

## **Brad Oberle Ph.D.**

Assistant Professor of Biology

Division of Natural Sciences

New College of Florida

5800 Bay Shore Rd. Sarasota, FL 34243-2109

Phone: [941-487-4390](tel:941-487-4390) / FAX: [941-487-4396](tel:941-487-4396)

Skype: brad.oberle / E-mail: boberle@ncf.edu / Web: <http://dodecatheon.net>

## **Education**

**2009** Ph.D. Evolution, Ecology and Population Biology, Washington University in St. Louis.  
Advisors: Barbara A. Schaal and Peter H. Raven.

**2003** B.A. Biology, Concentration in Environmental Studies. Kenyon College.  
*Summa cum Laude* with distinction, *Phi Beta Kappa* (2002), *Sigma Xi*.

## **Professional Positions**

**2016-** Research Associate: Marie Selby Botanical Garden

**2015-** Assistant Professor of Biology: New College of Florida

**2010-** Research associate: Missouri Botanical Garden

**2012-2015** Postdoctoral Scientist & Adjunct Instructor: The George Washington University.

**2011-2012** Postdoctoral Research Associate: University of Missouri-St. Louis.

**2009-2010** Postdoctoral Research Associate: University of Zürich Switzerland.

**2009, 2011** Adjunct Instructor: Washington University in St. Louis.

## **Publications** (\*Indicates undergraduate co-author)

Maherali, H., B. Oberle, P.F. Stevens, W. Cornwell, D.J. McGlenn. 2016. Mutualist persistence and abandonment during the evolutionary history of the mycorrhizal symbiosis. *In Press: The American Naturalist*

Oberle, B., A. M. Milo, J. A. Myers, M. F. Walton, D. F. Young, A.E. Zanne. 2016. Direct estimates of downslope deadwood movement over 30 years in a temperate forest illustrate impacts of treefall on forest ecosystem dynamics. *Canadian Journal of Forest Research* 46: 351-361  
doi: 10.1139/cjfr-2015-0348

Oberle, B., K. Ogle, J. C. Penagos, J. Sweeney and A. Zanne. 2016. A Bayesian model for xylem vessel length accommodates subsampling and reveals skewed distributions in species that dominate more seasonal habitats. *Journal of Plant Hydraulics* e003 1-17

Oberle, B. 2016. Carbon Relations, the Role in Plant Diversification of. In: Kliman, R.M. (ed.), *Encyclopedia of Evolutionary Biology*. vol. 1, pp. 260–266. Oxford: Academic Press.

Zanne, A. E., B. Oberle, K. Dunham\*, A. Milo, M. Evans, D. Young. 2015. A deteriorating state of affairs: How endogenous and exogenous factors determine plant decay rates. *Journal of Ecology* 103:1421-1431

Osazuwa-Peters, O. L., I. Jimenez, B. Oberle, C. A. Chapman, A. E. Zanne. 2015. Selective logging: Do rates of forest turnover in stems, species composition and functional traits decrease

- with time since disturbance? – A 45 year perspective. *Forest Ecology and Management* 357:10-21.
- Spasojevic M. J., E. E. Yablon\*, B. Oberle, J. A. Myers. 2014. Ontogenetic trait variation influences tree community assembly across environmental gradients. *Ecosphere* 5:129.
- Oberle, B., K. Dunham\*, A. Milo, M. Evans D. Young and A. Zanne. 2014. Progressive, idiosyncratic changes in wood hardness during decay: implications for dead wood inventory and cycling. *Forest Ecology and Management* 323 :1-9.
- Brandt, L., H. He, L. Iverson, F. Thompson, P. Butler, S. Handler, M. Janowiak, C. Swanston, M. Albrecht, R. Blume-Weaver, W. Dijak, P. Deizman, J. DePuy, G. Dinkel, S. Fei, T. Jones-Farrand, M. Leahy, S. Matthews, P. Nelson, B. Oberle, J. Perez, M. Peters, A. Prasad, J. Schneiderman, J. Shuey, A. Smith, C. Studyvin, J. Tirpak, J. Walk, W. Wang, L. Watts, D. Weigel, S. Westin. 2014. Central Hardwoods Ecosystem Vulnerability Assessment and Synthesis: A report from the Central Hardwoods Climate Change Response Framework. Gen. Tech. Rep. NRS-124. Newtown Square, PSA, U.S. Department of Agriculture, Forest Service, Northern Research Station. 254 p.
- Oberle, B., J.B. Beck, R.A. Montgomery\* and E.E. Esselman. 2012. A morphologically intergrading population facilitates chloroplast introgression from diploid to tetraploid *Dodecatheon* (Primulaceae). *Botanical Journal of the Linnean Society* 168: 91-100.
- Oberle, B., and E.E. Esselman. 2011. Fruit and seed characters help distinguish southern Illinois *Dodecatheon* (Primulaceae) species and highlight unusual intergrading populations. *Rhodora* 113: 280-299.
- Oberle, B. and B. A. Schaal. 2011. Historical responses to climate change highlight contemporary threats to diversity in *Dodecatheon*. *Proceedings of the National Academy of Sciences USA* 108: 5655-5660.
- Oberle, B., J.B. Grace and J.M. Chase. 2009. Beneath the veil: plant growth form influences the strength of species richness—productivity relationships in forests. *Global Ecology and Biogeography* 18: 416-425.
- Allan, B.F., R.B. Langerhans, W.A. Ryberg, W.J. Landesman, N.W. Griffin, R.S. Katz, B.J. Oberle, M.R. Schutzenhofer, K.N. Smyth, A. de St. Maurice\*, L. Clark, K.R. Crooks, D.E. Hernandez, R.G. McLean, R.S. Ostfeld, and J.M. Chase. 2009. Ecological correlates of risk and incidence of West Nile virus in the United States. *Oecologia* 158: 699-708.
- Croat, T.B., and B. Oberle. 2004. New species of Araceae from Columbia. *Aroideana* 27: 64-89.
- 
- In revision, review or preparation*
- Covey, K.R., Bueno de Mesquita C.P., Oberle, B., Maynard, D.S., Bettigole, C., Crowther T.W., Duguid, M.C., Steven, B., Zanne, A.E., Lapin M., Ashton, M.S., Oliver, C.D., Xuhui, L., & Bradford, M.A. Greenhouse Trace Gases in Deadwood. *In Revision: Biogeochemistry*
- Oberle, B., K. Ogle, A. Zanne, C. Woodall. Wood traits and temperature predict dead tree fall rates and new forest-climate feedbacks. *In Review: Proceedings of the National Academy of Sciences*
- Oberle, B., K. Covey, K. Dunham\*, E. J. Hernandez, M. F. Walton, D. F. Young, A.E. Zanne. Dissecting the effects of diameter on wood decay emphasizes cross-stem conductivity in decomposition and greenhouse gas production in *Fraxinus americana*. *In Review: Ecosystems*

## **Funding**

- 2013** "Evolutionary and ecological consequences of mycorrhizal states in plants", National Evolutionary Synthesis Center (NESCent). B. Oberle (Short-Term Visitor Fellowship): \$1,000.
- 2013** "The Tyson Research Center Forest Drought Laboratory: Establishing a Long-term Resource for Linking Climate Change, Extreme Droughts, and Ecosystem Dynamics", International Center for Advanced Renewable Energy and Sustainability. B. Oberle (co-PI): \$43,000
- 2012** International Research Initiatives Scheme Fellowship. Hawkesbury Institute for the Environment, University of Western Sydney Australia. B. Oberle (named post-doctoral scholar): \$32,800
- 2011** "CAREER: Influences of plant traits on wood decomposition rates across scales: From fungal microbe communities to carbon turnover". U.S. National Science Foundation. B. Oberle (named post-doctoral scholar): \$780,000
- 2006** "Dissertation Research: Tempo and Mode in Adaptation to Climate: Insights from the Phylogeny and Phylogeography of the Plant Genus *Dodecatheon* (Primulaceae)" U.S. National Science Foundation Doctoral Dissertation Improvement Grant. B. Oberle (co-PI): \$11,987
- 2006** "Inferring the rate of adaptation to climate from the diversity and distribution of *Dodecatheon* (Primulaceae)." Sigma Xi Grant in Aid of Research to B. Oberle (PI): \$400

## **Teaching**

- 2016** Instructor, *Foundations of Biology I* NCF BIO 80084  
Instructor, *Forest Ecology* NCF BIO 80089  
Instructor, *Introduction to Botany* NCF BIO 20212  
Instructor, *Topics in Evolution* NCF BIO 20213
- 2015** Instructor, *General Biology: From Molecules to Cells* NCF BIO 80095  
Instructor, *Biology of Climate Change* NCF BIO 80096
- 2014** Instructor, *Introduction to Biology: Cells and Molecules*. GWU BISC 1111.
- 2013** Instructor, *Environmental Sciences II*. GWU ENRP 6102
- 2012** Co-instructor, *Field Biology*. UMSL BIOL 4245
- 2012-2014** Group leader, *A Brief Introduction to Bayesian and Hierarchical Bayesian Modeling in Ecology*, Ecological Society of America Meetings Workshop 10.
- 2011** Instructor, *Topics: Biological Dimensions of Climate Change*. WUSTL BIO 394\*
- 2009** Instructor, *Plants, environment and civilization*. WUSTL BIO 343\*
- 2007-2008** Teaching Assistant, *Plants and People*, WUSTL BIO 523  
Teaching Assistant, *Evolution*. WUSTL BIO 525
- 2007** Teaching Assistant, *Population Genetics*. Washington University, BIO 4181
- 2006** Teaching Assistant, *Introduction to Environmental Studies: Biology*. WUSTL, BIO 295
- 2004** Teaching Assistant, *Evolution*. WUSTL BIO 3051
- 2003** Teaching Assistant, *Ecology Laboratory*. Kenyon College BIOL 229
- \* Cancelled due to under enrollment

## **Awards, Honors and Achievements**

- 2006** Midwest Ecology and Evolution Conference Organizing Committee.
- 2004** NSF Graduate Research Fellowship Program, Honorable Mention.
- 2003** Maxwell Eliot Power Prize for a Kenyon student showing “unusual promise in biology.”
- 2001** NSF REU Internship, Phylogeography of the South African Chameleon *Bradypodion transvaalense* (Washington University)

## **Invited Presentations**

- 2016** Oberle B. Mangroves: how, what, why? Sarasota Science and Environment Council
- 2015** Oberle B. Rumsfeld’s principle and biodiversity effects in the forest carbon cycle. University of Virginia.
- 2014** Oberle B. A new perspective on old fashioned botany highlights pivotal roles for biological diversity in our changing climate. New College of Florida, Pacific University.  
Oberle B., H. Maherali, A. Zanne. New analyses of plant-fungal interactions portend a disciplinary renaissance of botany *sensu lato*. National Museum of Natural History.  
Oberle B. Tales from the crypt: dead wood dynamics and biodiversity effects in Ozark forest carbon cycling. Tyson Summer Seminar Series, Eureka MO.
- 2013** Oberle B. Bend or break: how wood traits may tip Ozark forest carbon balance as climate changes. Washington University.
- 2012** Oberle B., K. Ogle, J. Sweeney, J. Penagos, A. Zanne. Climate, change death and decomposition: xylem vessel length influences mortality and decay among Ozark forest trees. SIFT/TERF National Dissemination Workshop.  
Oberle B. Applications of Bayesian and multilevel models in ecology and evolutionary biology. Washington University.  
Oberle B. Mission impossible: conserving biodiversity in a warming world. Wichita State University.
- 2010-2011** Oberle B. and B. Schaal. Responses to Historical Climate Change Identify Contemporary Threats to Diversity in Eastern North American *Dodecatheon*. Natural Areas Association Meeting, Missouri Native Plant Society Meeting, Virginia Native Plant Society Meeting, Texas Native Plant Society Meeting, University of Missouri-Columbia, University of Missouri-St. Louis, St. Louis University.
- 2009** Oberle B. The Curious Case of *Dodecatheon frenchii*. Southern Illinois University Carbondale.

## **Accepted Abstracts**

(presenting author only)

- 2016** Oberle, B., K. Covey, K. Dunham\*, E. J. Hernandez, M. F. Walton, D. F. Young, A.E. Zanne. Dissecting the effects of stem diameter on wood decay emphasizes within-stem conductivity as a control on decomposition and greenhouse gas production in *Fraxinus americana*. Ecological Society of America Meetings, Ft. Lauderdale, FL.

- 2014** Oberle B., M. Shcheglovitova, A. Zanne. A hierarchical approach to estimating microbial diversity effects in mechanistic models of decay. Ecological Society of America Meetings, Sacramento CA.
- 2013** Oberle B., A. Zanne, K. Ogle, C. Woodall. When a tree falls: forest inventories illustrate how wood mechanical properties influence standing to down transitions in US forests. Ecological Society of America Meetings, Minneapolis MN.
- 2012** Oberle B., K. Ogle, J. Sweeney, J. Penagos, A. Zanne. Climate, change death and decomposition: xylem vessel length influences mortality and decay among Ozark forest trees. Ecological Society of America Meetings, Portland OR.
- 2011** Oberle B. and Zanne A. Seeing the forest for the fungi: plant traits and decomposition rates under changing climate. Botanical Society of America Meetings, St. Louis, MO; Ecological Society of America Meetings, Austin TX. Saint Louis Ecology and Evolution Retreat, Saint Louis, MO.
- 2009** Oberle B and B. Schaal. Tempo and mode of recent climate niche evolution from the integrated ecophysiology and phylogeography of Eastern North American *Dodecatheon*. Society for the Study of Evolution Meeting, Moscow ID.
- 2008** Oberle B. and E. Esselman. Relative fitness of apparent hybrids suggests dynamic ploidy evolution in Eastern *Dodecatheon* (Primulaceae). Botanical Society of America Meeting, Vancouver BC.
- Oberle B., I Jimenez, T. Consiglio. The effect of population structure on climatic niche breadth in plants. Society for the Study of Evolution Meeting, Minneapolis MN.
- 2005** Oberle B. and J.M. Chase. Do trees get dibs?: North American forest architecture and species-energy relationships. Midwest Ecology and Evolution Conference, Carbondale IL.

### **Reviewer Service**

*American Journal of Botany, American Naturalist, Global Ecology and Biogeography, Ecology, Ecology Letters, Ecology and Evolution, Evolution, Forest Science, International Forestry Review, International Journal of Plant Sciences, Journal of Ecology, Journal of Forestry, Journal of the Torrey Botanical Society, New Phytologist, Oikos, Rhodora, National Science Foundation.*

### **Outreach and Community Service**

- 2015** Participant in "Sea Level Rise: What's our Next Move" conference organized by the Institute for Science on Global Policy and hosted by the Institute for Strategic Policy Solutions at St. Petersburg College. Contributed to community forums on local impacts of sea level rise.
- Participant in AAAS/ESA Communicating Climate Science Workshop. Contributed to discussions about communicating climate change impacts and scientific research with general audiences.
- Expert contributor to "Future Conservation of the Illinois Flora: A Climate Change Vulnerability Assessment of 70 Plant Species" prepared by the Illinois Natural History Survey.
- 2014-** Volunteer peer reviewer for PlantEd, an online repository for educational materials relevant to plant biology (<http://planted.botany.org/>)

- 2012** Participant in SIFT/TERF National Dissemination Workshop. Contributed to presentations and focal groups aimed at improving high school students' preparation for and interest in careers in environmental science.
- 2012** Participant in USFS NIACS Central Hardwoods Expert Elicitation Panel. Presented research and provided expert options on possible responses of different forest types to expected climate change (<http://www.nrs.fs.fed.us/niacs/>).
- 2009** Volunteer Forest Ecology Workshop instructor at the Green Center, a local environmental outreach organization. (<http://www.thegreencenter.org/home/>)
- 2007-2009** NSF Life Science for a Global Community Institute for High School Biology Teachers Teaching Assistant for Plants and People and Evolution courses, responsible for designing and conducting inquiry-based laboratory activities related to course materials. ([http://www.so.wustl.edu/life\\_sciences/index.htm](http://www.so.wustl.edu/life_sciences/index.htm))
- 2006-2009** Washington University Biomedical Research Apprenticeship Program. Chalk Talk Presenter, lead discussion on research during a weekly meeting among aspiring biology students from diverse backgrounds. (<http://biomedrap.wustl.edu/>)
- 2007** NSF Debating Science Program. Scholarship participant in an interdisciplinary course on the ethics of climate change hosted by the Center for Ethics at the University of Montana, Missoula. (<http://www.umt.edu/ethics/Debating%20Science%20Program/default.aspx>)
- 2004-2006** Young Scientist Program. Evolution Teaching Team coordinator, responsible for organizing classroom presentations illustrating evolutionary principles for St. Louis City High School and Middle School students. (<http://medicine.wustl.edu/~yssp/>)