

MARK ALAN ANTHONY

| University of Vienna | Center for Microbiology and Environmental Systems Science |
Division of Terrestrial Ecosystem Research | Djerassiplatz 1, 1030, Vienna, Austria | e-mail:
mark.anthony@univie.ac.at | mobile: +43 664 3939685|

Areas of research specialization: *microbial ecology, fungal ecology, global change biology, plant-microbe interactions, mycorrhizal ecology, soil ecology, genomics*

Research and personal website links:

<https://orcid.org/0000-0002-8350-6255>

https://scholar.google.com/citations?user=Wpz_0fIAAAAJ&hl=en

<https://sites.google.com/view/docmarkanthony>

EDUCATION & RECENT EXPERIENCES

Tenure-track Assistant Professor of Fungal Ecology
University of Vienna
January 8 – current
Vienna, Austria

Ambizione Fellow (team project leader)
October, 2022 – October, 2026
Swiss Federal Institute for Forest, Snow, and Landscape research (WSL)
Birmensdorf, Switzerland

Postdoctoral Researcher
June, 2019 – July 2022
ETH Zürich, Zürich, Switzerland

PhD, Natural Resources and Earth Systems Sciences
September, 2015 – April, 2019
The University of New Hampshire, Durham, NH, USA

Master of Science, Natural Resources
September, 2013 – December, 2015
The University of New Hampshire, Durham, NH, USA

Bachelor of Liberal Arts, Biology
September, 2008 – May, 2012
Hampshire College, Amherst, Massachusetts, USA

PUBLICATIONS

Y. Qingshui, H. Chenqi, **M.A. Anthony**...J. Fang. Decoupled responses of aboveground plants and soil biota to global change across the world's land ecosystems. *Science Advances* (in review).

A. Lopez, **M.A. Anthony**...A.L. Romero-Olivares. Dryland fungi are spatially heterogenous and resistant to global change drivers in the northern Chihuahuan Desert. *Ecology* (in review).

M.A. Knorr, A.R. Contosta, E.W. Morrison, T.J. Muratore, **M.A. Anthony**, Stoica, K.M. Geyer, M.J. Simpson, S.D. Frey. Unexpected soil carbon response to simultaneous warming and nitrogen enrichment. *Nature Ecology and Evolution* (in review).

G.R. Smith, J van den Hoogen...**M.A. Anthony**, *et al.*,. Global links between soil microbes and biogeochemical functions. *Cell* (in review).

M.A. Anthony, L. Tedersoo...C. Averill. Fungal community composition predicts forest carbon storage at a continental scale. (2024). *Nature Communications* (accepted).

M.A. Anthony, F.S. Bender, M. van der Heijden (2023). Enumerating soil biodiversity. *PNAS*. <https://doi.org/10.1073/pnas.2304663120>.

J. Stewart, T.E. Kiers, **M.A. Anthony**, A.H. Kiers. (2023). Supporting urban greenspace with microbial symbiosis. *Plants People Planet*. <https://doi.org/10.1002/ppp3.10403>.

B.W. Borgmann-Winter, R. Stephens, **M.A. Anthony**, S.D. Frey, R.J. Rowe. (2023). Wind and small mammals are complementary fungal dispersers. *Ecology*. <https://doi.org/10.1002/ecy.4039>.

H. Iven, T. Walker, **M.A. Anthony**. (2023). Biotic interactions are underestimated drivers of microbial carbon use efficiency. *Current Microbiology*. <https://doi.org/10.1007/s00284-022-02979-2>.

M.A. Anthony, A. Gessler. (2022). A call to characterize functional mycobiome responses to experimental climate change. *Soil Organisms*. <https://doi.org/10.25674/so94iss3id300>

C. Averill, **M.A. Anthony**, P. Baldrian, F. Finkbeiner, J.V.D. Hoogen, T. Kiers, P. Kohout, E. Hirt, G.R. Smith, T. Crowther. (2022). Defending Earth's terrestrial microbiome. *Nature Microbiology*. <https://doi.org/10.1038/s41564-022-01228-3>.

M.A. Anthony, I. Hordijk, N. Nakatsuka. (2022). Justice, Equity, Diversity, and Inclusion Seminars: What They Do and Do Not Do. *ETH Learning and Teaching Journal*. <https://www.learningteaching.ethz.ch/index.php/lt-eth/article/download/199/176>.

M.A. Anthony, T.W. Crowther *et al.* C. Averill. (2022). Forest tree growth is linked to mycorrhizal fungal composition and function across Europe. The ISME Journal*. <https://doi.org/10.1038/s41396-021-01159-7>.

**ISME Journal 2022 Best Paper award: <https://www.nature.com/collections/aedhjhhgh>*

A.N. Trautwig, **M.A. Anthony**, S.D. Frey, K.A. Stinson. (2021). Introduced mustard, *Thlaspi arvense*, reduces mycorrhizal fungal phylogenetic diversity in subalpine meadows. Fungal Ecology, <https://doi.org/10.1016/j.funeco.2021.101135>

M.A. Anthony, M. Knorr, J. Moore, M. Simpson, S.D. Frey. (2021). Fungal community and functional responses to soil warming are greater than for soil nitrogen enrichment. Elementa. <https://doi.org/10.1525/elementa.2021.000059>

E.D. Whalen, N. Lounsbury, K. Geyer, **M.A. Anthony**, E. Morrison, L.T.A. van Diepen, J.L. Moine, K. Nadelhoffer, L. Van den Enden, M.J. Simpson, S.D. Frey. (2021). Root control of fungal communities and soil carbon in a temperate forest. Soil Biology and Biochemistry. <https://doi.org/10.1016/j.soilbio.2021.108390>

L. Van den Enden, **M.A. Anthony**, S.D. Frey, M. Simpson. (2021). Biogeochemical evolution of soil organic matter composition after a decade of warming and nitrogen addition. Biogeochemistry. <https://doi.org/10.1007/s10533-021-00837-0>

J.A. Moore, **M.A. Anthony**, G.J. Pec, L.K., Trocha, A. Trzebny, K.M. Geyer, S.D. Frey. (2021). Fungal community structure and function shifts with atmospheric nitrogen deposition. Global Change Biology. <https://doi.org/10.1111/gcb.15444>.

M.A. Anthony, K.A. Stinson, J.A. Moore, S.D. Frey. (2020). Fungal responses to plant invasion depend on soil warming and nitrogen deposition. Oecologia. <https://doi.org/10.1007/s00442-020-04797-4>.

M.A. Anthony, J.L. Celenza, A. Armstrong, S.D. Frey. (2020). Indolic glucosinolates provide resistance to mycorrhizal fungal colonization in a non-host Brassicaceae. Ecosphere. <https://doi.org/10.1002/ecs2.3100>.

M.A. Anthony, T.W. Crowther, D.S. Maynard, J. van der Hoogen, C. Averill. (2020). Distinct assembly processes and microbial communities constrain soil organic carbon formation. One Earth. <https://doi.org/10.1016/j.oneear.2020.03.006>.

M.A. Anthony, K.A. Stinson, A.N. Trautwig, E. Coates-Connor, Frey, S.D. (2019). Fungal communities do recover to garlic mustard (*Alliaria petiolata*) eradication. Biological Invasions. <https://doi.org/10.1007/s10530-019-02031-8>.

K.A. Stinson, S.D. Frey, M.R. Jackson, E. Coates-Connor, **M.A. Anthony**, K. Martinez. (2019). Responses of non-native earthworms to experimental eradication of garlic mustard and

implications for native vegetation. *Ecosphere*. <https://doi.org/10.1002/ecs2.2353>.

M.A. Anthony, Frey, S.D., Stinson, K.S., (2017). Fungal community homogenization, shift in dominant trophic guild, and appearance of novel taxa with biotic invasion, *Ecosphere*. <https://doi.org/10.1002/ecs2.1951>.

RECENT FELLOWSHIPS AND GRANTS

Cost Action Project Grant (Swiss NSF) January, 2024 – January, 2028
I am co-PI on this grant with the goal of studying how soil and foliar microbiomes respond to drought, warming, and the assisted migration of tree species. This project leverages an existing climate change experiment to understand how native and non-native plant responses to climate change at three locations in Switzerland are impacted by biotrophic fungi in soils and leaves. (359,0621 CHF)

Early Research Career Grant (Wiener Wissenschaftsforschungs and Technologiefund) January, 2024 – January, 2031
In this proposal, I will study how biotrophic fungi respond to climate change and implications for tree growth and physiology. This work uses a combination of large-scale observation, experiments, and mathematical modeling to build reliable biodiversity theory and better predict how forest systems will respond to climate change. (2,085,250 €).

Ambizione Fellowship (Swiss NSF) October, 2022 – October 2026
In this proposal, I set out to understand how the total soil mycobiome, but particularly the ectomycorrhizal fungal component, responds to climate warming and drought and how this response affects tree growth and death (888'000 CHF).

Dick George Invasive Species Fund May, 2022 – May, 2024
To fund the second phase of research on non-native invasive species and soil microbiomes. I led this follow-up proposal linking the use of mycorrhizal fungal inoculants as restoration tools to combat invasive species (\$15,000 USD)

Dick George Invasive Species Fund May, 2021 – May, 2022
For research on non-native invasive species and soil microbiomes. I led this proposal linking the use of mycorrhizal fungal inoculants as restoration tools to combat invasive species (\$16,500 USD)

Dissertation Year Fellowship, UNH September, 2018 – May, 2019
The University of New Hampshire's most prestigious graduate student award awarded by the UNH faculty for an outstanding dissertation year proposal (\$30,000 USD).

National Science Foundation Graduate Research Fellowship September 2015 – 2018
A competitive graduate student fellowship distributed over three years (\$138,000 USD).

SELECT RECENT INVITED ORAL PRESENTATIONS

Anthony, M.A. Mycorrhizal fungi: their past, present, and future. Fungi Academy. April 2nd, 2023.

Anthony, M.A. Soil Microbiome Diversity Across Europe and Implications for Forest Carbon Storage. University of Manchester. March 17th, 2023.

Anthony, M.A. Microbial Drivers of Forest Carbon Storage. Functional Genomics Center Zurich. December 7th, 2022.

Anthony, M.A. Microbial linkages to forest carbon storage today and in the future. Invited Seminar. Agroscope, September 14th, 2022.

Anthony, M.A. Environmental microbiomes under global change. Invited Seminar. University of Toronto Scarborough. April 20th, 2022.

Anthony, M.A. Fungal drivers of forest carbon cycling under current and future environmental conditions. Invited Seminar. The University of Quebec at Montreal. October 27th, 2021.

Anthony, M.A. Ectomycorrhizal drivers of tree growth across Europe. Annual Ecological Society of America Meeting. Invited Talk. August 5th, 2021.

Anthony M.A. Plant Fungal Interactions in a Changing World. Vrije University, Amsterdam, The Netherlands. Invited Seminar. February 15th, 2021.

Anthony M.A. Fungal Drivers of Forest Structure and Function. University of Vienna, TER Division, Vienna, Austria. Invited Seminar. December 10, 2020.

Anthony, M.A. Terraforming the Anthropocene. Zürich Institute of Art. Invited Seminar. November, 2019.

Anthony, M.A. Crowther, T., Averill C. Forest fungi as drivers of aboveground tree growth. Invited Seminar. University of Tartu, Tartu, Estonia. November, 2019.

Anthony, M.A., Smith, R., Lee, T., Frey, S.D. Assembly processes which structure fungal communities across the globe. Annual Ecological Society of America Meeting. Invited Talk. Louisville, KY. August 15th. 2019.

Anthony, M.A. Non-native invasive species at the Harvard forest. Harvard Forest 30th Annual Symposium. Invited Talk. Petersham, MA. March 19th, 2019.

Anthony, M.A., As humans change the world, can fungi keep up? Invited Seminar. Hampshire

College Fungal Symposium on Sustainability, November 17th, 2018. Amherst, MA.

ADVISING AND MENTORING

Graduate and Postdoctoral Advising (under the ETH Domain including WSL):

- Yuanhao Zhang (January, 2024-current): I advised Yuanhao on a successful CSC application, and he is working in my group for 1.5 years as a visiting PhD student to study how clonal plant reproduction and mycorrhizal fungal networks interactively shape plant development and invasiveness.
- Artin Zarsav (January, 2023 – current): I hired and advise Artin for his PhD, funded under my Ambizione grant to study responses of mycorrhizal fungi to climate change and feedbacks to forest tree and soil biogeochemistry.
- Nadine Keller (June, 2023- current): I co-advise Nadine for her postdoctoral research in Borneo to understand how variation in ectomycorrhizal fungal communities in a Dipterocarp forest undergoing passive and active restoration is linked to forest carbon cycling and storage.
- Joshua Trombley (April 2021 – current): I am co-advising Josh to study the effects of arbuscular mycorrhizal fungal inoculation as a tool to manage non-native invasive species. I remotely co-advise Josh for his MS degree, who is working in Serita Frey's Lab at the University of New Hampshire.
- Mike Dettwiler (September, 2020 – June, 2021); My role was as the lead adviser for Mike's MS project focused on comparing the effects of individual mycorrhizal and multi-species inoculation on tree growth.
- Simon Hepner (May, 2020 – January, 2021); My role was as the lead adviser for Simon's MS project focused on characterizing the species distribution of dominant ectomycorrhizal fungi across Europe.
- Julia Maschler (May 2020 – June, 2022); My role is to provide mentorship for Julia to boost her success during her PhD. I provide professional input and serve as an outside source of psycho-social and research support from her academic committee.

Undergraduate advising:

- Brianna Wheelock (2015) - studied the effects of activated charcoal additions on allelopathic compound productions in *Alliaria petiolata*.
- Amber Kittle (2018) - studied the effects of soil warming, nitrogen additions, and *Alliaria petiolata* invasion effects on native fine root biomass.
- Emily Embury (2021-2022) – I helped co-advise Emily to synthesize six molecular datasets and identify features of the forest microbiome most sensitive to different global changes, including beetle outbreaks, invasive species, soil warming, and anthropogenic nitrogen deposition.
- Lauren Kusinski (May, 2021 – Dec, 2023); I am co-advising Lauren to establish field plots and track the use of arbuscular mycorrhizal fungal inoculation as a tool to manage non-

native invasive species in the field. I remotely co-advise Lauren who is working in Serita Frey's Lab at the University of New Hampshire.

Research Internship (ETH Zürich):

- Nora Röckel (March, 2021 – March, 2022) - I am mentoring Nora to study tree physiological responses to different microbial inoculations. I provide extensive professional career mentorship and support for on PhD applications.

TEACHING

Teaching at ETH Zürich and University of Zürich

- Co-instructor for Applied Ecosystem Ecology at ETH Zürich (701-0301-00L; Sept. 2023-December, 2023). My teaching is focused on applied case studies to teach about biogeochemistry and community ecology, with a focus on food webs.
- Current topics in grassland sciences (May 24th, 2023). Led a module on forest soil microbiomes and plant productivity. I developed the seminar and led the module.
- Species Interactions and Biodiversity (November 21, 2022). Co-led with Marcel van der Heijden a module on Mycorrhizas and Ecosystem Function (UWW221). We developed the course materials together and co-taught the module.
- Environmental Systems Seminar - February-May, 2020). I was a seminar mentor (teaching assistant) for ten undergraduate students in a class focused on forests and global climate change (ETH-NR. 701-0909-00L). My duties included curriculum development on the subject and the organization of one of four central study areas on forest soils.
- Ecology and Evolution Seminar– (September, 2019-February, 2020). I was a seminar mentor (teaching assistant) for a Master's student level course in Ecology and Evolution (ETH-Nr. 701-1460-00L). I mentored two students in preparing a review paper on microbial growth, soil carbon cycling, and climate change in the arctic. My duties included one-on-one and group mentoring and grading.
- Co-designer of a new ecosystem restoration course which will launch at ETH Zürich in Fall, 2022. My role was to co-develop the course curriculum and to specifically build the components on soils, invasive species, and microorganisms.

Co-Founder/Co-instructor for Queer Sustainability (University of New Hampshire)

Dates: September, 2017 – December, 2017

I developed curriculum in collaboration with a lecturer in the Women's Studies department to create an interdisciplinary sustainability course (WS798). We combined expertise in ecofeminism, queer theory, disability studies, and natural resources and evolution to examine how groups of people sustain themselves and how queer people, in particular, may be especially effective at making choices that are

good for themselves, the environment, and culture. In addition to curriculum development, my duties included lecturing and grading.

Teaching Assistant for Studio Soils (University of New Hampshire)

Dates: September, 2014 – December, 2014

I was a teaching assistant for an undergraduate introduction to soils course (NR501). I prepared the laboratory component of this course, and worked with students in the field while they completed a course-long assessment of the potential to convert forested landscapes into farmland for ornamental pine trees. This studio style course combined the lab and classroom components and introduced me to a new philosophy for teaching an introductory soils course.

Teaching Assistant for Ecology (Hampshire College).

Dates: January, 2012 – May, 2012

I was the undergraduate teaching assistant for the introduction to ecology course at my undergraduate institution. I specifically designed the labs for the course. The professor was my undergraduate adviser and she allowed me to design a new lab examining how soil texture influenced pitch pine abundances and fire prevalence in a sandy forest in western MA, USA.

ACADEMIC LEADERSHIP IN DIVERSITY & INCLUSION

LGBTQIA+ at WSL Network Coordinator

November, 2022 – December, 2023

I am organizing events for LGBTQIA+ identified staff and students working at WSL to connect, network, and offer peer support.

Team project member and sounding board member for Barrier-Free ETH

May 2021-July 2022

I represented the scientific staff association at ETH to construct the cultural contents behind a new barrier free initiative at ETH. My role was to help design the mission statement and broader cultural information required to promote inclusion for any people experiencing barriers to their work or studies at ETH, including people with disabilities, people with child-care responsibilities, and people needing access to gender inclusive facilities.

Coordinator of Diversity and Inclusion within the Association of Scientific Staff at ETH Zürich

July 2021-July 2022.

I was nominated to become the head of diversity for our staff scientific association. My duties are to coordinate diversity efforts, create diversity events, and to advocate for inclusive practices at all levels of the ETH domain. I am currently working on initiatives to create opportunities for social justice training offered by my group, inclusive pedagogy training for all teaching assistants at ETH, creating the cultural content for the Barrier Free Initiative at ETH, and many more projects.

Diversity Committee Deputy within the Association of Scientific Staff at ETH Zürich

December, 2019-July, 2021

My work was to synthesize all information about diversity and inclusion across the ETH campuses and disseminate this to stakeholders. I helped organize quarterly events focused on diversity and inclusion, managed a budget to sponsor diversity work in the sciences throughout Zürich, and evaluated proposals for funding. I was also actively involved in writing about diversity and mental health connections in the group and disseminating these products in ETH publications.

President/Director of Stonewall Graduates

September, 2014 – 2018

This is a graduate student group dedicated to creating a community and equitable environment for LGBTQA+. As the director, I resurrected this group from a probation that it had been on prior to my taking this position. This involved leadership training and the recruitment of a stable executive board. I completely re-founded this group, was able to find new leadership, including leadership for the next academic year, and planned over fifteen events for this group within my year as the director. This organization is funded by the graduate school, and I work closely with the graduate administration on financial and social exchanges.

Graduate Student Representative on the President's Commission for the status of LGBTQ People

September, 2014- 2017

I represented the graduate student body at the University of New Hampshire on this President's commission. My duties were to relay important issues happening within the university administration to the graduate student body and vice versa. I was elected for this position by previous commission members who valued my work with student organizations and contribution to event planning on campus. I was also the co-commissioner of the Professional Development subcommittee. This role was multifaceted and included curriculum development for faculty and staff and workshops on the institution of work and the gainful employment of diverse people after graduation.

Graduate Representative Task Force on Community Preplanning

Dates: May, 2015- January 2016

I was elected to be the graduate representative of a task force summoned by the University of New Hampshire president in order to critically assess community at the University. We created two community conversations in collaboration with New Hampshire Listens which was used to inform the synthesis of an action plan for creating and sustaining effective learning communities. This work is part of a larger initiative to support diversity and inclusion at the University.

Founder & President of oSTEM @ UNH

Dates: September, 2013-September, 2015

This group was a chapter of the national oSTEM organization. I founded the group in 2013 and established it as a recognized group with the national board and the University of New Hampshire. The goal of this group was to create a STEM environment that is more diverse, inclusive and allied around LGBTQA+ and intersecting identities.

PROFESSIONAL SERVICE

I. Ecosystem Stewardship

I have participated in and organized >50 events focused on invasive species management. Between 2014-2019, I participated in and organized 40 invasive species eradication events. I also co-organized a 2019 New Hampshire Non-native Plant Stewardship Initiative.

II. Select K-12 & bachelor educational outreach

May 3rd, 2022: **Guest lecture in Agroecologists without Borders (ETH).** I designed a class to discuss the roles of fungi in agroecological principles and transdisciplinary approaches to addressing environmental challenges.

October 9th, 2019: **Guest lecture** in the Women Studies department for a special topics course called Feminism and the environment. I designed and led a lecture about international funding structures and their impacts on sustainable farming and rural women's lives.

April 18th, 2018: **Volunteer judge** for the Interdisciplinary Science and Engineering Undergraduate Research Conference.

April 5th, 2018: **Guest lecture** at the University of Tennessee, Knoxville. The lecture was presented digitally for a senior level Ecosystems Ecology class.

April 9th, 2017: New Hampshire Envirothon **Coach.** I worked with colleagues on the soils component of the training. The theme was around agricultural production and soil fertility.

April 13th, 2017: **Guest lecture** at Great Bay Community College. The lecture was part of an introduction to contemporary issues in conservation course, and I discussed the importance and evolution of symbioses. I discussed the importance of considering symbioses between plants and fungi when making conservation decisions.

April 20th 2016: **Judge** for the Environmental Science section of the UNH Undergraduate Research Conference.

April 9th, 2016: New Hampshire Envirothon **Coach.** I worked with a colleague to create the soils component of the training. The theme is around invasive species and their impacts on soil. We coached 10 different schools for the state championship.

October 7th, 2015: Conservation Day Soil **Scientist volunteer.**

December, 18th, 2014: **Volunteer teacher** on climate change and the carbon cycle at the Timberlane Regional Middle School. Three colleagues and I each leader one topic and taught a module to three 7th grade science sections.

III. Science Communication and Diversity

Art-Science Collective Member: (July, 2021 – current): Arvae works collaboratively with artists, scientists and regional (environmental) experts on topics such as biodiversity, restoration, sustainability, and the climate crisis. It's deeply personal – rooted in the people and the knowledge, experiences and stories that shape their local environment. We believe in authentic collaboration and want to contribute to a global community of practice.

Expert panelist (10/2/2020): Project TOP IV financed by the European Commission where ETH Zürich is sub project leader of a working group dealing with the topic diversity. In cooperation with Denmark, Belgium and Bulgaria such expert focus groups on diversity are held in all countries. The aim of these expert focus groups is to gather different perceptions and measures regarding diversity, and in a second step to build a training about the importance of the right handling with diversity, especially in an academic environment.

Social Justice Science Communication Workshop (February 18-March 18, 2019): A one-month series dedicated to the intersection of social justice and science communication. Along with two other PhD students, we organized a three-week seminar series with experts in the field, organized an applied theatre training workshop to teach fundamental communication skills with an emphasis on bystander intervention. We also organized a formal mixer to bring together three affinity organizations centered on inclusion of students of color, women, and LGBTQA+ people in STEM majors or graduate programs to discuss barriers in academic diversity and inclusion initiatives and how to communicate about these issues.

IV. Peer-review and editing

a. Peer review

Molecular Ecology, Ecosystems, Forest Management and Ecology, Soil Science Society of America, Ecography, Plant and Soil, Soil Research, Biological Invasions, Soil Biology and Biochemistry, Geoderma, New Phytologist, ELEMENTA, Science of the Total Environment, Diversity, Sustainability, Ecology, Fungal Ecology, Frontiers, Pediobiologia, Ecology Letters, ISME, Global Ecology and Biogeography, Biogeosciences, Global Change Biology

b. Journal editing

I am editor for *Fungal Ecology*. I also designed and guest-edited a special issue about fungi in a changing world with two colleagues for *Frontiers in Forests and Global Change*:
<https://www.frontiersin.org/research-topics/18565/fungi-in-a-changing-world>.

SELECT CONTRIBUTED PRESENTATIONS (within the last five years)

Anthony, M.A. Crowther, T.W., *et al.* Averill, C. Above-belowground forest carbon storage is linked to fungal versus bacterial composition and function across Europe. The ISME Conference, August 15th, 2022 (Poster).

Anthony, M.A. Crowther, T.W., *et al.* Averill, C. Ectomycorrhizal fungal composition and function drive forest productivity across the ICP Forest Network. FORECOMON 2021 June, 8th, 2021, Birmendsdorf, Switzerland (Oral).

Anthony, M.A. Crowther, T.W., *et al.* Averill, C. Ectomycorrhizal fungal composition and function predict tree growth across Europe. European Geophysical Union Annual Meeting April, 2021, virtual conference (highlighted talk)

Anthony, M.A., Stinson, K.A., Frey, S.D. Changes in fungal assembly in response to multiple global change stressors. Massachusetts Mycological Society Annual Meeting, October 20th, 2018. Cambridge, Massachusetts (Oral).

Anthony, M.A., Stinson, K.A., Frey, S.D. Arbuscular mycorrhizal fungal distance decay and

realized niches. Ecological Society of America Annual Meeting, August 6th, 2018. New Orleans, Louisiana (Oral).

Stinson, K.S., **Anthony, M.A.**, Frey, S.D., Fungal Recovery Following *Alliaria petiolata* Eradication; SERDP-ESTCP Annual Symposium; November, 28th, 2017; Washington D.C., U.S.A. (Poster).

Anthony, M.A., Frey, S.D., Stinson, K.S., Novel mycorrhizal species influence biotic resistance to global change. International Conference on Mycorrhizae, July 29th, 2017; Prague, Czech Republic (Oral).

Knorr, M.A., Geyer, K.M., **Anthony, M.A.**, Frey, S.D., A Decade of Simultaneous Warming and Nitrogen Additions in a Temperate Forest: How are soils affected? Ecological Society of America, August 7th, 2017; Portland, OR (Oral).

Anthony, M.A., Frey, S.D., Stinson, K.S., Mycorrhizal response to an invasive plant in a warmer, fertilized forest. Soil Ecology Society, June 8th, 2017; Fort Collins, CO (Oral).