

## John Philip Gibson

Professor  
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Department of Microbiology & Plant Biology  
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### Education

*Ph.D. Environmental, Population, and Organismic Biology (1995)*

University of Colorado, Boulder, Colorado

Dissertation Title: Evolutionary Ecology of Reproduction in *Ocotea tenera* (Lauraceae), a Gynodioecious Tropical Tree.

Research Advisors: Dr. Y.B. Linhart & Dr. P.K. Diggle

*M.S. Botany (1990)*

University of Georgia, Athens, Georgia

Thesis Title: Population Genetics and Breeding System of Table Mountain Pine (*Pinus pungens* Lamb.).

Research Advisor: Dr. J.L. Hamrick

*B.S. Botany (1988)*

Oklahoma State University, Stillwater, Oklahoma

Senior Research Thesis Title: Zinc tolerance in *Panicum virgatum* L. (switchgrass) from the Picher mine area.

Research Advisor: Dr. A.J. Pollard

### Research & Scholarship Areas

STEM education, case study teaching, and active learning.

Ecology and evolution of heterocarpy, seed plant reproduction, seed dormancy and germination,

### Professional Experience

2018 – Present	Professor, Department of Biology and Department of Microbiology and Plant Biology, University of Oklahoma, Norman, Oklahoma
2015 – Present	Associate Director for Education, Kessler Atmospheric and Ecological Field Station, University of Oklahoma, Norman, Oklahoma
2012 – 2014	Director, Kessler Atmospheric and Ecological Field Station, University of Oklahoma, Norman, Oklahoma
2010 – 2012	Interim Director, Kessler Farm Field Laboratory, University of Oklahoma.

- 2006 – 2018 Associate Professor, Department of Biology and Department of Microbiology and Plant Biology, University of Oklahoma, Norman, Oklahoma
- 2001 - 2006 Associate Professor, Department of Biology, Agnes Scott College, Decatur, Georgia
- 1995 - 2001 Assistant Professor, Department of Biology, Agnes Scott College, Decatur, Georgia
- 1995 Instructor for Forest Ecology, Institute for Arctic and Alpine Research, University of Colorado Mountain Research Station, Nederland, Colorado
- 1995 Teaching Assistant for Genetics, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado
- 1994 Teaching Assistant for Plant Kingdom, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado
- 1994 Instructor for Forest Ecology, Institute for Arctic and Alpine Research, University of Colorado Mountain Research Station, Nederland, Colorado
- 1994 Teaching Assistant for Plant Systematics, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado
- 1993 Teaching Assistant for Plant Anatomy, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado
- 1993 Instructor for Forest Ecology, Institute for Arctic and Alpine Research, University of Colorado Mountain Research Station, Nederland, Colorado
- 1992 - 1993 Research Assistant for Dr. Y.B. Linhart, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado
- 1989 – 1992 National Science Foundation Minority Pre-Doctoral Fellow
- 1988 - 1989 Teaching Assistant for General Biology, Department of Botany, University of Georgia, Athens, Georgia
- 1988 Head Intern, United States National Herbarium, Smithsonian Institution, Washington D.C.
- 1987 - 1988 Laboratory Technician, Department of Plant Pathology, Oklahoma State University, Stillwater, Oklahoma
- 1987 Teaching Assistant for Field Botany, Department of Botany and Microbiology, Oklahoma State University, Stillwater, Oklahoma
- 1987 Intern, United States National Herbarium, Smithsonian Institution, Washington D.C.
- 1986 - 1987 Herbarium Assistant and Laboratory Prep for Introductory Botany, Department of Botany and Microbiology, Oklahoma State University, Stillwater, Oklahoma

1985 Greenhouse Technician, Department of Biology, Westminster College, Fulton, Missouri

### **Society Affiliations**

Botanical Society of America  
 National Science Teachers Association  
 National Association of Biology Teachers  
 Society for the Study of Evolution  
 Teaching Section of the Botanical Society of America  
 Ecological Section of the Botanical Society of America

### **Honors & Awards**

Longmire Award for Teaching, University of Oklahoma (2018)  
 Howard Hughes Medical Institute Higher Education Ambassador (2017)  
 Charles E. Bessey Award for Outstanding Contributions to the Botanical Sciences in Education, Botanical Society of America (2017)  
 Samuel Noel Postlethwait Award for Excellence in Teaching, Teaching Section of the Botanical Society of America (2017)  
 Plant Biology Alumnus Lecturer, Department of Plant Biology, University of Georgia (2017)  
 Thomas H. Huxley Award for Evolution Education and Outreach, Society for the Study of Evolution (2015)  
 Paul G. Risser Innovative Teaching Fellow, University of Oklahoma (2015)  
 Pi Beta Phi, Favorite Professor (2014)  
 Project Kaleidoscope Faculty for the 21<sup>st</sup> Century (1997)  
 University of Colorado Minority Fellow (1990)  
 National Science Foundation Minority Pre-Doctoral Fellow (1989)  
 Phi Kappa Phi (1988)

### **Reviewed Publications & Educational Resources**

Ehardt-Kistenmacher, C., H. R. McCarthy, and **J.P. Gibson** (2019) Germination, Survival, and Establishment of a Rare Riparian Species *Alnus maritima*. *Castanea*, 84: 144-160.  
 Csikari, M., **J.P. Gibson**, and A. Prud'homme-Généreux. (2019) Interactive Case Study for Studying Elephant Communication. HHMI BioInteractive. Available at: <https://www.biointeractive.org/classroom-resources/interactive-case-study-studying-elephant-communication>  
 Csikari, M., **J.P. Gibson**, and A. Prud'homme-Généreux. (2019) Interactive Case Study for The Effects of Fungicides on Bumble Bee Colonies. HHMI BioInteractive. Available at: <https://www.biointeractive.org/classroom-resources/interactive-case-study-effects-fungicides-bumble-bee-colonies>  
**Gibson, J.P.** (2019) Using Case Studies in Large Classes. HHMI BioInteractive Educator Voices. Available at: <https://www.biointeractive.org/professional-learning/educator-voices/using-case-studies-large-classes>

- Prud'homme-Généreux, A., **J.P. Gibson**, and M. Csikari (2019). Creating a Video Case Study. *Journal of College Science Teaching*, 48: 46-53.
- Gibson, J.P.** and T Mourad. (2018) The growing importance of data literacy in life science education. *American Journal of Botany* 105(12): 1–4. doi:10.1002/ajb2.1195.
- Gibson, J. P.** (2018). Food Chain Dynamics in A Simple Ecosystem. Botanical Society of America, QUBES Educational Resources. available at: <https://qubeshub.org/qubesresources/publications/429/1> doi:10.25334/Q4P419
- Gibson, J. P.** (2018). Morphological and Molecular Analysis of Plant Phylogeny and Diversity. Botanical Society of America, QUBES Educational Resources. available at: <https://qubeshub.org/qubesresources/publications/426/1> doi:10.25334/Q4ZH6G
- Gibson, J. P.** (2018). Terrestrial Trophic Cascades & Population Structure. Botanical Society of America, QUBES Educational Resources. available at: <https://qubeshub.org/qubesresources/publications/430/1> doi:10.25334/Q4Q11K
- Gibson, J. P.** (2018). Transpiration. Botanical Society of America, QUBES Educational Resources. available at: <https://qubeshub.org/qubesresources/publications/427/1m> doi:10.25334/Q4710V.
- Gibson, J.P.** (2018). Studying Seed Dispersal in Tropical Trees. Educator Materials and Student Handouts. Howard Hughes Medical Institute BioInteractive. available at <https://www.hhmi.org/biointeractive/seed-dispersal-tropical-forests>
- Gibson, J.P.** (2017) Conducting the Gram Stain. PlantED Digital Library. [https://planted.botany.org/r603/video\\_of\\_the\\_gram\\_stain\\_procedure\\_for\\_biology\\_laboratory](https://planted.botany.org/r603/video_of_the_gram_stain_procedure_for_biology_laboratory).
- Gibson, J.P.** (*in production & development*) Terrestrial Trophic Cascades. An online short course to Accompany the film “Some Animals Are More Equal Than Others” Howard Hughes Medical Institute BioInteractive (video available at <https://www.hhmi.org/biointeractive/some-animals-are-more-equal-others-keystone-species-and-trophic-cascades>)
- Gibson, J.P.** and J.T. Cooper. (2017) Botanical Phylo-Cards, A tree-thinking game to teach plant evolution. *The American Biology Teacher* 79: 241-245.
- Gibson, J.P.** (2016) Tree Thinking. PlantED Digital Library. Available At: <http://planted.botany.org/index.php?P=FullRecord&ID=589> (Login required, see “Associated files”) and available at <https://www.youtube.com/watch?v=IrlSnwUbgNA>.
- Kistenmacher, M. and **J.P. Gibson**. 2016. Bet-hedging against larval herbivory and seed bank mortality in the evolution of heterocarpy. *American Journal of Botany* 103:1-18. doi:10.3732/ajb.1600078
- Gibson, J.P.** and M.H. Hoefnagels. 2015. Correlations Between Tree Thinking and Acceptance of Evolution In Introductory Biology Students. *Evolution: Education and Outreach* 8:15. DOI 10.1186/S12052-015-0042-7.
- Gibson, J.P.** 2015. How Many More Thymes? A Case of Phytochemical Defense. Case Study & Teaching Notes. National Center For Case Study Teaching In Science. Available At [Http://Sciencecases.Lib.Buffalo.Edu/Cs/Collection/Detail.Asp?Case\\_Id=782&Id=782](Http://Sciencecases.Lib.Buffalo.Edu/Cs/Collection/Detail.Asp?Case_Id=782&Id=782)
- Gibson, J.P.** 2015. Plant Defenses Against Herbivory. Flipped Case Study Video Available At <https://www.youtube.com/watch?v=ZRxVjuVR4YM>

- Gibson, J.P.** and J.T. Cooper. 2014. Phylogenetic Approach To Teaching Plant Diversity. Planted Digital Library. Available At:  
<http://Planted.Botany.Org/Index.Php?P=Fullrecord&ID=546>
- Gibson, J.P.** 2014. Breeding Belyaev's Pets: Domestication, Evolution, & The Farm-Fox Experiment. National Center For Case Study Teaching In Science. Case Study & Teaching Notes. Available At  
[http://Sciencecases.Lib.Buffalo.Edu/Cs/Collection/Detail.Asp?Case\\_Id=733&Id=733](http://Sciencecases.Lib.Buffalo.Edu/Cs/Collection/Detail.Asp?Case_Id=733&Id=733)
- P.J. Chi, M.J. Engebretson, M.B. Moldwin, C.T. Russell, I.R. Mann, M.R. Hairston, M. Reno, J. Goldstein, L.I. Winkler, J.L. Cruz-Abeyro, D.-H. Lee, K. Yumoto, R. Dalrymple, B. Chen, and **J. P. Gibson**. 2013. Sounding of The Plasmasphere By Mid-Continent Magnetoseismic Chain (Mcmac) Magnetometers. *Journal of Geophysical Research-Space Physics* 118: 3077-3086.
- Gibson, J.P.** 2013. Exaggerated Traits and Breeding Success In Widowbirds: A Case of Sexual Selection and Evolution. *In Science Stories You Can Count On: Case Studies With Quantitative Reasoning In Biology* National Science Teachers Association (NSTA) Press Clyde F. Herreid, Nancy A. Schiller, Ky Herreid, Editors.
- Jones J.M. and **J.P. Gibson**. 2012. Mating System Analysis of *Alnus maritima* (Seaside Alder), A Rare Riparian Tree. *Castanea* 77: 11-20.
- Gibson, J.P.** 2012. Investigating Life Clicker Cases. Forty-Six Case Study Teaching Supplements and Instructor Resources To Support *Biology Concepts and Investigations 2<sup>nd</sup> Edition*. M. Hoefnagels. Mcgraw-Hill Higher Education. Dubuque, IA, USA. Available At  
[Http://Highered.Mcgraw-Hill.Com/Sites/0073403474/Instructor\\_View0/Inv\\_\\_Life\\_Clicker\\_Cases\\_.Htm](Http://Highered.Mcgraw-Hill.Com/Sites/0073403474/Instructor_View0/Inv__Life_Clicker_Cases_.Htm)
- Jones J.M. and **J.P. Gibson**. 2011. Population Genetic Diversity and Structure Within and Among Disjunct Populations of *Alnus maritima* (Seaside Alder) Using Microsatellites. *Conservation Genetics*. 12:1003-1013. DOI 10.1007/S10592-011-0203-3. Published Online 17 March 2011.
- Rice, S.A. and **J.P. Gibson**. 2009 Does The Oklahoma Seaside Alder (*Alnus maritima* ssp. *Oklahomensis*) Reproduce by Seedling Establishment? *Oklahoma Native Plant Record* 9: 59-63.
- Lance, S.L., K.L. Jones, C. Hagen, T. C. Glenn, J.M. Jones and **J.P. Gibson**. 2009. Development and Characterization of Nineteen Polymorphic Microsatellite Loci From Seaside Alder, *Alnus maritima*. *Conservation Genetics*. 10:1907-1910.
- Gibson, J.P.** and T.R. Gibson. 2009. Natural Selection. Chelsea House Publishers. New York, NY.
- Gibson, J.P.** 2008. Exaggerated Traits and Breeding Success In Widowbirds: A Case of Sexual Selection and Evolution. Case Study & Teaching Notes. National Center For Case Study Teaching In Science. Available At  
<Http://www.Sciencecases.Org/Widowbirds/Widowbirds.Asp>.
- Gibson, J. P.**, S.A. Rice, and C.M. Stucke. 2008. Comparison of Population Genetic Diversity Between A Narrowly Distributed and Widespread Species of *Alnus* (Betulaceae). *American Journal of Botany* 95:588-596.
- Gibson, J.P.** and T.R. Gibson. 2007. Plant Diversity. Chelsea House Publishers. New York, NY.

- Schrader, J.A., W.R. Graves, S.A. Rice, and J.P. Gibson. 2006. Differences In Shade Tolerance Help Explain Varying Success of Two Sympatric *Alnus* Species. *International Journal of Plant Sciences*. 167: 979-989.
- Gibson, J.P. and T.R. Gibson. 2006 . *Plant Ecology*. Chelsea House Publishers. New York, NY.
- Gibson, J.P. and A.D. Tomlinson. 2002. Genetic Diversity and Mating System Comparisons Between Ray and Disc Achene Seed Pools of The Heterocarpic Species *Heterotheca subaxillaris* (Asteraceae). *International Journal of Plant Sciences*. 163: 1025-1034.
- Gibson, J.P. 2001. Ecological and Genetic Comparison Between Ray and Disc Achene Pools of The Heteromorphic Species *Prionopsis ciliata* (Asteraceae). *International Journal of Plant Sciences*. 162: 137-145
- Gibson, J.P. 1999. Seed Dispersal and Seedling Recruitment In A Lauraceous Tree Species. In: Wheelwright, N.T. and N. Nadkarni (Eds.), *The Natural History of Monteverde, Costa Rica: A Background To Conservation*. Pp. 289-291.
- Gibson, J.P. 1998. Microtechnique Procedures for Plant Anatomical Analyses. *Bios* 69: 191-196.
- Gibson, J.P. and P.K. Diggle. 1998. The Role of Flower Development and Male Sterility On Gender System Evolution In *Ocotea tenera* Mez & J.D. Smith Ex Mez (Lauraceae) A Gynodioecious Tropical Tree. *International Journal of Plant Sciences* 159: 405-407.
- Saucier, M., S. Hodge, S. Dewherst, T. Gibson, J.P. Gibson, H.M. McClure, and F.J. Novembre. 1998. The Tyrosine-17 Residue of Nef In Sivmmpbj14 Is Required For Acute Pathogenesis and Contributes To Replication In Macrophages. *Virology* 244: 261-272.
- Gibson, J.P. and P.K. Diggle 1997. Structural Analysis of Female and Hermaphroditic Flowers of A Gynodioecious Tree, *Ocotea tenera* (Lauraceae). *American Journal of Botany* 84: 298-307.
- Gibson, J.P. and N.T. Wheelwright. 1996. Mating System Dynamics of *Ocotea tenera* (Lauraceae), A Gynodioecious Tropical Tree. *American Journal of Botany* 83: 890-894.
- Gibson, J.P. and N.T. Wheelwright. 1995. Genetic Structure In A Population of A Tropical Tree, *Ocotea tenera* (Lauraceae): Influence of Avian Seed Dispersal. *Oecologia* 103: 49-54.
- Linhart, Y.B., M.A. Snyder, and J.P. Gibson. 1994. Biochemical Basis of Species-Specific Host Choices: Scolytid Beetle and Dwarf Mistletoe Attack of Different Ponderosa Pines. *Oecologia* 98: 117-120.
- Sherman-Broyles, S.L., J.P. Gibson, J.L. Hamrick, M.A. Bucher, and M.J. Gibson. 1992. Comparison of Allozyme Diversity Among Rare and Widespread *Rhus* Species. *Systematic Botany* 17: 551-559.
- Gibson, J.P. and J.L. Hamrick. 1991. Heterogeneity In Pollen Allele Frequencies Among Cones, Whorls, and Trees of Table Mountain Pine (*Pinus pungens* Lambert). *American Journal of Botany* 78: 1244-1251.
- Gibson, J.P. and J.L. Hamrick. 1991. Genetic Diversity and Structure In *Pinus pungens* (Table Mountain Pine) Populations. *Canadian Journal of Forest Research* 21: 635-642.
- Gibson, J.P. and A.J. Pollard. 1988. Zinc Tolerance In *Panicum virgatum* L. (Switchgrass) From The Picher Mine Area. *Proceedings of The Oklahoma Academy of Sciences* 68: 45-49.

### Unpublished Research Reports

- Gibson, J.P.** 2009. Population Genetics Study of The Western Prairie Fringed Orchid (*Platanthera praeclara*) For Reintroduction Into Oklahoma. Report To The Nature Conservancy and The U.S. Department of Fish and Wildlife.
- Gibson, J.P.** 1990. Electrophoretic Differences Between *Pentstemon gibbensii* and *Pentstemon penlandii*. Report To The Denver Botanic Garden and The U.S. Department of Fish and Wildlife.

### **Book Reviews**

- Gibson, J.P.** 2010. Review of *Botany. An Introduction To Botany. 4<sup>th</sup> Ed.* Annals of Botany 105: VII-IX.
- Gibson, J.P.** 2004. Review of *Wildflowers and Ferns of Kentucky.* Southeastern Biology 51:420-421.

### **Presented Papers & Posters**

- Gibson, J.P.** 2020. Moving Inquiry-Based Labs To An Online Format Can Still Achieve Learning Goals By Providing Data Sets And Emphasizing Analysis & Presentation. QUBES BIOME Institute Virtual Professional Development Conference. August 5, 2020.
- Gibson, J.P.** 2020. A Tactile Tree-Thinking Activity Based on UDL Principles Increases Accessibility for Visually Impaired Students and Improves Phylogenetic Skills For All Students.. BiolInteractive Education Virtual Professional Development Conference. July 6-7, 2020.
- Gibson, J.P.** 2019. Faculty Mentoring Networks As A Path To Botany Faculty Professional Development. Annual Meeting of the Botanical Society of America. July 27-31. Tucson, Arizona.
- Gibson, J.P.** 2019. Using HHMI Videos to Broaden Introductory Students' Perspective on Biology. BiolInteractive Education Professional Development Conference. July 7-10, 2019. Chevy Chase, Maryland.
- Gibson, J.P.** 2018. New Tricks With Old Dogs. 2018 HHMI BiolInteractive Education Professional Development Conference. July 21-27, 2018. Chevy Chase, Maryland.
- Gibson, J.P.** 2018. Using the Environmental Column to Connect Silos. QUBES/BIOQUEST Network Annual Summer Workshop. June 18-23, 2018. Claremont, California.
- Gibson, J.P.** 2017. Molecular Analysis of the Dendrogrammaceae. Annual Meeting of the Botanical Society of America. June 24-28, 2017. Fort Worth, Texas.
- Gibson, J.P.** and M. Kistenmacher. 2017. Conditional Dormancy and Germination Cueing in Heterocarpic *Grindelia ciliata* (Asteraceae). Annual Meeting of the Botanical Society of America. June 24-28, 2017. Fort Worth, Texas.
- Gibson, J.P.** and J.T. Cooper. 2016. Phylocards, Card Sorting, and Plant Evolution. National Association of Biology Teachers Annual Meeting. November 3-6, Denver, Colorado.
- Ehardt, C. and **J.P. Gibson.** 2016 Seedbed Environment and Microbiome Conflict in Seaside Alder (*Alnus maritima*, Betulaceae). Annual Meeting of The Botanical Society of America, July 30- August 3, 2016. Savannah, Georgia.

- Gibson, J.P.** 2016. Flipping Over Botany Lab. Annual Meeting of The Botanical Society of America, July 30- August 3, 2016. Savannah, Georgia
- Gibson, J.P.** and J.T. Cooper. 2014. Phylocards: A Card Sorting Activity For Teaching Plant Evolution. Annual Meeting of The Botanical Society of America, July 26-30, 2014. Boise, Idaho.
- Gibson, J.P.** 2013. Forensic Botany and Fake Barf: A Plant Anatomy Exercise For Intro Biology. Annual Meeting of The Botanical Society of America, July 27-31, 2013. New Orleans, Louisiana.
- Gibson, J.P.** and M. Kistenmacher. 2013. Cure Modeling of Dormancy and Germination In Heterocarpic *Grindelia* Species. Annual Meeting of The Botanical Society of America, July 27-31, 2013. New Orleans, Louisiana.
- Kistenmacher, M. and **J.P. Gibson**. 2013. Bet-Hedging Through Heterocarpy From A Predator Perspective. Annual Meeting of The Botanical Society of America, July 27-31, 2013. New Orleans, Louisiana.
- Ehardt, C. and **J.P. Gibson**. 2013. Establishment Ecology of *Alnus maritima*, A Rare Riparian Species. Annual Meeting of The Botanical Society of America, July 27-31, 2013. New Orleans, Louisiana.
- Cooper, J.T., and **J.P. Gibson**. 2012. Teaching Plant Diversity Using Tree-Thinking. Annual Meeting of The Botanical Society of America. July 7-11, 2012. Columbus, Ohio.
- Kistenmacher, M. and **J.P. Gibson**. 2012. Pre-Dispersal Selection Pressure of A Specialized Herbivore On The Heteromorphic Fruits of *Grindelia ciliata* (Asteraceae). Annual Meeting of The Botanical Society of America. July 7-11, 2012. Columbus, Ohio.
- Gibson, J.P.** and M. H. Hoefnagels. 2011. Tree-Thinking In Introductory Biology. Annual Meeting of The Botanical Society of America. July 9 – 13, 2011. St. Louis, Missouri.
- Gibson, J.P.** and M. H. Hoefnagels. 2011. A Tree-Thinking Curriculum For Introductory Biology. Evolution 2011. June 17 –22, 2011. Norman, Oklahoma.
- Gibson, J.P.** and M. H. Hoefnagels. 2011. Tree-Thinking In Introductory Biology Education. National Science Foundation CCLI/TUES Principal Investigators Conference. January 26-28, 2011. Washington, D.C.
- Gibson, J.P.** and M. H. Hoefnagels. 2010. Tree-Thinking In Introductory Biology. National Association of Biology Teachers Professional Development Conference. November 3 - 6, 2010. Minneapolis, Minnesota.
- Jones, J.M. and **J.P. Gibson**. 2010. Levels and Structuring of Microsatellite Variation In The Highly Disjunct *Alnus maritima* (Seaside Alder). Annual Meeting of The Botanical Society of America. July 31 - August 4, 2010. Providence, Rhode Island.
- Gibson, J. P.** and M. H. Hoefnagels. 2010. A Tree-Thinking Approach In Introductory Biology: Germination of The Idea. Annual Meeting of The Botanical Society of America. July 31 - August 4, 2010. Providence, Rhode Island.
- Jones, J. M., J. T. Cooper, **J. P. Gibson**, & M. H. Hoefnagels. Pedagogy Workshop Enhances Graduate Students' Teaching Effectiveness of Evolutionary and Phylogenetic Concepts. Annual Meeting of The Botanical Society of America. July 31 - August 4, 2010. Providence, Rhode Island.



- Gibson, J.P.** 2009. Where Are All of The Botanical and Fungal Case Studies? Annual Meeting of The Botanical Society of America, July 25-29, 2009. Snowbird, Utah.
- Jones, J.M. and **J.P. Gibson** 2009. Intra-Regional Population Structure of The Highly Isolated, Critically Endangered Riparian Shrub *Alnus Maritima* (Seaside Alder). Poster. Annual Meeting of The Botanical Society of America, July 25-29, 2009. Snowbird, Utah.
- Gibson, J.P.** 2007 Germination Dynamics of Four Heterocarpic Gumweeds. Oklahoma Academy of Science Annual Technical Meeting, November 2, 2007. Tulsa, Oklahoma.
- Gibson, J.P.** 2007. Interpopulation Differences In Heterocarpic Achene Germination In *Grindelia lanceolata* (Narrowleaf Gumweed). Annual Meeting of The Botanical Society of America, July 7-11, 2007. Chicago, Illinois.
- Gibson, J.P.** 2007. Clickers In The Classroom: Promises and Perils. Annual Meeting of The Botanical Society of America, July 7-11, 2007. Chicago, Illinois.
- Gibson, J.P.**, S.A. Rice, and C. Stucke. 2005. Levels and Structuring of Population Genetic Variation In (*Alnus maritima*). Annual Meeting of The Botanical Society of America, August 13-17 2005. Austin, Texas.
- Gibson, J.P.**, S. Rice, and C. Stucke. 2005. Levels and Structuring of Population Genetic Variation In A Rare Tree Species (*Alnus maritima*). Association of Southeastern Biologists. April 13-16, 2005. Florence, Alabama.
- Gibson, J.P.**, and E.C. Engel. 2004. Comparison of Germination and Pericarp Characteristics Between Homocarpic and Heterocarpic Species of *Grindelia* (Asteraceae). Annual Meeting of The Botanical Society of America. August 1-5, 2004. Snowbird, Utah.
- Rice, S.A., J. Schrader, W. **J.P. Gibson**, and D. Morningstar. 2004. Shade Tolerance In The Seaside Alder (*Alnus maritima*) and The Hazel Alder (*Alnus Serrulata*). Annual Meeting of The Botanical Society of America. August 1-5, 2004. Snowbird, Utah.
- Gibson, J.P.**, E.C. Engel and A.D. Tomlinson. 2004. Pericarp Characteristics and The Expression of Heterocarpy In The Genus *Grindelia* (Asteraceae). Association of Southeastern Biologists. April 15-17, 2004. Memphis, Tennessee.
- Gibson, J.P.**, E.C. Engel and A.D. Tomlinson. 2004. Pericarp Characteristics and The Expression of Heterocarpy In The Genus *Grindelia* (Asteraceae). Southeastern Ecology and Evolution Conference. March 5-7, 2004. Atlanta, Georgia.
- Gibson, J.P.** and E.C. Engel. 2002. Pericarp Characteristics and The Expression of Heterocarpy In *Grindelia Ciliata* (Asteraceae). Botany 2002. Annual Meeting of The Botanical Society of America. August 2-7, 2002. Madison, Wisconsin.
- Gibson, J.P.** 2000. Developmental Differences Between Ray and Disc Achenes In Heteromorphic Species of *Prionopsis* and *Heterotheca*. Botany 2000, Annual Meeting of The Botanical Society of America. August 6-10, 2000. Portland, Oregon.
- Gibson, J.P.** 2000. Why Is That Cell Red? A Microtechnique Based Approach For Teaching A Plant Anatomy Lab. Botany 2000, Annual Meeting of The Botanical Society of America. August 6-10, 2000. Portland, Oregon.
- Mitchell, C.H. and **J.P. Gibson**. 2000. Ray and Disc Floral Development In *Heterotheca subaxillaris*. Beta Beta Beta Biennial National Convention. June 4-7, 1998. San Diego, California. June 1-5, 2000. Ponce, Puerto Rico.

- Gibson, J.P.** 1999. Genetic Diversity In Asteraceae Species With Achene Dimorphism. XVI International Botanical Congress. August 1-7, 1999. St. Louis, Missouri.
- Tomlinson, A.D. & **J.P. Gibson.** 1998. Differences In Biomass and Seed Germination Between Dimorphic Achenes of *Prionopsis ciliata* (Wax Goldenweed, Asteraceae). Beta Beta Beta Biennial National Convention. June 4-7, 1998. San Diego, California.
- Gibson, J.P.** and P.K. Diggle. 1997. Evolution of Gynodioecy In A Tropical Tree: Influence of Mating System and Floral Development. Joint Meeting For The Society For The Study of Evolution, Society For Systematic Biology, Society For Molecular Biology and Evolution, and American Society of Naturalists. June 14-18, 1997. University of Colorado, Boulder, Colorado.
- Gibson, J.P.** 1996. Male Sterility and Flower Development In A Gynodioecious Tropical Tree *Ocotea tenera* (Lauraceae). Annual Meeting of The Botanical Society of America. August 4-8, 1996. University of Washington, Seattle, Washington.
- Gibson, J.P.** 1994. Morphological Aspects of Gender System Evolution In A Gynodioecious Tree, *Ocotea tenera*. Joint Meeting For The Society For The Study of Evolution, Society For Systematic Biology, Society For Molecular Biology and Evolution, and American Society of Naturalists. June 15-19, 1994. University of Georgia Center For Continuing Education, Athens, Georgia.
- Gibson, J.P.** 1993. Population Genetics and Breeding Systems of A Gynodioecious Tree: Relationships With Floral Structure. Joint Meeting of The Society For The Study of Evolution, Society For Systematic Biology, and American Society of Naturalists. June 19-23, 1993. Snowbird, Utah.
- Gibson, J.P.** and J.L. Hamrick. 1992. Heterogeneity In Pollen Allele Frequencies Among Cones and Trees of *Pinus pungens* Lambert. Annual Meeting of The Western Forest Genetics Association. July 27-30, 1992. University of Colorado, Boulder, Colorado.
- Gibson, J.P.** and J.L. Hamrick. 1990. Heterogeneity In Pollen Allele Frequencies Among Cones and Trees of *Pinus pungens* Lambert. 4<sup>th</sup> International Congress of Systematics and Evolution. July 1-7, 1990. University of Maryland, College Park, Maryland.
- Gibson, J.P.** and J.L. Hamrick. 1990. Genetic Structure of Table Mountain Pine Populations. 11<sup>th</sup> North American Forest Biology Workshop. June 13-15, 1990. University of Georgia Center For Continuing Education, Athens, Georgia.

### **Invited Seminars and Workshops**

- How to Teach With Video Case Studies. Tulsa Community College. February 21, 2020. Tulsa, Oklahoma.
- Using and Creating BioInteractive Video Case Studies. National Association of Biology Teachers Annual Meeting, November 14, 2019. Chicago, Illinois. Co-presenter with A. Prud'homme-Genereaux.
- Using and Developing Case Studies with HHMI BioInteractive Video Resources. National Center for Case Study Teaching in Science. 20th Annual Conference on Case Study Teaching in Science. September 27, 2019. Buffalo, New York

- Using HHMI Videos and Data Points As Tools For Engaging Students From Molecules to Ecosystems. Annual Meeting of the Botanical Society of America. July 27-31. Tucson, Arizona.
- Video Mini-Case Studies: An Effective Tool For Engaging Students Across Scale, Space, and Time. Life Discovery Conference 2019. March 21-23, 2019. Gainesville, Florida.
- Developing and Using Mini Case Studies to Accompany HHMI BioInteractive Resources. National Association of Biology Teachers Annual Meeting, November 8, 2018. San Diego, California. Co-presenter with A. Prud'homme-Genereaux, & M. Cskari.
- Purposeful Pedagogy in the STEM Lab. Department of Biology Ecomunch. September 12, 2018. University of Oklahoma
- Defining Student Learning Goals. A Workshop for New Graduate Teaching Assistants. August 13, 2018. University of Oklahoma.
- A Crash Course in Developing Videos for Flipping Lab. QUBES/BIOQUEST Network Annual Summer Workshop. June 22, 2018. Claremont, California.
- Plants by the numbers. QUBES/BIOQUEST Network Annual Summer Workshop. June 19, 2018. Claremont, California.
- Made for Each Other: Pairing HHMI BioInteractive resources with case studies. Tulsa Community College. February 2, 2018. Tulsa, Oklahoma.
- Achieving Learning Goals and Objectives Using Case Studies, Graduate Teaching Academy University of Oklahoma., Center for Teaching Excellence. November 16, 2017. Norman, OK.
- Teaching Small: Using and Developing Case Studies, Part II. Center for Teaching Excellence. October 31, 2017. Norman, OK..
- Teaching Small: Using and Developing Case Studies, Part I. Center for Teaching Excellence. October 24, 2017. Norman, OK.
- Development of Resources for HHMI BioInteractive, Life Discovery Conference. October 20, 2017. Norman, OK.
- Getting the Feel for Phylogenies: A Tactile Tree-Thinking Activity. Life Discovery Conference. October 20, 2017. Norman, OK. Co-presenter with K. Jenkins, & A. Hasley
- Art, Science, and Flipped Case Videos. 2017 National Center for Case Study Teaching in Science. September 16, 2017. Buffalo, New York
- The Never-Ending Story: Using Cases Across Multiple Classes. 2017 National Center for Case Study Teaching in Science. September 16, 2017. Buffalo, New York
- What A Long Strange Trip It's Been. 2017 Plant Biology Alumnus Lecturer, August 21, 2017. Department of Plant Biology, University of Georgia
- Distribution, Germination, and Establishment of Seaside Alder (*Alnus maritima*). Bringing Everyone Together: Saving the Seaside Alder Symposium. Botany 2017. June 27, 2017. Fort Worth, Texas.
- A Case of Human Evolution. Evolution101 Workshop. Evolution 2017. June 24, 2017. Portland, Oregon.
- Different Data and Odd Models: Tree Thinking and Plant Evolution. Scientific Thinking With Models and Data: the 2017 Professional Development in Undergraduate Educators Workshop. Evolution 2017. June 23, 2017. Portland, Oregon.

- QUBES: Teaching Quantitative Biology Better. (Joint Presentation with K. Jenkins, G. Hamerlinck, and L. Meade.) Scientific Thinking With Models and Data: the 2017 Professional Development in Undergraduate Educators Workshop. Evolution 2017. June 23, 2017. Portland, Oregon.
- Learning Goals and Objectives, Guiding Principles for Reverse Course Design. Graduate Teaching Academy, January 31, 2017. University of Oklahoma.
- Grading Assignments: the Aftermath. A Workshop For New Graduate Teaching Assistants. August 26, 2017. University of Oklahoma.
- Closing the Loop: Use of Integrated Case Studies in STEM Education. QUBES/BIOQUEST Network Annual Summer Workshop. June 20, 2016. Raleigh, North Carolina.
- How To Use Tree Thinking To Teach Plant Diversity and Evolution. Life Discovery Conference. March 19, 2016. Lindeum Heights, Maryland.
- Using Tree Thinking To Teach Plant Diversity and Evolution. Society for the Study of Evolution Presents Special Workshop: National Association of Biology Teachers Annual Meeting, November 13, 2015. Providence, Rhode Island.
- Working With Graduate Teaching Assistants. September 2, 2015. University of Oklahoma CTE New Faculty Workshop Series, Norman, Oklahoma.
- The Botanical Landscape of Oklahoma. January 9, 2015. Oklahoma Master Gardeners Monthly Meeting, Norman, Oklahoma.
- Oklahoma, A Botanical Crossroads. October 23, 2014. Lunch & Learn Series, Sam Noble Oklahoma Museum of Natural History, Norman, Oklahoma.
- Making and Grading Assignments. 2014. University of Oklahoma Graduate Teaching Assistant Orientation. August 12, 2014. Norman, Oklahoma.
- Science Literacy, Vision, and Change in Undergraduate Botany Education. Symposium Overview. Annual Meeting of The Botanical Society of America, July 26-30, 2014. Boise, Idaho.
- Vision and Change In Introductory Biology: An Example From A Tree-Thinking Curriculum. Annual Meeting of The Botanical Society of America, July 26-30, 2014. Boise, Idaho.
- Everything You Wanted to Know About PlantED But Were Afraid To Ask. Annual Meeting of The Botanical Society of America, July 26-30, 2014. Boise, Idaho.
- Oklahoma, A Botanical Crossroads. June 7, 2014. Ponca City Herb Festival, Pioneer Woman Museum, Ponca City, Oklahoma.
- Have You Thanked A Green Plant Today? June 7, 2014. Ponca City Herb Festival, Pioneer Woman Museum, Ponca City, Oklahoma.
- Phylocards. April 24-27, 2014. USA Science and Engineering Festival, Washington, DC.
- Changes In The STEM Classroom, What Do We Need To Do? Annual Meeting of The Botanical Society of America, July 27-31, 2013. New Orleans, Louisiana.
- Approaches To Assessment. 2013. University of Oklahoma Graduate Teaching Assistant Orientation. August 13, 2013. Norman, Oklahoma.
- Evolution and Assessment: Lessons From A Tree-Thinking Curriculum. Annual Meeting of The Botanical Society of America. July 7-11, 2012. Columbus, Ohio.
- Seaside Alder: The Most Spaced-Out Tree In North America. AAAS-SWARM Endangered Species of Oklahoma Symposium. The University of Tulsa. April 3, 2012.

- So, You Want To Go To Graduate School: The Whys, Whats, Whens and Hows of Applying To Graduate School. Tri-Beta Biology Club, East Central University. November 2, 2011. Ada, Oklahoma.
- Evolution, Education, and Evaluation: Tree-Thinking In Intro Biology. 2011. Teaching Scholar's Initiative. October 20, 2011. Norman, Oklahoma.
- Evolution 101 Workshop. 2011. Invited Member of Evolution Education Discussion Panel. Evolution 2011. June 17 – 22, 2011. Norman, Oklahoma.
- Tree-Thinking, Case Studies, and Inquiry In Introductory Evolution Education. Department of Ecology and Evolutionary Biology, University of Colorado. March 31, 2011. Boulder, Colorado.
- What Is Tree-Thinking? Department of Biology, Metro State University. March 29, 2011. Denver, Colorado.
- Teaching Essential Scientific Skills For Citizens and Scientists. National Science Foundation CCLI/TUES Principal Investigators Conference. January 26-28, 2001. Washington, D.C.
- Conservation Genetics of Seaside Alder. Northeastern State University. Department of Biology. November 10, 2010. Tahlequah, Oklahoma.
- Exotic Species: Unwanted Biodiversity. Animal Volunteers Alliance, University of Oklahoma.. March 23, 2010. Norman, Oklahoma
- The Curious Distribution of Seaside Alder. The University of Tulsa Department of Biological Science Seminar Series. November 13, 2009. Tulsa, Oklahoma.
- Darwin's Different Flowers. Discussions With Darwin, Sam Noble Oklahoma Museum of Natural History. October 6, 2009. Norman, Oklahoma.
- Making A Case For Plants & Fungi: Using and Writing Case Studies For Botany and Mycology Education. Annual Meeting of The Botanical Society of America, July 25-29, 2009. Snowbird, Utah.
- Why Do Plants Change Color? Family Night Out Program Aat The Sam Noble Oklahoma Museum of Natural History. November 6, 2009.
- Telling Time With Trees. Family Night Out Program at The Sam Noble Oklahoma Museum of Natural History. April 17, 2009.
- Was Charles Darwin A Botanist? AAAS-SWARM Symposium. The University of Tulsa. March 31, 2009.
- On The Botanical Contributions of Charles Darwin. Sam Noble Oklahoma Museum of Natural History. February 13, 2009.
- Plants of The Colorado Plateau. Presentation To Paleoexplorology Class At Sam Noble Oklahoma Museum of Natural History. June 12, 2009.
- Making A Case For Plants and Fungi. Workshop At The Annual Meeting of The Botanical Society of America, July 25-29, 2009, Snowbird, Utah.
- Trees of Oklahoma. Family Night Out Program At The Sam Noble Oklahoma Museum of Natural History. September 26, 2008.
- KREST Institute. Research and Evaluation On Education In Science and Engineering Program Scientist Research Mentor. K20 Center For Educational and Community Renewal At The University of Oklahoma. June 2007 & June 2008.

- Infusing Inquiry Into Elementary School Science. Scientist Research Mentor. Sam Noble Oklahoma Museum of Natural History. June 2007 & June 2008.
- Coping With Fragmentation: Dispersal In Space and Time. Oklahoma State University Botany Seminar Series. Stillwater, Oklahoma. October 3, 2007.
- Ideas To Deliverables – Designing and Disseminating Effective Educational Materials: A Joint ASPB-BSA Workshop. Invited Workshop Thought Leader. Chicago, Illinois. July 9, 2007.
- Foretelling the Future: Casinos and Plant Sex. Kessler Farm Field Laboratory Seminar Series. Norman, Oklahoma. April 2, 2007.
- Introduction To The Fabaceae, Rosaceae, and Ranunculaceae. Georgia Native Plant Society Spring Plant Family Workshop. Decatur, Georgia. March 19, 2005.
- Heterocarpy As An Ecological Bet-Hedging Strategy. Department of Biology, Furman University, Greenville, South Carolina. March 29, 2004.
- Strategies For Development of Interdisciplinary Programs In Environmental Studies. PKAL 2003 Assemblies On Building Vital Undergraduate STEM Departments and Programs. Agnes Scott College, Decatur, Georgia. December 5, 2003.
- Heterocarpy In *Grindelia ciliata*: A Dynamic System For offspring Provisioning. Department of Botany, University of Oklahoma, Norman, Oklahoma. October 24, 2002.
- Integrating Research Into Labs: Opportunities With Opportunistic Species. Botanical Society of America Forum On Botany In The Curriculum. University of Wisconsin-Madison. August 2-4, 2002. Madison, Wisconsin (offered In Collaboration With Dr. Beverly Brown)
- Heterocarpy and Ecological Bet-Hedging In *Grindelia ciliata*. Department of Biology, Berry College, Rome, Georgia. April 2, 2002.
- The Use of Field Experiences In Teaching Botany: An Example Using The Flora of Colorado. Project Kaleidoscope 2000 Summer Leadership Institute. Keystone Resort and Conference Center. July 23-26, 2000. Keystone, Colorado.
- Separation of The Sexes: An Example of Gender Evolution In A Wild Avocado Species. Department of Biology, Morehouse College, Atlanta, GA. April 4, 2000.
- Population Genetic Aspects of Fruit Dimorphism In *Heterotheca subaxillaris* and *Prionopsis ciliata* (Asteraceae). Is It More Than Just A Difference In Packaging? Smithsonian Institution, Department of Botany. October 21, 1999.
- Ecological Dynamics of Avian Seed Dispersal In Tropical Trees, An Example From The Lauraceae. Westminster College, Department of Biology. October 10, 1996.

## Grants and Fellowships

### (sole PI unless otherwise indicated)

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| 2017 | The National Science Foundation, "Life Discovery - Doing Science biology education conference (LDC) on the theme: Data: Discover, Investigate, Inform." T. Mourad PI, J.P. Gibson co-PI. \$48,279.00 |
| 2017 | Alternative Textbook Grant, "Developing Online Resources for BIOL 1134 Lab", University of Oklahoma. \$2,500.00  |
| 2016 | University of Oklahoma Center for Teaching Excellence. "Use of Simbio Simulation Software in BIOL 1134 Lab." \$3,000.00  |

- 2011 – 2012 The National Science Foundation. "Improvements of Storage Facilities and Communications At The Kessler Farm Field Laboratories." [Linda Wallace PI. **Note:** Due to unforeseen circumstances, JPG. served as PI for this grant and supervised completion of bidding and building construction funded by this grant.] \$53,556.00
- 2010 Dean's Faculty Enrichment Grant. "Development of Evolution Concept Inventory." \$1140.00
- 2009-2013 The National Science Foundation. "Tree-Thinking In Introductory Level Biology Education." M. Hoefnagels co-PI \$149,992.00
- 2009 The Nature Conservancy, "Distribution and Field Germination Studies of Seaside Alder In Oklahoma." Co-PI P. Crawford \$3,654.00
- 2008 Population Genetic Study of The Western Prairie Fringed Orchid (*Platanthera praeclara*) For Reintroduction Into Oklahoma, The Nature Conservancy \$5,220.00
- 2008 University of Oklahoma Research Council, "Mating System Analysis of Seaside Alder (*Alnus maritima*)." \$6,000.00
- 2008 University of Oklahoma, College of Arts and Sciences Information and Technology Committee Grant, "Request For Funding To Purchase Laptop Computers Introductory-Level Biology Laboratory Courses."
- 2008 University of Oklahoma Faculty Enrichment Program, "Development of Inquiry Based Laboratory Exercises For A New Majors Introductory Biology Course."
- 2007 University of Oklahoma Honors Research Assistant Program, "Identification of ISSR Markers For Population Studies of *Alnus maritima*."
- 2007 The Nature Conservancy. Population Genetics Study of The Western Prairie Fringed Orchid (*Platanthera praeclara*) For Reintroduction Into Oklahoma. \$6581.00
- 2007 University of Oklahoma Junior Faculty Research Fellowship "Conservation Genetics of *Alnus maritima* (Seaside Alder), A Rare Wetlands Species."
- 2006 University of Oklahoma, College of Arts and Sciences Instructional Computing Grant.
- 2005 - 2006 Goizueta Foundation Research Grant, "Comparison of Germination Requirements Among Heterocarpic *Grindelia* Species."
- 2004 Julia Gary Collaborative Summer Research Grant, "Range-Wide Population Genetics of Seaside Alder (*Alnus maritima*, Betulaceae), A Rare Wetlands Species.
- 2003 Georgia Native Plants Society Research Grant "Population Genetics and Mating System of Seaside Alder (*Alnus maritima*, Betulaceae) In Georgia, A Rare Wetlands Species."
- 2003 Julia Gary Collaborative Summer Research Grant, "Influence of Fire On Genetic Diversity and Structure of *Pinus pungens* (Table Mountain Pine) Populations.

- 2002 Jessie Ball Dupont Grant, "Development of A Field-Based Course In Forest Community Ecology."
- 2001 Professional Development Award, Agnes Scott College, "Developmental Basis of Fruit Heteromorphism In Sunflowers."
- 2000 Professional Development Award, Agnes Scott College, "Microsatellite Analysis of Plant Populations."
- 1997 - 1999 United States Department of Agriculture, National Research Initiative Seed Grant Program, "Metapopulation Genetic Dynamics of Weed Population Colonization and Maintenance." USDA-NRI Grant # 97-35311-5113.
- 1997 Professional Development Award, Agnes Scott College, "Completion of *Ocotea tenera* and *Pinus ponderosa* Research."
- 1996 Professional Development Award, Agnes Scott College, "Ecological Genetics of Seed Dimorphism."
- 1994 Dean's Small Grant, University of Colorado, "Floral Development of *Ocotea tenera*."
- 1993 - 1995 University of Colorado Minority Fellowship
- 1992 Dean's Small Grant, University of Colorado, "Breeding System of *Ocotea tenera*."
- 1991 University of Colorado Herbarium Award, "Population Genetics of *Ocotea tenera*."
- 1991 Ibero-Latin American Studies Center, University of Colorado, "Allozyme Variation In *Ocotea tenera*."
- 1991 Department of Environmental, Population, and Organismic Biology Grant, "Population Genetics of *Ocotea tenera*."
- 1991 Sigma Xi Grant-In-Aid of Research, "Reproductive Biology of *Ocotea tenera*."
- 1991 Dean's Small Grant, University of Colorado, "Conservation Biology of *Ocotea tenera*."
- 1990 Department of Botany Grant, University of Georgia, "Heterogeneity of Pollen Allele Frequencies Among Cones and Trees of *Pinus Pungens*."
- 1989 - 1992 National Science Foundation, Minority Pre-Doctoral Fellowship
- 1989 Department of Botany Grant, University of Georgia, "Genetic Structure of Table Mountain Pine Populations."

### Professional Service

- 2018 – Present Editor-In-Chief, PlantEd, Online Digital Learning Library
- 2019 Organizer, Making the Case for Quantitative Cases. Faculty Mentoring Network II. Spring Semester 2019. QUBES.
- 2018 Organizer, Plants By The Numbers Faculty Mentoring Network II. Fall Semester 2018. QUBES-BSA.
- 2018 Organizer, Plants By The Numbers Faculty Mentoring Network I. Spring Semester 2018. QUBES-BSA.



2017 – 2018	Chair, Ecological Section, Botanical Society of America
2017 – Present	Member, Education Committee, Society for the Study of Evolution
2016 – Present	PDUE and Evo101 Planning Committee, Society for the Study of Evolution
2016 – Present	Treasurer, Teaching Section, Botanical Society of America
2016 – 2017	2017 Life Discovery Conference Local Planning Organizer
2015 – Present	Huxley Award Committee, Society for the Study of Evolution
2015 – 2018	Botanical Society of America, PlantingScience Advisory Board
2013 – 2018	Resource Editor PlantEd, Online Digital Learning Library
2012 – 2018	Chair, Botanical Society of America Education Committee
2014 – 2017	Life Discovery Conference Planning and Organizing Committee
2009 – 2012	Vice-Chair, Ecological Section, Botanical Society of America
2007 – 2010	Botanical Society of America PlantingScience Project, Scientist Research Mentor.
2007, 2011	Botanical Society of America Ecological Section Student Presentation Awards Committee
2005 - 2011	Web Site & Technology Committee, Botanical Society of America
2004 - 2006	Chair, Education Committee, Association of Southeastern Biologists
2003	On-Site Organizing Committee, PKAL 2003 Assemblies On Building Vital Undergraduate STEM Departments and Programs. Agnes Scott College, Decatur, Georgia. December 5, 2003.
2002 – 2005	Program Coordinator, Teaching Section of The Botanical Society of America.
2001-2002	Chair, Teaching Section of The Botanical Society of America.
2000 - 2002	Chair of Katherine Esau Award Committee, Developmental Section of The Botanical Society of America,
2000 - 2001	Vice Chair/Chair Elect of Teaching Section of The Botanical Society of America.
1999 – 2002	Member of Katherine Esau Award Committee, Developmental Section of The Botanical Society of America
1996 - 2006	Board of Scientific Advisors, Highlands Biological Station, Highlands, North Carolina

### **Departmental Service**

2019 – Present	Biology 124 Redesign Committee, Department of Biology, University of Oklahoma
2017 - 2018	Greenhouse Committee, Department of Botany and Microbiology, University of Oklahoma
2015 – 2017	Committee A, Department of Botany and Microbiology, University of Oklahoma
2015	Co-Chair, Plant Systematist Search Committee, Committee, Department of Microbiology and Plant Biology, University of Oklahoma

2015 – Present	Chair, Curriculum Committee, Department of Microbiology and Plant Biology, University of Oklahoma
2015 - Present	Graduate Program Assessment Liaison, Department of Microbiology and Plant Biology, University of Oklahoma
2010 – 2018	Faculty Sponsor, Botanical Society of American Graduate Student Chapter at the University of Oklahoma, University of Oklahoma
2010 – Present	Undergraduate Program Assessment Liaison, Department of Microbiology and Plant Biology, University of Oklahoma
2013-2015	Committee A, Interdisciplinary Perspectives on the Environment, University of Oklahoma
2012-2015	<i>Ad hoc</i> Curriculum Task Force, Department of Biology, University of Oklahoma
2009 – 2011	Committee A, Department of Botany and Microbiology, University of Oklahoma
2009 – 2010	Committee A, Interdisciplinary Perspectives on the Environment, University of Oklahoma
2009	Graduate Admissions Committee, Department of Botany and Microbiology, University of Oklahoma
2009	Chair, Scholarships and Awards Committee, Department of Botany and Microbiology, University of Oklahoma
2009	Member of Hosting Committee for Richard Dawkins Lecture March 6, 2009
2008-2009	Darwin 2009 Planning Committee, University of Oklahoma
2007	Chair, Introductory Biology Syllabus working group, Department of Zoology, University of Oklahoma
2007 – 2009	Departmental Publicity Committee, Department of Zoology, University of Oklahoma
2007 – 2008	Computer Committee, Department of Botany and Microbiology, University of Oklahoma
2006 – Present	Undergraduate Studies Committee, Department of Biology, University of Oklahoma
2006 – 2009	<i>Ad hoc</i> Committee for Undergraduate Curriculum, Department of Zoology, University of Oklahoma
2006-2007	Microbial Ecologist Search Committee, Department of Botany and Microbiology, University of Oklahoma
2002 –2006	Chair, Department of Biology, Agnes Scott College
2000 - 2006	Director, Agnes Scott College Environmental Studies Program
1999 - 2001	Convenor of Committee for the Development of the Environmental Studies Program at Agnes Scott College.
1998 - 2006	Faculty sponsor for GEOS Environmental Club.
1995 – 2006	Curator of Agnes Scott College herbarium (DECA) and greenhouse
1995 – 2006	Faculty sponsor for Beta Beta Beta Biological Honor Society Chapter.

**University/College Service**

2018 – 2020	Member, Teaching Scholars Initiative Committee
2015 – Present	Associate Director for Education, Kessler Atmospheric and Ecological Field Station
2016 – 2018	Member, University of Oklahoma Graduate Council Robberson Travel and Research Subcommittee
2015 – 2016	Member, University of Oklahoma Graduate Council Curriculum Subcommittee
2015 – 2018	Member, University of Oklahoma Graduate Council
2014 - 2015	Provost Advisory Committee for STEM Graduate Student Education and Training, Subcommittee Chair
2014 - 2015	Member, Provost <i>ad hoc</i> Committee for Graduate Education
2014 - 2015	Advisory Committee for J. Pendley NIH Research Project On Native American Student Persistence In Higher Education.
2014	Advisory Committee, Native American Students in Biomedical Research Careers.
2013 - Present	University of Oklahoma Integrity Council, <i>ad hoc</i> Faculty Member for Student Hearings.
2012 – 2014	Director, Kessler Atmospheric and Ecological Field Station
2010 – 2012	Interim Director, Kessler Farm Field Laboratory
2009 – Present	Member, KAEFS Steering Committee
2010 – 2011	University of Oklahoma Faculty Senate
2009 - 2010	Chair University of Oklahoma Course and Curriculum Committee
2008 - 2009	Member University of Oklahoma Course and Curriculum Committee
2009 – 2016	Faculty Sponsor, Society of Native American Pre-Health Students
2009	Linked Gateway Course for BIOL 1134 Evolution, Ecology, and Diversity
2009	Faculty Mentor, Presidents Mentoring Program
2008 - 2010	Chickasaw Nation Mentoring Program
2008-Present	University of Oklahoma, American Indian Advocacy Council
2007-2009,	
2013-2014	University of Oklahoma, Adopt-A-Prof, Faculty Mentor
2007-2009	<i>Ad hoc</i> committee on classroom clicker systems
2004 - 2006	Chair, Agnes Scott College Professional Development Committee
2003	Agnes Scott College Curriculum Committee
2001 - 2002	Faculty sponsor for Agnes Scott College Environmental House
2000 - 2006	Chair Agnes Scott College Campus Environmental Committee
2000	Organizing Committee for 2000 Agnes Scott College Spring Annual Research Conference
1999 - 2002	Agnes Scott College Judicial Review Committee
1999 – 2001	Convenor Agnes Scott College Natural Sciences and Mathematics Conference
1999 – 2000	Agnes Scott College Campus Environmental Committee

1998	Coordinator of 1998 Agnes Scott College Spring Annual Research Conference
1998	Committee for Campus-wide Landscape/Hardscape Planning, Agnes Scott College
1997	Co-coordinator of 1997 Agnes Scott College Spring Annual Research Conference
1997 - 1999	Library Advisory Group, Agnes Scott College
1997 - 1998	Co-convenor Agnes Scott College Science and Mathematics Conference
1996 - 1999	Teacher Education Advisory Group, Agnes Scott College
1995 - 2006	Academic advisor, Agnes Scott College

### **Graduate Students Mentored**

#### *Master's Students*

Matthew Jones: Population structure and mating system dynamics of *Alnus maritima* (seaside alder). Date of Completion: May 2010. Mr. Jones is currently working for the North Carolina Extension Service after working for several years in the State of California's Extension Service.

Cassie S. Ehardt: Establishment of a rare riparian tree, *Alnus maritima*. Date of Completion: December 2016. Ms. Ehardt is working as a conservation specialist with the Oklahoma Department of Forestry.

Adam Wilson: Non-thesis Master's Degree. Date of Completion: May 2020

#### *Doctoral Students*

Joshua Cooper: Macronutrients shape microbial communities, gene expression and protein evolution. Date of completion: May 2017. Dr. Cooper is a tenure-track member of the biology faculty at the University of Northern Kentucky.

Michael Kistenmacher: Bet-hedging in heterocarpic *Grindelia ciliata* (Asteraceae). Date of completion: May 2017. Dr. Kistenmacher is currently employed by Weyerhaeuser Corporation.