

CURRICULUM VITAE: D. Alexander Wait

ADDRESS:

Department of Biology
901 S. National Ave.
Missouri State University
Springfield, MO 65897

Phone: (417) 836-5802
Fax: (417) 836-4204
Email: AlexanderWait@MissouriState.edu

Born: March 14, 1965 Saratoga Springs, NY USA

EDUCATION:

Ph.D. 1997. Biology. Syracuse University. Syracuse, NY.

M.S. 1992. Environmental Forest Biology. State University of New York-College of Environmental Science and Forestry. Syracuse, NY.

B.S. 1989. Biology. State University of New York-College at Geneseo. Geneseo, NY.

A.A. 1986. Education. New Mexico Highlands University. Las Vegas, NM.

EMPLOYMENT:

Professor and Biology Department Graduate Director: Missouri State University, Springfield, MO. August 2009 – Present.

Associate Professor: Missouri State University, Springfield, MO. August 2004 – July 2009.

Assistant Professor: Missouri State University, Springfield, MO. January 1999 – August 2004.

Postdoctoral Research Associate: University of Maryland, College Park, MD. March 1997-December 1998.

Graduate Research Assistant: Institute of Ecosystem Studies, Millbrook, NY. May-August, 1992-1995, 1996-1997.

Teaching Associate: Syracuse University, Syracuse, NY. September 1993 -May 1994 and September 1995 - December 1995.

Teaching Assistant: Syracuse University, Syracuse, NY. September 1992-May 1993.

SPECIAL APPOINTMENTS:

Program Director: Minor in Sustainability. Missouri State University. 08/15-Present

Honors College Faculty. Missouri State University. 08/13-Present

Graduate Director: Department of Biology. Missouri State University. 08/07-Present

Public Affairs Fellow. Missouri State University. 08/10-05/13

President. Ozarks New Energy, Inc. 05/08-01/11

Provost Fellow for Public Affairs. Missouri State University. 4/08-5/09

PROFESSIONAL ORGANIZATIONAL MEMBERSHIPS:

American Institute of Biological Sciences; Ecological Society of America; International Association for Ecology; International Society for Oak Woodlands and Forests Fire Consortium; Pest Information; Sigma Xi; Society for Conservation Biology

PRIMARY PEER REVIEWED PUBLICATIONS: (*Graduate Student; **Undergraduate Student) (26)

Afrin, Taiaba, and **D.A. Wait** 2018. Effects of engineered carbon and silver nanoparticles on gene expression in *Plutella xylostella* to assess toxicity. *Journal of Genetics and Genetic Engineering*. 2(1): 9-17.

Wait, D.A. 2016. Predicting compensatory growth and reproduction in agricultural weeds using a plant's growth rate trajectory: a test with defoliation of *Abutilon theophrasti*. *Journal of Agricultural Science and Technology*. 6(6): 255-260.

Wait, D.A. 2016. Effects of burning and folivory on growth of oak saplings for oak advance regeneration and commercial use in oak forests and savannahs. *International Journal of Applied Science and Technology*. 6(2):1-10.

Cornell*, J.E. and **D.A. Wait**. 2016. Short-term intensive sustainable restoration of grasslands and prairies invaded by with high densities of nitrogen-fixing weeds. A test with the invasive plant *Lespedeza cuneate*. *Journal of Environmental Science and Engineering*. 5(5):254-260.

Fischer**, J. (**D.A. Wait – advisor**). 2015. Pure carbon nanotube toxicity to moth species *Plutella xylostella* and consumption of carbon nanotube material. *LOGUS* 8:63-71.

Wait, D.A. and D.P. Aubrey. 2014. Prescribed fire and oak sapling physiology, demography and folivore damage in an Ozark woodland. Proceeding of Central Hardwood Conference. *United States Department of Agriculture, NRS-P-142*: 109-121.
http://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs-p-142.pdf.

- Wait, D. A.** 2014. Can a university's public affairs mission move the institution beyond sustainability? *EJournal of Public Affairs*. 3(2):47-66.
<https://ejopa.missouristate.edu/index.php/ejournal/article/view/44/60>
- Mulder C.P.H., Jones, H.P., Kameda, C. Palmborg, S., Schmidt, J.C., Ellis, Orrock, J.L., **Wait, D.A.** Wardle, D., Yang, L., *Young, H., Croll, D.A., and E. Vidal. 2011. Impacts of Seabirds on Plant and Soil Properties. In: Seabird Islands: Ecology, Invasion, and Restoration. (Mulder, C.P.H., W.B. Anderson, D.R. Towns, and P.J. Bellingham eds). Oxford University Press. Pp 135-176.
- Ellis, J.C. Bellingham, P.J., Cameron, E.K., Croll, D.A., *Kolb, G.S., Kueffer, C., Mittelhauser, G.H., Schmidt, S., Vidal, E., and **D.A. Wait**. 2011. Effects of Seabirds on Plant Communities. In: Seabird Islands: Ecology, Invasion, and Restoration. (Mulder, C.P.H., W.B. Anderson, D.R. Towns, and P.J. Bellingham eds). Oxford University Press. Pp. 177-211.
- Anderson, W.B., **D.A. Wait**, and P. Stapp. 2008. Resources from another place and time: community responses to pulses in a spatially subsidized system. *Ecology* (Special Feature). 89:660-670.
- Cornell*, J.E., M.G. Gutiérrez, **D.A. Wait**, and H.O. Rbio-Arias. 2008 Ecological characterization of a riparian corridor along the Rio Conchos, Mexico. *The Southwestern Naturalist*. 53:96-100.
- Casper, B.B., I.N. Forseth, and **D.A. Wait**. 2006. A stage-based study of drought response in *Cryptantha flava* (Boraginaceae): Gas exchange, water use efficiency, and whole plant performance. *American Journal of Botany*. 93:978-987.
- Heckman**, K.A., Anderson, W.B. and **D.A. Wait**. 2006. Distribution and activity of hypolithic soil crusts on desert islands in the Gulf of California. *Biology and Fertility of Soils*. 43:263-266.
- Andre*, C.S., **D.A. Wait**, and W.B. Anderson. 2006. Ecology of three populations of the rare woodland perennial *Trillium pusillum* michaux (liliaceae) in southwest Missouri. *Missouriensis*. 26:7-21
- Wait, D.A.**, Aubrey**, D.P., and W.B. Anderson. 2005. Seabird guano influences on desert islands: soil chemistry and herbaceous species richness and productivity. *Journal of Arid Environments*. 60:681-695.
- Casper, B.B, Forseth, I.F., and **D.A. Wait**. 2005 Variation in carbon isotope discrimination and plant performance in a natural population of *Cryptantha flava*. *Oecologia* 145:541-548.
- Barrett*, K, Anderson, W.B., **Wait, D.A.**, Grismer, L.L., Polis, G.A., and M.D. Rose. 2005 Marine subsidies alter the diet and density of insular and coastal populations of side blotched lizards (*Uta stansburiana*). *Oikos*. 109: 145-153.

- Barrett*, K., **Wait, D.A.** and W.B. Anderson. 2003. Small island biogeography in the Gulf of California: lizards, the subsidized island biogeography hypothesis, and the small island effect. *Journal of Biogeography*. 30:1575-1581
- Wait, D.A.**, J.S. Coleman and C.G. Jones. 2002. *Chrysomela scripta*, *Plagioderma versicolora* (Coleoptera: Chrysomelidia), and *Trichoplusia ni* (Lepidoptera: Noctuidae) track specific leaf developmental stages. *Environmental Entomology*. 31: 836-843
- Peek*, M.S., Russek-Cohen, E., **Wait, D.A.** and I.N. Forseth. 2002 . Physiological response curve analysis using nonlinear mixed models. *Oecologia*. 132:175-180.
- Anderson, W.B., and **D.A. Wait**. 2001. Subsidized island biogeography hypothesis: another new twist on an old theory. *Ecology Letters*. 4:289-291.
- Forseth, I.N., **Wait, D.A.**, and B.B. Casper. 2001. Shading by shrubs in a desert system reduces the physiological and demographic performance of an associated herbaceous perennial. *Journal of Ecology*. 89:670-680.
- Wait, D.A.**, C.G. Jones, J. Wynn and F.I. Woodward. 1999. The fraction of expanding to expanded leaves determines the biomass responses of *Populus* to elevated CO₂. *Oecologia* 121:193-200.
- Wait, D.A.**, C.G. Jones, and J.S. Coleman. 1998. Effects of nitrogen fertilization on leaf chemistry and beetle feeding are mediated by leaf development. *Oikos* 82: 502-514
- Wait, D.A.**, C.G. Jones, and M. Schaedle. 1996. Controlling growth and chemical composition of saplings by iteratively matching nutrient supply to demand: A bootstrap fertilization technique. *Tree Physiology* 16: 359-366.
- Hartvigsen, G., **Wait, D.A.**, and J.S. Coleman. 1995. Tri-trophic interactions influenced by resource availability: Predator effects on plant performance depend on plant resources. *Oikos* 74:463-468.

SECONDARY PUBLICATIONS (11-not including lab manuals):

- Wait, D.A.** 2018. Reflections on the Ozarks as a sustainable place. In: Living Ozarks: The Ecology of a Natural Place. Edgar, Besara and Baumlin (eds). Ozark Studies Institute. Pp160-164. (Invited contribution)
- Wait, D.A.** 2017. Book Review: “Scientists, Experts, and Civic Engagement: Walking a Fine Line” Edited by Amy E. Lessen. 2015. Ashgate Publishing. ISBN: 9781472415240. *EJournal of Public Affairs*. 6 (3): 87-92. http://www.ejournalofpublicaffairs.org/wp-content/uploads/2018/02/158_Book-Review-Scientists-Experts-and-Civic-Engagement-Walking-a-Fine-Line.pdf
- Kovacs, L and **D.A. Wait**. 2016. Environmental Consequences of Nanotechnologies. Standard Operating Procedure Series: Toxicity. Toxicity of Engineered Nanoparticles in Plants. US Army Copts of Engineers, Engineer Research and Development Center. 22 pages.

- Spychalla*, A. J. and **D.A. Wait**. 2016. Food Plot Management and Endozoochory. *Quality White Tails Magazine*.
- Wait, D.A.** 2012. Forward. In: Decision Making for a Sustainable Environment: A Systemic Approach. C. Maser (author). CRC Press, Boca Raton, FL. Pp: XIII-XVI.
- Wait, D.A.** 2012. From spring ephemerals to light to fungi: plant dynamics in an Ozark oak/hickory forest/woodland community managed for wildlife through prescribed burns. Proceedings of the 4th Fire in Eastern Oak Forests Conference. General Technical Report NRS-P-102. Pp: 291.
- Blinkhorn*, M.A and **D.A. Wait**. 2012. The effects of seasonally prescribed fire on a dolomite glade. Proceedings of the 4th Fire in Eastern Oak Forests Conference. General Technical Report NRS-P-102. Pp 269.
- Wait, D.A.** and M.A. Blinkhorn*. 2012. Botanical Garden Guide. For: Yachana Lodge, Ecuador. 25 pp.
- Wait, D.A.** 2009. Sustainability in the Ozarks. *OzarksWatch* (invited guest editorial to special issue on sustainability). 2:18-19.
- Wait, D.A.** 2006. Effects of Deer on Herbaceous Species Richness, Diversity and Cover at the Springfield Conservation Nature Center between 1999 and 2005. Solicited unpublished report to Missouri Department of Conservation. 14 pp.
- Wait, D.A.** 2003. Inventory of Invasive Exotic Flora at George Washington Carver National Monument. Technical report NPS/HTLN/P6370010930. 24 pp.

LABORATORY MANUALS

- T. T. Hopper and **D.A. Wait**. 2016 (4th Ed). Laboratory Manual for General Biology II. Fountainhead Press, Southlake, TX. ISBN 1-59871-050-8. 184 pp.
- T. T. Hopper and **D.A. Wait** 2011 (3rd Ed.). Laboratory Manual for General Biology II. Fountainhead Press, Southlake, TX. ISBN 1-59871-050-8. 174 pp.
- Wait, D.A.** and T. T. Hopper. 2007 (2nd Ed). Laboratory Manual for General Biology II. Fountainhead Press, Southlake, TX. ISBN 1-59871-050-8. 165 pp.
- Wait, D.A.** and T. T. Hopper. 2004 (1st Ed). Laboratory Manual for General Biology II. Fountainhead Press, Southlake, TX. ISBN 1-59871-050-8. 142 pp.

CONFERENCE PRESENTATIONS: (*Graduate Student,** Undergraduate Student) (67)

- Wait, D.A.** 2019. Spring Ephemeral Forbs, Mesophication and Prescribed Fire in a Missouri Oak-hickory Woodland: Implications for Management, Restoration and Conservation. Missouri Natural Resource Conference. Osage Beach, MO.
- Coleman*, A.L and **D.A. Wait**. 2019. Pollinator Networks In Established Urban Prairie Gardens Compared To Rural Remnant Prairie Conservation Areas. Missouri Natural Resource Conference. Osage Beach, MO.
- Smith*, N. Probst**, J. Kovacs, L, Hanson**, C. Ma**, A. and **D. A. Wait**. 2018. The morphological and transcriptomic impact of silver quantum dots in *Arabidopsis thaliana* during early development. American Society for Plant Biology. Ames, IA.
- Wait, D.A.** 2017. The Reality of Anthropomorphic Engineered Nanoparticles Entering the

- Environment and Affecting Plant Genes and Physiology Might Just Change The World? Ecological Society of America. Portland, OR.
- Afrin*, T. and **D.A. Wait**. 2016. The Effects of Single Walled Carbon Nanotubes on Diamondback Moth Feeding, Growth, Pupation, Survival and Fecundity. Arkansas Idea Network of Biomedical Research Excellence Annual Conference. Fayetteville, AR.
- Wait, D.A.** 2016. Anthropomorphic Engineered Nanoparticles in the Environment: A Case Study on Carbon Nanoparticle Effects on Feeding and Growth of Diamondback Moths (*Plutella Xylostella*). Ecological Society of America. Ft. Lauderdale, FL
- Spychalla*, A.J. and **D.A. Wait**. 2016. Endozoochorous Spread of Invasive Plant Species By White-Tailed Deer (*Odocoileus Virginianus*) and Elk (*Cervus Elaphus*) In the Missouri Ozarks. Missouri Natural Resource Conference. Osage Beach, MO.
- Wait, D.A.** 2015. Climate Change Effects In Missouri: Past, Present, and Future. Missouri Master Naturalist Conference. Springfield, MO. [Invited].
- Voleti*, R., Chiles**, A., Linan**, J. Fischer**, J., Kovacs, L. and **Wait, D.A.** 2014. The Effects of Carbon Nanotubes on Global Gene Expression and Gas Exchange in *Arabidopsis thaliana*. Arkansas Idea Network of Biomedical Research Excellence Annual Conference. Fayetteville, AR.
- Chiles**, A. and **D.A. Wait**. 2014. Effects of Carbon Nanotubes on Plant Growth and Insect Feeding and Growth. Conference for Undergraduate Women in Physical Sciences. Lincoln, NE.
- Voleti*, R., Chiles**, A., Linan**, J. Fischer**, J., Kovacs, L. and **Wait, D.A.** 2014. The Effects of Carbon Nanotubes on Global Gene Expression and Gas Exchange in *Arabidopsis thaliana*, and on Consumption and Growth of *Plutella xylostella*. 12th Annual Ecological Genomics Symposium. Kansas City, MO.
- Linan**, A., Voleti**, R., Coleman**, C., Su, Y., **Wait, D.A.** and Kovacs, L. 2014. RNA-seq analysis in carbon nanostructure-exposed *Arabidopsis thaliana*. 2nd Plant Genomics Congress: USA . St. Louis, MO.
- Wait, D.A.** 2014. Effects of carbon nanotubes on plant growth and gas exchange in *Arabidopsis thaliana*: first results in cradle to grave life cycle analysis. Ecological Society of America. Sacramento, CA.
- Voleti*, R. and **D.A. Wait**. 2014. Effect of carbon nanotubes on plant growth and gas exchange using *Arabidopsis thaliana*. TechConnect World Conference. Washington, DC.
- Wait, D.A.** and D.P. Aubrey. 2014. Physiological, demographic and folivore effects on seedlings and saplings as a function of fire history in an Ozark woodland. Central Hardwood Conference. University of Illinois, Carbondale, IL. [Invited].
- Wait, D.A.** 2013. Burn, burn, burn: a plant ecological and ecosystem perspective on prescribed fire for wildlife management. Missouri Botanical Symposium, Rolla, MO. [Invited].
- Wait, D.A.** 2012. Canopy production and light penetration in burned and unburned oak-hickory forests and associated community and ecosystem responses. Ecological Society of America. Portland, OR.
- Vess. L and **D.A. Wait**. 2012. Development of a sustainability minor at Missouri State University: The model, lessons learned, and community engagement. Smart and Sustainable Campuses Conference. College Park, MD.
- Wait, D.A.** 2011. From spring ephemerals to light to fungi: plant dynamics in an Ozark oak/hickory forest/woodland community managed for wildlife through prescribed burns. Fire in Eastern Oak Forests Conference. Springfield, MO.

- Blinkhorn*, M.A and **D.A. Wait**. 2011. The effects of seasonally prescribed fire on a dolomite glade. Fire in Eastern Oak Forests Conference. Springfield, MO.
- Wait, D.A.** and L. Vess. 2010. Gusts and Breezes of Change: Outcomes of a Faculty Curriculum Workshop. Association for the Advancement of Sustainability in Higher Education. Annual Meeting. Denver, CO.
- Schmidt, S., Mulder, C.P.H., Ellis, J., Bellingham, P.J., Cameron, E.K., Croll, D.A., Jones, H., Kameda, K., Kolb*, K.G., Kueffer, C., Vidal, E., **Wait, D.A.**, Wardle, D.A., Yang, L.H., and H. Young*. 2010. Global analysis of biogeochemistry and plant communities on seabird islands. World Seabird Congress. Victoria, Canada. (Invited Symposium Talk).
- Gehringer*, B. and **D.A. Wait**. 2009. Fire effects on canopy cover and light in Ozarks forests: management implications. Missouri Natural Resource Conference. Osage Beach, MO.
- Wait, D.A.**, and L. Berger**. 2008. Sustainability at Missouri State University: the toddler years. Association for the Advancement of Sustainability in Higher Education. Raleigh, NC.
- Wait, D.A.**, Cornell*, J.E. and W.B. Anderson. 2008. Short-term intensive management of *Lespedeza cuneata* in old-fields and prairies: sustainable management through organic fertilization (and a bit of herbicide). Ecological Society of America. Milwaukee, WI.
- Dalrymple*, B.R. and **D.A. Wait**. 2008. Loss of southern wild rice populations throughout the Illinois river valley: narrow physiological tolerances or loss of suitable hydrological regimes? Mississippi River Research Consortium (44th annual meeting). Dubuque, IA.
- Cornell*, J.E. and **D.A. Wait**. 2007. Short-term intensive management of *Lespedeza* using sustainable practices. Missouri Natural Resource Conference. Osage Beach, MO.
- Wait, D.A.** and W.B. Anderson. 2006. Do biennial prescribed fires in closed oak/hickory forests initiate savannah restoration? Ecological Society of America. Memphis, TN.
- Wait, D.A.** and W.B. Anderson. 2005. Responding to temporal resource pulses in a spatially subsidized community: surprising strategies of desert annuals. International Congress of Ecology and ESA. Montreal, Canada.
- Anderson, W.B. and **D.A. Wait**. 2005. Pulsed vs. subsidized communities: Similar, different, or inseparable in a hyperarid system? International Congress of Ecology and ESA. Montreal, Canada (Invited Symposium Talk).
- Pulley*, D., and **D.A. Wait**. 2005. Effects of fire frequency on soil respiration, temperature, moisture, and nutrient availability in an Ozark forest. Missouri Natural Resource Conference. Osage Beach, MO.
- Wait, D.A.**, Jones, C.G., Hartman, T. and S. Hartley. 2004. Alkaloid and phenolic biosynthesis in *Senecio vulgaris* grown in elevated CO₂: coordinated or independent allocation. Ecological Society of America, Portland, OR.
- Anderson, W.B., **Wait, D.A.**, and S. Dayton**. 2004. Fungal infection alters community interactions and ecosystem functions of a spring ephemeral plant. Ecological Society of America, Portland, OR.
- Pulley**, D., and **D.A. Wait**. 2004. Does fire stimulate soil respiration and nutrient cycling in Ozark forests? Missouri Natural Resource Conference. Osage Beach, MO.
- Brown*, P., and **D.A. Wait**. 2004. Is arthropod herbivory in Ozark forests affected by prescribed burns? Missouri Natural Resource Conference. Osage Beach, MO.

- Aubrey*, D.P., and **D.A. Wait**. 2004. Effects of prescribed fire on canopy coverage and seedling and sapling response to a changing light environment in an Ozark forest. Missouri Natural Resource Conference. Osage Beach, MO.
- Anderson, W.B., Bethmann**, C., **D.A. Wait**, and L. Allfree**. 2003. Boundary Permeability to marine subsidies affects arthropod community structure on Gulf of California islands. Ecological Society of America, Savannah, GA.
- Barrett*, K., **D.A. Wait**, and W.B. Anderson. 2003. Small island biogeography in the Gulf of California: lizards, the subsidized island biogeography hypothesis, and the small island effect. Ecological Society of America, Savannah, GA.
- Heckman**, K. W.B. Anderson, and **D.A. Wait**. 2003. Ecological contributions of hypolithic cryptobiotic soil crusts in hyperarid ecosystems. Ecological Society of America, Savannah, GA.
- Wait, D.A.** 2002 Nitrogen fertilization, growth rate trajectories and leaf developmental age tracking by folivores: predicting food availability for folivores and their impacts on *Populus* growth. International Poplar Symposium III. Uppsala, Sweden.
- Wait, D.A.** and W.B. Anderson. 2002. The effects of guano and salinity on the physiological ecology of desert island plant species. Ecological Society of America, Tucson, AZ.
- Aubrey**, D.P., **D.A. Wait**, and W.B. Anderson. 2002. Soil chemistry and plant species richness on marine desert islands: seabird influence and spatial heterogeneity. Ecological Society of America, Tucson, AZ.
- Barrett*, K., W.B. Anderson, and **D.A. Wait**. 2002. Multiple stable isotopes reveal differential influence of marine subsidies on insular and coastal populations of *Uta stansburiana* (side-blotched lizard). Ecological Society of America, Tucson, AZ.
- Barrett*, K., W.B. Anderson, and **D.A. Wait**. 2002. Multiple stable isotopes reveal differential influence of marine subsidies on insular and coastal populations of *Uta stansburiana* (side-blotched lizard). Society for the Study of Amphibians and Reptiles, Kansas City, MO.
- Aubrey**, D.P., and **D.A. Wait**. 2002. Fire effects on seedling and sapling composition in an Ozark forest: a demographic and physiological approach. Missouri Natural Resources Conference, Osage Beach, MO; and, Missouri Academy of Sciences, Springfield, MO.
- Barrett*, K., **D.A. Wait**, and W.B. Anderson. 2001. Habitat subsidies and lizard communities on desert islands in the Gulf of California. Missouri Herpetological Association, Reese Biological Station, MO.
- Anderson, W.B. and **D.A. Wait**. 2001. Spatial subsidies alter species-area relationships on islands. Ecological Society of America, Madison, WI.
- Forseth, I.N., **D.A. Wait**, B. B. Casper. 2001. Physiological and developmental responses to drought in *Cryptantha flava* are size specific. Ecological Society of America, Madison, WI.
- McClain*, W.E., Einhellig, F.A., and **D.A. Wait**. 2001. Interactive effects of ferulic acid and irradiance on soybean growth and photosynthesis. Missouri Academy of Sciences, Joplin, MO.
- Wait, D.A.** 2000 Nitrogen supply effects on compensatory growth and reproduction in response to herbivore damage: a test of the RGR trajectory hypothesis with *Abutilon theophrasti*. Ecological Society of America, Snowbird, UT.
- Wait, D.A.**, I.N. Forseth, and B.B. Casper. 1999. The relationship between carbon isotope discrimination, growth, flowering, and size transition in *Cryptantha flava*". Ecological Society of America, Spokane, WA.

- Forseth, I.N., **D.A. Wait**, and B.B. Casper. 1999. Variation in carbon isotope discrimination associated with plant size, year, and microhabitat in *Cryptantha flava*. Ecological Society of America, Spokane, WA.
- Peek*, M.S., I.N. Forseth and **D.A. Wait**. 1999. Physiological response of the desert perennial, *Cryptantha flava*, to simulated Mule deer defecation. Ecological Society of America, Spokane, WA.
- Russek-Cohen, E., M.S. Peek*, I.N. Forseth, and **D.A. Wait**. 1999. Nonlinear mixed models and the analysis of ecophysiological response curves. Ecological Society of America, Spokane, WA.
- Wait, D.A.**, I.N. Forseth, and B.B. Casper. 1998. The effects of drought and interspecific interactions on the demography of the herbaceous semi-desert perennial *Cryptantha flava*. Ecological Society of America, Baltimore, MD. *American Journal of Botany* 85 (6) p.28 .
- Wait, D.A.**, C.G. Jones, and J.S. Coleman. 1998. Nitrogen fertilization makes the world greener for folivorous insects by changing leaf development. Gordon Research Conference: Plant-Herbivore Interactions. Oxnard, CA
- Forseth, I.N., **Wait, D.A.** and B.B. Casper. 1998. Physiological and demographic responses of a semi-desert perennial to spatial and temporal heterogeneity. British Ecological Society. York, UK.
- Wait, D.A.**, J.S. Coleman, and C.G. Jones. 1996. Tolerance to herbivory is dependent on the trajectory of plant relative growth rate at the time of tissue removal. *Bulletin of the Ecological Society of America*. 77:464.
- Wait, D.A.**, J.S. Coleman, and C.G. Jones. 1995. Net effects of herbivory on plant performance measured under dynamic nutrient supply in the field. *Bulletin of the Ecological Society of America*. 76:276.
- Wait, D.A.**, C.G. Jones, and J.S. Coleman. 1995. Manipulation of leaf development and chemistry with novel use of fertilization: Leaf development determines where beetles feed and leaf chemistry determines how much they consume. Gordon Research Conference: Plant-Herbivore Interactions. Oxnard, CA
- Wait, D.A.**, J.S. Coleman, and C.G. Jones. 1994. Nutrient Supply, leaf nitrogen, and phenol glycoside composition in cottonwood: How they interact to affect beetle feeding. International Society of Chemical Ecology. 11th Annual Meeting. Syracuse, NY
- Wait, D.A.**, C.G. Jones, and J.S. Coleman. 1993. Fertilization and herbivore feeding: the relationship between leaf ontogeny and leaf biochemical composition. *Bulletin of the Ecological Society of America*. 74:474.
- Coleman, J.S., and **D.A. Wait**. 1993. Leaf ontogeny and herbivore performance: do herbivores care about leaf chronological age, developmental stage, or position on the stem? *Bulletin of the Ecological Society of America*. 74:197.
- Wait, D.A.**, C.G. Jones, and J.S. Coleman. 1992. Effects of steady-state nutrient supply on growth and physiology of cottonwood and the implications to three herbivores. Gordon Research Conference: Chemistry of Plant-Herbivore Interactions. Oxnard, CA
- Hartvigsen, G., **D.A. Wait**, and J.S. Coleman. 1992. The effect of plant quality and herbivorous and predatory mite populations on the growth of *Populus deltoides* saplings. *Bulletin of the Ecological Society of America*. 73:202.
- Wait, D.A.**, C.G. Jones, and M. Schaedle. 1991. Controlled plant growth: a boot-strap technique for growing *Populus* saplings at constant relative growth rates. *Bulletin of the Ecological Society of America*. 72:279.

Wait, D.A., and G.M. Briggs. 1989. Stomatal conductance of *Acer nigrum* and *Platanus occidentalis* during the period of leaf senescence. *Bulletin of the Ecological Society of America*. 70:290.

GRANTS: (25)

- Watershed Committee of the Ozarks. Graduate Assistantship for Water Conservation Research. \$5,336. 1/18-6/18.
- Missouri Department of Conservation. Habitat Improvement at Water Valley Mill. \$10,000. 1/17-1/18.
- U.S. Army Engineer Research and Development Center. Carbon Nanotubes and Plant Genetics and Growth. 1/17-1/18. \$10,000 (with Dr. L. Kovacs)
- U.S. Army Engineer Research and Development Center. Carbon Nanotubes and Plant Genetics and Growth. 1/16-1/17. \$10,000 (with Dr. L. Kovacs)
- Missouri State University: Faculty Fellowship. Effects of Carbon Nanotubes on Plant Growth and Gas Exchange. 5/14-8/14. \$6,000.
- Missouri State University Faculty Research Grant to the CNT Life Cycle Working Group. Kovacs, Wait and Wanekaya. 1/13-1/14. \$15,000
- Missouri Department of Conservation. Fire, Oak Regeneration, and Understory Flora Development in Managed Ozark Forests: Mechanistic Assessments for Managers. 7/11-6/12. \$3,500.
- Missouri State University: Faculty Center for Teaching and Learning. Sustainability in the Curriculum Workshop: Toward Sustainability in the Curriculum at Missouri State University. 4/10-12/11. \$8,031.
- Missouri State University: Faculty Research Grant. Island Ecology of the Puget Sound: Providing Knowledge for Conservation and Restoration of Marine Islands. 4/10-12/10. \$7,500.
- Missouri Department of Conservation. Fire, Oak Regeneration, and Understory Flora Development in Managed Ozark Forests: Mechanistic Assessments for Managers. 7/09-6/10. \$3,500.
- Missouri Department of Conservation. Fire, Oak Regeneration, and Understory Flora Development in Managed Ozark Forests: Mechanistic Assessments for Managers. 2/09-12/09. \$3,500.
- Missouri Department of Conservation. Fire, Oak Regeneration, and Understory Flora Development in Managed Ozark Forests: Mechanistic Assessments for Managers. 4/08-12/08. \$9,070.
- Waste Management District O, State of Missouri. Cardboard Recycling Program. 6/08-6/09. \$17,400
- National Parks Conservation Association. Natural Resource Assessment at Wilson Creek and Pea Ridge. 9/07-2/08. \$8,000.
- Missouri Department of Conservation. Fire, Oak Regeneration, and Understory Flora Development in Managed Ozark Forests: Mechanistic Assessments for Managers. 4/07-6/07. \$6,500.
- Missouri State University: Center for Resource Planning and Management. Recycling and Biomass Recovery at Missouri State University: Exploring Opportunities for a Sustainable Campus. 1/07-4/07. \$2,450.

Missouri State University: Funding for Results. Using Field-Based Classes to Increase Knowledge on Ecological Research Techniques and Increase Awareness of Local Ecological Issues. Project Member. Janice Greene (PI) 5/07-8/07. \$3,100.

Missouri State University: Faculty Research Grant. Distribution, abundance, and ecology of hypolithic biological rock crusts in the Sonoran Desert. 3/05-12/05. \$4,270.

National Park Service. Inventory of Invasive Exotic Flora at George W. Carver National Monument. 9/01-2/03. \$10,070.

Andrew Mellon Foundation. The Effects of Marine Materials on Terrestrial Plant Communities and Ecosystems on Desert Islands in the Gulf of California. 5/01-5/04. \$58,000.

Missouri State University: Faculty Fellowship. Productivity and Biodiversity in Managed and Unmanaged Ozark Forests. 5/00-8/00. \$5,000.

Missouri State University: Faculty Research Grant. Nitrogen Fertilization and Plant Compensation for Herbivore Damage. 5/99-5/00. \$7,000.

Sigma Xi Grants-in-Aid of Research. The Net Effects of Nitrogen and Herbivory on Plant Performance: A Test Using Two Tree Species with Contrasting Ecological and Physiological Life History Traits. 4/95 - 4/96. \$700.

National Science Foundation Dissertation Improvement Grant. Nitrogen-Plant-Insect Interactions: Integrating Via a Net Effects Approach. 4/95 - 9/96. IBN-9423316. \$10,000.

Sigma Xi Grants-in-Aid of Research. The Net Effects of Nitrogen and Herbivory on Plant Performance: Leaf Development. 4/94 - 4/95. \$700.

GRADUATE STUDENTS: (17) (name, date awarded MS degree, title)

Adam Shoemaker (May 2020 expected). “The effects of silver and cesium nanoparticles on growth, physiology and defense in sorghum”

Charles Agbavor (May 2020 expected). “The interaction of soybean microbiomes as defense against *Pseudomonas syringae* pv. *Glycinea*)

Amanda Coleman (May 2019 expected). “Pollination networks in urban and rural prairies”.

Ben Parnell (May 2018; Professional Science Master’s Program). “Habitat Management in Watersheds”

Mary Ann Blinkhorn (May 2018). “Using fire to restore and maintain glades”.

Taiaba Afrin (June 2017). “Carbon nanotube effects on plant insect interactions”.

Maryam Subaylaa (May 2017). “Silver quantum dot effects on plant growth and gas exchange”.

Andrew Spsychalla (August 2016). “Endozoochorous spread of nonnative plant species by White-tailed deer (*Odocoileus virginianus*) and Elk (*Cervus elaphus*) in the Missouri Ozarks”.

Rajeeva Voleti (December 2015). “Effects of Carbon Nanotubes on Plant Growth and Gas Exchange”.

Becky Gehringer (December 2012) "Prescribed Fire Effects On Woodland Structure, Light Levels And Understory Plant Communities In Missouri Oak-Hickory Woodlands".

Alex Threkeld (December 2009) "Effects of burning and cutting on glade restoration".

Beth Dalrymple (August 2008): "Ecological limitations for southern wild rice associated with backwater lakes of the Illinois and upper Mississippi river valleys".

Jack Cornell (May 2008): "Short-term intensive management of high densities of the invasive plant *Sericea Lespedeza*".

Pam Brown (May 2005): "Foliar herbivory on understory oaks as a function of forest type and prescribed burning".

Doug Aubrey (August 2004): "Savanna restoration through prescribed fire: demographic and physiological responses of oak and hickory seedlings and saplings to a changing light environment".

Cynthia Andre (May 2003): "Biology of the rare woodland perennial *Trillium pusillum* Micheaux (Lilaceae) in southwest Missouri".

Kyle Barrett (August 2002): "The effect of spatial subsidies on the diet, density, and species richness of insular lizards in the Gulf of California".

UNDERGRADUATE STUDENT RESEARCH ADVISOR (36 students):

Destiny Case (summer 99); Cindy Austin (BIO 499, summer 00); Doug Aubrey (BIO 499, summer-fall 01); David Pulley (BIO 499, spring 03); Kate Heckman (Drury University, HNRS 401 and 402, 03-04); Stuart Miller (BIO 498, spring 04); Carla Atkinson (BIO 499, spring-summer 05) Mari Shuler (BIO 499, spring-summer 05); Diane Dorey (spring-summer 06). Charles Hendrix (BIO 398, spring-summer 07; BIO 499, fall 07); Charles Hendrix (BIO 499, fall 07); John Chiles (BIO 499, spring 08); Michelle Highfill (BIO 499, fall 08-spring 09); Ashley Baechle (BIO 499, fall 08); Marcia Hines (BIO 499, summer 09); Carter Kincade (BIO 527, spring10); Geoff Zahn (BIO 527, spring 10); Patrick Goforth (BIO 499, fall 2011); Rachel Posey (fall 11-spring 12); Tasha Jacobsen (BIO 499, spring 13); Micayla Kiepert (BIO 499, spring 13); Rachel Posey (BIO 499, fall 13); Avery Casey (BIO 499, spring 14); Cody Loucks (spring 14); Amelia Chiles (BIO 499, summer-spring 14-15); James Fisher (BIO 499 fall-spring 14-15); Kendell Lloyd (UHC 499, fall 14); Ashley Prince (BIO 499, fall-spring 15-16); Peyton Henke (BIO 499, spring 16); Kane Sheek (BIO 499, summer 16); Karley Kindberg (BIO 499, fall 16); Miranda Keller (BIO 499, spring 17), Rachel McLees (BIO 499, spring 17), Nichole Young (BIO 499, spring 17), Destiny Hodge (BIO 499, fall 17), Regan Carter (BIO 499, spring 18), Ian Powers (BIO 499, spring 18), Alexis Vonbokel (Scholar 2 Scholar, fall 18-fall 19), Brittany Monroe (BIO 499, spring 19).

AWARDS and APPOINTMENTS:

- Professor Salary Incentive Program Award – Missouri State University. 5/17
- Missouri State University Foundation Award for Service. 4/14.
- Honors College. 8/13-Present
- Public Affairs Professor. 8/10-8/13.
- Missouri Stream Team – 15 year service certificate

- Biology Department Graduate Director. 8/09-Present
- President – Ozarks New Energy, Inc. 5/08-1/11.
- Provost Fellow and Public Affairs Conference Chair. 2/08-4/09. Missouri State University.
- College Award in Research. 7/05. Missouri State University.
- College Award in Teaching. 7/02. Missouri State University.
- College Award in Research. 7/01. Missouri State University.
- Lawrence J. King Outstanding Biology Senior in Plant Science. 5/89. State University of New York, College at Geneseo.
- Dr. Mark J. Diamond Memorial Biology Research Award. 5/89. State University of New York, College at Geneseo.

INVITED SEMINARS (12):

- National Sigma Zeta Conference -Keynote speaker. Evangel University. March 2018
- Miami Dade College. May 2015
- Missouri Master Naturalist Annual Advanced Training Conference (Missouri Department of Conservation and University of Missouri). Springfield, MO. May 2015
- Upper Iowa University. March 2014
- Missouri Botanical Symposium. Rolla, MO. February 2013
- Missouri Teachers Association. Jefferson City, MO. November 2008.
- William Paterson University. Wayne, NJ. February 2005.
- Missouri State University. Springfield, MO. March 1998.
- Rutgers University. Newark, NJ. March 1998.
- University of Maryland, BEES Program, College Park, MD. January 1998.
- USDA-AFS lab, Kearneysville, WV. December 1997.

INVITED SPEAKER/PANELIST (not comprehensive, off campus public addresses only):

- Mom’s Clean Air Force. December 2017 (speaker)
- Evolution and Society. Darwin Days Celebration (Ozarks Technical Community College). February 2013 (speaker)
- Show Me Your Solutions Coalition (American Lung Association, Audubon, League of Woman Voters, Coalition for the Environment, Missouri Farmers Union, NRDC, Pew Environment Group, Sierra Club). Library Center, Springfield, MO June 2009. (panelist)

SYMPOSIUM, WORKSHOPS, TECHNICAL COURSES and COLLOQUIUM:

- Learning Biology Teaching Forum. March 11-13, 2016. Phoenix, AZ. (invited participant).
- Exploring Oceans Skype Lessons. “Chemical and Physical Engineering of Marine Islands: Seabird Island Ecology”. Five sessions delivered November, 2013.
- Living Learning Laboratories. June 8-11. Association for the Advancement of Sustainability in Higher Education. Portland, OR (participant). 2013
- Panel Review on Digital Learning. December 6-8, 2012. Dubuque, IA (invited participant)
- Connecting with New Energy. Ozarks New Energy Conference (2 day conference). May 2010. Springfield, MO (co-organizer).

- A Conference of Ideas and Practices for Sustainable Energy Use in the Ozarks. Ozarks New Energy Conference (2 day conference). May 2009. Springfield, MO (co-organizer).
- Seabird Islands and Introduced Predators (SEAPRE). National Science Foundation: Research Coordination Network. April 7-10, 2009. West Sound, WA (participant)
- Sustainability Across the Curriculum Leadership Workshop. Emory University. January 8-10, 2009. Atlanta, GA (participant)
- Sustainability in the Curriculum. Missouri State University. Showcase on Teaching. August 20, 2008. Springfield, MO (organizer)
- Ozarks New Energy Conference: Exploring Promising New Technologies to Fuel Growth and Energy Independence in the Ozarks. Ozarks New Energy Conference (2 day conference). February 2008. Springfield, MO (co-organizer)
- Seabird Islands and Introduced Predators (SEAPRE). National Science Foundation: Research Coordination Network. May 11-15, 2007. Branson, MO. (co-organizer, invited speaker and member steering committee).
- Panel Review on Introductory Biology Texts. Thomson Publishing. November 3-4, 2006. Chicago, IL. (invited panel member)
- Successful Proposal Writing. GRC. March 2-4, 2006. Washington, DC. (participant)
- NEON. National Science Foundation. Feasibility Study to Evaluate the Establishment of a Sustainable Development Innovation Center April 10-12, 2005. Knoxville, TN
- Improving Biology Education: Theory and Practice. McGraw-Hill. November 4-5, 2004, Chicago, IL. (invited participant)
- Stable Isotope Ecology Course. University of Utah. Salt Lake City, UT. June 16-27, 1997. (participant)
- Terrestrial Ecosystems and the Atmosphere. National Center of Atmospheric Research. Advanced Study Program. Boulder, CO. July 14-26, 1996. Contribution: Wait, D.A., and B. Lefer. Biosphere-Atmosphere Coupling of Global N and C Cycles. pp 323-350. (participant and contributor)
- Consequences of plant responses to spatial and temporal heterogeneity. Co-sponsored by Botanical Society of America and Ecological Society of America. Annual Meeting, August, 1998. Baltimore, MD. (co-organizer with I.N. Forseth)

JOURNAL/GRANT REFEREE: (bolded indicates review(s) during current academic year)
*Biogeochemistry; Ecology; Ecoscience; Functional Ecology; Global Change Biology; Journal of Ecology, **Journal of Geophysical Research**, LOGOS, New Phytologist; Oecologia; Plant Ecology; Plant and Soil; PLOS ONE; Proceedings of the Prairie Conference; Scientia Agricola; Soil Biology and Biochemistry; Department of Energy: Strategic Environmental Research and Development Program; Journal of Environmental Technology; US Forest Service - Northern Research Station General Technical Report.*

COURSES TAUGHT (21):

BIO 122 (General Biology); BIO 435/636 (Plant Ecology); BIOL 491 (Ecology Research in Greece); BIO 527 (Mountain Ecology); BIO 527 (Field Ecology in Mexico); BIO 527 (Field Ecology Methods and Analysis); BIO 527/627 (Tropical Biology in Ecuador); BIO 527 (cross listed with UHC 350 and PLS 297/ Culture, History and Ecology of Cuba: Past, Present and Future); BIO 533 (Wetlands Ecology); BIO 544 (Plant Physiology); BIO 567 (Physiological Ecology); BIO 579 (Conservation

Biology); BIO 597 (Topics in Plant Biology); BIO 597 (Global Change Biology); BIO 628 (Plant/Animal Interactions); BIO 628 (Research Priorities in Conservation); BIO 628 (Classics Papers in Ecology); BIO 628 (The Nature of Life); BIO 730 (Advanced Plant Physiology); UHC 110 (Honors Seminar: Sustainability in Theory and Practice); UHC 397 (Beyond Sustainability); BIO 597 (Sustainability Research in Practice-online course); BIO 728 (Readings on Climate Change)

SERVICE (not comprehensive):

- Developed and piloted “StreamlinED” text book program. Included first course e-text made entirely disability compliant.
- Program Director for Minor in Sustainability (2015-present)
- Distinction in Public Affairs faculty facilitator, Missouri State University (2012-2015)
- Chair: Sustainability Action Minor Committee. Missouri State University (9/11-Present)
- Domain Science and Education Coordinating Committees (DSECCs). National Ecological Observatory Network (NEON). National Science Foundation (advisory committee member Domain 8, 6/09-present)
 - Numerous activities associated with being Chair for Public Affairs Conference and Convocation series, Missouri State University review
 - <http://publicaffairs.missouristate.edu/42805.htm>
 - Nine speakers were hosted fall 2008-spring 2009 along with Bearfest event and National-teach-in events
- Numerous activities associated with sustainability on campus and in the community. Examples include:
 - Development of Minor in Sustainability (approved spring 2015)
 - Chair: Sustainability Minor Action Committee (2011-present)
 - Chair: Ad Hoc Senate Committee on paper use and sustainability at Missouri State University. Two resolutions presented to Senate and both passed 12/2009.
 - Book Review and numerous invited editorials on climate change and sustainability in Springfield News Leader
 - Numerous panels on campus
 - Numerous formal and informal committees related to sustainability in Springfield and region (Ride Share, Common Reader, Recycling, Green Team for Hickory Hills Middle School)
- Organizing Committee Member. Ozarks New Energy Conferences. 7/07-5/11
- Student Organization Faculty Advisor: Ozark Biology Graduate Students (9/99-Present); Students for a Sustainable Future (5/07-Present).
- Organizer for Focus the Nation at Missouri State University. 1/07-1/09.
- National Science Foundation. RCN: SEAPRE: **Seabird Islands and Introduced Predators: Impacts of Presence and Eradication on Island Function.** Core Participant and Steering Committee member. Christa Mulder (PI) and Wendy Anderson (Co/PI). 3/07-3/10..
- MEDAVERA, Inc. (medical education company). Content Development Consultant. 2006-2009
- Drury University: Human Subjects Research Council. External committee member. 5/06-Present
- Missouri State University: Graduate Council. Member - 8/02-Present, Chair, Scholarship Committee - 8/06-5/07
- Student Organization Faculty Advisor: 1) Ozark Biology Graduate Students (9/99-9/19); 2) Students for a Sustainable Future (5/07-Present).

- Missouri Stream Team (Team Leader; BIO 122 laboratory). 8/00-Present.
- Text book reviews (34 to date)
- Science Fair Judge (Ozarks Science and Engineering Fair – Special Judge, Science Olympiad, MSU Graduate Interdisciplinary Forum) (yearly)