) and myself; I was the P.I. for the Kansas portion)
-National Science Foundation, 2001-2003, $181,180. "REU Site: Research Experiences for Undergraduates in Ecology and Evolutionary Biology."
-National Science Foundation, 2002-2004, $8895. Collaborative Research: Effects of environmental variation on plant disease in the tallgrass prairie (In collaboration with K. Garrett (Kansas State University), P. Fay (Kansas State University, and A. Powers (Cornell University); the listed amount is the KU portion for which I was P.I.)
-National Science Foundation, 2004, $6000. REU Supplement: Host-pathogen interactions in a woodland sedge: local processes and regional distributions of disease at the edge of a host species' range.
-National Science Foundation, 2004-2006, $323,538. Enhancement of research and education facilities at the University of Kansas Field Station. (B. L. Foster was P.I.; H. M. Alexander, S. A. Billings, F. J deNoyelles, and W. D. Kettle were co-P.I.'s).

-University of Kansas, General Research Fund. 2004-2005, $7188. “Large-scale population biology studies of the annual sunflower, *Helianthus annuus*”
-National Fish and Wildlife Foundation. 2005-2006, $80,000. Prairie restoration and outreach in Eastern Kansas. (W.D. Kettle (P.I).CoPIs: W.H. Busby, H.M Alexander, B.L. Foster, C.C. Freeman, K. Kindscher, E. A. Martinko.).
-University of Kansas, General Research Fund, 2005-2006, $10,800. “Infection of *Carex blanda* by *Anthracoidea blanda*: integration of ecological and molecular biology approaches”.
-United States Department of Agriculture. 2006-2010. $396,725, with 139,847 to University of Kansas. “Effects of early life history stages and competition on crop gene introgression in wild sunflower” (Grant written by Allison Snow, Kristin Mercer (both of Ohio State University) and myself; I am the P.I. of the University of Kansas portion).
-National Fish and Wildlife Foundation. 2007-2008, $75,953. Prairie restoration and outreach in Eastern Kansas - Phase II. (W.D. Kettle (P.I).CoPIs: W.H. Busby, H.M Alexander, S. Ashworth, J. M. Delisle, B.L. Foster, C.C. Freeman, K. Kindscher, E. A. Martinko.)
-National Sunflower Association. 2009-2010. $1000. Sunflower rust: search for resistance in wild annual *Helianthus* and continued race identification. T. Gulya, USDA, Fargo, ND, PI (funds directed for graduate student (K. Sparks)
-University of Kansas, General Research Fund, 2011-2012, $14,616, “Ecology and evolution of plant-virus interactions in *Panicum virgatum*”
-National Science Foundation, 2011-2014, $329,890. Facilities to enhance research and teaching at the University of Kansas Field Station. (S. Billings, P.I., B. Foster and W. D. Kettle, co-P.I., H. M. Alexander, F. Ballantyne, N. Brunsell, F. J deNoyelles, D. Hirmas, K. Kindscher, V. Smith, J. Thorp, and J. Ward, co-I.’s)
-National Science Foundation, 2013-2016, $349,714. Enhancements to Internet and communication systems at the KU Field Station. (B. Foster, P.I.; S. Billings, D. R. Hirmas, W. D. Kettle, and V. Smith, co-P.Is’; H. M. Alexander, N. Brunsell, J. J. Butler, and F. J deNoyelles, Jr. ,co-I.’s)
-Elizabeth Schultz Environmental Fund, 2014-2016 $10,000. Free State High School Prairie (J. Schwarting and H. Alexander) (Funds for both outreach and research; establishing prairie restoration and community ecology experiment at Free State High School)
-Kettle, W. D., J. Delisle, H. M. Alexander, S. A. Billings, B. L. Foster, D. R. Hirmas. Building Data Infrastructure, Network Capacity and Research Engagement at the KU Field Station, 2014. $38,196.00 KU Research Investment Council: Level II proposal
-Bowman-James, K. (PI). RII Track I: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) mediating sustainability: An observational and experimental network across Kansas., NSF EPSCoR Program $20,000,000. Submitted 2016 (June 1, 2017 – May 31, 2022). (in review)
-Bever, J. D., H. M. Alexander, B. L. Foster, P. A. Schultz, and B. A. Sikes. Dimensions US-China: Collaborative Research: Microbe eco-evolutionary feedbacks as drivers of plant coexistence, diversity gradients, and overyielding. NSF, $1.736.126.00. Submitted Feb. 21, 2017 (January 1, 2018-December 31, 2022). (in review).

Organizer for research symposium

- Symposium on "Ecology, evolution, and conservation of a rare prairie plant: Mead's milkweed (*Asclepias meadii*), November 27-28, 2006, University of Kansas; organized, with assistance of W. D. Kettle and B. Clemens; 12 speakers (7 from outside of University of Kansas), 45 people attended.

Teaching experience
University of Louisville: Introduction to Biological Sciences (1 semester)

University of Kansas:
-Principles of Organismal Biology (Fa 98, Fa 00, Fa 02) (co-taught with David Alexander)
-Population Biology (undergraduate lecture and graduate seminar in Sp 91, Sp 92, Sp 94, Sp 96, Sp 97, Sp 98, Sp 99; graduate seminar co-taught with Norman Slade); graduate seminar in Sp 04
-Introduction to Biostatistics (Sp 01, Sp 03, Sp 05, Fa05, Fa06, Fa07, Sp08, Fa08, Fa09, Fa11, Fa 13, Fa 15)
-Introduction to Biostatistics Laboratory (Fa07, co-taught with Cathy Collins, Fa08, instructor for grading, taught by Ryan O'Leary)
-Conservation and Wildlife Biology (Sp 93, Fa 95, Fa 97, Fa 99, Fa 01, Fa 03, Fa 04, Sp 07, Sp 09, Sp 11, Fa 14). (In 1993, co-taught with Norman Slade and Paul Rich; in 2009, 2011, 2014, and 2016, co-taught with Jorge Soberon)
-Research Methods (Sp 10, Sp 11, Sp12, Sp13, Sp14, Sp 15, Sp 17 with Brad Williamson)
-Evolutionary Mechanisms (Sp 91, Sp 93) (co-taught with several faculty)
-Plant Population Biology (Sp 90, Fa 92, Fa 94, Fa 96)
-Laboratory in Experimental Ecology (Fa 90) (co-taught with several faculty)
-Topics in Quantitative Ecology (Sp 00) (co-taught with Norman Slade and Robert Holt)
-Kansas Plants and Landscapes (Fa 11, Fa 12, Fa 13, Fa 14, Fa 15)
-Field and Laboratory Methods in Ecology (Sp 00) (co-taught with Val Smith)

Seminars: Host-Parasite Interactions (Sp 90, with R. Holt); Plant Conservation Biology (Fa 90); Population Biology of Predators, Parasites, and Pathogens (Fa 93, with R. Holt); Theoretical Population Biology (Fa 96, with N. Slade and R. Holt); Statistical Design of Experiments (Fa 97, Fa 99, Sp 03, Sp 06, Sp 10 with N. Slade); Population Biology and Conservation Biology (Fa 01 with J. Kelly), Biology and Society Thematic Learning Community (Fa 03, with S. Ashe; Fa 04, with G. Myers), Population Ecology (Sp 04, Sp 06), Plant Disease: Ecology and Evolution (Fa 05), Conservation Biology (Sp 13)

Presentations made at courses include undergraduate courses (for example, Topics in Advanced Biology) and graduate courses (for example, Evolutionary Mechanisms or seminars for 1st year graduate students) (usually one or two presentations per year)

Teaching presentations, projects, and grants (at University of Kansas unless otherwise indicated)
Teaching style presented in videotape: Opening the Classroom Door: Virtual Peer Observations (Episode 4), 1999, Center for Teaching Excellence

"Classroom simulations in a large biology class". Kansas Collaborative for Excellence in Teacher Preparation faculty workshop. Topeka, Kansas (contributed talk). 2000

Funding for undergraduate biology curriculum reform; Kansas Collaborative for Excellence in Teacher Preparation (2 weeks, Summer 2000) (main focus was development of new ecology laboratory exercise for Principles of Organismal Biology class)

"Some reflections on the why's, how to's, and what if's of the GTA experience". Keynote address for "About teaching: a conference for GTAs", sponsored by the Center for Teaching Excellence. August 2000.

"Engaging students in the learning process". Center for Teaching Excellence Summit II. (presentation with Marylee Southard). August 2000

"Balancing research, teaching, service, and life". Center for Teaching Excellence Summit III. (presentation with D. Alexander, E. Gerbert, C. Lester, and M. Scheibmeir). August 2001.

Teaching mentor for Dr. Maria Eifler, IRACDA post-doctoral fellow (brief discussions related to her teaching at Haskell Indian Nations University). 2004

Presentation on teaching for "Topics in teaching excellence" (Division of Biological Sciences seminar for new graduate teaching assistants taught by Dr. C. Haufler) (presentation given in Fall 2003, Fall 2004, Fall 2005, Fall 2006)

Faculty Fellow for the Center of Teaching Excellence (Spring 2007, $1500) and recipient of Teaching Grant, Center of Teaching Excellence (Spring 2007, $1000). I used these and other funds to work with Cathy Collins, graduate teaching assistant, on the development of an undergraduate laboratory course in biostatistics.

Coauthored (with C. Collins) a short essay on "Best practices on laboratory courses" for Center of Teaching Excellence book on teaching for new faculty. Summer 2007.

"Designing integrated lecture and lab courses". Center for Teaching Excellence. KU Summit 2007. August 2007.

Mentor for two middle school teachers (Harry Purrington and Fulece Hughes) for the Middle School Science Academy – Research Experiences, a program ran by the Center for Science Education. June 2008.

"Discussions: Sciences and Technology". Two presentations at "About Teaching: A conference for new GTAs". August 2009

Part of team that led a Middle School Science Academy workshop at the University of Kansas Field Station. Ran by the Center for Science Education. June 2010.

Invited participant/speaker in Research Methods Course Retreat, UTeach Institute – National Math and Science Initiative Conference, March 30, 2012, Austin, TX

"Research Methods at the University of Kansas", written and presented by B. Williamson and H. Alexander. UTeach Institute – National Math and Science Initiative Conference, March 30, 2012, Austin, TX.

Organizer for "Outdoor education for secondary teachers", a two day workshop sponsored by the Center for Science Education and held at the University of Kansas Field Station, June 9-10, 2012

Poster on "Outdoor education for secondary teachers" (presented by J. Schwarting and H. Alexander). Kansas Association for Biology Teachers. University of Kansas Field Station. September 2012.

Free State Prairie: Past, Present, and Future (presented by J. Schwarting and H. Alexander). Kansas Association for Biology Teachers. University of Kansas Field Station. September 2014.

Graduate students

Arlan Maltby (M.A. 1992), Systematics & Ecology,
"Vegetative infection of *Silene alba* by the anther-smut fungus *Ustilago violacea*: effect of disease on plant morphology, photosynthetic rate, and competitive ability". (completed Ph.D. program at University of Missouri-Columbia, followed by postdoctoral position in plant pathology)

Anita Davelos (M.A. 1993), Botany,
"Ecological genetic interactions of pathogenic rust fungi and their host plants". (completed Ph.D. at Michigan State University; followed by postdoctoral position at University of Minnesota)

Gordon Ward (M.A. 1994), Systematics & Ecology,
"Ecology of *Tomanthera auriculata*, a rare annual plant".
(position after KU: Ph.D. program at University of Georgia)

Julie Campbell (Ph.D. 1996), Systematics & Ecology
"A study of the invasion and establishment of native species into a partially restored tallgrass prairie in northeastern Kansas"
(currently Director of Introductory Biology Laboratories, University of Kansas)

Sara Taliaferro (M.A. 1997) Botany and Genetics Program
"A study of the ecological genetics of anther smut fungus, *Ustilago violacea*, as it infects firepink, *Silene virginica*"

(currently a biological illustrator at University of Kansas)

Jenny Holah (Ph.D. 1998), Botany
"The potential role of soil fungal pathogens in tallgrass prairie communities"
(position after KU: postdoctoral associate at Indiana University)

Lisa Kahn (M.A. 1998), Ecology and Evolutionary Biology
"Vegetation establishment in a tallgrass prairie restoration"
(position after KU: Peace Corps)

Charity Cummings (Ph.D., 2000), Ecology and Evolutionary Biology
"Population genetic and population ecological consequences of crop-wild sunflower hybridization"
(position after KU: statistician for an insurance company; law school)

Stephen Taerum (M.A. 2005), Ecology and Evolutionary Biology
"Host-parasite dynamics in the leaf-cutter-ant-microbe symbiosis" (primarily advised by Cameron Currie, but Currie could not be official advisor after he left University of Kansas) (position after KU: Ph.D. studies)

Jennifer Moody-Weis (Ph.D. 2006), Ecology and Evolutionary Biology,
"Population ecology of wild sunflowers (*Helianthus annuus*) through space and time" (position after KU: professor at William Jewell College, Liberty, MO)

Jason Emry (Ph.D. 2008), Ecology and Evolutionary Biology
"Population ecology and management of the invasive plant, *Lespedeza cuneata*"
(Visiting professor at Washburn University, Topeka, KS)

Debra Finch (M.A. 2010), Ecology and Evolutionary Biology
"Ecology of *Carex blanda* throughout a woodland/grassland ecotone: A small-scale study of a woodland species in a heterogeneous environment"

Katie Sparks (M.A. 2011), Ecology and Evolutionary Biology (non-thesis)

Steven Roels (M.A. 2011, with honors), Ecology and Evolutionary Biology
"Not easy being Mead's: Comparative herbivory on three milkweeds,
Including threatened Mead's Milkweed (*Asclepias meadii*),
and seedling ecology of Mead's Milkweed"

Courtney Masterson (M.A. 2016), Ecology and Evolutionary Biology, "Effects of white-tailed deer on remnant tallgrass prairie plant communities"

Nathan Jaksetic (M.A. - online program at University of Edinburgh; completed thesis project with H. Alexander but degree awarded through Edinburgh, 2016)

Terra Lubin (Ph.D. – in progress), Ecology and Evolutionary Biology

Outside committee member for Kathy Lemon (Master's degree, University of Miami) and Ulla Carlsson (Ph.D., Umea University, Sweden, 1995)

Undergraduate students (did own research project and/or obtained independent study credits by contributing to H.M.A.'s research program); many others obtained research experience through employment or volunteering

-Allison Smith, 1991, Independent study
-Verna Potts, 1993, Howard Hughes Program, "A comparison of *Pycnanthemum tenuifolium* and *Aster praealtus* in the native tall grass tract and the reseeded tract."
-Jennifer Bohannon, 1993-1994, Undergraduate Honors Project, "The effect of density and herbivory on compass plant seedling growth and survival."
-Francine Katz, 1993-1994, Independent study
-Angela DeSandro, 1993-1995, Undergraduate Honors Project and NSF Research Experiences for Undergraduates Supplement, "Genetic variation among host races of the fungus *Ustilago violacea*: a conjugation and inoculation study."
-Todd Daughtery, 1994, Independent study
-Susan Holcomb, 1996, Independent study
-Mark Auerbach, 1997, Independent study
-Jerusha Reynolds, 1997, Independent study
-Mary Jamieson, 1997-2000, Dean's Scholar
-Joan Phelan, 1998, Independent study
-Christopher Godfrey, 1998, Dean's Scholar
-Joe Nash, 1999-2000, Independent Study
-Anne Schrag, 1999-2001, Independent Study, Undergraduate Honors Project, "The fate of seeds of wild sunflower, *Helianthus annuus*, and its population biology consequences"
-Galen Loving, 2000, Independent Study
-Danielle Mott, 2000, Research project supported through Kansas Collaborative for Excellence in Teacher Preparation funding
-Laurelin Evanhoe, 2001, Independent Study, Undergraduate Honors Project, "Longevity of floral sexual phases in a woodland herb" (H.M.A. was her local sponsor; research primarily conducted with Laura Galloway, University of Virginia)
-Lindsay Hogan, 2001, Independent Study
-Jana Zaudke, 2001, Independent Study
-Barbara Cornelius, 2001, Independent Study (NSF Research Experiences for Undergraduates Program), "Pollen levels of inflorescences in *Cornus drummondii*"
-Amy Dona, 2002, Independent Study
-Emily Grman, 2002, Independent Study (NSF Research Experiences for UndergraduatesProgram), "Factors limiting seed production in *Asclepias meadii*, a rare milkweed."
- Stacie Frain, 2002, Research project supported through Kansas Collaborative for Excellence in Teacher Preparation funding
- Melissa Graham, 2003, Independent Study

- Craig Whalen, 2003, Independent Study
- Sarah Price, 2004-2005, Independent Study and NSF Research Experiences for Undergraduates Supplement, "Host-pathogen interactions in a woodland sedge: local processes and regional distributions of disease at the edge of a host species' range"; supported by Student Senate/Equal Opportunity Fund of the University of Kansas
- Julian Boggiano, 2004, Independent Study (NSF Research Experiences for Undergraduates Independent Study)
- Ann Shabshab, 2004, Independent Study
- Dianne Schroeder, 2004-2005, Independent Study
- Brittany Williams, 2005, Independent Study
- Melissa Forester, 2005, Independent Study
- John Kuhn, 2005, Independent Study and recipient of Honors summer research award
- Erica Fishel, 2005-2007, University Scholars student (I served as her mentor) and recipient of Honors summer research award (coadvised with Deborah Smith); graduated with Honors through Division of Biological Sciences ("Phylogeography of the woodland sedge (*Carex blanda*) in Eastern Kansas") (coadvised with Deborah Smith)
- Ariana Jones, 2006, Independent Study
- Ann Shabshab, 2006, Independent Study (sponsor for her work with Operation Wildlife)
- Layla Habibi, 2007, Independent Study (science education student)
- Liz Mukherjee, 2008, Independent Study
- Beth Richards, 2008, Independent study (science education student)
- Sara Pittman, 2009, Independent study (science education student)
- Man Minh Tran, 2009, Independent study (science education student)
- Andria Beamon, 2009, Independent study
- Dabalamut Warjri, 2009, Independent study
- Mark Kane, 2010, Independent study (science education student)
- David Martinez, 2011, Independent study
- Camden Burton, 2011, Independent study (science education student)
- Stefanie McCray, 2011, Independent study
- Lauren Beesley, 2012-2103, Initiative for Maximizing Student Diversity Program
- Brook Bayless, 2012, Haskell-KU Bridge Program
- Amanda Bixel, 2012, Independent study (science education student)
- Deborah Campbell, 2012, Independent study (science education student)
- Claire Hall, 2012, Independent study (science education student)
- Dan Collis, 2013, Independent study
- Nick Hidlay, 2013, Independent study
- Tamara Brinkman, 2013, Independent study (science education student)
- Erin Kinney, 2013, Independent study
- Ren Liu, 2014, Independent study
- Sara Hettenbach, 2014, Independent study
-William Volle, 2014, Independent study
- Kent Keene, 2014, Independent Study (NSF Research Experiences for Undergraduates)

- Kayla Sale, 2015, Independent study
- Jon Richardson, 2015, Independent study
- Derek Smith, 2015, Independent study (science education student)
- Haley Bradshaw, 2015, Independent study
- Taylor Hall, 2015, Haskell-KU Bridge Program
- Anusha Imran, 2015-2016, Independent study
- Courtney Coppinger, 2016, Independent study
- Delaney Bates, 2017, Independent study
- Kristen Manion, 2017, Independent study

Additional student mentoring

- Becky Begay, 2007 - 2009, (Becky was part of the NIH sponsored "Post-Baccalaureate Research Education Grant" to help minority students become competitive for graduate school; after leaving KU, she was a graduate student at State University of New York College of Environmental Science and Forestry)

Post-doctoral associates and visiting scientists

Peter Oudemans, Post-doctoral associate (1991-1993)
-position after University of Kansas: Assistant Professor of Plant Pathology at Rutgers University (Rutgers Blueberry and Cranberry Research Center)

Godwin Mchau, Post-doctoral associate (1993-1995)
-position after University of Kansas: Director of molecular plant pathology laboratory at Department of Plant Pathology, University of Stellenbosch, Stellenbosch, South Africa

Diana Pilson, University of Nebraska, Big 12 Faculty Fellowship to work with H. Alexander, Fall 2004

Ellen Tarr, IRACDA post-doctoral fellowship (research at University of Kansas; teaching at Haskell Indian Nations University). (2004 – 2007)
-position after University of Kansas: Assistant Professor at Midwestern University, Phoenix, AZ

D. Jason Emry, Post-doctoral Associate (2010 - 2011)
-position after University of Kansas: Visiting Professor at Washburn University, Topeka, KS

Service to professional societies, government agencies, and other universities

Reviewer for journals: American Journal of Botany, American Midland Naturalist, Annual Review of Ecology and Systematics, Arkansas Academy of Sciences, Bulletin of the Torrey Botanical Society, Conservation Biology, Ecological Applications, Ecology, Ecology Letters, Ecoscience, Encylopedia of Plant Pathology, Evolution, Genetics, Journal of Applied Ecology, Journal of Ecology, Journal of Phytopathology, Journal of Vegetation Science, Natural History, Oecologia, Oikos, Phytopathology, Plant Pathology, Science, Trends in Ecology and Evolution

Chair of poster session, Ecological Society of America meetings, 1995

Reviewer for grants (U.S.) Civilian Research and Development Foundation, Environmental Protection Agency, National Science Foundation, Nature Conservancy, Organization for Tropical Studies, Sigma Delta Epsilon, Texas Parks and Wildlife Department, United States Department of Agriculture; (also Member of N.S.F. Population Biology Advisory Panel, Fall 1993, Fall 1995; Member of U.S.D.A. Biology Risk Assessment Panel, Summer 2000)

Reviewer for grants (International) Natural Sciences and Engineering Council of Canada, United States - Israel Binational Agricultural Research & Development Fund, Swiss National Science Foundation

Co-local organizer: NSF Plant Virus Ecology Network meetings: University of Kansas, September 2012

Member of Scientific Committee: 1st International Conference on Wild Plant Pathosystems, Olomouc, Czech Republic,

Since the late 1990's, I also usually review 1-2 promotion/tenure folders per year for professors at other universities

Service at University of Kansas
Department of Botany
Organizer, Botany Department seminar series (Sp 1990)
Botany Admissions and Award Committee (1991 - 1994)
Botany Awards Committee (Chair) (1994 - 1998)
Departmental committee working on Regent's Review document (Sp 1992)
Search Committee (Plant Developmental Biologist) (1992-1993)
Member of student grievance committee (Sp 1996)

Department of Systematics and Ecology
Search Committee (Population Geneticist) (Sp 1990)
Search Committee (Herpetologist) (Sp 1991)
Chair, Student Grievance Committee (Sp 1991)
FLORS subcommittee (Fa 1993)
Member of Awards Committee (Sp 1996)
Chair, Search Committee (Population Geneticist) (Fa 1996 - Sp 1997)
Executive Committee (Fa 1997 - Sp 1998)
Promotion and Tenure Committee (Fa 1997 - Sp 1998)
Graduate Committee (Fa 1997 - Sp 1998)
Mentor for untenured faculty (Fa 1997 - Sp 1998)

Department of Ecology and Evolutionary Biology
Chair, Search Committee (Plant Community Ecology) (Fa 1998- Sp 1999)

Chair, Undergraduate Committee (Fa 1999-Sp. 2001)
Director, NSF Research Experiences for Undergraduate Program (2001-current)
Director of Ecology and Population Biology Program (Fa 2001, Fa 2002 – Su 2005)
Chair, *Ad-hoc* Graduate Regulations Committee (Fa 2002-Sp 2003)
Member, Ad-hoc committee on departmental wide CTE proposal (Fa 2002-Sp 2003)
Member, Bylaws committee (Fa 2002 – Sp 2003)
Member, Promotion and Tenure Committee (Fa 2004 – Sp 2005)
Chair, Search Committee (Theoretical Ecologist) (Fa 2004-Sp 2005)
Member, Search Committee (Systematic Ornithologist) (Fa 2005-Sp 2006)
Member, New Directions Committee (Fa 2006)
Chair, Interim Chair Search Committee (Fa 2007)
Member, Executive Committee (2001 – 2005, 2008 - 2009)
Member, By Laws Committee (2008)
Member, Departmental Review Committee (2005, 2007, 2008, 2009, 2010, 2011, 2012, 2013)
Member, Graduate Program Committee (2009, 2010, 2011)
Mentor (of new faculty members, usually one per year)
Member, Search Committee (Ecological/Evolutionary Genomist) (Fa 2011)
Chair, Search Committee (Theoretical Ecologist) (Fa 2013-Sp 2014)
Member, Strategic Planning Committee (Fa 2013- Sp 2014)
Member, Promotion and Tenure (2014)
Chair, Promotion and Tenure (2015)

(additional service on *Ad-hoc* Departmental Teaching Award Committee; review of General Research fund proposals, *Ad-hoc* Ostenberg Memorial Scholarship Selection Committee)

Division of Biological Sciences
Committee on the Organization of Biology at KU (Sp 1990)
Division of Biological Sciences Honors and Award Committee (Fa 1991 - Sp 1996)
Member, First Level Review Committee, General Research Fund (Sp 1992)
Member, Director of Undergraduate Biology Search Committee (Sp 2001)
Member, Division committee on undergraduate advising (Fa 2001)
Member of committee that submitted a NSF grant for improving undergraduate research and mentoring (Fa 2006)

College
Member of Greenhouse User's group (1990 - current)
Mentor, Dean's Scholars Program (1998 – 2000)
Member, Faculty Advisory Committee (assisting with review of tuition enhancement proposals) (Fa 2002)
Member, Sabbatical Review Committee (2003 – 2004; co-chair in 2004)
Mini University presentation (2009, 2010, 2012)
Task Force on Administrative Compensation (2011)
College Academic Council (Spring 2015, Spring 2017)
CLAS Mentor Program (2 students, Spring 2017)

University

Search Committee (Environmental Scientist/Remote Sensing Specialist, Environmental Studies and Biosurvey) (Sp 1990)
Search Committee (Plant Community Ecology, Biosurvey) (Sp 1992)
Environmental Studies Advisory Committee (Sp 1991 - 1997)
Search Committee (Director of Natural History Museum) (Fa 1993-Sp 1994)
Academic Misconduct Committee (Fa 1996)
Ambassador, Center for Teaching Excellence (Fa 1997 - Sp 1999)
Science Education Task Force (Fa 1999 – Sp 2000) (Subcommittee Chair)
Member of the Executive Committee for the University of Kansas Field Station and Ecological Reserves (2001-current) (prior to 1990, member of Experimental and Applied Ecology program that formerly administered the Reserves)
Interviewer for University Scholar competition (Fa 2006)
University Promotion and Tenure Committee (Sp 2008)
KU member for Review of Geography Department (Sp 2010)
Promotion and Tenure Committee (UKan Teach program) (Fa 2011)
Selection committee: Chancellor Club Teaching Professorships (2012, 2014)
CAC (College Academic Counsel) (2015)

Examples of Community Service (related to biology)

-Classroom presentations: Raintree Montessori, South Junior High, West Junior High; Haskell Indian Nations University
-Career day presentations: South Junior High
-Organized elementary level biology club for 1 ½ years
-Tours for The Nature Conservancy related to an endangered plant, Mead's milkweed
-Speaker at Students as Scholars Institute (introducing field research to middle school students)
- Since 2013, working with Free State High School teachers, students, and KU researchers to develop a prairie restoration and community ecology experiment at their school, talks to the public, extensive involvement with high school classes and outreach to elementary schools