JENNIFER TALBOT

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PROFESSIONAL EXPERIENCE

Assistant Professor
July. 2014– Present Boston University Boston, Massachusetts

Postdoctoral Research Fellow
Sept. 2013– July 2014 Department of Biology, Stanford University Stanford, California

NOAA Climate and Global Change Postdoctoral Research Fellow
Sept. 2012– Sept. 2013 Department of Biology, Stanford University Stanford, California
Sept. 2011– Sept. 2012 Department of Plant Pathology, University of Minnesota Minneapolis, Minnesota

EDUCATION

Ph.D. in Biological Sciences
Sept. 2006 – 2011 University of California, Irvine Irvine, California

Bachelor of Arts Magna Cum Laude in Chemistry with Honors and Distinction
Sept. 2000 – May 2004 Boston University Boston, Massachusetts

PUBLICATIONS

Rosenthal L, S Branco, J Chung, S Glassman, H-L Liao, KG Peay, DP Smith, **JM Talbot**, JW Taylor, E Vellinga, R Vilgalys, TD Bruns. In revision. Survey of athelioid corticoid fungi in North American pinaceous forests reveals hyperdiversity, underpopulated sequence databases, and species that are potentially ectomycorrhizal. Mycologia.

Peay KG, P Kennedy, **JM Talbot**. In revision. Dimensions of biodiversity in the Earth mycobiome. Nature Reviews Microbiology.

Sinsabaugh RL, BL Turner, **JM Talbot,** BG Waring, JS Powers, CR Kuske, DL Moorhead, JJ Folstad Shah. 2016. Stoichiometry of microbial carbon use efficiency in soils. Ecological monographs.

Talbot JM, F Martin, A Kohler, B Henrissat, and KG Peay. 2015. Functional guild predicts the enzymatic role of fungi in litter and soil biogeochemistry. Soil Biology and Biochemistry 88: 441-456.

Søgaard Jørgensen P, F Barraquand, V Bonhomme, TJ Curran, E Cieraad, TG Ezard, LA Gheradi, RA Hayes, T Poisot, R Salguero-Gómez, L DeSoto, B Swartz, **JM Talbot**, B Wee, and N Zimmerman. 2015. Connecting people and ideas from around the world: global innovation platforms for next-generation ecology and beyond. Ecosphere 6: 1-11.

Glassman SI, KG Peay, **JM Talbot**, DP Smith, JA Chung, JW Taylor, R Vilgalys, and TD Bruns. 2015. A continental view of pine-associated ectomycorrhizal spore banks: a quiescent functional guild with a strong biogeographic pattern. New Phytologist 205: 1619-1631.

Liao H-L, Y Chen, TD Bruns, KG Peay, JW Taylor, S Branco, **JM Talbot**, and R Vilgalys. 2014. Metatranscriptomic analysis of ectomycorrhizal roots reveals genes associated with *Piloderma-Pinus* symbiosis: improved methodologies for assessing gene expression *in situ*. Environmental Microbiology 16: 3730-3742.

Huggins JA, **JM Talbot**, M Gardes, and PG Kennedy. 2014. Unlocking the environmental keys to host specificity: differential tolerance of acidity and nitrate by *Alnus*-associated ectomycorrhizal fungi. Fungal Ecology 12: 53-61.

Talbot JM, TD Bruns, JW Taylor, DP Smith, S Branco, SI Glassman, S Erlandson, R Vilgalys, H-L Liao, ME Smith, and KG Peay. 2014. Endemism and functional convergence across the North American soil mycobiome. Proceedings of the National Academy of Sciences 111: 6341-6346.

Talbot JM, TD Bruns, DP Smith, S Branco, SI Glassman, S Erlandson, R Vilgalys, and KG Peay. 2013. Independent roles of ectomycorrhizal and saprotrophic communities in soil organic matter decay. Soil Biology and Biochemistry 57: 282-291.

Talbot JM, KK Treseder. 2012. Interactions between lignin, cellulose, and N drive litter chemistry-decay relationships. Ecology 93: 345-354 (Featured on journal cover). Reviewed by Faculty of 1000 Biology, Jan 9, 2012, http://f1000.com/13445963

Todd-Brown KEO, FM Hopkins, SN Kivlin, **JM Talbot**, and SD Allison. 2012. A framework for representing microbial decomposition in coupled climate models. Biogeochemistry 109: 19-33.

Talbot, JM, JS Nowick, DJ Yelle, and KK Treseder. 2012. Litter decay rates are determined by lignin chemistry. Biogeochemistry 108: 279-295.

Talbot, JM, KK Treseder. 2011. Dishing the dirt on carbon cycling. Nature Climate Change 1: 144-146.

Talbot JM, KK Treseder. 2010. Controls over mycorrhizal uptake of organic N. Pedobiologia 53: 169-179.

Gallet-Budynek A, E Brzostek, VL Rodgers, **JM Talbot**, S Hyzy, and AC Finzi. 2009. Intact amino acid uptake by northern hardwood – conifer forest trees. Oecologia 160: 129-138.

Salguero R, M Whiteside, and **JM Talbot**. 2009. After "eco" comes "service". Guest editorial in: Frontiers in Ecology and the Environment 7: 277-278

Talbot JM, SD Allison, ans KK Treseder. 2008. Decomposers in disguise: mycorrhizal fungi as regulators of soil carbon dynamics in ecosystems under global change. Functional Ecology 22: 955-963 (Featured on journal cover).

Talbot JM, AC Finzi. 2008. Differential effects of sugar maple, red oak, and hemlock tannins on carbon and nitrogen cycling in temperate forest soils. Oecologia 155: 583–592.

Talbot, JM, A Miller-Rushing. 2008. An era of opportunity for students. Guest editorial in: Frontiers in Ecology and the Environment 6: 59-59.

Talbot JM, KD Kroger, A Rago, MC Allen, and MA Charette. 2003. Nitrogen flux and speciation through the subterranean estuary of Waquoit Bay, Massachusetts. Biological Bulletin. 205: 244-245.

Talbot, JM, A Miller-Rushing. 2008. An era of opportunity for students. Guest editorial in: Frontiers in Ecology and the Environment 6: 59-59.

Talbot JM, KD Kroger, A Rago, MC Allen, and MA Charette. 2003. Nitrogen flux and speciation through the subterranean estuary of Waquoit Bay, Massachusetts. Biological Bulletin. 205: 244-245.

PUBLICATIONS IN PREPARATION (CAN PROVIDE UPON REQUEST)

Talbot JM, KG Peay, and KK Treseder. In prep. Niche differentiation in litter resource use explains structure-function relationships in decomposer communities

Talbot JM, DL Moorehead, RL Sinsabaugh, and KK Treseder. In prep. Redefining microbial controls over decomposition: a coupled experimental and modeling approach.

MEDIA COVERAGE

Stanford News Report, "Stanford biologists help solve fungal mysteries", April 15, 2014, (http://news.stanford.edu/news/2014/april/soil-fungi-map-041514.html)

Quoted in Lubchenco, J. 2012. Reflections on the Sustainable Biosphere Initiative. Bulletin of the Ecological Society of America 93:260-267

"ESA in the wake of three waves of feminism", C. Susannah Tysor (poster presentation), Annual meeting of the Ecological Society of America, August 2012

Focus on Ecologists; profiles of professional ecologists, June 2011, http://www.esa.org/ecologist/members/jtalbot/profile/

INVITED PRESENTATIONS

The community interactome: how fungal species interactions shape soil biogeochemistry. Departmental Seminar, Department of Biology, Clark University, Worcester, MA March 2016

Cooperation and combat: fungal species interactions and their role in soil biogeochemistry. Departmental Seminar, Department of Biology, West Virginia University, Morgantown, WV, February 2016

Fungal biodiversity, cooperation, and combat: effects on soil biogeochemistry. Systems Biology Seminar, Department of Biology, Boston University, Boston, MA, October 2015

Back to the future: science and discovery as a former student and new faculty at Boston University: BU Alumni Weekend event, Department of Biology, Boston University, Boston, MA, September 2015

Microbial diversity and the carbon cycle: insights from soil fungal communities. Departmental Seminar, Department of Soil Science, University of Saskatoon, Saskatoon, CAN, October 2015

Fungal biodiversity, cooperation, and combat: effects on soil biogeochemistry. Parsons Microbial Systems Seminar, MIT, Cambridge, MA, September 2015

Fungal biodiversity, cooperation, and combat: Effects on soil biogeochemistry. Ignite session, "When Tiny Things Rule the World", Annual meeting of the Ecological Society of America, Baltimore, MD, August 2015.

Unearthing the mycobiome: a genes-to-ecosystems look at form and function of soil fungal communities. Soil Ecology Society Keynote Presentation, Biannual meeting of SES, Colorado Springs, CO, June 2015

Biological diversity and the soil carbon cycle: a genes-to-ecosystems look at form and function of soil fungal communities. Ecology group seminar, University of Manchester, Manchester, UK, May 2015

Biological diversity and the soil carbon cycle: a genes-to-ecosystems look at form and function of soil fungal communities. Department of Microbiology Seminar, University of Massachusetts, Amherst, MA, April 2015

A genes-to-ecosystems look at form and function of ectomycorrhizal communities. KNAW/Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands, Colloquium on "Climate models revisited: the biogeochemical consequences of mycorrhizal dynamics", April 2015

Biological diversity and the soil carbon cycle: a genes-to-ecosystems look at form and function of soil fungal communities. Biogeosciences Seminar, Boston University, Boston, MA, February 2015

Biological insights into fungal-driven ecosystem processes. Keynote address, MassMyco meeting, Harvard Forest, Petersham, MA, October 2014

Fungal processes in soils: mechanisms, patterns, and biogeochemical consequences. University of Tennessee, Knoxville, Department of Biology Seminar, January 2014

Modeling fungal decomposition pathways across scales. Annual meeting of the Mycological Society of America, Austin, TX, August 2013.

Microbial processes in soils: mechanisms, patterns, and biogeochemical consequences. University of Wisconsin, Madison, Soil Science Seminar, May 2013

From hyphae to biomes: a continental-scale look at form and function of soil fungal communities. USGS, Menlo Park, May 2013

Breaking open the black box: microbial mechanisms of biogeochemical cycling through soils. University of California, Berkeley, ESPM Department Seminar, Berkeley, CA, January 2013

Unearthing the role of fungal communities in the soil carbon cycle. Duke University, Department of Biology University Program in Ecology Seminar Series, Durham, NC, January 2013

Unearthing microbial mechanisms of biogeochemical cycling in ecosystems. University of Texas at Austin, Section of Integrative Biology Population Biology Seminar Series, Austin, TX, October 2012

Speaker, "Sustainable Biosphere Initiative at 20 Years: The View Forward" Reception, Annual meeting of the Ecological Society of America, Portland, OR, August 2012

Linking fungal genetics to ecological function: an analytical and computational chemistry approach. Annual meeting of the Joint Genome Institute (JGI), Walnut Creek, CA, April 2012

Dishing the dirt on decomposition: how soil fungi shape the ecosystem carbon cycle, Bay Area Mycological

Society monthly meetings, Berkeley, Santa Cruz, and Santa Rosa, CA, April 2012

Breaking open the black box: how feedbacks between plants and microbes control the soil C cycle. Iowa State University, Ecology, Evolution and Organismal Biology Departmental Seminar Series, Ames, Iowa, March 2011

Decomposers in Disguise: mycorrhizal fungi as regulators of soil C dynamics in ecosystems under global change? European Ecological Federation Congress, Avila, Spain, September 2011

Speaker, Closing Plenary, Annual meeting of the Ecological Society of America, Austin, TX, August 2011

Nitrogen flux and speciation through the subterranean estuary of Waquoit Bay, Department Seminar, Woods Hole Oceanographic Institution, Woods Hole, MA, August 2003

CONTRIBUTED PRESENTATIONS

Ectomycorrhizal enzyme production is largely resilient to N-deposition in a Mediterranean forest system (poster presentation – second author). Annual meeting of the Ecological Society of America, Baltimore, MD, August 2015.

Modeling fungal decomposition pathways across scales. Annual meeting of the Ecological Society of America, Minneapolis, MN, August 2013.

Independent roles of ectomycorrhizal and saprotrophic communities in soil organic matter decay. Annual Argonne Soil Metagenomics Meeting, Chicago, IL, September 2012.

Functional differences among decomposer communities explain litter chemistry controls over decay. Annual meeting of the Ecological Society of America, Portland, OR, August 2012.

Unearthing the role of fungal communities in the soil carbon cycle. NOAA Summer Institute, Steamboat Springs, CO, July 2012.

Interactions between lignin, cellulose, and nitrogen control litter chemistry-decay relationships. Annual meeting of the Ecological Society of America, Austin, TX, August 2011.

Lignin, cellulose, and nitrogen interactions control the activity of decomposer fungi. Annual meeting of the Mycological Society of America, Fairbanks, AK, August 2011.

Does lignin chemistry control litter decomposition rates? Annual meeting of the Ecological Society of America, Pittsburgh, PA, August 2010.

Testing the guild-based decomposition model: *Arabidopsis thaliana* as a model system. Meeting of the International Society of Microbial Ecology (ISME), Seattle, WA, August 2010.

Does lignin chemistry control litter decomposition rates? Graduate Student Symposium, UCI, January 2010.

Arabidopsis thaliana as a model plant to study ecosystem processes. Annual meeting of the Ecological Society of America, Milwaukee, WI, August 2008.

Arabidopsis thaliana as a model plant to study ecosystem processes. Graduate Student Symposium, UCI, January 2008.

Bridging the gap: the role of mycorrhizal fungi in plant uptake of organic N. Annual meeting of the Ecological Society of America, San Jose, CA, August 2007.

Tannin influences on carbon and nitrogen dynamics in temperate forest soils. Annual meeting of the Ecological Society of America, Memphis, TN, August 2006.

Nitrogen flux and speciation through the subterranean estuary of Waquoit Bay, General Scientific Meeting, Marine Biological Laboratory, Woods Hole, August 2003.

AWARDS & HONORS

2015	Peter Paul Career Development Professorship, Boston University ($120,000)
2015	Outstanding Mentor Award, Undergraduate Research Opportunities Program, Boston University ($100)
2015	Soil Ecology Society Early Career Award ($500)
2011-2013	NOAA Climate and Global Change Postdoctoral Fellowship ($118,758)
2011	NSF Postdoctoral Research Fellowship in Biology ($123,000), awarded but declined
2011	Murray F. Buell Award for Most Outstanding Student Oral Paper presented at the 2010 Ecological Society of America meeting ($1,200)
2010	P.E.O. International Scholar Award ($15,000)
2009	NSF Doctoral Dissertation Improvement Grant ($15,000)
2009	Newport Bay Naturalists and Friends Research Grant ($1,000)
2009	Graduate course, “Functioning of Boreal Forest Ecosystems”, Swedish University of Agricultural Sciences, Umeå, Sweden ($1500)
2008	FESIN (Fungal Environmental Sampling and Informatics Network) travel award to ESA meeting, Milwaukee, WI ($1500)
2008	Sonoran Joint Venture Award/U.S. Fish & Wildlife Service ($9,974)
2008	Lewis and Clark Fund for Exploration and Field Research Scholar ($3,000)
2006-2010	NSF GRFP Fellow ($126,000 total awarded over 3 years)
2004	Boston University Undergraduate Work for Distinction recipient
2003	NSF REU Fellow at Woods Hole Oceanographic Institution ($3000)

GRANTS

2015-2019	NSF, Division of Environmental Biology, *Molecular mechanisms and biogeochemical consequences of decomposer species interactions during succession in ecosystems*, $806,746 total costs (PI: JM Talbot, co-PIs: Daniel Segrè, BU; Daniel Cullen, UW Madison)
2014-2018	DOE, JGI CSP, *Resistance and resilience of microbial guilds and biogeochemical functions to rapid climate change in the cold biome*, (PI: JM Talbot (Boston University), co-PIs: Pamela Templer, BU; Lindsay Rustad, USFS; John Campbell, USFS; Peter Groffman, Cary Institute)
2014-2018	DOE, JGI/EMSL CSP, *Integrated genomic/transciptomic/metabolomic study of symbiotic plant-fungal interactions and their role in carbon cycling: The interactomes of pines and their host-specific ectomycorrhizal fungi in the mushroom genus Suillus*, (PI: R Vilgalys (Duke University), co-PIs: JM Talbot (Boston University), Sunny Liao (Duke University))

TEACHING EXPERIENCE

2015-Present	Instructor for BI579/580: Ecology, Behavior, and Evolution Graduate Seminar, Boston University
2014-Present	Primary lecturer for BI311: General Microbiology, Boston University
2010-2011	Guest lecturer for E205: Special Topics in Ecology, University of California, Irvine and 5203:

	Biology and Ecology of Fungi, University of Minnesota
2008	Teaching assistant for BIO100LW: Lab for Experimental Biology; BIO9K/ESS13: Global Change Biology; BIO191CW/ESS190CW/SOCECOL186CW: Global Sustainability; BIO179: Limnology and Freshwater Ecology; BIO179L: Field Freshwater Ecology, University of California Irvine, *Teaching Assistant*
2001-2003	Teaching assistant for CH111/112: Intensive General and Quantitative Analytical Chemistry and CH351: Physical Chemistry 1 (Quantum Theory, molecular spectroscopy), Boston University

SERVICE

2015-2018	Steering committee member, NOAA Climate and Global Change Postdoctoral Fellowship Program
2015-Present	Editor, Rhizosphere
2014-Present	Editor, Microbial Ecology
2014-Present	Member, Ecological Society of America's Publications Committee
2013	Principal organizer of "The Forest Microbiome: how microbes shape forest responses to global change", symposium at the INTECOL meeting in London, England, August 2013
2013-2015	Working group member, International Network of Next Generation Ecologists (INNGE)
2012	Curriculum developer for the Rot-O-Rama 5th grade summer camp at the UMN Bell Museum, Minneapolis MN
2011	Graduate Student Representative, UCI EEB faculty hiring committee
2010	Volunteer judge for school science fair, Irvine Unified School District
2009-2011	Volunteer with UCI/CLEAN Global Climate Change Education
2009-2011	Volunteer for Ask a Scientist Night, Irvine Unified School District
2009-2010	Graduate Student Representative, Ecology and Evolutionary Biology Dept, UCI
2008-2011	Awards coordinator for the Ecological Society of America, Student Section
2007-Present	Principal organizer of "Show me the money", a student grantsmanship workshop at the annual ESA meeting
2007-2011	Chief Financial Officer and research co-chair for the Society for Conservation Biology, Orange County chapter
2007-2010	Founder and principal organizer of Microbial Reading Group in the Department of Ecology and Evolutionary Biology at UCI
2007-2008	Chair of the Student Section of the Ecological Society of America
2006-Present	Reviewer for *Nature Climate Change*, *Ecology Letters, Ecology, Global Change Biology*, *Functional Ecology, New Phytologist, Microbial Ecology, Ecosystems, Biogeochemistry, Journal of Ecology, Soil Biology and Biochemistry, Environmental Microbiology, Soil Science Society of America Journal, Plant and Soil*, *European Journal of Forest Research*, *Environmental Monitoring and Assessment, Molecules, NSF Ecosystem Studies Program, DOE BER ESS Program, and Fonds de recherche du Québec - Nature et technologies.*
2006-Present	Mentor to 35 undergraduate research assistants, 2 high school students, and 1 middle school student while at UCI, UMN, Stanford U, and Boston University.

PROFESSIONAL MEMBERSHIPS

Mycological Society of America (2011-Present)
Ecological Society of America (2005-Present)

COLLABORATORS AND OTHER AFFILIATIONS

Steven D. Allison (University of California, Irvine), Thomas D. Bruns (University of California, Berkeley), Daniel Cullen (University of Wisconsin, Madison), Mamadou Diallo (California Institute of Technology), Adrien C. Finzi (Boston University), John Grabber (USDA Forest Products Laboratory),

Peter Kennedy (University of Minnesota), Daryl L. Moorhead (University of Toledo), James Nowick (University of California, Irvine), Daniel Segrè (Boston University), Andre Simpson (University of Toronto at Scarborough), Robert L. Sinsabaugh (University of New Mexico), Matthew E. Smith (University of Florida), Pamela Templer (Boston University), John W. Taylor (University of California, Berkeley), Ritas Vilgalys (Duke University), Daniel Yelle (USDA Forest Products Laboratory).