

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

Assistant Professor of Biology and Environmental Studies

Division of Natural Sciences

New College of Florida

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### **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**

**2019-** Associate Editor: *Selbyana*

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

**2015-** Assistant Professor of Biology and Environmental Studies: 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)

Lee, M. R., Powell, J. R., **Oberle, B.**, Cornwell, W. K., Lyons, M., Rigg, J. L., & Zanne, A. E. 2019.  
Good neighbors aplenty: Fungal endophytes rarely exhibit competitive exclusion patterns  
across a span of woody habitats. *Ecology*. <https://doi.org/10.1002/ecy.2790>

**Oberle, B.**, K. Ogle, A. Zanne, C. Woodall. 2018. When a tree falls: controls on wood decay predict  
standing dead tree fall and new risks in changing forests. *PloS one*, 13(5), e0196712.

**Oberle, B.**, K. Covey, K. Dunham\*, E. J. Hernandez, M. F. Walton, D. F. Young, A.E. Zanne. 2018.  
Dissecting the effects of diameter on wood decay emphasizes the importance of cross-  
stem conductivity in *Fraxinus americana*. *Ecosystems* 21(1): 85-97 doi 10.1007/s10021-017-  
0136-x

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. 2016. Greenhouse Trace Gases in Deadwood. *Biogeochemistry*. 130(3): 215-  
226 doi 10.1007/s10533-016-0253-1

Maherali, H., **B. Oberle**, P.F. Stevens, W. Cornwell, D.J. McGlinn. 2016. Mutualism persistence and  
abandonment during the evolutionary history of the mycorrhizal symbiosis. *The American  
Naturalist* 188:5 E000-E000 doi 10.1086/688675

**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.

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*In preparation, submitted, revision or review*

**Oberle, B.**, Lee, M. R., Myers, J. A., Osazuwa-Peters, O. L., Spasojevic, M. J., Walton, M. L., Young D. F. & Zanne, A. E. 2019. Accurate forest projections require long-term wood decay experiments because trait effects change. *In review, Global Change Biology*. *ecoevorxiv* preprint 10.32942/osf.io/bptma

Lustenhouwer, N., D. S. Maynard, M. A. Bradford, D. L. Lidner, **B. Oberle**, A. E. Zanne, T. W. Crowther. A trait-based understanding of wood decomposition by fungi. *In review. Proceedings of the National Academy of Sciences*

Joseph, R.\*, **B. Oberle**, J. Thurmond and A. Clore. Diverse fungal endophytes in the leaves of a widespread neotropical holo-epiphytic bromeliad. *Submitted: Selbyana*

Bodine, E. N., C. Bush\*, A. Capaldi, S. Crowell\*, R. Jones\*, **B. Oberle**, B. Sidoti, T. Cooper. Predicting potential recovery of the endangered long-lived epiphytic bromeliad *Tillandsia utriculata*: an agent-based modeling approach *In prep. Natural Resource Modelling*

Meyer, E. M.\*, J. F. Swift, B. Bassuner, S. A. Smith, E. S. Menges, **B. Oberle**, and C. E. Edwards. The trajectory of the mating system and factors affecting selfing and outcrossing rates in an amphicarpic species with a mixed mating system, *Polygala lewtonii*. *In prep. Molecular Ecology*

**Oberle, B.**, J. Beithaupt, A. M. McTigue\*, R. Stryker\*, M. Cladas, C. Bass, M. Leahy, M. Nell, D. F. Young. Blue carbon dynamics in restored coastal habitats depend on local management goals. *In prep: Frontiers in Ecology and the Environment*

**Oberle, B.**, A. E. Zanne, J. R. Powell. Different pathways for wood senescence have legacy effects for decay. *In prep. Oikos*.

Lee, M.R, **B. Oberle**, A. Milo, A. Zanne. Wood construction more strongly shapes deadwood microbes than microclimate extremes over five years of decay. *In prep. Journal of Ecology*

J. R. Powell, M. Blyton, **B. Oberle**, G. L. Powell, J. Rigg, D. F. Young, A. E. Zanne Extraction and purification of DNA from wood at various stages of decay for metabarcoding of wood-associated fungi. *In Prep: Springer Protocols*.

## **Funding**

**2018** "Enhancing coastal habitat in the Gulf of Mexico by identifying best practices in mangrove restoration for multiple ecosystem services" B. Oberle (PI). U.S. Environmental Protection Agency \$294,200.

**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**

- 2018** Instructor, *Research Methods in Biology* NCF BIOL 4600  
 Instructor, *Plants and People* NCF BIOL 2130  
 Instructor, *Forest Ecology* NCF BIOL 4450  
 Instructor, *Introduction to Botany* NCF BIOL 3350
- 2017** Instructor, *Introduction to Botany Lab* NCF BIO 20087  
 Instructor, *Introduction to Botany Lecture* NCF BIO 20086  
 Instructor, *Evolution* NCF BIO 3300  
 Instructor, *Biology of Urbanization* NCF BIO 4600
- 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\*  
 \* Cancelled due to under enrollment

## **Awards, Honors and Achievements**

- 2017** NSF-Training Professionals to Prepare STEM Undergraduates for Research. Stipend-funded participant in a 3-day workshop to improve STEM Undergraduate Research outcomes.
- 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.
- 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**

- 2019** Oberle B. Blue from Brown: Using hierarchical decay models to inform coastal restoration for multiple ecosystem services. Florida Fish & Wildlife Research Institute.
- Oberle B. Do fish grow on trees?: Enhancing coastal habitat in the Gulf of Mexico by identifying best practices in mangrove restoration for multiple ecosystem services. Sarasota Bay Fisheries Forum, Tidy Island Condominium Association.
- 2018** Oberle B. & D. F. Young "Tea"-ming up for citizen science and blue carbon. Robinson Preserve. Manatee Co., FL.
- Oberle B. Urban Ecology Panel Organizer and Moderator, Sarasota Manatee Environmental Summit.
- Oberle B. Mangroves: how, what, why? Tidy Island Condominium Association
- 2017** Oberle B. Mangroves: how, what, why? Florida Native Plant Society Meetings
- Oberle B. The Botany of Climate Change: Global and Local Perspectives. University of South Florida.
- Oberle B. Good Fences Make Good Neighbors: Wood Durability and Decay. Trees Florida Conference, Palm Coast, FL.
- 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)

- 2019** Oberle, B., Lee, M. R., Myers, J. A., Osazuwa-Peters, O. L., Spasojevic, M. J., Walton, M. L., Young D. F. & Zanne, A. E. Accurate forest ecosystem projections from empirical decay models require long-term experiments. Botanical Society of America Meetings, Tucson AZ.
- 2018** Oberle B., R. Stryker, A. McTigue, H. Sullivan. Persistent, Fine Scale Carbon Redistribution in Mangroves Disturbed by Mosquito Ditch Dredging. Foundations and Frontiers in Mangrove Ecology Symposium. Rookery Bay National Estuarine Research Reserve, Naples FL.
- Oberle B., B. Sidoti. Teaching Undergraduate Students Scanning Electron Microscopy Techniques Utilizing Botanical Garden Collections. Botany, Rochester MN.
- 2017** Oberle, B., D.J. McGlenn, K.G. Peay, D. Schwilk, G. Werner, H. Maherali. The effects of climate and soil on the prevalence of alternative mycorrhizal symbioses depend on plant phylogeny. Ecological Society of America Meetings, Portland OR.
- 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, The American Naturalist, Botanical Journal of the Linnaean Society, Castanea, Dendrobiology, Global Ecology and Biogeography, Ecology, Ecology Letters, Ecology and Evolution, Evolution, Forests, Forest Ecology and Management, Forest Science, Functional Ecology, International Forestry Review, International Journal of Plant Sciences, Journal of Ecology, Journal of Forestry, Journal of Theoretical Biology, Journal of the Torrey Botanical Society, New Phytologist, Oikos, Plant and Soil, Plant Biology, Rhodora, United States National Science Foundation.*

### **Outreach and Community Service**

- 2018-** Sarasota Tree Advisory Council Vice Chair
- 2016-** New College of Florida Title IX investigator.
- 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/>)
- 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/~ysp/>)