# MICHELLE E. AFKHAMI

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**University of Miami**
**Department of Biology**

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## Professional Appointments

**Associate Professor of Biology** June 2022 – Current
University of Miami, Coral Gables, FL.

**Director of the University of Miami Greenhouses** Aug 2020 – Current
University of Miami, Coral Gables, FL.

**Director of BioReach** Aug 2017 – Current
University of Miami, Coral Gables, FL.
*(Joint with C.A. Searcy)*

**Assistant Professor of Biology** Jan 2016 – May 2022
University of Miami, Coral Gables, FL.

**National Science Foundation Postdoctoral Fellow, Plant Genome Initiative** Sept 2014 – Dec 2015
Univ. of Toronto, Toronto, ON and Michigan State Univ., East Lansing, MI.
Supervisors: John Stinchcombe, Maren Friesen, Yair Shachar Hill

**Ecology and Evolutionary Biology Departmental Research Fellow** Nov 2013 – Aug 2014
University of Toronto, Toronto, ON.
Supervisor: John Stinchcombe

## Education

**Ph.D. Population Biology** Mar 2013
University of California, Davis, CA. (GPA: 4.0/4.0)
Committee: Sharon Strauss (advisor), Kevin Rice, Jennifer Rudgers, John Stachowicz

**M.A. Ecology and Evolutionary Biology (thesis-based)** Jan 2008
Rice University, Houston, TX. (GPA: 4.0/4.0)
Committee: Jennifer Rudgers (advisor), Kenneth Whitney, Julian N. Holland

**B.S. Ecology and Evolutionary Biology** May 2006
Rice University, Houston, TX. (GPA: 3.973/4.0, *Magna Cum Laude, Phi Beta Kappa*)
Honors Thesis Advisors: Joan Strassmann, David Queller

## Publications

**undergraduate mentee, **graduate mentee, ***postdoctoral mentee, ϕ=co-senior authors*

*(Journal impact factors are noted for recent publication & # of citations is listed when >10)*

***In Review or Revision***

(63.) Hay, E.***, R. Zenil-Ferguson, **M.E. Afkhamiϕ**, and C.A. Searcyϕ. (*In Review*) Mutualistic microbes drive niche expansion yet constrain diversification. *Nature Communications*. *(5-year Impact factor =17.2; Available on bioRxiv: doi: 10.64898/2026.01.14.699472)* *ϕ=co-senior authors*

(62.) Fowler, J.C.***, G. Pohlmann*, E. Hay***, V. Li**, Z. Meadors*, A. Reyes**, C. Searcyϕ, and **M.E. Afkhamiϕ**. (*In Review*) Do microbial effects on hosts vary across life stage and vital rate? A meta-analysis. ***Ecology Letters.*** *(5-year Impact factor =9.8)*

(61.) Zhang, T. R. Guo, J. Xu, S. Ma, X. Jiang, H. Wang, M. Wang, L. Zhang, Y. Gao, L. Shi, J. Guo, Y. Gao, and **M.E. Afkhami** (*In Review*) Phosphorus addition reduces community stability by affecting the symbiotic relationship between plants and arbuscular mycorrhizal fungi. ***Ecology Letters.*** *(5-year Impact factor =9.8)*

(60.) Revillini, D.,*** C. Mothes,*** B. Almeida,** K.T. Charlton, S. Koontz, A.S. David, **M.E. Afkhamiϕ**, & C.A Searcyϕ. (*In Review*) The microbial landscape: soil microbiome properties predict plant distributions. ***Proceedings of the National Academy of Sciences.***

(59.) Schardl, C.L., P. Nagabhyru, A. Tapia, N. Moore, J.W. Jaromczyk, P.J. Calie, **M.E. Afkhami**, C.A. Searcy, D.D. Cook, R. Creamer, T. Sterling, S. Florea (*In Review*) Genetic, functional and phylogenetic diversity of plants and seed-borne endophytes. ***New Phytologist.*** *(5-year Impact factor =10.5)*

(58.) Tserej, O, D.J. Hernandez, A.H. Rawstern, K.N. Kiesewetter, B.K. Almeida, **M.E. Afkhamiϕ** and K.J. Feeleyϕ. (*In Review*) Do leaf temperatures determine endophyte composition and richness in Florida native plant species? *Ecology and Evolution. (Impact factor =2.3)* *ϕ=co-senior authors*

(57.) Li, C, **M.E. Afkhami**, Y. Shi, H. Nie, R. Xue, L. Sun, Z. Jia, S. Ma, X. Zhang, L. Zhai, X. Chen, Y. Yuan, J. Jiang, J. Lin, S.X. Chang, B. Zhang, X. Liu, and J. Zhang. (*In Review*) Microbial inoculations enhance soil aggregation via root exudate-mediated microbial processes. ***New Phytologist***. *(Impact factor =10.5)*

(56.) Ramos, R.J., **M.E. Afkhami**, V. Norros, C. Egan, P. Chaverri, A.L. Romero-Olivares, and B. Chaudhary. (*Submitted*) A novel pipeline for the rapid expansion of ecological trait databases using LLMs. ***Nature Methods.*** (*5-year Impact Factor = 51.7*)

(55.) Reyes, A.L.** and **M.E. Afkhami.** *(In Review)* How Small Plastic Particles Affect Tiny Organisms in the Soil. ***Frontiers for Young Minds*.**

(54.) Moreira Camara Fernandes, V., N. Pietrasiak, **M.E. Afkhami**, and J.A. Rudgers. *(**In Revision**)* Hierarchical Response Framework to Mitigate Soil Degradation in Drylands under Climate Change. **Invited Perspectives Article** for ***Drylands****.*

***Published or Accepted***

53. Li, V.W.**, J. Fowler***, A.S. David***, S.Y. Strauss, C.A. Searcy, & **M.E. Afkhami** (2026) Climate variability disrupts mutualism-driven increases in population persistence. ***Nature Ecology and Evolution***. 10, 221–231*. (5-year Impact factor =16.6)*

52. Katula, A.M.**, N.C. Johnson, V.B. Chaudhary, & **M.E. Afkhami** (2026) Multilevel selection theory explains context-dependent mycorrhizal functioning. **Invited Special Issue Article** for ***Frontiers in Microbiomes.*** *In Press.*

51. **Afkhami, M.E.**, A.T. Classen, C. Dice, D.J. Hernandez, V. Li**, A.H. Rawstern**, J.A. Rudgers, J.R. Stinchcombe, and K. Crawford (2026) Unravelling complexity in climate change effects on beneficial plant–microbe interactions: Mechanisms, resilience, & future directions. **Invited "Tansley Review" for *New Phytologist.*** 249 (1) 93-113. doi.org/10.1111/nph.70644. *In Press. (5-year Impact factor =10.5)*

50. Cuprewich#, S.A. K.M. Barbour#, **M.E. Afkhami**, K.M.T. Lynn, A. Romero-Olivares, C. Aguilar-Trigueros, P. Chaveri, C. Egan, V. Norros, K. Peay, R. Ramos, R. Stephens, L. Ward, and V.B Chaudhary. (2026) One hundred unanswered questions on the dispersal ecology of fungi. ***The ISME Journal.*** doi: 10.1093/ismejo/wrag018*. In Press. (5-year Impact factor =12.5) # = co-first authors*

49. Li, V.W.** and **M.E. Afkhami**. (2026) Climate variability disrupts crucial plant–fungal mutualisms. ***Nature Ecology and Evolution***.10, 179–180. doi: 10.1038/s41559-025-02944-9. *(5-year Impact factor =16.6)*

48. Rudgers, J.A., **M.E. Afkhami**, *et al.* Integration and Future Directions: The Causes and Consequences of Dryland Ecosystem Transitions. (2026) *Dryland Ecotones under Climate Variability in the American Southwest: Long-Term Research of the Sevilleta LTER Program. Ed.* J. A. Rudgers and A. E. Bermudez. Oxford University Press, Oxford, UK. *In Press.*

47. Hernandez, D.J.**, G.B. Pohlmann*, and **M.E. Afkhami**. (2025) Gene Family Expansions Provide Molecular Flexibility Required for Context-Dependent Species Interactions. ***Ecology Letters.*** e70213. doi: 10.1111/ele.70213 *(5-year Impact factor =9.8).*

46. Zhang, B., Y. Yuan, M. Zu, K.M. Pajerowska-Mukhtar, **M.E. Afkhami**, A. Hastings, J. Qiu, and J. Zhang. (2025) Responses of invasive grass' microbial communities to water and nutrient stress treatments. ***Elementa: Science of the Anthropocene***. 13 (1): 00032. doi: 10.1525/elementa.2024.00032 (*Impact factor =4.5*)

45. Revillini, D.***, C.A Searcyϕ, and **M.E. Afkhamiϕ**. (2025) 50-year fire legacy regulates soil microbial carbon and nutrient cycling responses to new fire. ***Soil Biology and Biochemistry***. 208: 109868. doi:10.1016/j.soilbio.2025.109868 *(Impact factor =9.8)*

44. Rawstern, A.H.**, L.J. Carbajal*, T.J. Slade*, and **M.E. Afkhami**. (2025) Non-additive interactions between multiple mutualists and host plant genotype simultaneously promote increased plant growth and pathogen defence. ***Plant, Cell, and Environment.*** 1-18*.* doi:10.1111/pce.15631 (*Impact factor =7.95*)
*Special issue on "Legumes: Adaptions and Interactions with the Environment"

43. Li, V.** and **M.E. Afkhami**. (2025) Past Stress Shapes Microbial Benefits to Plants in the Future. ***Frontiers for Young Minds.*** 13: 1481801. doi: 10.3389/frym.2025.1481801

42. Rawstern, A.H.**, Hernandez, D.J.**, and **M.E. Afkhami**. (2025) Central Taxa Are Keystone Microbes During Early Succession. ***Ecology Letters****. 28 (1) e70031.* doi:10.1111/ele.70031 *(Impact factor =9; preprint/article downloaded >4000 times and cited **28 citations**)*

41. Kiesewetter, K.N.**, A.H. Rawstern**, E. Cline, G.R. Ortiz**, F. Santamaria, C. Coronado, F.H. Sklar, and **M.E. Afkhami**. (2025) Microbes in Reconstructive Restoration: Divergence in Constructed and Natural Tree Island Soil Fungi Affects Tree Growth. ***Ecological Applications.*** *35(1): e70007.* doi:10.1002/eap.70007 *(Impact factor=*5.1*)*

40. Hay, E.E.***, **M.E. Afkhamiϕ**, C.A. Searcyϕ. (2025) What drives birdsong evolution? The joint roles of habitat and morphology. ***Frontiers for Young Minds.*** 13: 1461108: 1-8. doi:10.3389/frym.2025.1461108

39. Almeida, B.K.**, E. Tran*, and **M.E. Afkhami**. (2024) Phyllosphere fungal diversity generates pervasive nonadditive effects on plant performance. ***New Phytologist.*** 243: 2416-2429. doi: 10.1111/nph.19792 *(Impact factor =10.3)*
***Feature commentary on our paper by B.K. Whitaker: "Diversity in the phyllosphere – greater than the sum of its parts?" New Phytologist.* 243: 2050-2051. *doi: 10.1111/nph.19907*

38. **Afkhami, M.E.** (2023) Past microbial stress benefits tree resilience. Soil Microbiota from stressful environments provide an avenue for climate resilience. ***Science.*** 380 (6647): 798-799. doi: 10.1126/science.adi1594 (**22 citations;** *Impact factor = 63.7; Article Altmetric Score=955; downloaded ~5000 times*)

37. Hernandez, D.J.** , K.N. Kiesewetter**, B.K. Almeida**, D.P. Revillini***, **M.E. Afkhami**. (2023*)* Multidimensional specialization and generalization are pervasive in soil prokaryotes*.* ***Nature Ecology and Evolution.*** 7: 1408–1418. doi: 10.1038/s41559-023-02149-y (**19 citations,** *Impact factor =19.1; Article Altmetric Score=169; downloaded >2500 times)*

36. Revillini, D.***, A.S. David***, A.L. Reyes Gonzalez**, L.D. Knecht, P. Allen*, C. Vigo*, E.S. Menges, C.A. Searcyϕ, and **M.E. Afkhamiϕ**. (2023) Allelopathy-selected microbiomes mitigate chemical inhibition of plant performance. ***New Phytologist.*** 240: 2007-2019. doi: 10.1111/nph.19249 (**45 citations,** *Impact factor =10.3; downloaded ~6500 times)*

35. David, A.S.***, D. Hernandez**, E.S. Menges, V. Sclater, **M.E. Afkhami$^{\Phi}$**, and C.A. Searcy$^{\Phi}$**.** (2023) Heterogeneous landscape promotes distinct microbial communities in an imperiled scrub ecosystem. ***Mycologia.*** 115: 739-748. doi: 10.1080/00275514.2023.2258268 (*Impact factor=3.3*)

34. Kiesewetter, K.N.**, Otano Velazco, L.* and **M.E. Afkhami**. (2023) Fragmentation disrupts microbial effects on native plant community productivity. 11: 1292–1307. ***Journal of Ecology****.* doi:10.1111/1365-2745.14097 (**14 citations***; Impact factor =6.4; Selected for "Best Papers of 2023" on 12th Annual Best Papers list by Stanford faculty/trainees -- https://web.stanford.edu/~fukamit/papers2023.htm)*

33. Schardl, C., **M.E. Afkhami**, P. Gundel, L. Iannone, C. Young, R. Creamer, D. Cook. (2023) Diversity of seed endophytes: Causes and implications. *The Mycota. Vol 5: Plant Relationships. Ed. B. Scott and C. Mesarich.* Springer Press. (**11 citations**)

32. Almeida, B.K.**, E. Cline, F. Sklar, and **M.E. Afkhami**. (2023) Hydrology shapes microbial communities and microbiome-mediated growth of an Everglades tree island species. ***Restoration Ecology***. e13677. doi:10.1111/rec.13677 (*Impact factor = 4.2*)

31. Revillini, D***., A.S. David***, K. Main, E.S. Menges, **M.E. Afkhami$^{\Phi}$,** C.A. Searcy$^{\Phi}$. (2022) Microbiome-mediated response to pulse fire disturbance outweighs the effects of fire legacy on plant performance. ***New Phytologist.*** 233: 2071-2082. doi:10.1111/nph.17689 *(***30 citations;** *Impact factor =10.3; Cover Art)*
**$^{\Phi}$ indicated co-senior authors**

30. Subedi, S.C.***, P. Allen*, R. Vidales, L. Sternberg, M. Ross, **M.E. Afkhami**. (2022) Salinity legacy: Foliar microbiome history affects mutualist-conferred salinity tolerance. ***Ecology.*** 103: e3679. doi:10.1002/ecy.3679 (**24 citations;** *Impact factor =6.4)*

29. Kiesewetter, K.N** and **M.E. Afkhami.** (2021) Microbiome-mediated effects of habitat fragmentation on native plant performance. ***New Phytologist****.* 232: 1823-1838. doi:10.1111/nph.17595 (**41 citations,** *Impact factor =10.3)*

28. **Afkhami, M.E.**, M. Friesen & J.R. Stinchcombe. (2021) Multiple Mutualist Effects generate synergistic selection on host traits and strengthen fitness alignment in the interaction between legumes, nitrogen-fixing bacteria, and mycorrhizal fungi. ***Ecology Letters.*** 24: 1824-1834. *doi:10.1111/ele.13814* (**41 citations,** *Impact factor =11.3)*

27. Hernandez, D.J.**, A.S. David***, E.S. Menges, C.A. Searcy$^{\Phi}$, and **M.E. Afkhami$^{\Phi}$**. (2021) Environmental stress destabilizes microbial networks. ***The ISME Journal***.15: 1722–1734. doi: 10.1038/s41396-020-00882-x (**1313 citations,** *Impact factor = 10.3*)

****Recognized as most cited 2021 paper in *ISME Journal* as part of special collection "Celebrating 15 Years of The ISME Journal"**; "Hot Cited" paper on Web of Science; *ISME* Journal 2021 Best Paper Award Honorable Mention; Winner of Best 2021 UM Graduate Student Paper Award

26. Quintana-Ascencio, P.F., E.S. Menges, G. Cook, J. Ehrlén, and **M.E. Afkhami**. (2021) Drivers of demography: past challenges and a promise for a changed future. *Demographic Methods across the Tree of Life. Eds. R. Salguero-Gomez and M. Gamelon.* Oxford University Press.

25. **Afkhami, M.E.**, B.K. Almeida**, D.J. Hernandez**, K.N. Kiesewetter**, and D.P. Revillini***. (2020) Tripartite mutualisms as models for understanding plant-microbial interactions. Special Issue on "Biotic Interactions" in ***Current Opinion in Plant Biology.*** 56: 28-36. (**75 citations,** *Impact factor = 8.4; Cover Art)*

24. Rudgers, J.A., **M.E. Afkhami**, L Bell-Dereske, Y.A. Chung, K. Crawford, S.N. Kivlin, M. Mann, and M. Nunez. (2020) Climate disruption of plant-microbe interactions. ***Annual Review of Ecology, Evolution, and Systematics***. 51(1): 561-586. (**158 citations,** *Impact factor = 14.04)*

23. David, A.S.***, K.B. Thapa-Magar*, E.S. Menges, C.A. Searcy$^{\Phi}$ and **M.E. Afkhami$^{\Phi}$**. (2020) Do plant-microbe interactions support the Stress Gradient Hypothesis? ***Ecology.*** 101(8): e03081.10.1002/ecy.3081 (**78**

**citations,** *Impact factor = 5.5)*

22. Almeida, B.K.**, M.S. Ross, S.L. Stoffella, J.P. Sah, E. Cline, F. Sklar, and **M.E. Afkhami** (2020) Diversity and structure of soil fungal communities across experimental Everglades tree islands. ***Diversity***. Invited special issue on "Fungal Diversity". 12, 324: 1-17. (9 citations*, Impact factor=3.03)*

21. Zanne, A.E., K. Abarenkov, **M.E. Afkhami**, et al. (2020) Fungal functional ecology: Bringing a trait-based approach to plant-associated fungi. ***Biological Reviews.*** 95: 409 – 433. (**319 citations,** *Impact factor = 12.8)*

20. Almeida, B.K.**, M. Garg, M. Kubat, & **M.E. Afkhami**. (2020) Not that kind of tree: Assessing the potential for decision tree–based plant identification using trait databases. ***Applications in Plant Sciences***. Special Issue on 'Machine Learning in Plant Biology'. 8:1-7. doi:10.1002/aps3.11379. (**21 citations**; *Impact factor = 2.5)*

19. Hernandez, D.** , K.N. Kiesewetter**, S. Palakurty*, J.R. Stinchcombe, and **M.E. Afkhami**. (2020) Synergism and symbiosis: Unpacking complex species interactions using transcriptomic approaches. *The Model Legume Medicago truncatula*. *Ed. F.J. de Bruijn.* Wiley Publishers.

18. Carscadden, K.A., N.C. Emery, C.A. Arnillas, **M.E. Afkhami**, D. Gravel, S.W. Livingstone, J.J. Wiens, and M.W. Cadotte. (2020) Niche Breadth: Causes and Consequences for Ecology, Evolution, and Conservation. ***Quarterly Review of Biology.*** 95 (3): 179-214*.* (**329 citations,** *Impact factor = 4.4)*

17. David, A.S.***, P.F. Quintana-Ascencio, E.S. Menges, K.B. Thapa-Magar*, **M.E. Afkhami**$^{\Phi}$ & C.A. Searcy$^{\Phi}$ (2019) Soil microbiomes underlie population persistence of an endangered plant species. ***The American Naturalist.*** 194: 488-494. (**53 citations,** *Impact factor = 4.7)* **$^{\Phi}$ indicates co-senior authors**

16. David, A.S.***, K.B. Thapa Magar*, & **M.E. Afkhami** (2018) Microbial Mitigation-Exacerbation Continuum: a novel framework for microbiome effects on hosts in the face of stress. ***Ecology***. 99: 517-523. (**58 citations,** *Impact factor = 4.7)*

15. Palakurty, S.X.*, J.R. Stinchcombe, & **M.E. Afkhami**. (2018) Cooperation and coexpression: How coexpression networks shift in response to multiple mutualists. ***Molecular Ecology***. Special Issue on "The Host-Associated Microbiome: Pattern, Process, and Function" 27:1860-1873. (**33 citations,** *Impact factor = 6.1, Cover Art)*

14. Batstone, R.T., K. A. Carscadden, **M. E. Afkhami**, & M. E. Frederickson. (2018) Using niche breadth theory to explain generalization in mutualisms. ***Ecology.*** 99: 1039-1050. (**113 citations,** *Impact factor = 4.7*)

13. **Afkhami, M.E.**, D.L. Mahler, J.H. Burns, M.G. Weber, M.F., Wojciechowski, J. Sprent & S.Y. Strauss. (2018) Symbioses with nitrogen-fixing bacteria: nodulation and phylogenetic data across legume genera. ***Ecology.*** 99: 502. (**54 citations**, *Impact factor = 4.7)*

12. **Afkhami, M.E.** & J.R. Stinchcombe. (2016) Multiple mutualist effects on genomewide expression in the tripartite association between *Medicago truncatula*, nitrogen-fixing bacteria, and mycorrhizal fungi. ***Molecular Ecology***. 25: 4946-4962. (**90 citations,** *Impact factor = 6.1)*

11. **Afkhami, M.E.,** & S.Y. Strauss. (2016) Native fungal endophytes suppress an exotic dominant and increase plant diversity over small and large spatial scales. ***Ecology***. 97: 1159-1169. (**40 citations**, *Impact factor = 4.8)*

10. Jones, E. **M.E. Afkhami**, E. Akcay, J.L. Bronstein, R. Bshary, M.E. Frederickson, K.D. Heath, J. Hoeksema, J. Ness, S. Pankey, S.S. Porter, J.L. Sachs, K. Scharnagl, & M.L. Friesen. (2015) Cheaters must prosper: reconciling theoretical and empirical perspectives on cheating in mutualism. ***Ecology Letters***. 18:1270–84. (**190 citations,** *Impact factor = 10.7, Cover Art*)

9. **Afkhami, M.E.,** P.J. McIntyre, & S.Y. Strauss. (2014) Mutualist-mediated effects on species' range limits across large geographic scales. ***Ecology Letters***. 17: 1265-1273. **(292 citations*, Recommended by Faculty***

***1000*, *Impact factor = 10.7***)

8. Charlton, N.D., K.D. Craven, **M.E. Afkhami,** B.A. Hall*, S.R. Ghimire, & C.A. Young. (2014) Interspecific hybridization and bioactive alkaloid variation increases diversity in endophytic *Epichloë* species of *Bromus laevipes*. ***FEMS Microbiology Ecology***. 90:276-289. (**83 citations**)

7. **Afkhami, M.E.,** J.A. Rudgers, & J.J. Stachowicz. (2014) Multiple Mutualist Effects: Conflict and synergy in multispecies mutualisms. ***Ecology***. 95:833-844. (**143 citations**)

6. Gorischek, A.M.*, **M.E. Afkhami**, E.K. Seifert, & J.A. Rudgers. (2013) Fungal symbionts as manipulators of plant reproductive biology. ***The American Naturalist.*** 181:562-570. (**22 citations**)
   **Covered by *Science* News: Pennisi, E. (March 2013) Fungus get off my lawn.

5. **Afkhami, M. E**. (2012) Fungal endophyte-grass symbioses are rare in the California floristic province and other regions with Mediterranean-influenced climates. ***Fungal Ecology*** special issue. 5: 345-352. (**20 citations**)

4. **Afkhami, M. E.** & J. A. Rudgers. (2009) Endophyte-mediated resistance to herbivores depends on herbivore identity in the wild grass, *Festuca subverticillata*. ***Environmental Entomology***. 38:1086-1095. (**50 citations**)

3. Rudgers, J.A., **M. E. Afkhami**, M. A. Rúa, A. J. Davitt, S. Hammer, & V. M. Huguet. (2009) A fungus among us: Broad patterns of endophyte distribution in the grasses. ***Ecology***. 90:1531-1539. (**147 citations**)

2. **Afkhami, M. E.** & J. A. Rudgers. (2008) Symbiosis Lost: Imperfect vertical transmission of fungal endophytes in grasses. ***The American Naturalist***. 172:405-416. (**182 citations**)

1. **Afkhami, M. E.** & J. E. Strassmann. (2007) Adult Yellow-crowned Night-herons face in opposite directions at the nest. ***The Wilson Journal of Ornithology***. 119:747–749.

***Government Reports/White Papers***

K.N. Kiesewetter**#, **M.E. Afkhami#,** A.H. Rawstern**, E. Cline, G.R. Ortiz**, F. Santamaria, C. Coronado, F.H. Sklar. (2025) Diverging soil microbiomes from constructed and natural tree islands in the Everglades mediate tree growth under hydrological stress. In Chapter 6: Everglades Research and Evaluation of ***The South Florida Environmental Report‡***.
*‡Produced by South Florida Water Management District; blind reviewed by subject matter expert.*
*# indicates equal authorship/effort*

Almeida, B.K.**, M.S. Ross, S.L. Stoffella, J.P. Sah, E. Cline, F. Sklar, and **M.E. Afkhami** (2020) Ecosystem Ecology: Diversity and structure of soil fungal communities across experimental Everglades tree islands. In Chapter 6: Everglades Research and Evaluation of ***The South Florida Environmental Report‡***.
*‡Produced by South Florida Water Management District; blind reviewed by subject matter expert.*

***Manuscript -- Completed Drafts and In Prep***

Reyes, A.L.**, A.H. Rawstern**, E.H. Boughton, Y. Guo, J. Qiu, and **M.E. Afkhami**. Interactive effects of land-use intensity, grazing intensity, and altered precipitation on prokaryotic and fungal soil microbial communities in a subtropical agroecosystem. Target Journal: ***Agriculture, Ecosystems & Environment***. *(Submission expected: March 2026)*

Florea, S., P. Nagabhyru, R. Sneed, P.J. Calie, C.A. Searcy, **M.E. Afkhami**, A.C. Tapia, K. Hillegass, M.L. Farman, R.L. Hirsch, K. Chen, and C.L. Schardl Recurrent but transient gene loss drives chemotypic diversity in a grass endophyte: Population genomics of *Epichloë brachyelytri* in *Brachyelytrum erectum.* Target Journal: ***Plos Biology.*** *(Submission expected: March 2026)*

Stemle, L.R., R.B. Rumelt, S.L. Clements, **M.E. Afkhami**, A.S. David, and C.A. Searcy. (*Complete Manuscript)* Traits that Facilitate Invasion of Native Habitat. Target Journal: ***Global Change Biology.*** *(Submission Spr 2026)*

Hernandez, D.J.** and **M.E. Afkhami**. (C*ompleted Draft)* Microbiomes under stress: Microbiomes and the stress gradient hypothesis. Target Journal: ***Trends in Ecology and Evolutionary Biology.*** *(Submission Spr 2026)*

Kiesewetter, K.N.** & **M.E. Afkhami**. (*In Prep*) Fragmentation-generated edge effects shape microbiome diversity, composition, and functional roles. Target Journal: ***Ecology.*** *(Submission Summer 2026)*

## Grants

| Summary of Afkhami Lab Funding | | |
|---|---|---|
| | Total | External Only |
| Directly to Dr. Afkhami (while at UM)* | $2,319,156.00 | $2,272,160.00 |
| Additional to Afkhami Lab Mentees** | $3,042,495.00 | $2,494,571.00 |
| **Total Funding** | **$5,361,651.00** | **$4,766,731.00** |

** Details below in "Funded Grants"*
***Details in mentoring section of CV. Major external sources include 3 United States Dept. of Agriculture NIFA Grants, 1 Department of Defense SMART Fellowship, 2 National Science Foundation GRFs, 3 National Science Foundation Postdoctoral Fellowships, 1 Simons Foundation Graduate Fellowship, 2 McKnight Fellowships, and many other grants.*

***Funded Grants***

National Science Foundation: "MCA: Using metatranscriptomics to uncover mechanisms underlying drought-mediated plant-microbe interactions that influence plant community structure" (**$30,951** to Afkhami; $348,691 total) 2026-2028 (Scientist Mentor for "Mid-Career Advancement" (MCA) Grant to train and collaborate with Dr. K. Crawford at University of Houston on metagenomics and metatranscriptomics).

Provost Research Award Grant: "Unraveling stress legacies in microbiomes to enhance plant resilience" (**$19,996**) 2026-2027. (PI)

National Science Foundation: "Collaborative Research: RAPID: Resistance and resilience of the microbial landscape following hurricane disturbance." (**$170,598**) 2024-2025 (1-year extension expected). (PI with coPI C. Searcy, Lead Institution)
**PI Afkhami is responsible for microbial aspects of the research and coPI Searcy is responsible for modeling.*

South Florida Water Management District: "Effects of hydrology and island construction on microbiome diversity, composition, and function of Everglades tree islands." (**$150,000**). 2023-2026 (3-year renewal likely). (PI)

Department of Energy's Joint Genome Institute: "Unraveling physiological mechanisms driving variations in microbial carbon use efficiency: Insights from metagenomic and metatranscriptomic data." (**~$60,000** in library and sequencing services for metagenomes and metatranscriptomes of ongoing collaborative experiment). 2025-est. 2027. (coPI with PI Y. Guo and coPI J. Qiu from University of Florida)

United States Geological Survey: "Modeling the biological control of the invasive plant, water hyacinth, under ATLSS" (**$54,999**) 2023-2025 Renewal. (PI)

United States Geological Survey: "Modeling the biological control of the invasive plant, water hyacinth, under ATLSS" (**$51,812**) 2022-2023 Renewal. (PI)

National Science Foundation: "Dimensions US-China: Collaborative Research: Impacts of heritable plant-fungus symbiosis on phylogenetic, genetic and functional diversity." (**$424,811**). 2021-2026 (Extension to 2027 expected). (PI with coPI C. Searcy)
**PI Afkhami is responsible for microbial/plant aspects of work and diversification analysis; coPI Searcy is responsible for modeling; both PIs are responsible for functional diversity analyses and other aspects of the research.*

Department of Energy's Joint Genome Institute: "Local adaptation of nitrogen-fixing bacteria, *Microvirga*, to high-stress serpentine soils." (**~$50,000** in library and sequencing costs for 72 genomes requested). 2021-2026. (coPI with PI A. Igwe, Afkhami lab postdoctoral researcher)

South Florida Water Management District: "Microbial communities of Everglades tree islands and their importance for tree species performance." (**$149,997**). 2021-2023. (PI)

National Science Foundation: "Microbial landscapes: Are microorganisms hidden drivers of species distributions?" (**$911,038** including a $59,794 Research Experience for Post-Baccalaureate Students [REPS] Supplement). 2019-2025. (PI with coPI C. Searcy)

**Both PIs contribute to all aspects of this research with PI Afkhami providing plant/microbiome expertise and coPI Searcy providing modelling expertise.*

United States Geological Survey: "Modeling the biological control of invasive plants under the Across Trophic Level System Simulation Program for the Greater Everglades (ATLSS)" (**$67,954**) 2020-2022. (PI)

Department of Energy's Joint Genome Institute: "Fire selection and the carbon cycling potential of the soil microbiome." (**~$60,000** in library and sequencing costs). 2019-2021. (coPI with PI C. Searcy)

South Florida Water Management District: "Understanding fitness consequences of microbial communities for Everglades Tree Island species." (**$90,000**). 2018-2020. (PI)

Provost Research Award Grant: "Recovery in the wake of disaster: How do interactive effects of hurricanes and habitat fragmentation shape ecological interaction networks?" (**$17,000**) 2018-2019. (PI)

University of Miami College of Arts & Science's Effects, Impacts & Influences of Hurricane Irma Call: "Recovery in the wake of disaster: Could Hurricane Irma and habitat fragmentation disrupt ecological interactions in South Florida's imperiled Pine Rocklands?" (**$6,376**) 2017-2018. (PI)

University of Miami College of Arts & Science's Effects, Impacts & Influences of Hurricane Irma Call: "Hurricane preparedness and recovery of living plant collections." (**$10,000**). 2017-2018. (CoPI with PI K. Feeley, CoPI C. Horvitz, and CoPI C. Searcy)

Provost Research Award Grant: "Integrating microbial interactions into population dynamics of threatened and endangered species." (**$17,000**) 2017-2018. (PI)

Hardman Foundation: "Does mutualist-mediated niche expansion in a grass-fungal endophyte symbiosis have community-level effects?" (**$2,100**) 2012. (PI)

Hardman Foundation: "Effect of fungal endophytes on the native grass, *Bromus laevipes*, along the water-availability niche axis: Linking mechanisms to documented large-scale patterns of mutualist-mediated effects on the niche." (**$2,500**) 2011. (PI)

National Science Foundation's Doctoral Dissertation Improvement Grant: "DISSERTATION RESEARCH: Symbiont-mediated niche expansion and partitioning in a native grass-fungal endophyte symbiosis." (**$14,991**) 2010.

University of California's Center for Population Biology: "Effect of fungal endophytes on the edaphic niche of a native grass, *Bromus laevipes*" (**$2,100**) 2010. (PI)

Mildred E. Mathias Graduate Student Research Grant: "Mutualism-mediated niche expansion and partitioning in California native bunchgrass, *Bromus laevipes*" (**$1,729**) 2010. (PI)

University of California's Center for Population Biology: "What is the distribution and abundance of endophytic fungi in California's native bunchgrasses?, and how do these endophytes affect the realized ecological niche of their hosts?" (**$1,500**) 2009. (PI)

University of California's Center for Population Biology: "What is the role of mutualistic symbioses in invasions of

native plant communities?" (**$1,700**) 2008. (PI)

***Pending***

National Science Foundation: "Collaborative Research: How rainfall variability structures the functional biodiversity of soil microbiomes." (requested **$631,049 to Afkhami lab**) Collaborative with J. Rudgers at U of New Mexico and Director of Sevilleta LTER). November 2025 Submission. **(PI, Lead Institution)**

United States Department of Agriculture's National Institute of Food and Agriculture: "Interactive Climate and Land Management Effects on Soil Microbiomes and Microbial Regulation of Soil Organic Carbon in Subtropical Grasslands" (requested **$397,839 to Afkhami lab**) Collaborative with J. Qui at University of Florida**.** September 2025 Submission**. (PI)**

Simons Collaborations in Ecology and Evolution: "Rules of Life for Sustaining Global Productivity: From Genes to Ecosystems." (Requested **$11,000,000**) Collaboration with Kerri Crawford, Jim Bever, and Lena Mueller. October 2025 Submission (**PI, Lead Institution**)

Simons Collaborations in Ecology and Evolution: "The Boiling River: A Hot Spot for Studying the Effects of Climate Change on the Ecology and Evolution of Amazonian Species." (Requested **$4,350,000**) October 2025 Submission. Collaboration led by Ken Feeley. (**coPI**)

Simons Collaborations in Ecology and evolution: "Toxic friends: Can allelopathy promote biodiversity across space and time?" (Requested **~$5,000,000**) October 2025 Submission. Collaboration with Aaron David, Donald DeAngelis, Leslie Knecht, Hector Perez, and Christopher Searcy. (**coPI**)

National Science Foundation: "STAR: Hidden memories: Stress legacies in microbiomes as drivers of resilience." (Requested **$399,999**). January 2026 Submission. (**sole PI**)

***In Prep (Revising for Resubmission)***

National Science Foundation: "Collaborative Research: RESEARCH-PGR: Exploring the genomic basis of productivity-enhancing biotic interactions." (requesting **$1,010,000 to Afkhami lab**). Collaborative with Lena Mueller (Salk Institute) and K. Crawford (U of Houston). Submission expected Spring 2026. (**PI, Lead Institution**)

National Science Foundation: "Collaborative Research: Pathways for hidden facilitative effects of allelopathy." (requesting **$916,026**) Collaborative with Archbold Biological Station PI A. David, Director of Plant Ecology. (**coPI** with PI C. Searcy, coPI L. Knecht, and Archbold Biological Station PI Aaron David)

**coPI Afkhami is responsible for all soil microbial research (experiments, sequencing, and bioinformatics), plant greenhouse experiments, participation in field research, and working with chemistry coPI Knecht to complete allelochemical analysis of soils; PI Searcy is responsible for all modeling aspect of the research, participation/organization of field work, and coordination with Archbold PI David (who is responsible for seed germination trials, field collections, field work from the Archbold side of the grant); Afkhami and Searcy will co-mentor Afkhami lab graduate students and a new joint postdoctoral research.*

***Previously Submitted*** *(Declined during faculty position)*

National Science Foundation: "Collaborative Research: BoCP-Implementation: How climate variability structures the functional biodiversity of soil microbiomes." (requested $1,363,440 to Afkhami lab) Collaborative with J. Rudgers at U of New Mexico and Director of Sevilleta LTER. Submitted August 2024. (PI)

*****All Excellent/Very Good Ratings** on first submission

United States Department of Agriculture's National Institute of Food and Agriculture: "Land management and grazing effects on soil carbon sequestration and microbial carbon use efficiency." (requested **$399,925 to Afkhami lab**) Collaborative with J. Qui at University of Florida**.** Submitted September 2024. (PI)

National Science Foundation: "Collaborative Research: Pathways for hidden facilitative effects of allelopathy." (requesting **$916,026**) Collaborative with Archbold Biological Station PI A. David, Director of Plant Ecology. (**coPI** with PI C. Searcy, coPI L. Knecht, and Archbold Biological Station PI Aaron David)

United States Department of Agriculture's National Institute of Food and Agriculture: "Land management and grazing effects on soil carbon sequestration and microbial carbon use efficiency." (requesting **$399,925 to Afkhami lab** for resubmission to upcoming Oct 2025 deadline after favorable 2024 reviews) Collaborative with J. Qui at University of Florida**.** (PI)

United States Department of Agriculture's National Institute of Food and Agriculture: "Land management and grazing effects on soil carbon sequestration and microbial carbon use efficiency," ($345,601 requested) Submitted 2023. (PI)

Blavatnik Award for Young Scientists Program: "A gene to ecosystem approach to microbiome interactions" ($250,000 unrestricted funds). Submitted externally November 2023. (PI)

National Science Foundation: "Collaborative Research: RESEARCH-PGR: Exploring the genomic basis of productivity-enhancing biotic interactions." (**$1,009,599** requested). Submitted July 2023. (PI)

HHMI's Investigator Program: "A genes to ecosystem understanding of microbial and plant community resilience in the Anthropocene" (Funds lab for 7 years with another 7 year renewal possible). Submitted March 2023. (PI)

National Science Foundation: "New technology for high-throughput single-celled sequencing to assess functional diversity of complex prokaryotic microbiomes" (**$300,000** requested) Submitted September 2023. (PI)

National Science Foundation: "Collaborative Research: Can multispecies mutualism effects drive N- and C-transformations in a quadpartite symbiosis?" (**$**368,730 requested). Submitted November 2022. (PI)

National Science Foundation: "Collaborative Research: RESEARCH-PGR: Promoting plant productivity: Determining the genomic basis of productivity-enhancing biotic interactions." ($1,158,684 requested). Submitted July 2021. (PI with coPI Mueller)

National Science Foundation: "Collaborative Research: Can multispecies mutualism effects drive N- and C-transformations in a quadpartite symbiosis?" ($326,201 requested). Submitted January 2021. (PI) (**High Priority Rating**)

Department of Energy: "Enhanced mechanistic understanding of resource transformation, acquisition, and resilience in bioenergy crops using a multiscale systems approach." (Total requested: $13,217,168; Sub-Award to Afkhami requested: $1,198,707) Submitted March 2020. (Subaward PI)

National Science Foundation: "RESEARCH-PGR: Promoting plant productivity: Determining the genomic basis of productivity-enhancing biotic interactions." ($1,719,185 requested). Submitted August 2020.

U-LINK (University of Miami's Laboratory for Integrative Knowledge): ''MicrobeChip: Enlightening microbial dark matter through high-throughput microfluidic culturing''. (Phase 1 funding requested). Submitted Sept 2020. (coPI)

National Science Foundation: "Dimensions US-China: Collaborative Research: Impacts of heritable plant-fungus symbiosis on phylogenetic, genetic and functional diversity." ($424,900 request). Submitted Feb. 2019. (PI)

National Science Foundation: "RESEARCH-PGR: Promoting plant productivity: Determining the genomic basis of productivity-enhancing biotic interactions." ($1,387,634 requested). Submitted July 2019. (PI) (**High Priority Rating**)

Department of Energy's Joint Genome Institute: "Microbiome single-cell sequencing to improve biofuel hardiness." (~$60,000 in sequencing costs requested). Submitted 2018. (PI)

National Science Foundation: "Dimensions US-China: Collaborative Research: Phylogenetic breadth, genetic diversity, and functions of seed-transmitted fungal endophytes." ($399,900 requested). Submitted 2018. (PI)

National Science Foundation: “High-throughput discovery and integration of microbial stress-amelioration genes for plant improvement.” Prospectus for NSF’s Breakthrough Ideas and Enabling Technologies to Advance Crop Breeding and Functional Genomics Program. ($300,000 requested). Submitted 2018. (PI)

National Science Foundation: “Harnessing small RNAs to improve ecosystem engineering.” Prospectus for NSF’s Growing Convergence Research Program. Submitted 2018. (PI)

Johnson & Johnson, WiSTEM2D: “Recovery in the wake of disaster: Could Hurricane Irma and habitat fragmentation disrupt ecological interactions in South Florida’s imperiled Pine Rocklands?” ***Selected by UM competition.*** ($150,000 requested). Submitted 2017. (PI)

National Science Foundation: “Microbial landscapes: Are microorganisms hidden drivers of species distributions?” ($993,400 requested). ***Invited preliminary proposal.*** Full proposal submitted 2017. (PI)

National Science Foundation: "Preliminary Proposal: Hidden players of productivity: Understanding the genomic basis of plant diversity and microbial effects on primary production.” Submitted 2017. (PI)

National Science Foundation: “Preliminary Proposal: A predictive framework for conflicts in cooperation: Understanding the interplay among fitness conflict, natural selection, & context-dependency in mutualisms” Submitted 2016. (PI)

## Awards and Fellowships

**2025** – Associate Professor Research Award, University of Miami
***(Awarded to an Associate Professor from the College of Arts & Sciences; award provides an opportunity for intense research engagement via a semester of teaching release)***
**2024** – Archbold Research Affiliate Appointment, Archbold Biological Station
***(Conferred to recognize scientists that contribute significantly to the scientific mission of the Archbold Biological Station through original research; Awarded first in 2023)***
**2023** – Paper selected for “Celebrating 15 Years of *The ISME Journal*” Collection
***(Collection honoring the top cited paper from each year since the journal’s founding; our paper has been cited >1300 times since its publication in 2021)***
**2021** – *The ISME Journal* 2021 Best Paper Award Honorable Mention
**2019** – Faculty Mentor of the Year, School of Graduate Studies, University of Miami
*(**Awarded for mentoring excellence to 1 professor of any rank per year from the Univ. of Miami Coral Gables, marine, or medical school campus**)*
**2018** – Award for Recognition of Scholarly Achievement, University of Miami College of Arts and Sciences (**$1,000**)
*(**Awarded for scholarly excellence to 1 assistant professor per year in the sciences at Univ. of Miami**)*
**2017** – ULINK Fellows Award, Interdisciplinary Research (co-PI)
**2014** – National Science Foundation Postdoctoral Fellowship, Plant Genome Initiative (**$216,000)**
**2014** – NSERC Banting Postdoctoral Fellowship (**$140,000,** *Declined*)
**2013** – Ecology and Evol. Biology Departmental Postdoctoral Fellowship, University of Toronto (**$80,000**)
**2013** – National Science Foundation Postdoctoral Fellowship, Plant Genome Init. (**$207,000**, *Declined*)
**2012** – Mrs. George F. Jewett, Jr. Scholar, Achievement Rewards for College Scientists Award (**$10,000**)
**2012** – Dean’s Mentorship Award, College of Biological Sciences (**$5,000**)
**2012** – Max Planck Institute Integral Projection Modeling Course Scholarship
**2011** – ARCS Scholar, Achievement Rewards for College Scientists Award (**$10,000**)
**2011** – Center for Population Biology Travel Grant (**$500**)
**2010** – Center for Population Biology Travel Grant (**$800**)
**2008** – Golden Key International Honour Society
**2007** – Bodega Marine Laboratory Travel Grant Award (**$975**)
**2007** – National Science Foundation Graduate Student Fellowship (**$121,500**)
**2007** – UC Davis Graduate Student Match Fellowship (**$40,500**)
**2006** – Houston Livestock Show and Rodeo Endowed Fellowship (**$35,033**)
**2006** – The Julian Huxley Best Thesis Award, Dept. of Ecology and Evol. Biology, Rice University (**$100**)

## Invited Talks *(Total = 85**)*

**Excludes presentations marked as "declined"

**2026** – New Mathematical Theory in Eco-Evolutionary Modelling of Host-Symbiont Communities. Banff International Research Station for Mathematical Innovation and Discovery. Banff, Canada.
**2026** – International Center of Tropical Botany. Kampong. Florida.
**2025** – Max Planck Institute Seminar for Life Sciences Board. Hosted by Max Planck Institute for Chemical Ecology. Jena, Germany. (*virtual*)
**2025** – Plenary Design, Innovation, and Governance (DIG) Talk at the Greater Everglades Ecosystem Restoration (GEER) Conference. (View this TED talk-style plenary at https://youtu.be/IpzZyoECaek)
**2025** – Ecological Society of America Annual Conference. Baltimore, MD. Invited Symposium Global Change Effects on Microbiomes and Plant Microbial Interactions.
**2025** – Annual International "CANVAS" Meeting. Invited talk in the Soil Science Society of America's (SSSA) Soil Biology and Biochemistry Symposium: "Using Network Analysis in Soil Biology: Understanding the Do's and Don'ts"
**2025** – Canadian Society for Ecology and Evolution. Sherbrooke, Quebec, Canada. (*Afkhami invited talk on microbiome-plant interactions in the anthropocene; passed to graduate student Amanda Rawstern due scheduling conflict*)
**2025** – Canadian Society for Ecology and Evolution. Sherbrooke, Quebec, Canada. (*Afkhami invited talk on foliar microbiomes and stress; passed to graduate student Vicki Li due scheduling conflict*)
**2025** – NSFC-NSF Symposium on "Impacts of heritable plant-fungus symbiosis on phylogenetic, genetic and functional diversity" Lanzhou University, Lanzhou, China. (*canceled due to travel advisory*)
**2025** – Phyllosphere 2025 Conference at the Okinawa Institute of Science and Technology Graduate University in Okinawa, Japan (*declined due to scheduling conflicts*)
**2024** – Max Planck Institute for Chemical Ecology. Jena, Germany. (*virtual*)
**2024** – Tulane University, New Orleans, LA.
**2024** – University of California, Berkeley, Berkeley, CA.
**2024** – University of Michigan, Ann Arbor, MI.
**2024** – Swedish University of Agricultural Sciences, Uppsala, Sweden.
**2024** – Invited additional presentation on "Land use change effects on microbial biodiversity and ecosystem function: An integrative, multiscale perspective" at Swedish University of Agricultural Sciences, Uppsala, Sweden.
**2023** – The European Federation of Biotechnology's Microbial Stress Conference Invited Keynote Speaker in Vienna, Austria.
**2023** – Mycological Society of America (MSA) Conference Symposium on Microbial Networks *(Afkhami invited talk; passed to graduate student D. Hernandez*).
**2023** – Poisonous Plants Meeting. Invited talk on endophytes. USDA Poisonous Plant Lab, Logan, UT.
**2023** – Ecological Society of America (ESA) Meeting. Organized session on "Soil microbiota and post-fire community recovery". Portland, OR.
**2023** – Rice University. Biology Department Seminar Series. Houston, TX.
**2023** – University of Georgia. Plant Biology Department Seminar Series. Athens, GA.
**2023** – Everglades Loxahatchee Impoundment Landscape Assessment Meeting.
**2022 --** University of California, Santa Cruz. Department of Ecology and Evolutionary Biology Departmental Seminar Series. Santa Cruz, CA.
**2022** – Gordon Conference on Cellular and Molecular Fungal Biology. Symposium, Holderness, NH.
**2022** – Joint Canadian Society of Ecology and Evolution and Ecological Society of America Meeting. Organized session on "The movement ecology of mutualism" Montreal, Quebec, Canada *(Afkhami invited talk; passed to graduate student K. Kiesewetter)*
**2022** – Everglades Loxahatchee Impoundment Landscape Assessment Meeting.
**2021** – World Microbe Forum, Session on 'Microbial Symbionts Driving Diversity and Composition of their Host Communities'.
**2021** – University of California, Davis. Ecology and Evolutionary Biology Seminar Series.
**2021** – University of Miami. Department of Biology External Seminar Series.
**2021** – Greater Everglades Ecosystem Restoration Conference Virtual Symposium.
**2021** – University of Wyoming. Department of Botany Seminar Series.
**2021** – Keynote Speaker for Fairchild Tropical Botanic Garden Graduate Student Symposium.
**2020** – Arbor Day Public Presentation for Gifford Arboretum, Miami, FL.

**2020** – American Society for Microbiology Microbe 2020 Meeting, Plenary Session on 'Microbial Symbionts Driving Diversity and Composition of their Host Communities', Chicago, IL (*cancelled due to coronavirus*)
**2020** – Ecological Society of America. Organized Session: Mutualists as Community Architects. (*virtual due to coronavirus*)
**2020** – Gordon Conference on Cellular and Molecular Fungal Biology. Session on "Fungi in the Microbiome and Complex Communities", Holderness, NH (*cancelled due to coronavirus*)
**2020** – Seminar Series at Indiana University, Bloomington Indiana (*cancelled due to coronavirus*)
**2020** – World Biodiversity Forum, Thematic session on Mutualism and Biodiversity, Davos, Switzerland
**2020** – Everglades Loxahatchee Impoundment Landscape Assessment Meeting
**2020** – American Society of Naturalists' Symposium on 'Predicting population persistence and coexistence in the Anthropocene', Asilomar, CA
**2020** – American Society of Naturalists' Presidential Debate on 'Can you study natural history in the Anthropocene?', Asilomar, CA
**2019** – Florida Native Plant Society Public Lecture Series
**2019** – Ecological Society of America. Organized Session on Nitrogen Fixation, Louisville, KY
**2019** – Ecological Society of America. Organized Session on Bringing a Trait-Based Approach to Plant-Fungal Interactions, Louisville, KY *(Afkhami invited talk; passed to graduate student D. Hernandez)*
**2019** – Greater Everglades Ecosystem Restoration Conference, Coral Springs, FL
**2019** – Virginia Polytechnic Institute, Blackburg, VA
**2019** – Assoc. for Tropical Biology and Conservation Symposium, Antananarivo, Madagascar (*Declined*)
**2018** – 'Ecology & evolution of antagonistic & mutualistic interactions' International CRC Symposium, Germany *(Gave symposium seminar and served on external advising panel for new research center)*
**2018** – International Microbial Genomes Conference, Lake Arrowhead, California
**2018** – University of Florida's Tropical Research and Education Center
**2018** – Computer Science Department Seminar Series, University of Miami
**2018** – Plant Biologists of South Florida, Key Largo
**2018** – John C. Gifford Arboretum Public Lecture Series
**2017** – Max Planck Institute Workshop of Mutualism and Economics Plenary Speaker. Germany
**2017** – Ecological Society of America. Organized Session: Scaling up Mutualisms. Portland, OR
**2017** – Gordon Conference on Microbial Population Biology, Andover, NH
**2017** – University of Central Florida, Orlando, FL
**2017** – Archbold Biological Research Station's Distinguished Scientist Series, Venus, FL
**2016** – Florida International University, Miami, FL
**2016** – University of Miami, Miami, FL
**2016** – National Center for Ecological Analysis and Synthesis, Santa Barbara, CA
**2015** – Cornell University. Ithaca, NY
**2015** – University of Rochester. Rochester, NY
**2015** – Gordon Conference on Ecological and Evolutionary Genomics. Biddeford, MN
**2015** – Michigan State University. East Lansing, MI
**2015** – Yale University. New Haven, CT
**2015** – University of Kentucky. Lexington, KY
**2015** – Iowa State University. Ames, IA
**2015** – Purdue University. West Lafayette, IN
**2015** – University of Tennessee. Knoxville, KY
**2015** – Utah State University. Logan, UT
**2015** – University of Oklahoma. Norman, OK
**2015** – University of California LA. Los Angeles, CA
**2015** – University of Miami. Miami, FL
**2014** – Dartmouth University. Hanover, NH
**2014** – Oregon State University. Corvallis, OR
**2014** – University of Wisconsin, Madison. Madison, WI
**2014** – York University. Ontario, Canada
**2014** – National Science Foundation Plant Genomics Meeting. Arlington, VA
**2014** – University of Toronto, *St. George.* Ontario, Canada.
**2014** – University of Toronto, Mississauga. Ontario, Canada
**2013** – Center for Population Biology, University of California, Davis. Davis, CA
**2013** – Dept. of Plant Pathology, University of California, Davis. Davis, CA

**2012** – Mathias Symposium. Bodega Bay, CA
**2007** – Rice University. Houston, TX
**2006** – Syracuse University. Syracuse, NY

## Select Other Talks *(Total = 17)*

**2022** – 6th North American Congress for Conservation Biology, Reno, NV
**2019** – Sixth Annual Evolutionary Demography Society Meeting, Coral Gables, FL
**2018** – Pine Rockland & Tropical Botany Conference, Fairchild Botanical Gardens
**2018** – Ecological Society of America. New Orleans, LA
**2016** – Ecological Society of America. Fort Lauderdale, FL.
**2015** – Ecological Society of America. Baltimore, MD
**2014** – Ecological Society of America. Sacramento, CA
**2014** – Canadian Society for Ecology and Evolution's Genomes to Biomes. Quebec, Canada
**2012** – Symbiosis Meeting. Yosemite National Park, CA
**2012** – Ecological Society of America. Portland, OR
**2012** – International Symposium on the Molecular Breeding of Forage and Turf. Salt Lake, UT (c*oauthor*)
**2011** – Ecological Society of America. Austin, TX
**2010** – Ecological Society of America. Pittsburgh, PA
**2010** – International Symposium on Fungal Endophyte of Grasses (ISFEG) – Mycological Society of America (MSA) Joint Meeting. Lexington, KY. (*Oral and 2 Poster Presentations*)
**2009** – Ecological Society of America. Albuquerque, NM
**2007** – Gordon Conference on plant-herbivore interactions. Ventura, CA (*Poster*)
**2007** – Ecological Society of America – Society for Ecological Restoration Conference. San Jose, CA (*Poster*)

## Teaching and Mentoring

**Current Courses** –
Ecology (BIL 330; 80-100 students/class; annually in Fall)
Ecological Lab (BIL 331; ~48 students/class; annually in Fall)
HHMI Evolution and Biodiversity Laboratory (BIL 163; ~48 students/class; annually in Spring)
Advanced Biological Writing (BIL 485/675 and 480; graduate/undergraduate; 13 students in Spring 2021)
Biology Graduate Core II (BIL 613, Spring 2022)
Projects in Biology (BIL 495-497, Fall and Spring)
Senior Thesis (BIL 495-497, Fall and Spring)
Laboratory Seminar Meeting (BIL 610, Fall and Spring)
Doctoral Dissertation (BIL 830, Fall and Spring)

**Guest Lectures/Presentations:**
Evolutionary Ecology at Amherst College (Spring 2023)
ECS 377: Topics in Environmental Economics and Development (Fall 2021)
BIL 330: Ecology (Spring 2021)
BIL 149: First Year Information in Biology Major (Fall 2020)
FNS 190: Being a Scientists (Fall 2016)

**Pedagogical and Classroom Preparedness Workshops:**
Foundational Introduction to Online Teaching. 2020.
Classroom Training - Beginner's Guide. 2020.
Intermediate Video Conference Tools for Blackboard. 2020.
Intermediate Video Conference Tools for Zoom. 2020.
Advanced Blackboard Tools for Teaching and Learning. 2020.
The Power of Online Teaching, Advanced. 2020.

**Graduate Student Dissertation Committee Service (46 TOTAL, 16 CURRENT)** –
**PhD program unless otherwise noted*

*UM Biology Students:*

Nuwanthi Deema Abayawardena (*Wikramanayake, 2023-2024*)
Brianna Almeida *(2017-2023)*
Lina Aragón (*Feeley lab, 2022-current)*
Nairuti Bhatt (*Bracko lab, M.S.; 2023-2025)*
Catherine Bravo (*Feeley lab; 2017-2021*)
Jordan Busch (*M.S. program; 2021-2022)*
Lucas Javier Carbajal (*2025-current*)
Stephanie Clements (*Searcy lab; 2016-2022*)
Belén Fadrique (*Feeley lab; 2017-2020*)
Kathryn Forcone (*Silveira lab; 2020-2021)*
Gabriela Garcia Reynaga (*Feeley lab, 2025-2026*)
Damian Hernandez (*2017-2023*)
Hunter Howell (*Searcy lab; 2017-2023*)
Edward James (*Wilson lab; 2016-2022*)
Dawn Kaufman (*Quimbayo lab, 2025-current*)
Anne Katula (*2024-current*)
Kasey Kiesewetter (*2016-2023*)
Alex Kula (*van Dyken lab; 2016-2023*)
Alyssa Kullberg (*Feeley lab; 2019-2024*)
Vicki Li (2023-*current*)
Teresa Martinez (2023-*current*)
Caitlin Mothes (*Searcy lab; 2016-2021)*
Srishti Mullick (*Collins lab; 2024-current)*
Blessing Mutiti (*2017-2018*)
Aiden O'Brien (*Searcy lab; 2023-current*)
Giovanna Ortiz *(2020–2021)*
Amanda Rawstern (*2020-2025)*
Andrew Reeve (*Whitlock lab; 2016-2023)*
Alma Reyes (*2023-current*)
Julia Saltzman (*2025-current*)
Alexander Sherer (2025-*current*)
Yuri Souza *(Zanne lab; 2023-2025)*
Olga Tserej (*Feeley lab; 2020-2024)*
Ana Vargas (*Master's Committee; 2023-2023)*
Natascha Varona (*Silveira lab, 2020-2023*)
Mikaela Vlach (*Rieger lab, 2024-2025)*
Bailey Wallace (*Silveira lab, 2023-current*)
Linhao Xu (*DeAngelis lab, 2022-2025)*
Abbey Yatsko (*Zanne lab, 2021-2025)*

*Students from Other Campuses/Institutions:*

Anthony Bonacolta (*RMAS Marine Campus, del Campo lab, 2020-2024)*
Susannah Halbrook (*Tulane University, Farrer lab, 2021-2024)*
Sofia Ocampo (*University of South Florida, Zalamea lab, MS program, 2024-current)*
Ren Rooney (*Northern Michigan University, Potticary lab, 2025-current)*
Rosario Vidales (*Florida International University, Ross lab, 2018-2025*)
Elizabeth Whitson (*RMAS Marine Campus, del Campo lab, MS program, 2020-2022)*
Emily Yeager (*Abess Center at University of Miami, 2025-current)*

**Graduate Students Mentees** –

**Kasey Kiesewetter** (PhD, 2016-2023; total grant funding=***$220,182***)

*Current Position:* Postdoctoral Fellow at University of Waikato in New Zealand.

*Awarded*: Dissertation Year Fellowship Award, 2022, **$33,067**
*Awarded*: National Science Foundation, Graduate Student Research Fellowship, 2018, **$138,000**
*Awarded*: Dean's Summer Research Fellowship, 2018 **$5,000**
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2016, **$35,000**
*Awarded:* Ecological Society of America Meeting Volunteer Award, 2022, **$215**
*Awarded:* Kushlan Graduate Research Award, 2021, **$1,500**
*Awarded:* Best Poster Award at the Mycological Society for America's 2020 Meeting, 2020, **$200**
*Awarded:* Constantine J. Alexopoulos Travel Award, Mycological Society for America, 2020, **$750**
*Awarded*: Mycological Society of America's Forest Fungal Ecology Research Award, 2019, **$1,250**
*Awarded*: FLEPPC Julia Morton Invasive Plant Research Grant, 2019, **$2,500**
*Awarded:* Florida Native Plant Society Endowment Research Grant, 2019, **$1,500**
*Awarded:* Kushlan Graduate Research Award, 2019, **$800**
*Awarded*: William H. Evoy Research Award, 2017, **$400**

**Brianna Almeida** (PhD, 2017-2023; total grant funding=***$480,996***)

*Current Position:* Tri-Institutional Molecular Mycology Postdoctoral Fellow at NCSU.

*Awarded:* Tri-Institutional Molecular Mycology Postdoctoral Fellowship from the NIH, 2022, **$168,696**
*Awarded*: National Science Foundation, Graduate Student Research Fellowship, 2019, **$138,000**
*Awarded*: University Fellowship Award, 2017, **$120,000**
*Awarded*: McKnight Doctoral Fellowship Award, 2017, **$51,000**
*Awarded*: McKnight Doctoral Fellowship Award UM Supplement, 2017
*Awarded:* Best Oral Presentation Award at the Mycological Society for America Meeting, 2022, **$200**

*Awarded:* Microbial Ecology Section Travel Award, Ecological Society of America Meeting, 2022, **$500**
*Awarded:* Kushlan Graduate Research Award, 2021, **$1,350**
*Awarded:* Health and Life Sciences Best Poster Award, UM Graduate Student and Postdoctoral Research Symposium, 2020, **$250**
*Awarded:* Richard P. Korf Travel Award, Mycological Society of America, 2020, **$750**
*Awarded:* Interdisciplinary and Innovative Research Award, 2019, **$250**

**Damian Hernandez** (PhD, 2017-2023; postdoctoral fellow, 2023-2024; total grant funding=***$523,924***)

*Current Position:* National Science Foundational Postdoctoral Fellow at University of Toronto and Vrije Universiteit Amsterdam
*Awarded*: Postdoctoral Fellowship in Biology, National Science Foundation, 2024, **$210,000**
*Awarded:* United States Department of Agriculture's NIFA (National Institute of Food and Agriculture) Predoctoral Fellowship and Grant, 2021, **$108,675**
*Awarded*: Dissertation Year Fellowship Award, 2021, **$33,067**
*Awarded*: Dean's Summer Research Fellowship, 2020 **$5,000**
*Awarded*: Maytag Fellowship Award, 2017, **$165,000**
*Awarded: ISME Journal* 2021 Best Paper Award Honorable Mention, 2021
*Awarded:* Best 2021 UM Graduate Student Paper Award, 2022
*Awarded*: 2nd Place Oral Presentation at UM-Fairchild Tropical Botanical Gardens Symposium, 2022
*Awarded:* Vasiloudes Family Molecular Research Fund, 2021, **$500**
*Awarded:* Harry Morton Fitzpatrick Travel Award, Mycological Society of America, 2020, **$750**.
*Awarded*: Best Poster Presentation at UM-Fairchild Tropical Botanical Gardens Symposium, 2020, **$100**
*Awarded*: Salomon Bartnicki-Garcia Award for Molecular Biology, Mycological Soc. America, 2020, **$500**
*Awarded*: William H. Evoy Research Award, 2019, **$250**
*Awarded*: Best Presentation Award at UM-Fairchild Tropical Botanical Gardens Symposium, 2018, **$100**

**Anne Katula** (PhD, 2024-current, total grant funding=***$498,540***)

*Awarded*: Department of Defense SMART Fellowship, 2024-2029, **$465,390**
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2024, **$31,950**
*Awarded*: Christiane Tyson Endowed Research Award, 2025, **$1,200**

**Amanda Rawstern** (PhD, 2020-2025; total grant funding=***$194,835***)

*Current Position:* Postdoctoral Fellow at University of Pittsburg.
*Awarded:* United States Department of Agriculture's NIFA (National Institute of Food and Agriculture) Predoctoral Fellowship and Grant, 2023, **$147,395**
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2020, **$33,625**
*Awarded:* Science Made Sensible Fellowship, 2021-2025, **$8,000**
*Awarded:* Ecological Society of America Trailblazing Student Publication Award, 2025, **$300**
*Awarded*: Second Place Best Oral Presentation Award at UM-Fairchild Tropical Botanical Gardens Symposium, 2025, **$50**
*Awarded*: First Place Best Oral Presentation Award at UM-Fairchild Tropical Botanical Gardens Symposium, 2024, **$100**
*Awarded*: Cross Lab Collaborative Research Award, Department of Biology, 2024, **$500**
*Awarded:* Mycological Society of America Research Grant, 2023, **$2000**
*Awarded:* Mycological Society of America Orson and Hope Miller Travel Award, 2023, **$750**
*Awarded:* Kushlan Graduate Research Award, 2023, **$500**
*Awarded*: AICHE Travel Award, International Conference on Plant Synthetic Biology, 2022, **$615**
*Awarded:* Kushlan Graduate Research Award, 2022, **$500**
*Awarded:* Vasiloudes Family Molecular Research Fund, 2021, **$500**

**Giovanna Ortiz** (PhD, 2020-2021; total grant funding=***$84,625***)

*Current Position:* Science teacher in Orlando, Florida.
*mynews13.com/fl/orlando/news/2025/10/20/orlando-science-teacher-cultivates-students-curiosity-*
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2020, **$33,625**
*Awarded*: McKnight Doctoral Fellowship Award, 2020, **$51,000**
*Awarded*: McKnight Doctoral Fellowship Award UM Supplement, 2020

*Awarded*: Second Place Best Poster Presentation Award at UM-Fairchild Tropical Botanical Gardens Symposium, 2021

**Alma Reyes** (PhD, 2023-current; total grant funding=***$32,850***)
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2022, **$30,850**
*Awarded:* William H. Evoy Graduate Research Award, 2024, **$500**
*Awarded:* Vasiloudes Family Molecular Biology Research Award, 2024, **$500**
*Awarded:* William H. Evoy Graduate Research Award, 2025, **$500**
*Awarded:* Vasiloudes Family Molecular Biology Research Award, 2025, **$500**

**Teresa Martinez** (PhD, 2023-current; *on leave 2024-2025 academic year,* total grant funding=***$31,950***)
*Awarded*: Lisa D. Anness Fellowship in Tropical Plant Biology, 2023, **$31,950**
*Awarded*: National Science Foundation Graduate Research Fellowship Honorable Mention, 2025

**Vicki Li** (PhD, 2023-current; total grant funding=***$2,525***)
*Awarded*: National Science Foundation Graduate Research Fellowship Honorable Mention, 2025
*Awarded*: Third Place Best Oral Presentation Award at UM-Fairchild Tropical Botanical Gardens Symposium, 2025, $25
*Awarded*: Christiane Tyson Endowed Research Award, 2025, **$1500**
*Awarded:* Vasiloudes Family Molecular Biology Research Award, 2025, **$500**
*Awarded:* UM GAFAC Funding, 2025, **$500**

**Lucas Javier Carbajal** (PhD, fall 2025-current total grant funding=**$265,800**)
*Awarded*: Simons Foundation Graduate Fellowship in Ecology and Evolution, 2025, **$265,800**

**Postdoctoral Researcher Mentees –**

**Dr. Allie (Alexandria) Igwe** (NSF Postdoctoral Fellow in Biology; October 2020-August 2024; total=***$434,500***)
*Current Position: Tenure track faculty job at Virginia Tech (started Fall 2024).*
*Awarded:* United States Department of Agriculture's NIFA (National Institute of Food and Agriculture) Postdoctoral Fellowship and Grant, 2023, **$225,000**
*Awarded*: Postdoctoral Fellowship in Biology, National Science Foundation, 2020, **$207,000.**
*Awarded:* Science for Social Equity Fellow, Run by Fair Count (founded by Stacey Abrams) & Dr. Jeanine Abrams McLean, 2021, **$2,500**

**Dr. Joshua Fowler** (Postdoctoral Researcher; May 2023-April 2025; total=***$185,000***)
*Current Position: NSF Postdoctoral Researcher at University of Colorado (started April 2024).*
*Awarded:* David S. Maehr Florida Wildlife Corridor Applied Science Fellowship/Grant, 2023, **$25,000**.
*Awarded:* Postdoctoral Fellowship in Biology, National Science Foundation, 2024, **$160,000.**

**Eleanor Hay** (Postdoctoral Researcher, March 2024-current)

**Damian Hernandez** (PhD 2017-2023, postdoctoral fellow 2023-2024; total grant funding=***$523,924***)
*Current Position:* National Science Foundational Postdoctoral Fellow at University of Toronto and Vrije Universiteit Amsterdam.
*Awarded*: See Damian's list of awards/funding under "graduate student" trainees; total = $523,924.

**Caitlin Mothes** (Postdoctoral Researcher; Summer 2021)
*Current Position:* Geospatial Centroid Research and Program Coordinator, Colorado State University

**Dan Revillini** (Postdoctoral Researcher; February 2019-July 2021; total=***$1,500***)
*Current Position:* Marie Sklodowska Curie Postdoctoral Fellow, Instituto de Recursos Naturales y Agrobiología de Sevilla.
*Awarded*: Endowment Research Grant, The Florida Native Plant Society, 2020, **$1,500**

**Suresh Subedi** (Postdoctoral Researcher; Oct 2018-July 2019)
*Current Position:* Assistant Professor, Norfolk State University

**Aaron David** (Postdoctoral Researcher; 2016-2018; total=***$5,000***)
*Current Position:* Director of the Plant Lab (Lab PI), Archbold Biological Station

*2018-2021 position:* Research Ecologist at USDA ARS Invasive Research Laboratory, Ft. Lauderdale
*Awarded*: Forest Fungal Ecology Research Award, Mycological Society of America, **$5000**

**Departmental Faculty Mentoring –**

**Dr. Cynthia Silveira** (Assistant Professor, 2020-2024)
**Dr. Neil Rosser** (Assistant Professor, 2025-current)

**Post-Baccalaureate / Visiting Scientist Mentees –**

**Gwendolyn Pohlmann** (Post-baccalaureate, NSF Research Experience for Post-baccalaureates, 2024)
*Current Position*: Started PhD at University of California, Santa Barbara in fall of 2024

**Elan Tran** (Post-baccalaureate, NSF Research Experience for Post-baccalaureates, 2021-2022)
*Current Position*: Started PhD at University of California, Berkeley in fall of 2022
*Awarded:* NSF Research Experience for Post-baccalaureates, 2021, **$59,794**
*Awarded:* National Science Foundation, Graduate Student Research Fellowship, 2022, **$138,000**

**Kailani Acosta** (Post-baccalaureate; 2017-2018) – Started PhD at Columbia University in fall 2018

**Khum Thapa Magar** (Post-masters, 2016-2017) – PhD completed at Colorado State University (2017-2021)

**Catalina Aristizabal** (Assoc. Prof., Miami Dade College, HHMI Summer Program 2018) – Hosted in my lab for curriculum development for new inquiry-based HHMI lab on plant-microbe interactions

**Undergraduate Students Mentees (>80 total)** – *** denotes student went on to grad school in ecology/evolution/related field (* denotes is applying to graduate school)*

**University of Miami (53 students):** Diego Aguirre Aguilar, Preston Allen** (papers in *New Phytologist* and *Ecology*), Adriana Bevilacqua, Adriana Bolanos, Brooke Boyd, Jordan Busch, Lucas Javier Carbajal* (paper in *Plant, Cell and Environment, 2025*), Jillian Cary*, Alexandra Cassis, Yuhang Chen**, Anastasia Chiarini, Colleen Cook, Rachel Delarosa, Kamran Djayed, Christopher Dorizas, Kira Fullerton, Christian Fulmer, Esequiel Gonzales, William Goodman, Zachary Graham, Gramme Grubbs, Cameron Herter**, Veronica Jiang, Shivam Khosla, Kyle Kirejevas**, Talia Lall, Mariana Lopez Del Castillo, Kelly Mayol-Graciano, Zoe Meador, Osmaray Morales Casano**, Ka Lam Nguyen**, Kate Novakovic, Jordan Oria, Sathvik Palakurty** (*Molecular Ecology* first author paper; summer programs at Stanford and Wash U, **Best Undergraduate Honors Thesis**, Biology Undergraduate of the Year), Adrian Parra, Emily Parra, Gwendolyn Poleman** (CAS Summer Research Program for Minorities, paper in revision at *Ecology Letters*; paper in prep), Yazmin Quevedo*, Marissa Rao, Jordan Reid**, Andrea Riveria**, Matthew Ryan, Tyler Slade (paper in *Plant, Cell and Environment, 2025*), Mackenzie Smyth, Mackland Steele, Diego Torres, Elan Tran** (NSF REPs Awardee, NSF GRFP Awardee, paper in *New Phytologist*), Carolina Vigo (paper in *New Phytologist*), Christina Villar, Alyssa Wood, Lucy Xu, Tim Yassa

**Miami Dade College (2 students)**
Dayana Gari (HHMI program), Leydiana Otano (MDC Bridge program; paper in *Journal of Ecology*)

**University of Toronto (9 students)**: Gloria Cho** (NSERC Undergrad Research Support Award, ~$6,000), Najma Aryan**, Liliana Corak**, Michelle Kwan, Hasom Le**, Arleen Matinca, Fiona So, Mia Song**, Teresa Tufts

**UC Davis (26 students)**: Sharleen Agvateesiri, Aaron Alokozai, Mitchell Bamford**, Audrey Duong, Desalegn Ejigu*, Dai Fukumoto, Naisha Gaines, Kyle Garrone (SUREE Intern), Lindsey Hack**, Sergei Horowitz, Michael Hower, Caprice Lee** (Center for Biophotonics Science & Tech Symposium's Best Oral Presentation, 2011), Christopher Liao, Kristina Mardinian**, Megan Mateo**, Kristin Matsumoto, Melissa Moore**, Dayna Napolillo, Scott Peacock, Achille Peiris**, Tran Phan, Grant Reed, Nicholas Sou, Thuy Tran**, Kathryn Weldon, Travis Winter

**Rice University (5 students):** Olivia Bartlett**, Carina Baskett**, Alex Gorischek (Thesis published in *American Naturalist*), John Land, William Valencia (Paul Wheeler and Joy Gooch Research Award, $200)

**Other Universities (3 Students):** Aparajita Chandrasekhar** (U of Rochester), Kino Maravillas** (Emory University), Brittany Stallworth** (Howard University, Evolution & Ecology Graduate Admissions Pathway)

**Young Scholars High School Students:** Nicholas Meyer, Jorge Vargas

## Professional Service and Outreach

**2025** – Department of Biology Undergraduate Curriculum Committee
**2025** – External Examiner for PhD Graduate Student Exam at the Okinawa Institute of Science and Technology (OIST). Okinawa, Japan.
**2025** – National Academies of Sciences, Engineering, and Medicine's CISRERP (Committee on Independent Scientific Review of Everglades Restoration Progress) -- Invitation to participate in the 2026 Biennial Review of Everglades Restoration's Field Trip to Everglades and Discussion of Next Steps in Restoration Planning
**2025** – Search Chair, Search for Assistant or Associate Professor of Microbial Genetics
**2025** – University of Miami Graduate Council, Elected Representative for the College of Arts and Science
**2025** – Director of the University of Miami Greenhouse
**2025** – Director of the University of Miami's BioReach Program (joint with C. Searcy)
**2025** – Tenured Faculty Representative to the Biology Department's Chair's Advisory Committee
**2025** – Faculty Advisor for Biology Graduate Student Organization (BGSO), UM Department of Biology
**2025** – Everglades Management: Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2025** – Chair of the American Society of Naturalists' Symposium Committee
**2025** – Diversity Equity and Inclusion (DEI) Committee Member, Department of Biology, University of Miami
**2025** – University of Miami Phi Beta Kappa Committee
**2025** – Garden Club Leader/Organizer for K-5 program, Coral Reef Elementary School
**2024** – Chair of the Search for Assistant or Associate Professor of Microbial Genetics
**2024** – RECOVER CEPP Workshop for Everglades Tree Island Management
**2024** – Invited PhD Defense "Opponent" in Uppsala Sweden at the Swedish University of Agricultural Sciences
**2024** – Fairchild Graduate Student Symposium Judge
**2024** – Leader/Organizer of Annual Biology Departmental Field Trip to Everglades during Graduate Recruitment (joint with C. Searcy)
**2024** – Maytag Fellowship Award Committee, University of Miami
**2024** – Advanced Program for Integrated Science and Math (PRISM) Honors program Restructuring Committee
**2024** – University of Miami Graduate Council, Elected Representative for the College of Arts and Science
**2024** – Director of the University of Miami Greenhouse
**2024** – Director of the University of Miami's BioReach Program (joint with C. Searcy)
**2024** – Tenured Faculty Representative to the Biology Department's Chair's Advisory Committee
**2024** – Faculty Advisor for Biology Graduate Student Organization (BGSO), UM Department of Biology
**2024** – Everglades Management: Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2024** – Chair of the American Society of Naturalists' Symposium Committee
**2024** – Diversity Equity and Inclusion (DEI) Committee Member, Department of Biology, University of Miami
**2024** – University of Miami Phi Beta Kappa Committee
**2024** – Junior Faculty Mentoring Committee, UM Department of Biology
**2024** – Department of Biology Faculty Search Committee for Cell and Molecular Biology Position
**2024** – Garden Club Leader/Organizer for K-5 program, Coral Reef Elementary School
**2023** – University of Miami Graduate Council, Elected Representative for the College of Arts and Science
**2023** – Director of the University of Miami Greenhouse
**2023** – Director of the University of Miami's BioReach Program (joint with C. Searcy)
**2023** – Tenured Faculty Representative to the Biology Department's Chair's Advisory Committee
**2023** – Faculty Advisor for Biology Graduate Student Organization (BGSO), UM Department of Biology
**2023** – Everglades Management: Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2023** – American Society of Naturalists' Symposium Committee
**2023** – Diversity Equity and Inclusion (DEI) Committee Member, Department of Biology, University of Miami
**2023** – University of Miami Phi Beta Kappa Committee
**2023** – Junior Faculty Mentoring Committee, UM Department of Biology
**2023** – Department of Biology Faculty Search Committee for Cell and Molecular Biology Position
**2023** – Leader/Organizer of Annual Biology Departmental Field Trip to Everglades during Graduate Recruitment (joint with C. Searcy)
**2023** – Garden Club Leader/Organizer for K-5 program, Coral Reef Elementary School
**2023** – Connect-to-Protect Garden Committee, Coral Reef Elementary School
**2023** – Maytag Fellowship Award Committee
**2023** – Presentation to the TriBeta Society on Undergraduate Research
**2023** – Invited Guest Speaker for Undergraduate Course on Evolutionary Ecology at Amherst College
**2022** – RECOVER CEPP-N Workshop for Everglades Management
As a result of Afkhami lab research, recommendations to consider microbiomes during backfilling of the

Miami canal were included; to my knowledge, this is the first time microbiomes are part of Everglades restoration planning.

**2022** – Department of Biology Undergraduate Curriculum Committee
**2022** – Director of the University of Miami Greenhouse
**2022** – Director of the University of Miami's BioReach Program (joint with C. Searcy)
**2022** – American Society of Naturalists' Symposium Committee
**2022** – Faculty Advisor for Biology Graduate Student Organization (BGSO), UM Department of Biology
**2022** – Diversity Equity and Inclusion (DEI) Committee, Department of Biology, University of Miami
**2022** – University of Miami Phi Beta Kappa Committee
**2022** – Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2021** – American Society of Naturalists' Symposium Committee
**2021** – Faculty Advisor for Biology Graduate Student Organization (BGSO)
**2021** – Diversity Equity and Inclusion (DEI) Committee, Department of Biology, University of Miami
**2021** – Co-moderator for Greater Everglades Ecosystem Restoration conference symposium on 'Tree Island Ecology and Restoration: Lessons from the Loxahatchee Impoundment Landscape Assessment (LILA) Mesocosm'
**2021** – Department of Biology Advisory Committee for College of Arts and Sciences Faculty Cluster Search
**2021** – Faculty Advisor for the UM student-organized Online South Florida Regional High-school Science Bowl
**2021** – University of Miami Phi Beta Kappa Committee
**2021** – Department of Biology Undergraduate Curriculum Committee
**2021** – Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2021** – Chair of the UM Greenhouse Policies and Management Committee
**2021** – Co-Chair for University of Miami's BioReach Program
**2021 –** Guest Scientist for Bronstein Lab's Paper Discussion Group, University of Arizona
**2020** – NSF Graduate Research Fellowship Grant Writing Workshop Reviewer¸ Univ. of Miami's Graduate School
**2020** – Faculty Advisor for the UM student-organized Online South Florida Regional High-school Science Bowl
**2020** – Blavatnik Award for Young Scientists, Univ. of Miami Review Panel
**2020** – University of Miami Phi Beta Kappa Committee
**2020** – Department of Biology Undergraduate Curriculum Committee
**2020** – Department of Biology Advisory Committee for College of Arts and Sciences Faculty Cluster Search
**2020** – Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2020** – Department of Biology Faculty Search Committee (Cell and Molecular Biology Position)
**2019** – Evolutionary Demography Society Sixth Annual Meeting Organizing Committee Member (Jan 10-12, 2019)
**2019** – Department of Biology Faculty Search Committee (Ecology and Evolutionary Biology Position)
**2019** – Department of Biology Undergraduate Curriculum Committee
**2019** – Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2019** – University of Miami Phi Beta Kappa Committee
**2019** – Faculty Advisor for the UM student-organized South Florida Regional High-school Science Bowl
**2019** – Interviewed for 3 local publications about research on rare and imperiled Florida Scrub plants.
**2019** – HHMI Undergraduate Research Symposium Judge
**2019** – John C. Gifford Arboretum Advisory Committee
**2018** – Served on an external advisory panel for a Collaborative Research Centre (CRC) between Johannes Gutenberg Univ., Goethe Univ., Bik-F Senckenberg Institute, & the Technical University in Darmstadt
**2018** – University of Miami Arboretum and BioReach Outreach Program Co-organizer – *Our newly created program brings underrepresented minority elementary students to UM's campus for 4 hands-on science modules.*
**2018** – Session Presider Ecological Society of America Meeting Session on Mutualism and Facilitation
**2018** – Session Presider Lake Arrowhead Microbial Genomics Meeting Session on Genomics and Metagenomics
**2018** – Department of Biology Undergraduate Curriculum Committee
**2018** – Loxahatchee Impoundment Landscape Assessment Coordination Committee
**2018** – John C. Gifford Arboretum Advisory Committee
**2018** – University of Miami Phi Beta Kappa Committee
**2018** – Hurricane Preparedness and Recovery for Living Collections Workshop
**2018** – College of Art and Sciences Gifford Arboretum and Greenhouse Planning Committee
**2018** – Interviewed for *Inside Science* article on endophytes & for local article on collaborative Everglades research
**2017** – Organized Ecological Society of America Meeting Oral Presentation Session
**2017** – Department of Biology External Seminar Series Organizer
**2017** – Department of Biology Undergraduate Curriculum Committee
**2017** – Office of Undergrad Research Newsletter Contribution

**2017** – University of Miami Phi Beta Kappa Committee
**2017** – LILA (Loxahatchee Impoundment Landscape Assessment) 10-Year Planning for Everglades Committee
**2017** – University of Miami Arboretum and BioReach Program Outreach Days (co-organization and execution)
**2017** – John C. Gifford Arboretum Advisory Committee
**2017** – John C. Gifford Arboretum Newsletter Article Contribution
**2017** – University of Miami Arboretum and BioReach Outreach Program Development
**2017** – HHMI Undergraduate Research Symposium Judge
**2016** – Department of Biology External Seminar Series Organizer
**2016** – Microscopy Experience Outreach Module for Fourth-Graders Co-organizer
**2016** – Fairchild Graduate Student Symposium Judge
**2015** – Interviewed for an article on fungal endophytes in the popular magazine *Organic Gardening*.
**2014** – Panelist for "Careers and Research in Ecology & Evolution" Undergraduate Weekend Workshop
**2014** – Judge for Undergraduate Honors Thesis Research Award, University of Toronto
**2014** – Judge for Braun/Bell Award for Best Poster/Talk at ESA Conference
**2013** – IIASA Peccei and Mikhalevich Award Reviewer
**2013** – Graduate School Question/Answer Panel for Undergraduates
**2012** – Evolution and Ecology Faculty Search Graduate Student Panel Member
**2012** – Center for Population Biology Postdoctoral Search Graduate Student Panel Member
**2012** – Picnic Day Community Outreach Organizational Committee
**2012** – Graduate Student Recruitment Field Trip to Quail Ridge Reserve Organizer
**2012** – Evolution and Ecology Seminar Speaker Nominator/Host for Jennifer Rudgers
**2011** – Population Biology Graduate Group Admissions Committee
**2011** – Chancellor's Ambassador for University of California, Davis
**2011** – Center for Population Biology Workshop on Hierarchical Models Co-organizer
**2011** – Graduate Student Recruitment Field Trip to Quail Ridge Reserve Co-Organizer
**2011** – Kids into Discovering Science (KiDS) Field Trip (2011, 2012, 2013)
**2010** – Evol. and Ecology Seminar Speaker Nominator/Host for Judith Bronstein
**2009** – Symbiosis Discussion Group Co-organizer
**2009** – Quail Ridge Reserve Advisory Committee (2009-2011)
**2009** – Picnic Day Outreach: Native Plant Booth (2009, 2010, 2011, 2012)

**Editorial Positions:**

- **Associate Editor for *Ecology Letters*** (2023-current, Journal IF=11.3 during year invited; 5-Year IF=9.8)
- ***New Phytologist* Advisory Board** (2023-2026 term; Journal IF=10.3 during year invited; 5-Year IF=10.2)
- Select declined invitations in 2019-2023 from *Proceedings of the Royal Society B, Frontiers in Plant Science, Frontiers in Microbiology, The American Naturalist (2x), American Journal of Botany*
- Invitation from *Ecology Letters* to join editorial board in Oct 2018 (*Deferred until tenure*)

**Reviewing:**

- Domestic External Reviewer for the National Science Foundation (1. Dimensions of Biodiversity, 2. Population & Community Ecology, 3. CAREER grant Population & Community Ecology, 4. Mid-Career Advancement grant, 5. Ecosystem Science, 6. Systematics and Biodiversity Science, 7. Geobiology and Low-Temperature Geochemistry Programs), EPSCoR, and University of Miami Beyond the Book Grants
- International External Reviewer for Canada's NSERC, Israeli Science Foundation, Poland's National Science Centre, International Institute for Applied Systems Analysis's Peccei and Mikhalevich Award, and Vienna Science and Technology Fund's Vienna Research Groups for Young Investigators Program in "Environmental Systems Research"
- Journal Reviewer for *African J of Agriculture, American J of Botany, The American Naturalist (4), AOB Plants, Biological Invasions, BMC Biology (2), Coral Reefs (2), Ecography (2), Ecological Entomology, Ecological Monographs (3), Ecological Research, Ecology (8), Ecology Letters (8), Evolution (4), Frontiers in Plant Sciences, Fungal Ecology (4), Functional Ecology (2), ISME J, J of Ecology (5), J of Medicinal Plant Research, Molecular Ecology, Nature, Nature Communications (4), New Phytologist (13), Oecologica (4), Plant & Soil, Science (7), Trends in Ecology & Evolution (3)*

## Professional Societies and Workshops

**(A) Recent/Current Professional Societies and Organizations:**

- Ecological Society of America (ESA, 21 years)
- American Association for the Advancement of Science (AAAS, 2 years)
- American Society for Microbiology (ASM, 1 year)
- American Society of Naturalists (ASN, 1 year)
- Botanical Society of America (BSA, 3 years)
- Mycological Society of America (MSA, 4 years)
- Women In Tenure Track Years (WITTY, 3 years)
- Abess Center for Ecosystem Science and Policy Affiliate (9 years)
- Institute for Theoretical and Mathematical Ecology Affiliate (4 years)

**(B) Working Groups:**

- **Banff International Research Station for Mathematical Innovation and Discovery Workshop** – Invited for working group on "New Mathematical Theory in Eco-Evolutionary Modelling of Host-Symbiont Communities" organized by Maria Martignoni (Georgia Institute of Technology), Jimmy Garnier (CNRS), Rebecca Tyson (University of British Columbia), Joan Roughgarden (University of Hawaii) in Winter 2026
- **Environmental Data Science Innovation and Inclusion Lab (ESIIL, New NSF Center)** -- Invited for working group on fungal dispersal by Bala Chaudhary (Dartmouth University) and Kabir Peay (Stanford University); funding for 3 meeting in 2024-2026
- **National Center for Ecological Analysis & Synthesis (NCEAS)** – National Science Foundation-supported working group on “Forming an integrated understanding of function across fungi” (2016-2019)
- **Quantifying Niche Breadth Working Group**, Toronto, Canada (2015-2017)
- **National Center for Ecological Analysis & Synthesis–** Cheating in Mutualisms Working Group (2012-2015)

**(C) Workshops/Training Attended:** Environmental Data Science Innovation & Inclusion Lab (ESIIL)’s Voices in Concert: Cultural Intelligence, the Art of Team Science, and Community Skills (2024), ESIIL’s Feet on the ground: Collaborating with Other People Using Cloud Computing (2024), CPR Training (2023)**,** Active Shooter Training (2023), Inclusivity Training Workshop (2020), Grant Writing Workshop (2018), Software Carpentry Workshop (2014), Python Methods Workshop (2014), AMF Methods Workshop (2013), Max Planck Institute’s Integral Projection Modeling Course (2012), ESA’s Integral Projection Modeling Workshop (2012), Center for Population Biology Workshops on: Phylogenetics Methods (2013), Hierarchical Models (2011), R Tools (2008), and Coevolution (2008)