

**College of Forest Resources & Environmental Science
Michigan Technological University, Houghton, MI 49931**

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www.forestwarming.org

APPOINTMENTS

2016–present **Associate Professor of Tree Physiology**, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

2009–2016 **Assistant Professor of Tree Physiology**, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

2007–2009 **Postdoctoral Fellow**, Botany Department, University of Hawai'i at Mānoa, Honolulu, HI.

EDUCATION

2003–2007 **Ph.D. in Ecology**, Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO.

2000–2002 **M.S. in Forestry**, Department of Forest Resources, University of Minnesota, St. Paul, MN.

1993–1997 **B.S. in Molecular Biology with Certificate in Environmental Studies**, University of Wisconsin, Madison, WI.

PROFESSIONAL PREPARATION

2003–2007 **Graduate Research Assistant (Ph.D.)**, Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO.

2002 **GIS and Web Development Technician (GS-09)**, USDA Forest Service, North Central Research Station, St. Paul, MN.

2000–2002 **Graduate Research Assistant (M.S.)**, Department of Forest Resources, University of Minnesota, St. Paul, MN.

CURRENT RESEARCH INTERESTS

- Forest canopy structure and function; how and why leaf traits vary within tree crowns.
- Interactive effects of climate warming and hurricanes on tropical forest ecosystems.
- Thermal acclimation potential of photosynthesis and respiration.
- Adaptation and acclimation to climate change of tropical and temperate trees.
- Using ecophysiological tools to help inform forest management

GRANTS and FELLOWSHIPS***Active Grants:***

- 2020 Michigan Tech Research Excellence Fund – Infrastructure Enhancement Grants. “State-of-the-Science Plant Gas Exchange Measurements for Ecological Research.”
Lead PI: **M. Cavaleri**; Co-PIs: A. Burton (MTU), C. Külheim (MTU), E. Hersch-Green (MTU). \$59,350. (*all to MTU/Cavaleri*).
- 2019–2022 USDA McIntire-Stennis.
“Investigating within-canopy phenotypic plasticity to assess the acclimation potential of temperate and tropical tree species to climatic change.”
Lead PI: **M. Cavaleri**, **\$36,720** (*all to MTU/Cavaleri*).
- 2019–2022 USDA McIntire-Stennis.
“Thriving trees for future needs - oak adaptation to climate change.”
Lead PI: C. Külheim (MTU); Co-PI: **M. Cavaleri**, **\$36,720** (*all to MTU/ Külheim*).
- 2019–2021 National Science Foundation Division of Environmental Biology.
“Into the deep: Temperature effects on coupled biogeochemical cycles in deep soil profiles of a wet tropical forest.”
Lead PI: T. Wood (USFS-IITF); Co-PIs: **M. Cavaleri**, S. Reed (USGS), **\$364,599** (*\$98,797 to MTU/Cavaleri*).
- 2018–2021 U.S. Department of Energy, Biological and Environmental Research, Terrestrial Ecosystem Science.
“Effects of hurricane disturbance and increased temperature on carbon cycling and storage of a Puerto Rican forest: a mechanistic investigation of above- and belowground processes.”
Lead PI: T. Wood (USFS-IITF); Co-PIs: **M. Cavaleri**, S. Reed (USGS), J. Pett-Ridge (Lawrence Livermore NL), K. McFarlane (Lawrence Livermore NL), X. Yang (Oak Ridge NL), **\$999,999** (*\$314,395 to MTU/Cavaleri*).

Completed Grants:

- 2019 Hyogo University Mobility in Asia and the Pacific (HUMAP).
Hyogo Earthquake Memorial 21st Century Research Institute (HEM21) Invitation fellowship program for research in Hyogo, Japan. Jan 1-March 30, 2019
Lead PI: H. Ishii (Faculty Host, Kobe University, Japan); Co-PI: **M. Cavaleri**, **\$5,400** (*all to Cavaleri*)
- 2016–2019 USDA McIntire-Stennis.
“Comparing source water and rooting depth of jack pine from different post-harvest site preparation treatments and tree age classes.”
Lead PI: **M. Cavaleri**, **\$32,550** (*all to MTU/Cavaleri*).
- 2014–2018 U.S. Department of Energy, Biological and Environmental Research, Terrestrial Ecosystem Science.
“Effects of warming on tropical forest carbon cycling: Investigating temperature regulation of key tropical tree and soil processes.”
Lead PI: **M. Cavaleri**; Co PIs: T. Wood (USFS-IITF), S. Reed (USGS), E. Brodie, (Lawrence Berkeley NL), **\$1,002,605** (*\$435,721 to MTU/Cavaleri*).

- 2013–2017 U.S. Forest Service International Institute of Tropical Forestry.
“Experimental warming of a Puerto Rican wet tropical forest: Investigating temperature sensitivities and acclimation potential of key plant and soil processes.”
Lead PI: T. Wood (USFS-IITF); Co-PIs: **M. Cavaleri**, S. Reed (USGS), **\$300,000** (\$119,724 to MTU/Cavaleri).
- 2015–2016 U.S. Department of Energy, Biological and Environmental Research, Terrestrial Ecosystem Science.
“Supplemental: Effects of warming on tropical forest carbon cycling: Investigating temperature regulation of key tropical tree and soil processes.”
Lead PI: **M. Cavaleri**, **\$80,000** (all to MTU/Cavaleri).
- 2013–2016 USDA McIntire-Stennis.
“Thermal acclimation potential of tree physiology in a northern hardwoods forest.”
Lead PI: **M. Cavaleri**, **\$32,550** (all to MTU/Cavaleri).
- 2011–2016 U.S. Forest Service Southern Research Station.
“Adaptive Silviculture in the Context of Climate Change.”
Lead PI: **M. Cavaleri**, (*PI-status transferred from Linda Nagel in 2013*); Co-PIs: L. Nagel (U of MN, Colorado State), Chris Swanston (USFS-NRS), Maria Janowiak (USFS-NRS), **\$310,087** (all to L. Nagel).
- 2012–2015 U.S. Geological Survey John Wesley Powell Center for Analysis and Synthesis.
“Working Group: Integrating modeling and empirical approaches to improve predictions of tropical forest responses to global warming.”
Lead PI: S. Reed (USGS); Co-PIs: **M. Cavaleri**, T. Wood (USFS-IITF), **\$112,858** (\$39,889 to MTU/Cavaleri).
- 2010–2015 U.S. Forest Service Northern Research Station.
“Ecophysiological monitoring on the Marcell Experimental Forest.”
Lead PI: **M. Cavaleri**, **\$90,649** (all to MTU/Cavaleri).
- 2011–2015 U.S. Forest Service Southern Research Station.
“National Instruction of Advanced Climate Topics.”
Lead PI: **M. Cavaleri**, (*PI-status transferred from Linda Nagel in 2013*); Co-PIs: L. Nagel (U of MN, Colorado State), Chris Swanston (USFS-NRS), M. Powers (MTU), **\$120,293** (all to L. Nagel).
- 2009–2012 USDA McIntire-Stennis.
“Investigating vertical canopy gradients of foliar morphology in a northern hardwoods forest.”
Lead PI: **M. Cavaleri**, **\$32,760** (all to MTU/Cavaleri).
- 2011–2012 Michigan Tech Research Excellence Fund–Infrastructure Enhancement.
“Improving Michigan Tech’s Ability to Quantify Stable Isotopes of Water.”
Lead PI: A. Burton (MTU); Co-PIs: **M. Cavaleri**, R. Chimner (MTU), T. Pypker (MTU), **\$18,000** (*Internal MTU grant, all to Ecosystem Science Center*).
- 2010–2011 Michigan Tech Research Excellence Fund–Research Seed Grant

“Investigating Vertical Canopy Gradients of Foliar Morphology in a Northern Hardwoods Forest.”

Lead PI: **M. Cavaleri, \$40,000** (*Internal MTU grant, all to Cavaleri*).

2001 Carol Turnbull Memorial Fellowship, University of Minnesota.
Graduate student fellowship.
Lead PI: **M. Cavaleri, \$1500** (*all to Cavaleri*).

PUBLICATIONS

Peer-reviewed articles, published or in press (accepted): (*indicates graduate student coauthor; † indicates undergraduate student co-author)

1. Kennard D, Matlaga D, Joanne S, Clay K, Alonso-Rodriguez Aura, Reed SC, **Cavaleri MA**, and Wood TE. *In press*. Tropical understory herbaceous community responds more strongly to hurricane disturbance than to experimental warming. *Ecology and Evolution*.
2. Reed SC, Reibold R, **Cavaleri MA**, Alonso-Rodríguez AM, Berberich ME, Wood TE. (2020). Soil biogeochemical responses of a tropical forest to warming and hurricane disturbance. *Advances in Ecological Research*. <https://doi.org/10.1016/bs.aecr.2020.01.007>
3. Kramer R*, Ishii, HR, Carter KR, Miyazaki Y, **Cavaleri MA**, Araki M, Azuma W, Inoue Y, and Hara C. (2020). Predicting effects of climate change on productivity and persistence of forest trees. *Ecological Reviews*. <https://doi.org/10.1111/1440-1703.12127>
4. Benedicte B, Alonso-Rodríguez AM, Aldrich-Wolfe L, **Cavaleri MA**, Reed SC, Wood TE. (2020). Altered climate leads to positive density-dependent feedbacks in a tropical rainforest. *Global Change Biology*. <https://doi.org/10.1111/gcb.15087>
5. Kumarathunge DP*, Medlyn BE, Drake JE, Tjoelker MG, Aspinwall MJ, Battaglia M, Cano FJ, Carter KR*, **Cavaleri MA**, Cernusak LA, Chambers JQ, Crous KY, De Kauwe MG, Dillaway DN, Dreyer E, Ellsworth DS, Ghannoum O, Han Q, Hikosaka K, Jensen AM, Kelly JWG, Kruger EL, Mercado LM, Onoda Y, Reich PB, Rogers A, Slot M, Smith N, Tarvainen L, Tissue DT, Togashi HF, Tribuzy ES, Uddling J, Vårhammar A, Wallin G, Warren JM and Way DA (2019) Acclimation and adaptation components of the temperature dependence of plant photosynthesis at the global scale. *New Phytologist*, 222: 768-784. <https://doi.org/10.1111/nph.15668>
6. Wood TE, González G, Silver WL, Reed SC, and **Cavaleri MA** (2019) On the Shoulders of Giants: Continuing the Legacy of Large-Scale Ecosystem Manipulation Experiments in Puerto Rico. *Forests*, 10: 210. <https://doi.org/10.3390/f10030210>
7. Wood TE, **Cavaleri MA**, Giardina G, Khan S, Mohan JE, Nottingham A, Reed SC and Slot M. (2019) Soil warming effects on low-latitude forests with highly-weathered soils. In JE Mohan (Ed.), *Ecosystem Consequences of Soil Warming: Microbes, Vegetation, Fauna, and Soil Biogeochemistry* (pp. 385-439). London, UK: Academic Press, Elsevier. <https://doi.org/10.1016/B978-0-12-813493-1.00015-6>
8. Thomas RQ, Williams M, **Cavaleri MA**, Exbrayat JF, Smallman TL, and Street LE. (2019) Alternate trait-based leaf respiration schemes evaluated at ecosystem-scale through carbon optimization modeling and canopy property data. *Journal of Advances in Modeling Earth Systems*, 11(12). <https://doi.org/10.1029/2019MS001679>

9. Baziari F*, Henquinet K, and **Cavaleri MA**. (2019) Understanding farmers' perceptions and the effects of shea (*Vitellaria paradoxa*) tree distribution in agroforestry parklands of Upper West Region, Ghana. *Agroforestry Systems*, 93: 557–570. <https://doi.org/10.1007/s10457-017-0150-1>
10. Mau AC*, Reed SC, Wood TE, and **Cavaleri MA** (2018) Temperate and tropical forest canopies are already functioning beyond their thermal thresholds for photosynthesis. *Forests*, 9(47): 1-24. <https://doi.org/10.3390/f9010047>
11. Kimball BA, Alonso-Rodriguez AM, **Cavaleri MA**, Reed SC, Gonzalez G, Wood TE (2018) Infrared heater system for warming tropical forest understory plants and soils. *Methods in Ecology and Evolution*, 8: 1932-1944. <https://doi.org/10.1002/ece3.3780>
12. Ishii RH and **Cavaleri MA**. (2017) Canopy ecophysiology: exploring the terrestrial ecosystem frontier. *Tree Physiology*, 37: 1263-1268. <https://doi.org/10.1093/treephys/tpx112>
13. **Cavaleri MA**, Coble AP*, Bauerle WL, Loescher HW, Oberbauer SF, and Ryan MG. (2017) Tropical rainforest carbon sink declines during El Nino as a result of reduced photosynthesis and increased respiration rates. *New Phytologist*, 216: 136-149. <https://doi.org/10.1111/nph.14724>
14. Collins AR*, Burton AJ, and **Cavaleri MA**. (2017) Effects of experimental soil warming and water addition on the transpiration of mature sugar maple. *Ecosystems*, 21 :98-111. <https://doi.org/10.1007/s10021-017-0137-9>
15. Coble AP* and **Cavaleri MA**. (2017). Vertical leaf mass per area gradient of mature sugar maple reflects both height-driven increases in vascular tissue and light-driven increases in palisade layer thickness. *Tree Physiology*, 37: 1337-1351. <https://doi.org/10.1093/treephys/tpx016>
16. Coble AP*, VanderWall B†, Mau A†, **Cavaleri MA**. (2016). How vertical patterns in leaf traits shift seasonally and the implications for modeling canopy photosynthesis in a temperate deciduous forest. *Tree Physiology*, 36: 1077-1091. <https://doi.org/10.1093/treephys/tpw043>
17. **Cavaleri MA**, Reed SC, Smith K, and Wood TE. (2015) Urgent need for warming experiments in tropical forests. *Global Change Biology*, 21: 2111-2121. <https://doi.org/10.1111/gcb.12860>
18. Ma R-Y*, Zhang J-L, **Cavaleri MA**, Sterck F, Strijk JS, and Cao K-F. (2015) Convergent evolution towards high net carbon gain efficiency contributes to the shade tolerance of palms (*Arecaceae*). *PLoS ONE*, 10(10): e0140384. <https://doi.org/10.1371/journal.pone.0140384>
19. Coble AP*, and **Cavaleri MA**. (2015) Light acclimation optimizes leaf functional traits despite height-related constraints in a canopy shading experiment. *Oecologia*, 177: 1131-1143. <https://doi.org/10.1007/s00442-015-3219-4>
20. **Cavaleri MA**, Ostertag R, Cordell S, and Sack L. (2014) Native trees show conservative water use relative to invasive trees: results from a removal experiment in a Hawaiian wet

- forest. *Conservation Physiology*, 2(1): cou016. <https://doi.org/10.1093/conphys/cou016>
21. Coble AP*, and **Cavaleri MA**. (2014) Light drives vertical gradients of leaf morphology in a sugar maple (*Acer saccharum*) forest. *Tree Physiology*, 34: 146-158. <https://doi.org/10.1093/treephys/tpt126>
 22. Coble AP*, Autio A[†], **Cavaleri MA**, Binkley D, and Ryan MG. (2014) Converging patterns of vertical variability in leaf morphology and nitrogen across seven Eucalyptus plantations in Brazil and Hawaii, USA. *Trees: Structure and Function* 28: 1-15. <https://doi.org/10.1007/s00468-013-0925-6>
 23. Wood TE, **Cavaleri MA**, and Reed SC. (2012) Tropical forest carbon balance in a warmer world: a critical review spanning microbial- to ecosystem-scale processes. *Biological Reviews*, 87: 912-927. <https://doi.org/10.1111/j.1469-185X.2012.00232.x>
 24. Reed SC, Wood TE, **Cavaleri MA**. (2012) Tropical forests in a warming world. *New Phytologist*, 193: 27-29. <https://doi.org/10.1111/j.1469-8137.2011.03985.x>
 25. **Cavaleri MA** and Sack L. (2010) Comparative water use of native and invasive plants at multiple scales: a global meta-analysis. *Ecology*, 91: 2705-2715. <https://doi.org/10.1890/09-0582.1>
 26. **Cavaleri MA**, Oberbauer SF, Clark DB, Clark DA, and Ryan MG. (2010) Height is more important than light in determining leaf morphology in a tropical rain forest. *Ecology*, 91: 1730–1739. <https://doi.org/10.1890/09-1326.1>
 27. Ryan MG, **Cavaleri MA**, Almeida de Campi A, Penchel R, Senock RS and Stape JL. (2009) Wood CO₂ efflux and foliar respiration for Eucalyptus in Hawaii and Brazil. *Tree Physiology*, 29: 1213-1222. <https://doi.org/10.1093/treephys/tpp059>
 28. **Cavaleri MA**, Oberbauer SF and Ryan MG. (2008) Foliar and ecosystem respiration in an old-growth tropical rain forest. *Plant, Cell and Environment*, 31: 473-483. <https://doi.org/10.1111/j.1365-3040.2008.01775.x>
 29. **Cavaleri MA**, Oberbauer SF and Ryan MG (2006) Wood CO₂ efflux in a primary tropical rain forest. *Global Change Biology*, 12: 2442-2458. <https://doi.org/10.1111/j.1365-2486.2006.01269.x>
 30. **Cavaleri MA**, Gilmore DW, Mozaffari M, Rosen CJ and Halbach TR. (2004) Hybrid poplar and forest soil response to municipal and industrial by-products: A greenhouse study. *Journal of Environmental Quality*, 33: 1055-1061. <https://doi.org/10.2134/jeq2004.1055>

Student Theses and Dissertations as Primary Advisor:

Carter KR* (2019) Ecophysiological responses of tropical woody species to ambient and elevated temperatures. PhD Thesis, College of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Carter KR* (2017) Effects of in-situ leaf-level canopy warming in a northern hardwood forest. MS Thesis, School of Forest Resources and Environmental Science, Michigan

Technological University, Houghton, MI.

Clair SJ* (2016) Ethnobotany, economics, and cultural significance of traditional hat making in two districts of Central Panama. MS Thesis, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Mau AC* (2015) Instantaneous photosynthetic response to temperature of mature forest canopies and experimentally warmed seedlings. MS Thesis, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Baziari F* (2015) The influence of spatial distribution of shea trees (*Vitellaria paradoxa*) on maize (*Zea mays*) production in the Upper West region, Ghana. MS Thesis, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Collins AR* (2015) Investigating the effects of short- and long-term climatic variation on the water use of three northern hardwood tree species. PhD Dissertation, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Coble AP* (2015) Investigating within-canopy variation of functional traits and cellular structure of sugar maple (*Acer saccharum*) leaves. PhD Dissertation, School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.

Other non-refereed publications:

DOE, U. S. (2012) Research Priorities for Tropical Ecosystems Under Climate Change Workshop Report. DOE/SC-0153 U.S. Department of Energy Office of Science http://science.energy.gov/~media/ber/pdf/Tropics_Report_2012_LowRes.pdf (Cavaleri MA member of writing team, acknowledged within document).

Cavaleri MA, Olivas P, and Ordoñez H. (2003) The Towers Project. *What's Up? Newsletter of the International Canopy Network*, 9(4): 2-4.

Matysik MA, Gilmore DW, Mozaffari M, Rosen CJ and Halbach TR. (2001) Application of wood ash, biosolids, and paper mill sludge amendments to forest soils—a review of the literature. *University of Minnesota, Dept. Forest Resources Staff Paper Series*, Number 153. 18. (under maiden name, Matysik).

AWARDS and RECOGNITION

2019 Finalist for the Michigan Tech University Distinguished Teaching Award

2019 Inducted into the Michigan Tech Academy of Teaching Excellence

2016 Exceptional “Average of 7 Dimensions” student evaluation score for Fall 2016. Score was in top 10% of similarly sized sections university-wide.

- 2015 Dean's Teaching Showcase Award, University-wide award sponsored by Michigan Tech Jackson Center for Teaching and Learning.
- 2014 Department of Energy workshop report on which I was a member of the writing team "*Research Priorities for Tropical Ecosystems Under Climate Change*" 2012, DOE/SC-0153 won Best of Show award from The Society for Technical Communication for providing "a connected, thorough, and eminently understandable explanation of a complicated but universally important subject to a diverse audience."
- 2010 A publication from my dissertation work, "*Height is more important than light in determining leaf morphology in a tropical forest*" (Cavaleri et al., Ecology 2010) was selected as the runner-up (2nd place) for the 2011 Organization of Tropical Studies Outstanding Student Paper Award.
- 2010 A publication from my post-doctoral work, "*Comparative water use of native and invasive plants at multiple scales: a global meta-analysis*" (Cavaleri & Sack Ecology 2010) was selected for the **Faculty of 1000** (F1000) library of the top 2% of published articles in biology and medicine.
- 2006 Best Graduate Oral Presentation Award, Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO.
- 2004 Best Graduate Oral Presentation Award, Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO.

TEACHING EXPERIENCE

- Instructor**, Tree Physiology, FW 4120, 3 Cr. Undergraduate course, Michigan Technological University (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020).
- Instructor**, Measuring Plants and their Environment, FW 5370, 3 Cr. Graduate course, Michigan Technological University (2013, 2019).
- Instructor**, Forest Ecophysiology, FW 5368, 2 Cr. Graduate course, Michigan Technological University (2010, 2012, 2016, 2018).
- Instructor**, Distinguished Ecologist Lecture Series, FW 5000, 1 Cr. Graduate course, Michigan Technological University (2017, 2018, 2019).
- Co-Instructor**, Communication for Natural Resource Professionals, FW 4800, 2 Cr. Senior-level Undergraduate course, Michigan Tech University (2016, 2017, 2018, 2019).
- Co-Instructor**, Natural Resources Professional, FW 1050, 2 Cr. Freshman-level Undergraduate course, Michigan Tech University (2016, 2017).
- Co-Instructor**, Maple Syrup Management & Culture, FW 4500, 1 Cr. Undergraduate on-line course, Michigan Technological University (2015).
- Co-Instructor**, Engineering Applications to Biological Sciences, ENG 5400, 1 Cr. summer K-12 teacher training, Michigan Technological University (2014).

Instructor, Senior Research Thesis, FW 3190, 4 Cr. Undergraduate independent study, Michigan Technological University (2013, 2014, 2015).

Co-Instructor, Distinguished Ecologist Lecture Series, FW 5000, 1 Cr. Graduate course, Michigan Technological University (2012, 2014).

Co-Instructor, Integrated Resource Assessment, FW 4810, 4 Cr. Undergraduate capstone course, Michigan Technological University (2013).

Co-Instructor, National Advanced Silviculture Program 6: Ecological Systems, Michigan Technological University (2012, 2013).

Guest Lecturer, Advanced Terrestrial Ecology, FW 5100, Michigan Technological University (2011).

Guest Lecturer, Isotopes in Ecology & Environmental Science, FW 5140, Michigan Technological University (2010).

Guest Lecturer, Ecosystem Ecology, NREM 680, University of Hawai'i (2008).

Guest Lecturer, Forest Ecology, F 311, Colorado State University (2005, 2006).

Teaching Assistant, Tree Ecophysiology, F 510, Colorado State University (2003).

Teaching Assistant, Silvicultural Systems, FR 3411, University of Minnesota (2002).

Teacher of English as a Second Language, K-12, Ashton Campion School of English, Madrid, Spain (1997, 1998).

MENTORING

Current graduate students: Primary or Co-advisor (*supported by external funds)

2019–present	Robert Tunison*	PhD–Forest Science
2018–present	James Rauschendorfer*	PhD–Forest Science (Co-advisee)
2020–present	Emily Lindback*	MS–Forest Ecology and Management

Completed graduate students: Primary or Co-advisor (*supported by external funds)

2017–2019	Kelsey Carter*	PhD–Forest Science
2015–2017	Kelsey Carter*	MS–Forest Ecology and Management
2010–2015	Alex Collins*	PhD–Forest Science
2011–2015	Adam Coble*	PhD–Forest Science
2013–2015	Alida Mau*	MS–Forest Ecology and Management
2012–2015	Fahimeh Baziari	MS–Peace Corps Master's International
2010–2011	Christine Jones	MS–Forestry (<i>Non-thesis</i>)

Graduate students: Committee member

2020–Present	Matt Vander Molen	MS–Forest Ecology and Management
2020–Present	Claudia Bartlick	PhD–Forest Science
2019–Present	Sean Westley	PhD–Forest Science
2019–Present	Angela Walczyk	PhD–Biological Sciences
2016–2018	Ryan Van Goethem	MS–Biological Sciences

2016–2018	Anamaria Planasclarke	MS–Applied Ecology
2017–2018	Levi Rhody	MS–Peace Corps Master’s International
2017–2018	Lucy Hatfield	MS–Peace Corps Master’s International
2016–2017	Aric Devens	MS–Peace Corps Master’s International
2016–2017	James Rauschendorfer	MS–Forest Molecular Genetics & Biotech
2016–2017	Jhon Del Aguila Pasquel	MS–Forest Ecology and Management
2014–2016	Rose Schwartz	MS–Forest Ecology and Management
2012–2015	Guswarni Anwar	PhD–Forest Science
2012–2013	Sara Nevalainen	MS–Applied Ecology
2011–2015	Mickey Jarvi	PhD–Forest Science
2010–2012	Yiru Chen	PhD–Forest Molecular Genetics & Biotech
2010–2012	John Hribljan	PhD–Forest Science
2010–2013	Meral Jackson	PhD–Forest Science
2010–2011	Mickey Jarvi	MS–Applied Ecology

Undergraduate student advising

2015, 2016, 2019	Served as Faculty Host for Michigan Tech Leading Scholar Finalist
2017–2018	Faculty Co-Advisor for WiNR (Women in Natural Resources)
2010	Faculty advisor for Tree House Community in MTU residence halls

Undergraduate students–independent research advisor

2019–Present	Victoria Peck (SURF)
2019–Present	Rebecca Rooney (Independent research, Senior Thesis)
2019–Present	Riley Hibbard (Independent research)
2019–Present	Kayla Douglas (Freshman Earn & Learn)
2019–Present	Sam Kurkowski (2 nd year Earn & Learn)
2016–2019	Jack Zwart (Freshman Earn & Learn & Independent research)
2016–2019	Benjamin Miller (Freshman Earn & Learn & Independent research, SURF)
2016–2019	Kaylie Butts (Freshman Earn & Learn & Independent research)
2015–2019	Elsa Schwartz (Freshman Earn & Learn & Independent research, SURF)
2015–2016	GraceAnna Schilz (Independent research)
2013–2014	Brittany VanderWall (Senior Thesis)
2013	Alexis DeGabriele (Senior Capstone)
2013	Melissa Bergstrom (Senior Capstone)
2013	Tyler Walters (Senior Capstone)
2013	Zak Cameron (Senior Capstone)
2013	Leah Harrison (Senior Capstone)
2013	Thomas Webb (Senior Earn & Learn)
2011–2012	Katy Crass (Freshman Earn & Learn)
2010–2011	Alisha Autio (Senior Thesis)
2010	Sam Carano (Freshman Earn & Learn)
2010	Sam Orent (Freshman Earn & Learn)
2010	Winona Genther (Freshman Earn & Learn)
2008–2009	Kapiolani Street (Hawaiian Research, Education and Outreach)
2008–2009	Gina Kanekoa (Hawaiian Research, Education and Outreach)
2008–2009	Christopher Hsu (Hawaiian Research, Education and Outreach)
2008	Ian Anderson (Native Hawaiian STEM Mentoring Program)
2008	Kaleo Norman (Native Hawaiian STEM Mentoring Program)

Evidence of excellence in teaching and mentorship

- 2020 Undergraduate student in my lab, Victoria Peck, awarded competitive \$4000 SURF award (Summer Undergraduate Research Fellowship) to do research projects associated Oak Project at Ford Forestry Center in summer 2020.
- 2019 Two students in my lab were awarded Ecosystem Science Center Graduate Research Grants in Fall 2019 for work in summer 2020: PhD student Robert Tunison (\$1000), and undergraduate Victoria Peck (\$750).
- 2019 Finalist for the *Michigan Tech University Distinguished Teaching Award* – Feb 2019
- 2019 Inducted into the *Michigan Tech Academy of Teaching Excellence* – April 2019
- 2019 Taught a module in FW 4800 Communication for Natural Resource Professionals on oral presentations, and successfully mentored 36 undergraduates through giving IGNITE-style talks to students at Houghton High School and also to community members at Portage Lake District Library.
- 2012–2018: Developed and taught hands-on poster workshops every spring for Michigan Tech graduate and undergraduate students: tips for successful communication of research at professional and scientific meetings.
- 2018 PhD student advisee Kelsey Carter won Grand Prize for graduate research poster presentation at Michigan Tech Ecosystem Science Center Spring 2018 Student Research Forum at Michigan Tech: "Tropical Understory Shrubs Show Limited Evidence of Physiological Thermal Acclimation in a Puerto Rican Tropical Rainforest."
- 2018 Undergraduate student advisee Kaylie Butts won Grand Prize for undergraduate research poster presentation at Michigan Tech Ecosystem Science Center Spring 2018 Student Research Forum at Michigan Tech: "Effects of Experimental Warming on Tropical Tree Maximum Quantum Yield, Within a Canopy Vertical Gradient."
- 2018 Undergraduate student advisee Benjamin Miller won Merit Prize in the Undergraduate Division poster presentation at Michigan Tech Ecosystem Science Center Spring 2018 Student Research Forum at Michigan Tech: "Vertical Gradients of Leaf and Air Temperature in a Tropical Wet Forest Canopy."
- 2018 Undergraduate student advisee Benjamin Miller won Honorable Mention in the 2018 Undergraduate Research Symposium at Michigan Tech: "Vertical Gradients of Leaf and Air Temperature in a Tropical Wet Forest Canopy."
- 2017 Four students in my lab were awarded Ecosystem Science Center Graduate Research Grants in Fall 2016 for work in summer 2017: PhD student Kelsey Carter (\$1000), and undergraduates Ben Miller, Elsa Schwartz, and Kaylie Butts (\$750 each).
- 2017 PhD student advisee Kelsey Carter won Grand Prize for graduate research poster presentation at Michigan Tech Ecosystem Science Center Spring 2017 Student Research Forum: "Plant Physiological Thermal Acclimation of Understory Shrubs in a Puerto Rican Tropical Rainforest".

- 2017 Two undergraduates in my lab, Elsa Schwartz and Benjamin Miller, were awarded competitive \$4000 SURF awards (Summer Undergraduate Research Fellowship) to do research projects associated with my research project in Puerto Rico in summer 2017.
- 2016 Teaching recognition from Michigan Tech Provost Jackie Huntoon: Top 10% teaching evaluation scores university-wide for Fall 2016.
- 2016 Graduate student advisee Kelsey Carter won Grand Prize for graduate research poster presentation at Michigan Tech Ecosystem Science Center 12th Annual Student Research Forum.
- 2016 Undergraduate student advisee GraceAnna Schilz won Grand Prize for undergraduate research poster presentation at Michigan Tech Ecosystem Science Center 12th Annual Student Research Forum.
- 2010–2016: Teaching evaluation scores always greater than 4.23 mean (scale 1-5) every semester of every course taught.
- 2015 Dean’s Teaching Showcase Award, for excellence in “curriculum design, use of new technologies in the classroom, experimentation with novel teaching techniques, and contributions to improving the communication skills” of undergrad and graduate students.
- 2012, 2013 & 2014: Graduate student advisee Adam Coble won Grand Prize for graduate research poster presentations three years in a row at Michigan Tech Ecosystem Science Center 8th, 9th, and 10th Annual Student Research Forums.
- 2014 Graduate student advisee Alida Mau won a merit award for her graduate research poster presentation at Michigan Tech Ecosystem Science Center 10th Annual Student Research Forum.
- 2014 Graduate student advisee Alex Collins won a merit award for his graduate research poster presentation at Michigan Tech Center for Water and Society World Water Day Poster Competition.
- 2014 Senior thesis advisee Brittany VanderWall won Grand Prize for undergraduate research poster presentation at Michigan Tech Ecosystem Science Center 10th Annual Student Research Forum.
- 2011 Senior thesis advisee Alisha Autio won Grand Prize for her undergraduate research poster presentation at Michigan Tech Ecosystem Science Center 8th Annual Student Research Forum.

Presentations, SEMINARS, AND POSTERS***Conference and Workshop Organization:***

- 2018 Organized Oral Session (OOS) Co-organizer and President: “*Ecophysiological Responses to Experimental Warming in Vascular Plants.*” Ecological Society of America Meeting, New Orleans, LA. Aug, 2018.
- 2013–2016 Co-Organizer and Co-PI of Working Group: “*Integrating modeling and empirical approaches to improve predictions of tropical forest responses to global warming,*”

- USGS John Wesley Powell Center for Analysis and Synthesis, Fort Collins, CO.
Meetings held in Spring 2014 and Fall 2015.
- 2014 Organized Oral Session (OOS) Co-organizer and Presider: "Looking back and looking forward: Results and advice from the world's forest warming experiments." Ecological Society of America Meeting, Sacramento, CA. Aug, 2014
- 2013 Organized Oral Session (OOS) Co-Organizer: "*Understanding warming effects on tropical forests: Insight gained from current research and a way forward,*" Association of Tropical Biology and Conservation Meeting, San Jose, Costa Rica. June, 2013
- 2011 Organized Oral Session (OOS) Co-Organizer: "*From Leaf to Biosphere: The Effects of a Warming Climate on Tropical Rain Forests,*" Ecological Society of America Meeting, Austin, TX. Aug, 2011
- 2010 Workshop Co-organizer: "*Climate Manipulation in the Tropics Workshop*", USDA Forest Service, San Juan, Puerto Rico. June, 2010.

Oral presentations (Invited); first author was presenter unless otherwise noted:**

1. Wood TE, Carter K, Alonso-Rodríguez AM, Tunison R, Berberich M, Grullon-Penkova I, Kennard D, Bachelot B, Matlaga D, Reed SC, **Cavaleri MA**. (Aug, 2019) In the eye of the storm: The effects of hurricane disturbance on forest recovery in a warmer world. Association for Tropical Biology Annual Meeting. Antananarivo, Madagascar.
2. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (Aug, 2019) Bringing together modelers and field ecologists in the development of the Tropical Responses to Altered Climate Experiment (TRACE). Symposium. Association for Tropical Biology Annual Meeting. Antananarivo, Madagascar.
3. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (June, 2019) Highlights of Tropical Plant Physiology: Tropical Responses to Altered Climate Experiment. Luquillo Long Term Ecological Research (Luq-LTER) annual meeting, Luquillo, Puerto Rico.
4. ***Wood TE, **Cavaleri MA**, Reed SC, Pett-Ridge J, McFarlane K, and Yang X. (May 2019). Hurricane disturbance and forest recovery in a warmer world: Lessons learned from a novel warming experiment in Puerto Rico. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
5. *****Cavaleri MA**. (May, 2019) From roots to treetops: How tropical plants respond to warming in the Tropical Responses to Altered Climate Experiment. University of California, Davis Ecology and Evolution Departmental Seminar Series, Davis, CA.
6. ***Wood TE, Reed SC, **Cavaleri MA**. (April, 2019). Hurricane disturbance and forest recovery in a warmer world: Lessons learned from a novel warming experiment in Puerto Rico. [Invited] Sigma Xi (Scientific Honor Society) Lecture Series. University of Puerto Rico – Rio Piedras.
7. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (March, 2019). Results from warming experiments in temperate and tropical forest canopies. Ecological Society of Japan Annual Meeting. March 2019 Kobe, Japan
8. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (Feb, 2019). Results from warming experiments in temperate and tropical forest canopies. Kobe University Departmental Seminar Series. Kobe, Japan.
9. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (Jan, 2019). When hot gets hotter: How a warming experiment can teach us about tropical forests responses to climate change. Doshisha University Seminar. Kyoto, Japan.
10. *****Cavaleri MA**, Carter K, Reed SC, Wood TE. (Jan, 2019). How plant-soil interactions both respond to and help dictate lowland tropical forest responses to warming. Kyoto University Departmental Seminar Series. Kyoto, Japan.
11. Reed SC, **Cavaleri MA**, Carter KR, Alonso-Rodriguez A, Pett-Ridge J, Wood TE (Dec, 2018). Above, below, and in-between: Lowland tropical forest responses to global

- change. American Geophysical Union Annual Meeting, Washington D.C.
12. Wood TE, Kelsey Carter KR, Alonso-Rodriguez, Reed SC, and **Cavaleri MA** (Dec, 2018). Effects of increased temperature on C cycling of a wet tropical forest: Initial results from a novel field warming experiment in Puerto Rico. American Geophysical Union Annual Meeting, Washington D.C.
 13. Yaffar D, Norby R, Wood TE, **Cavaleri MA**, and Reed SC (Dec, 2018). Root production and vertical distribution response to warming and hurricane in a wet tropical forest of Puerto Rico. American Geophysical Union Annual Meeting, Washington D.C.
 14. *****Cavaleri MA**, Carter KR, Miller B, and Schwartz E. (Aug, 2018). How vertical gradients of leaf form and function within tree canopies can give us insight about potential acclimation to climate change. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 15. ***Carter KR, Wood TE, Reed SC, and **Cavaleri MA**. (Aug, 2018). Acclimation of tropical canopy and understory plant gas exchange to experimental warming. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 16. ***Reed SC, **Cavaleri MA**, Carter KR, Alonso-Rodriguez A. (Aug, 2018). Above, below, and in-between: How plant-soil interactions both respond to and help dictate lowland tropical forest responses to warming. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 17. *****Cavaleri MA**, Carter KR, Wood TE, Reed SC (July, 2018). Experimental warming of tropical forest canopy and understory plants in situ reveals incomplete photosynthetic acclimation and overall decline in carbon uptake. American Society of Plant Biologists Annual Meeting, Montreal, Canada.
 18. *****Cavaleri MA**, Reed SC, Brodie E, Wood TE (May, 2018). Tropical Response to Altered Climate Experiment (TRACE): How Plant-Soil Interactions both respond to and help dictate lowland tropical forest responses to warming. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 19. *****Cavaleri MA** (May, 2018). IGNITE: Root respiration in response to experimental warming: challenges of scale. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 20. Thomas RQ, Williams M, **Cavaleri MA**, Exbrayat J, Smallman L, and Street L. (Sept, 2017). Convergence of canopy properties across climate gradients informs economic modelling of vegetation responses to global change. 5th iLEAPS Science Conference: Understanding the impact of land-atmosphere exchanges. Oxford, UK.
 21. Bruce A. Kimball BA, Wood TE, Alonso-Rodriguez AM, **Cavaleri MA**, Reed SC, and Gonzalez G. (Aug, 2017). Infrared heater system for warming forest understory plots. Annual Meeting of the Ecological Society of America, Portland, OR.
 22. *****Cavaleri MA**. (July, 2017). When hot gets hotter: What a large- scale forest warming experiment can teach us about tropical forest responses to climate change. Public talk at the Summer Saturday Speaker Series, Good Shepherd Lutheran Church, Houghton, MI.
 23. ***Reed SC, **Cavaleri MA**, Alonso-Rodriguez A, Gonzalez G, Lugo A, Carter K, Kimball B, and Wood TE. (Dec, 2016). Tropical rain forest function in a warmer world: initial results from a novel warming experiment in a Puerto Rico tropical forest. American Geophysical Union Fall meeting, San Francisco.
 24. ***Wood TE, **Cavaleri MA (presenter)**, and Reed SC. (Aug, 2016). Tropical Response to Altered Climate Experiment (TRACE): a tropical forest warming experiment in Puerto Rico. Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL.
 25. Coble AP, VanderWall B, Mau A, and **Cavaleri MA (presenter)**. (Aug, 2016). How vertical patterns in leaf traits shift seasonally and the implications for modeling canopy photosynthesis in a temperate deciduous forest. Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL.

26. *****Cavaleri MA**. (June, 2016). Is within-canopy variation of leaf functional traits more important than intraspecific variation? Association of Tropical Biology and Conservation Meeting, Montpellier, France.
27. *****Cavaleri MA**, Reed SC, Brodie E, and Wood TE. (May, 2016). Tropical Response to Altered Climate Experiment (TRACE): adventures in warming a wet tropical forest in Puerto Rico. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
28. *****Cavaleri MA**. (Feb, 2016). From temperate zones to the tropics: How microclimate and hydraulic limitation influence leaf traits and forest canopy function. School of Forest Resources and Environmental Science Faculty Forum Series, Michigan Technological University, Houghton, MI.
29. *****Cavaleri MA**. (Nov, 2015). From temperate zones to the tropics: How microclimate and hydraulic limitation influence leaf traits and forest canopy function. Department of Ecology and Evolutionary Biology Seminar, University of Arizona, Tuscon, AZ.
30. *****Cavaleri MA**, Wood TE, and Reed SC. (July, 2015). Tropical Response to Altered Climate Experiment (TRACE): adventures in warming a wet tropical forest in Puerto Rico. Association of Tropical Biology and Conservation meeting in Honolulu, HI.
31. ***Reed SC, **Cavaleri MA**, and Wood TE (July, 2015). Effects of a warming climate on tropical forest carbon cycling: Results from Hawaii and Puerto Rico. Association of Tropical Biology and Conservation meeting, Honolulu, HI.
32. ***Wood TE, **Cavaleri MA**, and Reed SC. (May, 2015). Tropical Response to Altered Climate Experiment (TRACE): adventures in warming a wet tropical forest in Puerto Rico. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
33. Wood TE, **Cavaleri MA**, Reed SC, and Smith WK. (April, 2015). Urgent need for warming experiments in tropical forests. European Geophysical Union General Assembly, Vienna, Austria.
34. Wood TE, **Cavaleri MA**, and Reed SC. (April, 2015). Assessing the resilience of tropical forests to increased temperature with in situ warming: Lessons learned from a new experiment in Puerto Rico. Society for Tropical Ecology Annual International Congress, Zurich, Germany.
35. *****Cavaleri MA**. (March, 2015). When hot gets hotter: How will climate change affect tropical rainforests? Finlandia University Campus Read seminar speaker, Hancock, MI.
36. ***Reed SC, Uriarte M, Wood TE, **Cavaleri MA**, and Lugo A. (Dec, 2014). Modeling Tropical Forests: Challenges and Opportunities. American Geophysical Union Fall meeting, San Francisco, December 2014.
37. Coble AP and **Cavaleri MA**. (Oct, 2014). Investigating mechanisms behind vertical gradients in *Acer saccharum* leaf functional traits with a canopy shading experiment. IFSA-IUFRO World Congress, Salt Lake City, UT, October 2014.
38. Mau A and **Cavaleri MA**. (Oct, 2014). Variation in photosynthetic temperature responses across vertical tropical forest canopy gradients. IFSA-IUFRO World Congress, Salt Lake City, UT, October 2014.
39. Collins AR, Burton AJ, and **Cavaleri MA**. (Oct, 2014). Inter-annual difference in the water use of mature sugar maple in response to experimental warming and irrigation. IFSA-IUFRO World Congress, Salt Lake City, UT, October 2014.
40. ***Wood TE, **Cavaleri MA**, and Reed SC. (Aug, 2014). Next generation of warming experiments in tropical forests. 99th Annual Meeting of the Ecological Society of America, Sacramento, CA, August 2014.
41. *****Cavaleri MA**, Reed SC, Wood TE, and González, G (May, 2014) On the shoulders of giants: Continuing the legacy of large-scale ecosystem manipulation experiments in Puerto Rico. 75th Anniversary of the USDA Forest Service International Institute of

- Tropical Forestry, San Juan, Puerto Rico.
23. ***Coble AP, **Cavaleri MA**, and Bauerle WE. (April, 2014) Team MAESTRA: Adventures in canopy function modeling. USGS John Wesley Powell Center for Analysis and Synthesis Working Group: Integrating modeling and empirical approaches to improve predictions of tropical forest responses to global warming. Fort Collins, CO.
 24. *****Cavaleri MA** (Nov, 2013) How does 'big science' happen? Adventures in the development of a large-scale climate manipulation experiment in the tropics. School of Forest Resources and Environmental Science Faculty Forum Seminar Series, Michigan Tech, Houghton, MI.
 25. **Cavaleri MA**, Reed SC, and Wood TE (June, 2013) Urgent need for large-scale warming manipulation experiments in tropical forests. Association of Tropical Biology and Conservation Meeting, San Jose, Costa Rica.
 26. *****Cavaleri MA** (Nov, 2012) GO BIG or go home: Adventures in the development of a large-scale climate manipulation experiment in the tropics. Biological Sciences Departmental Seminar Series, Michigan Tech, Houghton, MI.
 27. *****Cavaleri, MA** (Oct, 2012) Tropical forest carbon balance in a warmer world: A critical review spanning microbial- to ecosystem-scale processes. U.S.D.A. Forest Service Northern Research Station Seminar Series, Rhinelander, WI.
 28. *****Cavaleri, MA** (June, 2012) **Plenary Session**: Tropical forest carbon balance in a warmer world: A critical review spanning microbial- to ecosystem-scale processes. U.S. Department of Energy Critical Research Needs for Tropical Ecosystems Workshop, Bethesda MD.
 29. Collins AR and **Cavaleri MA**. (Aug, 2012). The effects of experimental warming and irrigation on the water use of sugar maples (*Acer saccharum*) in a northern hardwood forest. 97th Annual Meeting of the Ecological Society of America, Portland, OR.
 30. Coble AP and **Cavaleri MA**. (Aug, 2012). Investigating vertical gradients of leaf morphology and anatomy in a sugar maple forest. 97th Annual Meeting of the Ecological Society of America, Portland, OR.
 31. ***Wood TE, **Cavaleri MA**, and Reed SC. (Aug, 2011) Tropical forest carbon balance in a warmer world: a critical review spanning microbial- to ecosystem-scale processes. 96th Annual Meeting of the Ecological Society of America, Austin, Texas. (Served as Organized Oral Session co-organizer).
 32. *****Cavaleri MA**. (Jan, 2011) What is Tree Physiology? Presentation to Treehouse Learning Community at Michigan Tech, Houghton, MI.
 33. *****Cavaleri MA**. (Jan, 2011) Ecohydrology in tropical and temperate forests: The impacts of invasive species and climate change on plant water use. Biological Sciences Departmental Seminar Series, Michigan Tech, Houghton, MI.
 34. *****Cavaleri MA**. (Oct, 2010) Effects of warming on tropical forest tree physiology at the leaf, whole-plant and stand level. Climate Manipulation in the Tropics Workshop, USDA Forest Service, San Juan, Puerto Rico. (Served as workshop co-organizer).
 35. *****Cavaleri MA**. (March, 2010) Introduction to Ecosystem Science Center and the Center for Water and Society, Tech Talks Scholarship, Michigan Tech, Houghton, MI.
 36. **Cavaleri MA**. (Aug, 2009) Introduction to research, Tech Talks, Michigan Tech, Houghton, MI.
 37. **Cavaleri MA**, Sack L, Cordell S, Michaud J, and Ostertag R. (Aug, 2009) Hawaiian ecohydrology: Water use of native and invasive trees in a lowland tropical rainforest. 94th Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico.
 38. *****Cavaleri MA**, Ryan MG, Oberbauer SF, Clark, DB, Clark DA. (Nov, 2009) Interannual variability of carbon flux in an old growth tropical rain forest. 23rd New Phytologist Symposium: Carbon cycling in tropical ecosystems, Guangzhou, China.
 39. **Cavaleri MA** and Sack L. (Aug, 2008) Native vs. invasive plant water use at multiple

- scales: A global meta-analysis. 93rd Annual Meeting of the Ecological Society of America, Milwaukee, Wisconsin.
40. **Cavaleri MA** and Sack L. (Oct, 2008) Comparative water use of native and invasive plants: A global meta-analysis, and preliminary findings in Hawaii. University of Hawaii Botany/Zoology Fall 2008 Departmental Seminar Series, Honolulu, HI.
 41. **Cavaleri MA** (June, 2008). Hawaiian Ecohydrology: Water use of alien and native trees. Hawaii Ecosystems Annual Meeting, University of Hawaii Hilo, HI.
 42. **Cavaleri MA**, Ryan MG, Oberbauer SF, Clark, DB, Clark DA. (Aug, 2007) Interannual variability of carbon flux in an old growth tropical rain forest. 92nd Annual Meeting of the Ecological Society of America, San Jose, California.
 43. *****Cavaleri MA** (Oct, 2007) Canopy respiration and foliar morphology of an old-growth tropical rainforest. Institute of Pacific Islands Forestry Pacific Southwest Research Station USDA Forest Service Seminar Series, Hilo, HI.
 44. **Cavaleri MA**, Ryan MG, Oberbauer SF. (Aug, 2006) Foliar respiration across canopy gradients in a tropical rain forest. 91st Annual Meeting of the Ecological Society of America, Memphis, Tennessee.
 45. **Cavaleri MA**, Ryan MG, Oberbauer SF. (March, 2006) Relationships between foliar respiration, nitrogen and phosphorus in a tropical rain forest. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO. (**Best Graduate Oral Presentation Award**).
 46. **Cavaleri MA**, Ryan MG, Oberbauer SF. (Aug, 005) Tropical rain forest woody respiration: Extrapolating to the canopy. 90th Annual Meeting of the Ecological Society of America, Montreal, Canada.
 47. Ordoñez HM, Oberbauer SF, Ryan MG, Clark DB, Clark DA and **Cavaleri MA**. (Aug, 2005) Old-growth tropical rain forest photosynthetic characteristics: Relationships with height, light, and plant functional group. 90th Annual Meeting of the Ecological Society of America, Montreal, Canada.
 48. **Cavaleri MA**, Ryan MG. (April, 2005) Tropical rain forest wood respiration. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO.
 49. **Cavaleri MA**, Ryan MG. (April, 2004) Modeling tropical rain forest carbon efflux. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO. (**Best Graduate Oral Presentation Award**).
 50. **Cavaleri MA**, Ryan MG. (July, 2004) Modeling tropical rain forest carbon efflux using chamber respiration measurements. Association for Tropical Biology and Conservation, Miami, Florida.
 51. *****Cavaleri MA**, Ryan MG. (March, 2004) Carbon balance in tropical forest ecosystems. Eucalyptus Potential Productivity Project (BEPP) meeting, Aracruz, ES, Brazil.
 52. *****Cavaleri MA**, Gilmore DW. (May, 2002) Evaluation of municipal and industrial by-products as forest soil amendments. Beneficial Application and Co-application of By-Products as Soil Amendments Workshop, University of Minnesota Center for Continuing Education, Cloquet, MN.

Poster presentations (*)Invited); first author was presenter unless otherwise noted:**

1. Carter KR, **Cavaleri MA**, Schwartz EC, Rogers A, Serbin SP, Ely KS, Norby RJ, Walker AP, Reich PR, Atkin OK, Bahar NHA, Bloomfield KJ, Cheesman AW, Crous KY, Doughty CE, Dusenge ME, Evans JR, Fonseca da Silva J, Kelly JWG, Mau AC, Medlyn BE, Meir P, Read J, Reed SC, Slot M, Uddling J, Vårhammar A, Winter K, Wood TE, Wu J. (Aug 2019). Climatic controls of tropical photosynthetic responses to temperature: a global meta-analysis. Ecological Society of America Annual Meeting, Louisville, KY.
2. Kennard D, Sharpe J, Matlaga D, Reed SC, **Cavaleri MA**, Wood TE. (Aug, 2019) Warming and hurricane effects on understory herbaceous plants of a wet tropical forest

- in Puerto Rico. Ecological Society of America Annual Meeting.
3. Yaffar D, Norby R, Wood TE, **Cavaleri MA**, Reed SC; (Aug, 2019) Warmer temperature affects plant root biomass and its recovery after a hurricane in a tropical forest of Puerto Rico. Association for Tropical Biology and Conservation. Antananarivo, Madagascar.
 4. ***Wood TE, **Cavaleri MA**, Reed SC, Pett-Ridge J, McFarlane K, and Yang X. (May 2019). In the eye of the storm: Warmer temperatures affect tropical forest recovery following hurricane disturbance. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 5. Yaffar D, Norby R, Wood TE, **Cavaleri MA**, and Reed SC (Dec, 2018). Root production and vertical distribution response to warming and hurricane in a wet tropical forest of Puerto Rico. American Geophysical Union Annual Meeting, Washington D.C.
 6. Roe SA, Lawrence D, Wood TE, Reed SC, **Cavaleri MA**, Alonso-Rodriguez A, and Gonzalez G (Dec, 2018). Warming effects on litter decomposition and carbon cycling in a tropical forest. American Geophysical Union Annual Meeting, Washington D.C.
 7. Schwartz EC, Carter KR, **Cavaleri MA**. (Aug, 2018). Effects of warming on stomatal density and size in tropical rainforest trees. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 8. Butts K, Carter KR, **Cavaleri MA**. (Aug, 2018). Effects of experimental warming on tropical tree maximum quantum yield, within a canopy vertical gradient. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 9. Miller B, Carter KR, **Cavaleri MA**. (Aug, 2018). Vertical gradients of leaf and air temperature in a tropical forest canopy. Annual Meeting of the Ecological Society of America, New Orleans, LA.
 10. Carter KR, Reed SC, Wood TE, and **Cavaleri MA**. (Aug, 2017). Plant physiological thermal acclimation of understory shrubs in a Puerto Rican tropical rainforest. Annual Meeting of the Ecological Society of America, Portland, OR. **~Cavaleri presented poster on behalf of student~**
 11. ***Carter KR, Reed SC, Wood TE, and **Cavaleri MA**. (May, 2017). Plant physiological thermal acclimation of understory shrubs in a Puerto Rican tropical rainforest. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 12. ***Reed SC, **Cavaleri MA**, Brodie E, and Wood TE. (May, 2017). Tropical rain forest biogeochemistry in a warmer world: results from a novel warming experiment in Puerto Rico. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 13. Alonso-Rodriguez A, Reed SC, **Cavaleri MA**, Uriarte M, Carter K, Bachelot B, and Wood TE. (Dec, 2016). Lag effects of drought on seedling growth and survival in a tropical rainforest. American Geophysical Union Fall meeting, San Francisco.
 14. Farrington S, Wood TE, **Cavaleri MA**, Reed SC, Kimball BA, Alonso-Rodriguez AM, and Farrington ES. (Dec, 2015). Field Evaluation of a New Sensor for Near-Surface Critical Zone Soil Moisture in Continuous Spatial Profile. American Geophysical Union Fall meeting, San Francisco, December 2015.
 15. *****Cavaleri MA**, Wood TE, and Reed SC. (May, 2015). Tropical Response to Altered Climate Experiment (TRACE): adventures in warming a wet tropical forest in Puerto Rico. Department of Energy Earth System Science Principal Investigator meeting in Potomac, MD.
 16. Collins AR, Burton AJ, and **Cavaleri MA**. (Aug, 2014). Inter-annual differences in the water use of mature sugar maple in response to experimental soil warming and irrigation. 99th Annual Meeting of the Ecological Society of America, Sacramento, CA, August 2014. **~Cavaleri presented poster on behalf of student~**
 17. Mau AC and **Cavaleri MA**. (May, 2014) Variation in photosynthetic temperature

- responses across vertical forest canopy gradients. Luquillo Long Term Ecological Research (LTER) Annual Meeting, San Juan, Puerto Rico.
18. Mau AC and **Cavaleri MA**. (May, 2014) Variation in photosynthetic temperature responses across vertical forest canopy gradients. 75th Anniversary of the USDA Forest Service International Institute of Tropical Forestry, San Juan, Puerto Rico.
 19. Wood TE, **Cavaleri MA**, and Reed SC. (May, 2014) TRACE: Tropical Responses to Altered Climate Experiment. 75th Anniversary of the USDA Forest Service International Institute of Tropical Forestry, San Juan, Puerto Rico.
 20. ***Coble AP, **Cavaleri MA**, and Bauerle WE. (April, 2014) MAESTRA: A three-dimensional canopy process model. USGS John Wesley Powell Center for Analysis and Synthesis Working Group: *Integrating modeling and empirical approaches to improve predictions of tropical forest responses to global warming*. Fort Collins, CO.
 21. **Cavaleri MA**, Reed SC, and Wood TE. (Dec, 2013). Urgent need for large-scale warming manipulation experiments in tropical forests. American Geophysical Union Fall meeting in San Francisco.
 22. **Cavaleri MA**, Cordell S, Ostertag B, and Sack L. (Aug, 2013). Native trees are more conservative in their water use than invasive tree species in a lowland wet forest in Hawaii. 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN.
 23. Collins AR and **Cavaleri MA**. (Aug, 2013). The interspecific differences in growth and water use efficiency between trembling aspen (*Populus tremuloides*) and red maple (*Acer rubrum*) as a result of interannual climate variation in northern Minnesota. 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN.
 24. Coble AP and **Cavaleri MA**. (Aug, 2013). Comparison of sugar maple leaf morphology in a closed-canopy and canopy gap. 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN.
 25. **Cavaleri MA** (Nov, 2007) Ecohydrology in Hawaii: Water Use of Native and Alien Trees. National Science Foundation (NSF) EPSCoR Conference, Waikoloa Beach, HI.
 26. **Cavaleri MA**, Ryan MG, Oberbauer SF, Clark DB, Clark DA, and Hubbard RM. (April, 2003). Scaling respiration measurements to the ecosystem in a lowland tropical rain forest. Terrestrial Ecosystem Responses to Atmospheric and Climatic Change (TERRAC) Workshop, Lake Tahoe, CA.
 27. **Matysik MA**, Gilmore DW, Mozaffari M, Rosen CJ, Halbach TR. (July, 2001) The Effect of biosolids and boiler ash on hybrid poplar growth and soil properties. American Society of Agronomy, Indianapolis, IN. (under maiden name, Matysik).

SERVICE & MEMBERSHIPS***Outreach Activities:***

- 2016–Present Member of the steering committee of the Ryan Street Community Garden (RSCG) and Ryan House in Hancock, MI.
- 2019 Submitted \$2,500 proposal to Superior Health Foundation on behalf of RSCG, Finlandia University, to fund garden vegetable preservation and preparation outreach classes, art projects, and gardening work with preschoolers (funded)
- 2019 Worked with Ryan Center BHK preschoolers to plant and care for a garden at the edge of their playground with RSCG.
- 2019 Hosted strawberry jam, dilly bean, and garden vegetable soup-making class for community members with RSCG.
- 2017 Presented public talk at the Summer Saturday Speaker Series: “When hot gets hotter: What a large- scale forest warming experiment can teach us about tropical forest responses to climate change”, Good Shepherd Lutheran Church, Houghton, MI.

- 2015 Participated in Finlandia University's Campus Read program as invited seminar speaker to introduce non-science majors to potential effects of climate change on tropical forests, Hancock, MI.
- 2014 Taught 2 full day-long modules on forest ecophysiology to K-12 Teachers, Michigan Tech., Houghton, MI.
- 2014 Led a group of local citizens on field tour of a canopy ecophysiology field site during the 60th anniversary celebration of the Michigan Tech Ford Forestry Center and Forest, Alberta, MI.
- 2014 Taught all-day module on tropical ecology and large-scale forest experiments in Luquillo Experimental Forest in Puerto Rico to nine students from Chemung Valley Montessori School Middle School, Elmira, NY.
- 2012 & 2013 Taught 'Tree Physiology' day-long modules to silvicultural professionals from multiple state and federal agencies for National Advanced Silviculture Program (NASP) 6: Ecological Systems.

Professional Society and Research Center Memberships:

- American Society of Plant Biologists (since 2018)
 Association of Tropical Biology and Conservation (since 2012)
 Michigan Tech Ecosystem Science Center (since 2009)
 American Geophysical Union (since 2010)
 Ecological Society of America (since 2005)

Editorship

- 2020–Present Subject editor, *Tree Physiology*
 2016–2017 Special Issue Co-editor: for the journal *Tree Physiology* entitled: "Recent advances in canopy ecophysiology research." Served as subject editor for 6 submitted manuscripts.

Professional Service:

- 2019 Along with the TRACE team, presided a field trip to the TRACE site in Puerto Rico for Department of Energy-sponsored Next Generation Ecosystem Experiment (NGEE) Tropics scientists and review board and DOE program managers (~36 people).
- 2017-Present Serving as **Advisory Board Member** for SPRUCE (Spruce and Peatland Responses Under Changing Environments) Annual Project All Hands meetings, St. Paul, MN.
- 2018 Student and Postdoc **oral presentation judge**: Ecological Society of America Physiological Ecology Section, New Orleans, LA.
- 2016 Student and Postdoc **oral presentation judge**: Ecological Society of America Physiological Ecology Section, Fort Lauderdale, FL.
- 2013–2015 Elected **Co-Secretary of the Physiological Ecology Section** of the Ecological Society of America, organized judging for student travel awards and meeting presentations.
- 2013 Student and Postdoc **oral and poster presentation judge**: Ecological Society of America Physiological Ecology Section, Minneapolis, MN.
- 2012 Student and Postdoc **oral presentation judge**: Ecological Society of America Physiological Ecology Section, Portland, OR.
- 2010 Student travel **grant reviewer**: Ecological Society of America Physiological Ecology Section, Pittsburgh, PA.

Michigan Technological University Committee Service:

2019–Present	Chair of Early Career Mentoring (ECM) committee for new faculty in Biological Sciences, Trista Vick-Majors
2019–Present	Chair of ad-hoc committee to determine procedure for spending Ecosystem Science Center IRAD return.
2016–Present	Member, Graduate Dean's Advisory Panel: duties include evaluation of Graduate Finishing Fellowships and other graduate fellowships in spring, summer, and fall semesters.
2019–present	Member of the Michigan Tech Research Advisory Council.
2017	Served as World Water Day poster judge (undergraduates)
2012– 2019	Committee to develop Interdepartmental Undergraduate Ecology Major
2012– 2019	Committee to develop Interdepartmental Graduate Program in Ecology
2009-10, 2015	Ecosystem Science Center Committee to review Graduate Research Grants

College of Forest Resources and Environmental Science (CFRES) Committee Service:

2018–Present	Chair , Tenure, Promotion, and Reappointment (TPR) Committee
2019–Present	Member, Search Committee for Remote Sensing Faculty position
2019–Present	Member, Earn and Learn Committee
2017–2018	Chair of Search Committee for Dean of SFRES
2017–2018	Member Tenure, Promotion, and Reappointment (TPR) Committee
2017–2018	Member of Ad Hoc SFRES Branding Committee
2018	Member of Ad Hoc SFRES Strategic Plan Committee
2016–2018	Graduate Studies Committee
2016–2018	School Council Representative for Associate Professors
2017–2018	Member of Search Committee for Genetics/Genomics faculty position
2016–2017	Chair of Undergraduate Curriculum Committee
2012–2015	Undergraduate Curriculum Committee
2013–2014	Member of Search Committee for Silviculturist faculty position
2012–2013	School Council Representative for Assistant Professors
2012	Chair of Administrator of Services Hiring Committee
2011	Diversity Climate Survey Committee
2010–2011	FW 4810 Integrated Resource Assessment Committee
2009–2011	Strategic Goals Committee, SFRES
2010	Applied Ecology Graduate Curriculum Committee, SFRES
2010	Undergraduate Faculty Mentor for Treehouse Learning Community

Ad Hoc Journal Reviews, from 2006 through 2019:

African Journal of Ag Research (1)
American Journal of Botany (1)
Annals of Botany (2)
Annals of Forest Science (2)
Austral Ecology (1)
Axios Review (1)
Biotropica (7)
Brazilian Journal of Plant Physiology (1)
Carbon Balance and Management (1)
Carbon Management (1)
Ecology (1)
Ecosystems (2)
Environmental and Experimental Botany (1)

Forest Ecology and Management (7)
Forests (1)
Functional Ecology (1)
Functional Plant Biology (1)
Global Change Biology (10)
Journal of Experimental Botany (2)
Nature Climate Change (1)
New Phytologist (15)
Oecologia (3)
Pacific Science (1)
Physiologia Plantarum (2)
Plant and Soil (2)
Plant Ecology (1)
Plant Ecology and Diversity (1)
Plant, Cell & Environment (2)
Scientific Reports (3)
Soil Biology and Biochemistry (1)
Tree Physiology (16)
Trees, Structure and Function (1)
Tropical Ecology (1)

Proposal Reviewer, from 2009 through 2019:

National Environmental Research Council (UK) (1)
National Science Foundation Integrative Organismal Systems Pre-proposal Review **Panel** (18)
National Science Foundation Ecosystem Science Full Proposal Review **Panel** (15)
National Science Foundation Postdoc in Polar Regions (1)
National Science Foundation Hydrologic Science (3)
National Science Foundation DEB Ecosystem Science Cluster (6)
National Science Foundation International Research Experiences for Students Program (1)
National Science Foundation IOS Organism-Environment Interactions (4)
National Science Foundation International Research Fellowship Program (1)
National Science Foundation OPP: Postdoc in Polar Regions (1)
National Science Foundation CAREER (2)
National Science Foundation OPUS (1)
Czech Science Foundation (1)
Michigan Tech Ecosystem Science Center Graduate Research Grants Review **Panel** (7)
ESA Student Travel Grant Review **Panels** (20)

Book and Book Prospectus Reviewer:

Scholastic Inc. Children's Press (1)
Island Press (1)