**William M. Hammond**

PhD | Assistant Professor of Plant Ecophysiology

Agronomy Department | University of Florida | IFAS

[williamhammond@ufl.edu](mailto:williamhammond@ufl.edu) | [ecophyslab.com](http://ecophyslab.com) | T: @wmhammond

**Education**

University of Central Oklahoma 2011-2016 B.S. Biology (*summa cum laude*)

Oklahoma State University 2016-2021 Ph.D., Plant Biology

**Academic, Research, & Professional Experience**

2021 Assistant Professor, Plant Ecophysiology, Agronomy Dept., University of Florida

2019 Lecturer – General Ecology (100 students, lecture & lab)

2018-2021 Graduate Research Associate (NSF GRFP)

1999-2016 Multiple Positions, Management, Responsible for > 100 employees. Best Buy.

**Publications** (**\***mentored undergraduate/*graduate* student) .

**In review** (manuscripts available upon request)

(iv) Gholizadeh, H., Fiedman, M., McMillan, N., **Hammond, W.M.**, Hassani, K., Sams, A., Charles, M.\*, Garrett, D.\*, Joshi, O., Hamilton, R., Fuhlendorf, S., Trowbridge, A., Adams, H. “Mapping invasive alien species in grassland ecosystems using airborne imaging spectroscopy and remotely observable vegetation functional traits.” (In revised review at *Remote Sensing of Environment*).

**In advanced preparation** (manuscripts available upon request)

(iii) Sáenz-Romero, C., Cambrón-Sandoval, V.H., **Hammond, W.M.**, Méndez-González, J., Luna-Soria, H., Gómez-Romero, M., Trejo-Ramírez, O., Cibrian-Tovar, D., Allen, C.D., Gómez-Pineda, E., del-Val, E., “Dendroctonus frontalis, D. mexicanus and D. adjunctus pine beetle abundance along altitudinal transects at México. Implications for climatic change”. (In preparation)

(ii) **Hammond, W.M.**, Choat, B., Johnson, D.M., Ahmed, M., Anderegg, L.D.L., Barigah, T.S., Barros, F., Bartlett, M., Bauerle, T., Beikircher, B., Bittencourt, P., Blackman, C., Brodribb, T., Brum, M., Cano, J., Cao, K.F., Cardoso, A.A., Carmesin, C., Chen, Y., Cochard, H., Dayer, S., de Vasconcellos, F., Delzon, S., Domec, J.C., Duan, H., Gambetta, G.A., Ganthaler, A., Gautheny, A., Gleason, S.M., Gorai, M., Guan, X., Hao, G.Y., Hochberg, U., Kaack, L., Lamarque, L., Larter, M., Lens, F., Ximeng, L., Liu, H., López, R., Losso, Adriano, Mantova, M., Martínez-Vilalta, J., Mayr, S., McAdam, S., Mehltreter, K., Mencuccini, M., Mocko, K., Morris, H., Nadal-Sala, D., Nardini, A., Oliveira, R., Pereira, L., Peters, J.M.R., Petruzzellis, F., Poyatos, R., Rosner, S., Rowland, L., Ruehr, N., Sack, L., Sánchez-Martínez, P., Schuldt, B., Scoffoni, C., Skelton, R., Smith-Martin, C., Steppe, K., Sterck, F., Thonglim, A., Torres-Ruiz, J., Trabi, C., Tyree, M., Vargas, G., Wu, M., Yang, D., Zhang, Y., Zhu, S., Pitterman, J., Laughlin, D., and Jansen, S. “The global vulnerability of plant xylem.” (in preparation for submission to *Nature*).

(i) **Hammond, W.M.**, Dee, J., *Freeman, A.J.*\*, McNiel, K.\*, Papeş, M., Hallgren, S., and Adams, H.D., “The future is now: a novel method for testing predictions of species distribution models.” (for submission to *Global Change Biology*)

**Published & Accepted**

12. **Hammond, W.M.**, Williams, A.P., Abatzoglou, J.T., Adams, H.D., Klein, T., Rodríguez, R., Sáenz-Romero, C., Hartmann, H., and Allen, C.D., “Global field observations of tree die-off reveal hotter-drought fingerprint for Earth’s forests.” *Nature Communications* (accepted).

11. Gómez-Pineda, E., **Hammond, W.M.**, Treja-Ramirez, O., Gil-Fernández, M., Allen, C.D., Blanco-García, A., and Sáenz-Romero, C. “Drought years promote bark beetle outbreaks in Mexican forests of *Abies religiosa* and *Pinus pseudostrobus.*” *Forest Ecology and Management* (accepted).

10. McDowell, N.G., Sapes, G., Pivovaroff, A., Adams, H.D., Allen, C.D., Anderegg, W.R.L., Arend, M. , Breshears, D.D., Brodribb, T., Chaot, B., Cochard, H., De Cáceres, M., De Kauwe, M.G., Grossiord, C., **Hammond, W.M.,**  Hartmann, H., Hoch, G., Kahmen, A., Klein, T., Mackay, D.S., Mantova, M. Martínez-Vilalta, J., Medlyn, B.E., Mencuccini, M., Nardini, A., Oliveira, R.S., Sala, A., Tissue, D.T., Torres-Ruiz, J., Trowbridge, A., Trugman, A., Wiley, E., Xu, C. “A mechanistic framework for woody plant mortality under rising drought, CO2, and temperature.” *Nature Reviews in Earth and Environment* (accepted).

9. Hartmann, H., Bastos, A., Das, A.J., Esquivel Muelbert, A., **Hammond, W.M.**, Martinez-Vilalta, J., McDowell, N.G., Powers, J., Pugh, T.A.M., Ruthrof, K., Allen, C.D. “Climate change risks to global forest health – emergence of unexpected events of elevated 1 tree mortality world-wide.” (accepted at *Annual Reviews in Plant Biology*).

8. **Hammond, W.M.,** Johnson, D.M., and Meinzer, F.C., “A thin line between life and death: radial sap flux failure signals trajectory to tree mortality.” *Plant, Cell, & Enviornment* (2021).

7. **Hammond, W.M.**, “A matter of life and death: alternative stable states in trees, from xylem to ecosystems.” *Frontiers in Forests and Global Change* (2020).

doi: https://doi.org/10.3389/ffgc.2020.560409

6. **Hammond, W.M.**, Stone, M.E.B., and Stone, P.A., “Picture worth a thousand words: updating repeat photography for 21st century ecologists.” *Ecology and Evolution* (2020).

doi: https://doi.org/10.1002/ece3.7001

5. Kant, M.**\***, Angle, J., **Hammond, W.**, Adams, H. “Stressed about drought stress: measuring plant physiology in a rapidly changing climate.” *American Biology Teacher* (2020).

doi: https://doi.org/10.1525/abt.2020.82.8.553

4.  **Hammond, W.M.** and Adams, H.D., “Dying on time: Traits influencing the dynamics of tree mortality risk from drought” *Tree Physiology* (2019). doi: https://doi.org/10.1093/treephys/tpz050

3. *Freeman, A. J.***\***, **Hammond, W. M.**, Dee, J. R., Cobb, R. C., Marek, S. M., & Adams, H. D. (2019). The effect of prescribed fire on Biscogniauxia infection and δ13C in an upland oak-pine forest. *Forest Ecology and Management* (2019). doi: https://doi.org/10.1016/j.foreco.2019.117525

2. **Hammond W.M.**, Yu, K.L., Wilson, L.A.**\***, Will, R.E., Anderegg, W.R.L., and Adams, H.D., “Dead or dying? Quantifying the point of no return from hydraulic failure in drought‐induced tree mortality" *New Phytologist* (2019). doi: https://doi.org/10.1111/nph.15922

1. Hartmann, H., Adams, H., **Hammond**, **W.M.**, Hoch, G., Landhäusser, S., Wiley, E., and Zähle, S. “Extrapolating carbohydrate dynamics in mature trees and ecosystems from seedling-based data: simply a matter of scale?” *Environmental and Experimental Botany* (2018).

doi: https://doi.org/10.1016/j.envexpbot.2018.03.011

**Grants & Fellowships** (Amounts listed are funds to Hammond lab)**:**

$5,000 2021 University of Florida Global Fellows: competitive faculty fellowship to support international travel to establish new research collaborations. University of Florida.

$30,500 2021 (PI): Hydraulic dysfunction and water stress in species of agricultural and forestry interest. *A bilateral collaboraiton between INRAE and University of Florida.*

$100,850 2021 (PI): Leaf-to-canopy scale spectral ecophysiology: detecting plant function, dysfunction, and death. IFAS Equipment Grant. University of Florida.

$50,000 2021 (PI): How hot is too hot? Phenotyping thermal limits of plant life on Earth across multiple scales. IFAS Early-career Seed Grant. University of Florida.

$200,561 2021 (Co-PI): “SitS: Hyperspectral Signals in the Soil”. USDA.

$1,200 2020 Dr. Homer and Mrs. May Tang Distinguished Graduate Fellowship, Graduate College, Oklahoma State University.

$138,000 2020 Postdoctoral Research Fellowship in Biology (PRFB), National Science Foundation. “Seeing the forest for the (phylogenetic) trees: defining lineage functional types (LFTs) to improve earth system model predictions via inclusion of phylogeny and physiology.” Funded under the “Rules of Life” focus area. This funding was returned to the NSF after accepting faculty appointment at UF prior to beginning the postdoc.

$4,000\* 2019 Professor Rahamimoff travel grant. “Origin and spread of embolism in the xylem of trees.” Israel-US Binational Science Foundation (BSF).

$4,000\* 2018 Laureate, Make Our Planet Great Again, France. “To tree, or not to tree? Mechanisms of tree mortality under global-change-type drought.” Selected as one of fifteen U.S. students for a short-stay conducting research by invitation of a French laboratory in support of the Paris Agreement on Global Climate Change.

$500 2018 McPherson Travel Grant. Oklahoma State University Department of Plant Biology, Ecology, and Evolution.

$138,000 2017 Graduate Research Fellowship Program, National Science Foundation. “Point of no return: experimental determination of lethal hydraulic thresholds during water stress for global forests”

$300 2017 Student Travel Grant supporting submission of GRFP to NSF. “Point of no return: experimental determination of lethal hydraulic thresholds during water stress for global forests.” Oklahoma State Graduate College.

$1,000 2017 Student Travel Grant - South Central Climate Science Center - Supporting oral presentation at American Geophysical Union 2017 meeting in New Orleans, LA.

$1,000 2017 McPherson Award Research Grants (2017 & 2018). Oklahoma State University Department of Plant Biology, Ecology, and Evolution.

$4,000 2017 Summer Graduate Research Fellowship. Oklahoma State University Graduate College.

$500 2017 McPherson Award - Oklahoma State University Department of Plant Biology, Ecology, and Evolution.

$500 2016 Research, Creative, and Scholarly Activities Grant, University of Central Oklahoma.

**Conference Presentations** (**\***mentored undergraduate student)

35. December, 2021. **Hammond, W.M.,** Choat, B., Johnson, D.M., Ahmed, M., Anderegg, L.D.L., Barigah, T.S., Barros, F., Bartlett, M., Bauerle, T., Beikircher, B., Bittencourt, P., Blackman, C., Brodribb, T., Brum, M., Cano, J., Cao, K.F., Cardoso, A.A., Carmesin, C., Chen, Y., Cochard, H., Dayer, S., de Vasconcellos, F., Delzon, S., Domec, J.C., Duan, H., Gambetta, G.A., Ganthaler, A., Gautheny, A., Gleason, S.M., Gorai, M., Guan, X., Hao, G.Y., Hochberg, U., Kaack, L., Lamarque, L., Larter, M., Lens, F., Ximeng, L., Liu, H., López, R., Losso, Adriano, Mantova, M., Martínez-Vilalta, J., Mayr, S., McAdam, S., Mehltreter, K., Mencuccini, M., Mocko, K., Morris, H., Nadal-Sala, D., Nardini, A., Oliveira, R., Pereira, L., Peters, J.M.R., Petruzzellis, F., Poyatos, R., Rosner, S., Rowland, L., Ruehr, N., Sack, L., Sánchez-Martínez, P., Schuldt, B., Scoffoni, C., Skelton, R., Smith-Martin, C., Steppe, K., Sterck, F., Thonglim, A., Torres-Ruiz, J., Trabi, C., Tyree, M., Vargas, G., Wu, M., Yang, D., Zhang, Y., Zhu, S., Pitterman, J., Laughlin, D., and Jansen, S. “The global vulnerability of plant xylem.” American Geophysical Union Fall Meeting, Fall 2021.

34. April, 2021. **Hammond, W.M.,** Williams, A.P., Abatzoglou, J.T., Adams, H.D., Klein, T., Rodríguez, R., Sáenz-Romero, C., Hartmann, H., and Allen, C.D., “A hotter-drought fingerprint on Earth’s forest mortality sites—warming accelerates risks.” Oral presentation at *European Geophysical Union 2021 virtual meeting*.

33. March, 2021. **Hammond, W.M.,** and Allen, C.D. “Listening to the trees.” Invited plenary speaker for the California Tree Mortality Data Collection Network virtual workshop.

32. December, 2020. **Hammond, W.M.**, Williams, A.P., Abatzoglou, J.T., Adams, H.D., Klein, T., Rodríguez, R., Sáenz-Romero, C., Hartmann, H., and Allen, C.D., “A hotter-drought fingerprint on Earth’s forest mortality sites—warming accelerates risks.” Poster presentation at *American Geophysical Union Fall Meeting*.

31. July, 2020. **Hammond, W.M.** “What kills trees? Where? When? More questions than answers about drought-induced tree mortality.” Invited seminar, Holbrook Lab, Harvard University.

30. July, 2020. **Hammond, W.M.** “A global database of geo-referenced drought and heat-induced tree mortality events reveals drivers of forest die-off”. Invited seminar by Klein Lab, Weizmann Institute of Science, IL.

29. June, 2020. **Hammond, W.M.,** Wilson, L.A.\*, Wagner, Y., Bar-on, P., Klein, T., Will, R.E., and Adams, H.D. “Not dead yet: costs and consequences for trees surviving extreme hydraulic failure.” Oral presentation at the *Ecology Society of America* annual meeting.

28. June, 2020. Wilson, L.A.\*, Love, D., **Hammond, W.M.**, Adams, H.D., and Johnson, D.M. “It’s the heat and the humidity: Anatomical and physiological traits within pine needles predict response to changes in VPD.” Oral presentation by mentored undergraduate Luke Wilson at 2020 *Ecology Society of America* annual meeting.

27. April, 2020. Kant, M.**\***, **Hammond, W.M.**, Angle, J., and Adams, H.D., “Sensing death: predicting drought stress with spectral indices in pinyon pine.” Poster presentation by mentored undergraduate Medelin Kant at the 2020 *National Science Teaching Association (NSTA)* virtual (due to COVID) conference.

26. December, 2019. **Hammond, W.M.**, Wilson, L.A.**\***, Will, R.E., and Adams, H.D., “Not dead yet: costs and consequences for trees surviving extreme hydraulic failure.” Oral presentation at *American Geophysical Union Fall Meeting*.

25. November, 2019. Kant, M.**\***, **Hammond, W.M.**, Angle, J., and Adams, H.D., “Sensing death: predicting drought stress with spectral indices in pinyon pine.” Poster presentation by mentored undergraduate Medelin Kant at the 2019 *National Association of Biology Teachers (NABT)* conference.

24. October, 2019. Wilson, L.A.**\***, **Hammond, W.M.**, Adams, H.D., Johnson, D.M. 2019 It’s not the Heat it’s the Humidity: Conifer Gas Exchange Under Increased Vapor Pressure Deficit. Poster Presentation at *University of Georgia’s Plant Center Fall Retreat.*

23. June, 2019. **Hammond W.M.**, Yu, K.L., Wilson, L.A.\*, Will, R.E., Anderegg, W.R.L., and Adams, H.D., “Dead, or dying? Quantifying the point of no return from hydraulic failure in drought-induced tree mortality.” Oral presentation at *North American Forest Ecology Workshop (NAFEW)*.

22. May, 2019. Giddens, M.\*, **Hammond, W.M.**, “Dying light: detecting tree mortality risk with chlorophyll fluorescence”. Freshman Research Scholars Annual Symposium. Oklahoma State University.

21. May, 2019. Markham, S.L.\*, **Hammond, W.M.**, and Adams, H.D., “Supply and demand: comparing foliar and xylem traits in pinyon pine (*Pinus edulis*)”. Poster presentation at OK-LSAMP research symposium.

20. April, 2019. Wilson, L.A.\*, **Hammond, W.M.**, and Adams, H.D. “It's a dry heat: Quantifying effects of increasing atmospheric moisture demand on native Oklahoma trees”. Poster presentation at Wentz Research Scholars Symposium.

19. February, 2019. **Hammond, W.M.**, Wilson, L.A.\*, Torres-Ruiz, J.M., and Adams, H.D., “Kill it without fire: quantifying lethal drought stress for eastern redcedar, *Juniperus virginiana*.” Oral presentation at *Oklahoma Natural Resource Conference*.

18. December, 2018. Wilson, L.A.**\***, Breshears, D.D., **Hammond, W.M.**, Law, D.J., Field, J.P., and Barron-Gafford, G.A., “Overwhelming Heatwaves: Climate Envelope Development for Pinus edulis Seedlings”. Poster presentation by undergraduate mentee Luke Wilson at the 2018 *American Geophysical Union Fall Meeting*.

17. December, 2018. **Hammond, W.M.** and Stone, P.A., “Picture worth a thousand words: updating repeat photography for the 21st century scientist.” *American Geophysical Union Fall Meeting*.

16. August, 2018. **Hammond, W.M.**, Yu, K.L., Wilson, L.A., Will, R.E., Anderegg, W.R.L., and Adams, H.D., "Point of no return: direct experimental determination of the hydraulic failure threshold in drought-induced tree mortality.” *Oral Presentation at the 2018 Ecological Society of America*.

15. June, 2018. **Hammond, W.M.**, Yu, K.L., Wilson, L.A.**\***, Will, R.E., Anderegg, W.R.L., and Adams, H.D., “To tree or not to tree? Mechanisms of tree mortality under global-change-type drought.” *Invited talk, Gordon Research Conference on Multi-scale Vascular Plant Biology.*

14. April, 2018. McNiel, K. H.\*, **Hammond, W.M.**, Dee, J.R., and Adams, H.D., “Back to the future: using tree-rings from the 1950s to predict present-day tree mortality in the cross timbers of Oklahoma.” Poster presentation at the 2018 *Annual Plant Biology Research Symposium*, Oklahoma State University.

13. February, 2018. **Hammond, W.M.**, Yu, K.L., Wilson, L.A.**\***, Will, R.E., Anderegg, W.R.L., and Adams, H.D., “Point of no return: direct experimental determination of the hydraulic failure threshold in drought-induced tree mortality." *Oral Presentation at the 2018 Oklahoma Natural Resource Conference*. Awarded t**hird place** student oral presentation.

12. February, 2018. Wilson, L.A**\***., Adams, H.D., **Hammond, W.M.**, Torquato, P.R., Zou, C.B., and Will, R.E., “The Role of Drought in Promoting Fire Risk from Eastern Redcedar: Exploring the Relationship between Soil Moisture and Live Fuel Moisture.” Poster presentation by undergraduate mentee Luke Wilson at the *Oklahoma Natural Resources Conference*. Awarded **first place** in student poster presentations.

11. December, 2017. **Hammond, W.M.**, Yu, K.L., Wilson, L.A.**\***, Will, R.E., Anderegg, W.R.L., and Adams, H.D., "Point of no return: experimental determination of the lethal hydraulic threshold during drought for loblolly pine." *Oral Presentation at the 2017 American Geophysical Union Annual Meeting*.

10. November, 2017. Wilson, L.A.**\***, **Hammond, W.M.**, Yu, K.L., Will, R.E., Anderegg, W.R.L., Adams, H.D. 2017. Point of No Return: Non-Structural Carbohydrates at a Hydraulic Threshold of Loblolly Pine. Poster. Society of American Foresters National Convention. November 16th, Albuquerque Convention Center, Albuquerque, NM.

9. October, 2017. **Hammond, W.M.**, “What Kills Trees?” *Three-Minute Thesis Competition* – University finalist.

8. August, 2017. **Hammond, W.M.**, Dee, J., Freeman, A.J., Papes, M., Hallgren, S., and Adams, H.D., "Learning from the Recent Past: Modelling Present Suitability of Cross Timbers in Oklahoma." *Oral Presentation at the 2017 Ecological Society of America (ESA) Annual Meeting.*

7. March, 2017. **Hammond, W.M.**, Stone, P.A. “Before the Burn: Repeat Photography of the Peloncillo Mountains.” *Oral presentation at the 2017* *Southwestern Association of Naturalists (SWAN) annual meeting.*

6. February, 2017. **Hammond, W.M.**, Freeman, A.J., Papeş, M., Hallgren, S., and Adams, H.D., “Learning from the Recent Past: Modelling Present Suitability of Cross Timbers in Oklahoma.” *Oral Presentation at the 2017 Oklahoma Natural Resources Conference (OKNRC).*

5. April, 2016. **Hammond, W.M.** and Bass, D.A*., “Storm Water Runoff: A Tale of Two Cities.” Poster Presentation at Oklahoma Clean Lakes and Watersheds Association (OCLWA) 25th Annual Meeting.* Won second place for student poster presentations.

4. April, 2016. **Hammond, W.M.** and Stone, P.A. “Repeat Photography in the Peloncillo Mountains.” *Oral presentation at Tri-Beta South-Central Regional Conference.* Second place oral presentation for the conference.

3. March, 2016. **Hammond, W.M.**, Cheek, J.L., and Stone, P.A. “Ain’t No Mountain High Enough: Chihuahuan Pine Distribution in the Peloncillo Mountains” *Poster Presentation at Oklahoma Research Day.*

2. March, 2016. **Hammond, W.M.** and Stone, P.A., “Before the Burn: Repeat Photography in the Peloncillo Mountains.” *Poster Presentation at Oklahoma Research Day.*

1. March, 2016. **Hammond, W.M.** and Bass, T.D., “Storm Water Runoff: A Tale of Two Cities.” *Poster Presentation at Oklahoma Research Day.*

**Awards**

11. 2022 “Global Fellow”, awarded by the University of Florida International Center. This fellowship supports travel to Brazil & Costa Rica to establish novel research collaborations and to further internationalize my research and teaching programs.

10. Laureate, 2018 “Make Our Planet Great Again” program. Campus France. “To tree, or not to tree? Mechanisms of tree mortality under global-change-type drought”

9. Outstanding Student Presentation Award. American Geophysical Union 2018 Fall meeting. “Picture worth a thousand words: updating repeat photography for the 21st century scientist.”

8. Competitively Selected Participant, Phys Fest 2, Ohio, USA. Plant Physiological Ecology workshop.

7. Second Place Oral Presentation—Student Research Award, Oklahoma Chapter of the Wildlife Society, Oklahoma Natural Resource Conference. Oral presentation: “Kill it without fire: quantifying lethal drought stress for eastern redcedar, Juniperus virginiana.”

6. Third Place Oral Presentation—Student Research Award, Oklahoma Chapter of the Wildlife Society, Oklahoma Natural Resource Conference. “Point of no return: direct experimental determination of the hydraulic failure threshold in drought-induced tree mortality."

5. First Place App—From Research Idea to Smartphone App Competition. “reCapp – A Smartphone App for Repeat Landscape Photography.” OSU App Center.

4. Second Place Oral Presentation—Award for Three Minute Thesis competition. “What Kills Trees?” Oklahoma State University Finals.

3. Competitively Selected Participant, Methods in Plant Water Relations Workshop, McCall Idaho.

2. Outstanding Biology Senior. University of Central Oklahoma, Department of Biology.

1. Dr. Ethel Derrick endowed scholarship for Biology majors.

**Outreach & Mentoring**

2021 **Invited plenary speaker** for the California Tree Mortality Data Collection Network workshop. “Listening to the trees: what global tree mortality observations tell us about the fates of Earth’s historical forests under further hotter-drought.” (scheduled March 10-11, 2021, University of California).

2019 **Invited keynote speaker** for Trees Florida, the annual meeting of the *Florida chapter of the International Society of Arboriculture*. Additionally led two hour-long continuing education courses for certified arborists including an introduction to plant ecophysiology, and tree responses to drought and heat stress.

2018 Ecophysiology Workshop, April 2018, Co-organized and executed workshop leading 30 undergraduate students from the OSU Forestry Club in measurement of chlorophyll fluorescence and plant water potential.

**Teaching**

**Plant Death in the Anthropocene** (Spring semesters): I am developing this course to be a first-of-its-kind deep-dive on plant mortality. Anthropogenic global change is driving plants to and beyond the limits of life—which has created the need to better understand not only the many ways in which plants can live, but also the many ways which plants can die. The course is a combination of advanced ecophysiology and global change ecology.

**Environmental Crop Nutrition** (Fall semesters): I teach this graduate-level course at the University of Florida each Fall. The course is focused on the interaction between plant nutrition and environment, especially in the context of global change.

**Academic Service**

**Peer Review**

Associate Editor for *Journal of Geophysical Research: Biogeosciences*, an American Geophysical Union journal (Appointed 2019-2021, renewed AE appointment through 2023).

Manuscript referee for 27 papers across 9 journals since 2017:

**Conference Organizing**

Co-chair of 2021 American Geophysical Union organized session “Forest Ecophysiology Across Scales”, which received broad submissions resulting in 4 sessions—2 oral, 1 e-lightning, and 1 poster.

Co-chair of *Gordon Research Seminar*: “Multiscale Vascular Plant Biology—challenges for plant vascular function in the Anthropocene.” (Scheduled for June 2022).

Co-chair of 2020 Ecological Society of America meeting Organized Symposium: “The importance of family: Evolutionary lineage functional types for global vegetation models and macroecology”.