

JESSIE K UEHLING, PhD

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PROFESSIONAL EXPERIENCE

Assistant Professor of Fungal Biology	Oregon State University	2019-current
Oregon Psilocybin Advisory Board member	Oregon Health Authority	2021-current
Postdoctoral Researcher	UC Berkeley/UC San Francisco	2017-2019

EDUCATION

PhD Genetics & Genomics	Duke University	2012-2017
MSc Mycology	Humboldt State University	2010-2012
BSc Botany	Humboldt State University	2005-2010

PUBLICATIONS

2024

- 1) Coleman M, Berch S, Bonito G, Allen B, Andrews E, Carvajal E, Cook S, D'Amours C, Garibay-Orijel R, Guevara G, Hatzenbuehler P, Hawkins B, Heinse R, Kernaghan G, Lefevre C, Lemmond B, Meadows, Oneto S, Sharma J, Strawn D, Türkoğlu A, Tanney J, **Uehling J**, Winfree J, Smith M. Status of Truffle Science and Cultivation in North America. *Plant and Soil*. In Review.
- 2) Carpenter S, Bogdanove A, Stajich J, **Uehling J**, Lovett B, Kasson M, Carter M. Prevalence and diversity of TAL effector-like proteins in fungal endosymbiotic *Mycetohabitans* spp. *mSystems*. In Review.

2023

- 3) Amses K, Desiró A, Bryson A, Grigoriev I, Mondo S, Lipzen A, LaButti K, Singan V, Salazar-Hamm P, King J, Ballou E, Pawlowska T, Adeleke R, Bonito G, **Uehling J**. Convergent reductive evolution and host adaptation in *Mycovoidus* bacterial endosymbionts of Mortierellaceae fungi. *Fungal Genetics and Biology* doi: doi.org/10.1016/j.fgb.2023.103838
- 4) **Uehling J**, Salvioli A, Amses K, Partida-Martínez L, Bonito G, Bonfante P. Bacterial Endosymbionts of Mucoromycota Fungi: Diversity and Function of their Interactions. In *Evolution of Fungi and Fungal-Like Organisms* (pp. 177-205). Cham: Springer International Publishing.
- 5) Porter D, **Uehling J**, Naleway S. A review of the material and mechanical properties of select *Ganoderma* fungi structures as a source for bioinspiration. *Journal of Materials Science*. doi: 10.1007/s10853-023-08214-y.
- 6) Li X, Munoz J, Gade L, Argimon S, Bougnoux M, Bowers J, Chow N, Cuesta I, Farrer R, Maufrais C, Monroy-Nieto J, Pradhan **Uehling J**, D Vu, C Yeats, D Aanesen, C D'Enfert, D Eyre, M Fisher, W Meyer, R Farrer, F Hagen, W Meyer, G Singh, A Alastruey-Izquierdo, A N Chow, A Litvintseva, Cuomo C. Comparing genomic variant identification protocols for fungi. *Microbial Genomics*. Microbiology Society doi: 10.1099/mgen.0.000979.
- 7) Leon**, **J Uehling**, E Ballou. Microbe of the Month: *Rhizopus delemar*. Invited for PLoS Pathogen Pearls doi:https://doi.org/10.1016/j.tim.2023.03.013

2022

- 8) Van Court R, Wiseman M, Meyer K, Ballhorn D, Amses K, Slot J, Dentinger B, Garibay-Orijel R, **Uehling J**. Diversity, biology and history of psilocybin containing fungi: Suggestions for research and technological development. *Fungal Biology*. doi: 10.1016/j.funbio.2022.01.003.

2021

- 9) Abbas A, Jeanne T, Knox R, Hamade A, Stauffer C, **Uehling, J**, Korthuis T. Oregon Psilocybin Advisory Board Rapid Evidence Review and Recommendations; Oregon Psilocybin Advisory Board: Salem, OR, USA, 2021.
- Gorris M, Van Dyke M, Carey A, Hamm P, Mead H, **Uehling J**. A Review of Coccidioides Research, Outstanding Questions in the Field, and Contributions by Women Scientists. *Current Clinical Microbiology Reports*. <https://doi.org/10.1007/s40588-021-00173-9>

2019

- 10) **Uehling J**, Entler MR, Meredith HR, Millet LJ, Timm CM, Aufrecht JA, Bonito GM, Engle NL, Labbé JL, Doktycz MJ, Retterer ST, Spatafora JW, Stajich JE, Tschaplinski TJ, Vilgalys RJ. 2019. Microfluidics and Metabolomics Reveal Symbiotic Bacterial–Fungal Interactions Between *Mortierella elongata* and *Burkholderia* Include Metabolite Exchange. doi: 10.3389/fmicb.2019.02163
- 11) Millet L , Aufrecht J, Labbé J, **Uehling J**, Vande Pol N , Kremer J , Rhodes D , Estes M , Guennoc C , Deveau A, Olsson S, Bonito G, Vilgalys R, Doktycz M, Retterer S. 2017. Microfluidics: Windows into the biology of branching structures. *Fungal Biology and Biotechnology* doi:10.1186/s40694-019-0071-z
- 12) Varga T, Krizsan K, Foldi C, Dima B, Sanchez-Garcia M, Sanchez-Ramirez S, Szollosi G, Szarkandi G, Papp V, Albert L, Angelini C, Antonin V, Bougher N, Buchanan P, Buyck B, Bense V, Catcheside P, Cooper J, Dämon W, Desjardin D, Finy P, Geml J, Hughes K, Alfredo F, Justo A, Karasiński D, Kautmanova I, Kerr S, Kiss B, Kocsubé S, Kotiranta H, Lechner B, Liimatainen K, Lukacs Z, Morgado L, Niskanen T, Noordeloos M, Beatriz Ortiz-Santana B, Ovrebo C, Rácz N, Savchenko A, Shiryayev A, Soop K31, Spirin V, Szebenyi , Tomsovsky M, Tulloss R, **Uehling J**, Vagvolgyi C, Papp T, Martin F, Miettinen O, Hibbett D, Nagy L. 2018. Megaphylogeny resolves global patterns of mushroom diversification. *Nature Ecology and Evolution* doi: 10.1038/s41559-019-0834-1

2018

- 13) Lofgren L, **Uehling J**, Branco S, Tom D, Bruns T, Martin F, Peter G, Kennedy P. 2018. Genome-based estimates of fungal rDNA copy number variation across phylogenetic scales and ecological lifestyles. *Molecular Ecology* doi:10.1111/mec.14995
- 14) Misztal P, Lymperopoulou D, Adams R, Scott R, Lindow S, Bruns T, Taylor J, **Uehling J**, Bonito G, Vilgalys R, and Goldstein A . 2018. What controls the variance in microbial volatile organic compound (mVOC) emissions from different bacteria and fungi? *Chemical Biology*. 52(15):8272-8282 DOI: 10.1021/acs.est.8b00806
- 15) Deveau A, Bonito G, Millet L, Bindschedler S, **Uehling J**, Becker M, Hacquard S, Hervé, V, Lastovetsky O, Mieszkina S, Vajna B, Paoletti M, Bonfante P, van Elsas JD. 2018. Bacterial - Fungal Interactions: impacts, mechanisms, and challenges. *FEMS Microbiology Reviews*. doi: 10.1093/femsre/fuy008

2017

- 16) **Uehling J**, Deveau A, Paoletti M. 2017. Do fungi have an innate immune response?; an NLR-based comparison to plant and animal immune systems. *PLoS Pathogens* 13 (10), doi:e1006578
- 17) **Uehling J**, Gryganskyi A, Hameed K, Tschaplinski T, Misztal PK, Wu S, Desirò A, Vande Pol N, Du Z, Zienkiewicz A, Zienkiewicz K, Morin E, Tisserant E, Splivallo R, Hainaut M, Henrissat B, Ohm R, Kuo A, Yan J, Lipzen A, Nolan M, LaButti K, Barry K, Goldstein AH, Labbé J, Schadt C, Tuskan G, Grigoriev I, Martin F, Vilgalys R, Bonito G. Comparative genomics of *Mortierella elongata* and its bacterial endosymbiont *Mycovaidius cysteinexigens*. *Environmental Microbiology*. 19(8), 2964–2983 doi:10.1111/1462-2920.13669

2016

- 18) Li Z, Yao Q, Dearth S, Entler M, Castro Gonzalez M,) **Uehling J**, Vilgalys R, Hurst G, Campagna S, Labbé J, Pan C. 2016. Integrated Proteomics and Metabolomics Reveal Symbiotic Metabolism and Multimodal Regulation in a Fungal-Endobacterial System. *Environmental Microbiology*. 19(3), 1041–1053 doi:10.1111/1462-2920.13605

- 19) Spatafora J, Benny G, Lazarus K, Smith M, Berbee M, Bonito G, Corradi N, Gryganskyi A, James T, Taylor T,) **Uehling J**, Vilgalys R, White M, Stajich J. 2016. Zygomycete Genealogy of Life (ZyGoLife): a phylum-level phylogenetic classification of zygomycete fungi based on genome-scale data. *Mycologia*. (108)5:1028-1046. doi: 10.3852/16-042
- 20) 14) Henkel TW, Obase, K, Husbands D,) **Uehling J**, Bonito G, Aime MC, Smith ME. 2016. New Boletaceae taxa from Guyana: *Binderoboletus segoi* gen. et sp. nov., *Guyanaporus albipodus* gen. et sp. nov., *Singerocomus rubriflavus* gen. et sp. nov., and a new combination for *Xerocomus inundabilis*. *Mycologia*, (108)1:158-173) doi: 10.3852/15-075

2015

- 21) Grupe A, Baker A, **Uehling J**, Smith M, Baroni T, Lodge D, Henkel T 2015. *Sarcodon* in the Neotropics I: new species from Guyana, Puerto Rico and Belize. *Mycologia* 107.3 (2015): 591-606., doi:10.3852/14-185.

2014

- 22) Labbé J, **Uehling J**, Payer T, Plett J 2014. Fungal biology: compiling genomes and exploiting them. *New Phytologist*. 203(2):359-361. doi: 10.1111/nph.12891
- 23)
- 24) Henkel TW, Wilson AW, Aime MC, Dierks J, **Uehling J**, Roy M, Schimann H, Wartchow F, Mueller GM. 2014. Cantharellaceae of Guyana II. New species of *Craterellus*, new South American distribution records for *Cantharellus guyanensis* and *Craterellus excelsus*, and a key to the Neotropical taxa. *Mycologia*. 106: 307-322. doi: 10.3852/106.2.307

2013

- 25) Smith ME, Henkel TW, **Uehling J**, Fremier AK, Clarke HD,R Vilgalys R 2013. The ectomycorrhizal fungal community in a Neotropical forest dominated by the endemic dipterocarp *Pakaraimaea dipterocarpacea*. *PLoS one* 8.1 (2013): doi: 10.1371/journal.pone.0055160

2012

- 26) **Uehling J**, Henkel TW, Aime MC, Smith ME 2012. New species and distribution records for *Clavulina* (Cantharellales, Basidiomycota) from the Guiana Shield, with a key to the lowland neotropical taxa. *Fungal Biology*. 116(12): 1203-1274. doi: 10.1016/j.funbio.2012.09.004
- 27) Kennedy P, Matheny B, Ryberg M, Henkel T,) **Uehling J**, Smith M. 2012 Scaling up: examining the macroecology of ectomycorrhizal Fungi. *Molecular Ecology*. 21:4151–4154. doi: 10.1111/j.1365-294X.2012.05703.x
- 28) **Uehling J**, Henkel TW, Vilgalys R, Smith ME. 2012. *Membranomyces* species are common ectomycorrhizal symbionts in North temperate forests. *Mycorrhiza*. 22(7):577-81. doi: 10.1007/s00572-012-0457-8

2011

- 29) Hodkinson BP, **Uehling J**, Smith ME 2011. *Lepidostroma vilgalysii*, a new basidiolichen from the New World with an inverted thallus. 2011b. *Mycological Progress*. 11(3): 827-833. doi:10.1007/s11557-011-0800-z
- 30) **Uehling J**, Henkel TW, Aime MC, Vilgalys R, Smith ME 2011. New species of *Clavulina* (Cantharellales, Basidiomycota) with resupinate and effused basidiomata from the Guiana Shield. *Mycologia* 104:547-556. doi: 10.3852/11-130
- 31) Henkel TW, Aime MC, **Uehling J**, Smith ME 2011. New species and distribution records for *Clavulina* (Cantharellales, Basidiomycota) from the Guiana Shield. *Mycologia* 103(4):883-889. doi: 10.3852/10-355

DIVERSITY, EQUITY, & INCLUSION

Implicit Bias Training with Anne Gilles, Oregon State University's Search Advocate program, April 2021

FUNDING & FELLOWSHIPS

† Trainees

2023

United States Department of Agricultural; 'Expanding LINbase for genome-based identification resource for fungal pathogen surveillance' co-PIs Boris Vinatzer, Niklaus Grunwald (\$325,000)

Stuntz Foundation individual grant 'Piecing together the puzzle: Efforts towards biogeographical and phylogenetic mapping of Ganoderma oregonense in the Pacific Northwest" (\$2,000) co-PIs Brenna Privelege†

2022

Department of Energy, Joint Genome Institute Community Sequencing Program; 'Unraveling the mechanisms behind the role of bacterial endosymbionts in community structuring and evolution of Mucoromycota fungi, co-PIs Teresa Pawlowska, Rasheed Adeleke, DOE ORNL (service trade)

Stuntz Foundation institutional grant 'Creating mycological educational materials for K-3 classrooms for multimodal learning via digital resource and in-person module development' Uehling J (\$4,000)

Oak Ridge National Laboratory the Center for Nanophase Materials Sciences (CNMS) user facility grant 'Leveraging microfluidics for high resolution microscopic insights into fungal endosymbiont interactions and mating biology' Mondron K†, Partida-Martinez L, Cabrera-Rangel J, Guo Y, Retterer S, Uehling J (user facility access grant)

National Science Foundation, Dear Colleague BBSRC-NSF Microbes & the host immune system: 'Microbial predation as a driver of endosymbiosis and phagocyte evasion' co-Principal investigator with Drs. Liz Ballou (Exeter) and Jason King (Sheffield) (\$591,459)

2021

Oregon State University IGNITE Program: 'A trans-disciplinary big data Extension and research center' Co-Investigator with N Grunwald, J LeBoldus, J Uehling, T Levi, R Hutchinson, K Vining, M David, J Walte-Cusic, J. Kovacevic, D Mollov, J Chang (\$50,000)

Portland Garden Club small grant award: 'Phylogenetics and phytochemistry of Ganoderma species in Lewis & Clark National Historical Park Co-Investigator with K Syring†, K Daffron† (\$2,500)

2020

United States Forest Service, 'Oregon State University herbarium fungal curation' Principal investigator, (\$11,000)

Biodiversity Research Collective, Fungal Herbarium Improvement grant, Principal Investigator (\$10,000)

National Science Foundation, Dimensions of Biodiversity (DoB): 'Dimensions US-South Africa: Unravelling the influence of endosymbiotic bacteria on the biodiversity of Mucoromycota fungi' co-Principal investigator with Dr. Teresa Pawlowska (Cornell University) and Rasheed Adelke (North West University, Potchefstroom campus) South Africa (\$1,999,458)

National Science Foundation, Thematic Collections Network (TCN):Digitization TCN: 'Collaborative Research: Building a global consortium of bryophytes and lichens: keystones of cryptobiotic communities' lead Jessica Budke, University of Tennessee Knoxville (\$609,365)

Department of Energy, Joint Genome Institute Community Sequencing Program; 'Large Structural Variant discovery in the poplar GWAS population to further unlock the heritability of yield and sustainability', collaborator, lead Daniel Jacobson, DOE ORNL (service trade)

2019

Department of Energy, Joint Genome Institute Community Sequencing Program; Evaluating the role of endosymbionts in fungal mating and evolution

2018

MSA Special Topics award; computational infrastructure for *Coccidioides* population genomics

International Mycological Congress Travel Award

2017

NASA Astrobiology Science Conference Student Travel Award

2016

International Society for Molecular Plant Microbe Interactions Student Travel Award

North American Mycological Association Student Travel Award

2015

Department of Energy Oak Ridge National Laboratory Go! Graduate fellowship

Oak Ridge National Laboratory the Center for Nanophase Materials Sciences (CNMS) user facility 'Microfluidic environmental control platforms for chemical and transcriptomic analysis of fungal-bacterial interactions' Vilgalys R, Uehling J, Millet L, Labbe J, Doktycz M

2014

Seed Grant from Department of Energy Biosciences Division 'Filamentous fungi for biodiesel production using lignocellulosic residuals' Co-PI with J Labbé, W Muchero, T Tschaplinski, R Vilgalys

Duke University Graduate School International Travel Award

Mycological Society of America Backus Award

2013

European Conference for Fungal Genetics student travel grant

Fungal Environmental Sampling and Informatics Network research dissemination grant

Duke University Genetics & Genomics summer training travel grant

2012

California State University Program for Education and Research in Biotechnology travel grant

McConkey Outstanding Graduate Student Award, Alistair McCrone Graduate Fellowship Award, Gregory Mark Jennings Research Dissemination grant, Humboldt State University

Humboldt Bay Mycology Society George Verback Memorial Scholarship

2011

Friends of the Farlow Visiting Scholar Fellowship, Harvard University

Sonoma County Mycological Society Outstanding Graduate Research Scholarship

2010

Cascade Mycological Society Promising Graduate Student Research Grant

Institute for Tropical Ecology & Conservation Sarah Glanzer Memorial Fellowship

PROGRAMMING PROFICIENCIES

Python

R

Shell scripting

Perl

TEACHING

Computational Population Genomics, Oregon State University (OSU) Spring Quarters 2021-present

Mycology, OSU Fall Quarters 2020-present

Guest Lecturer, Microbial Research Techniques seminar, Utah Valley University, February 2022

Introduction to Fungal Biology & Identification, Dja Rainforest Reserve, Cameroon, 2017

Mycology (BIO540, 90/10 undergrad/grad, Duke) 2016

Triangle Science Tweet Up Mushroom ID event, Duke Forest, 2013

Fungal Biology station North Carolina elementary schools' Forest days, 2013-2014

Fungal Biology workshop at Iwokrama Rainforest Reserve, Guyana 2011

Botany TA (BOT105, undergrad, HSU) Fall 2010, lab assistant 2009-2010

SERVICE & OUTREACH

Service

Understanding fungal biology with computational genomics, Black and Orange Days, Oregon State University, 2022

Oregon Psilocybin Services Rules Advisory Committee 2022

Oregon Psilocybin Advisory Board member, 2021-2025

Mycological Society of America Councilor of the Systematics/Evolution May 2021- May 2023

Education & Outreach

Creating mycological educational materials for K-3 classrooms for multimodal learning via digital resource and in-person module development, Stuntz Foundation 2021-2023

Lewis & Clark National Historic Park: Phylogenetics & Phytochemistry of *Fomitopsis pinicola*, *Xerocomellus zelleri*, and *Ganoderma oregonense* species complexes in Lewis & Clark National Historic Park , Co-PIs: Kelli Daffron and Carla Cole

OSU Botany Majors Undergraduate Career Panel March 2021

Professional Society Service

Mycological Society of America (MSA) Student and International Travel Award Committee 2023- current

MSA Electronic Communication and Web page Management Committee 2017-2020

MSA Student Section Chair, Vice Chair, and Secretary 2012-2016

Leadership

Peer review

Grant review German Research Foundation, The Laboratory of Excellence (ARBRE) France, BARD - The US-Israel Agricultural Research & Development Fund

Journal review Applied Microbiology and Biotechnology, BMC Microbiology, Phytopathology, New Phytologist, Mycoscience, Environmental Microbiology, Protist, Frontiers in Microbiology, Mycologia, Journal of Fungi, Symbioses, Molecular Phylogenetics & Evolution, Genes Genomes Genetics, Nature Microbiology, Soil Biology & Biochemistry, Journal of Fungi, mSphere, Current Plant Biology

Meeting organization

Bacterial Endosymbionts of Fungi symposium, Canadian Fungal Research Network 2022

Bacterial Fungal Interactions workshop (co-organizer G Bonito) and Evolutionary Genomics Symposium (co-organizer S Branco) International Mycological Conference San Juan Puerto Rico 2018

Bacterial Fungal Interactions at the European Fungal Genetics Conference in Paris, France. Co-organizers: G Bonito, J Labbe, A Deveau 2016

Mycological Society of America Program committee 2016

PRESENTATIONS

Invited talks indicated in bold

†trainees' talks

2024

'Insights into the mating compatibility and sexual communication of *Linnemannia elongata* (Mortierellomycotina) isolates using a novel microfluidic devices' **Genetic Society of America Fungal Chapter meeting**. K Mondron†, Y Guo, S Retterer, W Gilmour†, K Castle†, G Bonito, J Uehling. March 2024.

'Diversity in DNA-binding effectors across endofungal Mycetohabitans spp. supports variable functionality' Genetics Society of America Fungal Chapter meeting. S Carpenter, A Bogdanove, B Lovett, J Stajich, J Uehling, M Kasson, M Carter. March 2024.

'Dispersal and biotic filtering structure Mucoromycota fungal communities and their associated bacteria across two different biomes' Society of America Fungal Chapter meeting. N Reynolds, K Amses, J Uehling, R Adeleke, M Branine, T Pawlowska. March 2024.

'Desert and coastal distribution of endobacteria associated with Mortierellomycotina and Mucoromycotina species in South Africa' Genetics Society of America Fungal Chapter meeting. M Napo†, A Kock†, K Alayande†, **J Uehling**, T Pawlowska, R Adeleke. March 2024.

'The role of endohyphal bacteria in Mucorales interactions' D stark†, D Carozon Leon†, **J Uehling**, Liz Ballou, J King

2023

'Unraveling the mechanisms behind the role of bacterial endosymbionts in community structuring and evolution of Mucoromycota fungi' Guo Y, Mondron K, Retterer, **J Uehling**. Joint Genome Institute Community Sequencing Program User Meeting, Berkeley CA. August 2023

Development of microfluidics workflow for quantifying fungal behaviors Y Guo†, K Mondron†, J Uehling, J Cabrera-Rangel, J Chávez-González, L Partida Martinez, V Correia, J Jorge, C Silva Pereira, S Retterer. Department of Energy Oak Ridge National Laboratory Center for Nanophase Materials Science User Meeting. August 2023.

'Development of microfluidics workflow for quantifying fungal behaviors' Y Guo†, K Mondron†, **J Uehling**, J Cabrera-Rangel, J Chávez-González, L Partida Martinez, V Correia, J Jorge, C Silva Pereira, S Retterer. Department of Energy Oak Ridge National Laboratory Center for Nanophase Materials Science User Meeting. August 2023

'Insights into population biology of *Ganoderma oregonense* in the Pacific Northwest' K Syring†, K Daffron†, M Wiseman†, C Cole, D Porter†, S Naleway, **J Uehling**. Mycological Society of America. August 2023.

- 'Morphological and phylogenetic studies of *Actinomortierella* (Mucoromycota: Mortierellaceae) including the discovery of three new species' M Campbell, A Macias, B Lovett, S Meador, L Kasson, M Korne, N Vandepol, J Liber, J Stajich, G Bonito, **J Uehling**, M Kasson. Mycological Society of America. August 2023
- 'Nanopore Sequencing and assembly of bacterial endosymbiont genomes associated with *Rhizopus microsporus*' K Syring†, B Stairs†, T Pawlowska, E Ballou, J King, **J Uehling**. Mycological Society of America. August 2023
- 'Piecing together the puzzle: Elucidating *Ganoderma* phylogeny in the US and Nepal' B Preveliget†, K Syring†, **J Uehling**, D Denver. Mycological Society of America. August 2023.
- 'Untangling the patterns of sexual response to endohyphal bacterial symbionts: a case for and against assumptions' K Mondron†, K Castle†, W Gilmour†, T Pawlowska, R Adeleke, A Rojas, G Bonito, Y Guo†, S Retterer, **J Uehling**. Mycological Society of America. August 2023.
- 'What network analyses can do for you: methods overview and a case study in Mucoromycota fungal communities and their associated bacteria from rhizosphere soils?' N Reynoldst†, **J Uehling**, T Pawlowska. Mycological Society of America. August 2023
- 'Decoding fungal symbioses using computational evolutionary genomics International Conference on Biotechnology and Bioinformatics **International Conference on Biotechnology and Bioinformatic Key note address**, India. July 2023
- 'Mycological diversity and ethnobotanical history of psilocybin' **North American Truffling Society**. March 2023
- 'Diversity, Biology and History of Psilocybin Containing Fungi' **Institute of Neuroscience, University of Oregon**. February 2023
- 'The human pathogenicity, bacteria symbiosis, and environmental ecology of *Rhizopus microsporus*' Cascade Mycological Society Camp. B. Stairs†, J. Uehling February 2023
- 'Evolutionary insights into bacterial fungal interactions; the endosymbionts of Mucoromycota fungi' Oregon State University Botany and Plant Pathology departmental seminar. January 2023
- 'The ecology of *Rhizopus microsporus*' **Sonoma County Mycological Association (SOMA) Camp**. B. Stairs†, J. Uehling January 2023

2022

- 'Evolutionary genomics of fungal bacterial interactions' **Cascades Mycological Society** November 2022
- 'Bacterial endosymbionts in the Mucoromycota fungi, lessons from comparative genomics' **Australasian Mycological Society** October 2022
- 'Diversity, Biology, and History of Psilocybin-Containing Fungi, and the Ethnomycological Usages in Historical Indigenous Practices' Lincoln County Mycological Society. October 2022
- 'Psilocybin therapies' **Central Oregon Mycological Society** September 2022
- 'Diversity, biology, and history of Psilocybin-containing fungi' **Horizons Northwest** September 2022 M Wiseman† J Uehling
- 'Dimension of biodiversity among early-divergent fungi (Mucoromycota): A proposed study' American Society for Microbiology **August 2022** K Alayane†, T Pawlowska, J Uehling, R Adeleke August 2022
- 'Abundance, diversity, and functional mechanisms of bacterial endosymbiont interactions' **Canadian Fungal Research Network** June 2022
- 'Implementation of OR Measure 109; a mycologist's perspective' **Fungi in Society** May 2022
- 'The effect of horizontal transmission on the loss-driven evolution of *Mycoavidus*, a Mortierellomycotina associated endohyphal bacterium' K Amses†, J Uehling, **Genetic Society of America Fungal Chapter**. March 2022
- 'Change comes from near and far, from recent symbiotic shifts to deep trends in fungal evolution' K Amses†, **Mycological Society of Japan** March 2022
- 'Metabarcoding as a tool for investigating the influence of endosymbiotic bacteria on Mucoromycota fungal host community structure in the Sonoran Desert' N. Reynoldst†, K Amses†, J Uehling, R Adelke, T Pawlowska. Genetic Society of America Fungal Chapter. March 2022
- 'Who lives in the fungal microbiome? evolutionary genomics into the Mucoromycota fungi and their Burkholderia related intracellular endosymbionts' **Department of Biological Sciences, California State University Chico**. March 2022
- 'Mushroom forming fungi in the PNW; diversity, biology, and identification'. **Oregon State University Mycology Club**. February 2022

'Biology of psilocybin producing fungi' **Legal and regulatory landscape for psychedelics: Oregon's Measure 109 and future licensing.** January 2022

2021

'Fungal endosymbiont co-evolutionary trajectories; insights from Mucoromycota fungi symbioses' **Pharmacology Department, Oregon State University** Corvallis, OR

'Mucoromycota fungi and their Burkholderia related intracellular endosymbionts, insights into the fungal microbiome' **School of Plant Sciences University of Arizona,** Tucson, AZ

'Systems Biology and Genomic approaches to gain insights into the evolution of poly-microbial symbioses' **Plant Microbe Interaction group, Oak Ridge National Laboratory, Department of Energy,** Oak Ridge TN

'Mycology in Oregon', **Medford after 5 Rotary Club,** Medford, OR

'Fungal community and bacterial endosymbiont composition recovered from chitin-baited, plant-associated soil samples' Kyle Mondron† et al. Mycological & Societies of America joint meetings, virtual

'Bacterial endosymbionts of Mucoromycota fungi; lessons from evolutionary, functional and computational genomics analyses' **Mycological & Societies of America joint meetings,** virtual

'Evolutionary Fungal Bacterial Interactions and the Fungal Microbiome' **OSU 2021 Fungus Among Us Lecture Series, March 2021** Corvallis, OR.

'Functional genomics and evolution of symbioses between Mucoromycota fungi and their Betaproteobacterial endosymbionts' **Department of Biology, University of Texas at San Antonio,** San Antonio TX

'Evolutionary dynamics of bacterial fungal interaction in the Mucoromycota; insights from Mortierellomycotina' **Department of Biology Middle Tennessee State University,** Murfreesboro TN

2020

'Fungal Bacterial Interactions and the Fungal Microbiome' **University of Florida**

'Fungal endosymbiont evolution: insights into mechanisms, diversity, and ubiquity from the Mucoromycota fungi' **University of Colorado at Denver**

'Evolutionary dynamics of bacterial symbioses with Fungi across the kingdom; insights from the early diverging fungi' **Los Alamos National Laboratory, NM March 2020** *cancelled due to COVID19

'Systems biology reveals co-evolution of fungi and their bacterial endosymbionts' **University of New Mexico Biology weekly seminar Albuquerque, NM March 2020** *cancelled due to COVID19

'Ubiquity, diversity, and functional genomics of Mucoromycota fungi and their Betaproteobacterial endosymbionts' **Advances Against Aspergillosis and Mucoromycosis Lugano, Switzerland**

'Evolution of bacterial fungal symbioses; an exposé on fungal endosymbionts' **University of Oregon Institute for Ecology and Evolution weekly seminar Eugene, OR**

2019

'Fungal diversity in Jungles around the world' **Nerd Night event, Rickshaw Stop, San Francisco, CA**

'Elucidating molecular determinants of *Coccidioides* infections in the Southwestern United States using genome wide association studies (GWAS)' **Coccidioides Study Group, Davis CA**

'Population genomics of the human fungal pathogen, *Coccidioides* in Pima County **Arizona' Genetics Society of America Fungal Genetics Meeting, Pacific Grove CA**

'Fungal symbiosis genomics' **National Autonomous University of Mexico,** Mexico City, MX

'Fungi of tropical Rainforests' California Academy of Sciences Night Life series

2018

'Evolutionary genomics of plant associated microbial symbioses' **Green Life Symposium, University of Michigan, Ann Arbor, MI**

'Metagenomic strategies for inferring biological aspects of fungal endosymbiont systems' **International Mycological Congress, San Juan, Puerto Rico**

'Comparative genomics of functional basis for plant fungal endosymbiosis in *Mortierella elongata*' **University of Western Sydney, NSW Australia**

'Comparative genomics of interactions between fungal endosymbiont *Mycosporium cysteinexigens* and host *Mortierella elongata*' **Humboldt State University Biology weekly seminar Arcata, CA**

'Biogeography and diversity of the tropical ectomycorrhizal fungal genus *Clavulina*' **Humboldt Bay Mycological Society Arcata CA**

2017

'Causes and consequences of microbial symbioses; insights from comparative genomics of plant associated fungal bacterial interactions' **University of San Francisco weekly seminar San Francisco, CA**

'Data dumpster diving in the fungal –omics era' Mycological Society of America Annual meeting, Athens, GA

'Elucidating fungal endosymbiont interaction mechanisms between *Mortierella elongata* and *Mycosporium cysteinexigens*' **GSA Fungal Genetics Meeting, Pacific Grove CA**

2016

'Visualizing fungal bacterial interactions; applications of microfluidics & time-lapse videography' Mycological Society of America Annual meeting, Berkeley CA

'Studying bacterial fungal interactions with microfluidics' Department of Energy Plant Microbe Interfaces Fungal Genetics Meeting, Duke University Durham, NC

'Combined -omic approaches reveal functional mechanisms of bacterial fungal interactions in the *Populus* rhizosphere' **Fungal-Bacterial Interactions workshop at European Fungal Genetics Conference, Paris, France**

'Great fleas, little fleas, and lesser fleas; a comparative genomic study of endosymbiotic bacteria living in fungi associated with plant roots' Duke Biology Systematics Discussion Group, Duke University, Durham NC

2015

'Data dumpster diving; insights on fungal bacterial interactions from a mixed microbial community –omics approach' Duke Microbial Genomics symposium, Duke University, Durham NC

2014

'Bacterial-fungal interactions of *Mortierella elongata* in the *Populus* rhizosphere' **International Mycological Congress Bangkok Thailand**

'Genomic analyses of *Mortierella elongata* and associated bacterial endosymbiont (Candidatus *Glomeribacter* sp.)' **European Conference on Fungal Genetics, Seville, Spain**

'Host interaction dynamics between *Mortierella elongata* and bacterial endosymbionts *Glomeribacter*' Department of Energy Plant Microbe Interface meeting, Oak Ridge National Laboratory, Oak Ridge, TN

2013

'*Glomeribacter*, an endosymbiont of the basal fungus *Mortierella*' Advanced Bacterial Genetics Course. Cold Spring Harbor Laboratory NY

2012

'*Membranomyces*, a highly reduced ectomycorrhizal symbionts common in temperate forests' Humboldt Bay Mycological Society monthly meeting. Arcata, CA

'Implications of morphological and molecular variation in neo-tropical *Clavulina*' **Sonoma County Mycological Society SOMA Camp Santa Rosa, CA**

2011

'The tale of *Clavulina* in the tropics and in the Guiana Shield' **Cascade Mycological Society monthly meeting Eugene, OR**

'Is the Guiana Shield a diversity center for the genus *Clavulina*? Deviant morphologies and new species descriptions' Mycological Society of America meeting. Fairbanks, AK

'Diversity of the genus *Clavulina* (Cantharellales, Basidiomycota) in the Guiana Shield' **Institute for Tropical Ecology and Conservation Bocas del Toro, Panama**

'*Clavulina* in the Guiana Shield: species diversity and deviant morphologies in a global diversity center' **Latin American Mycological Congress meeting San Jose, Costa Rica**

'Systematics of the Cantharellales from the Guiana Shield' Humboldt Bay Mycological Society monthly meeting. Arcata, CA

RESEARCH ASSISTANTSHIPS

Zygomycete Genealogy of Life genome sequencing project 'ZyGoLife' NSF DEB1441715. 2016-2017

Alternative energy sources derived from fungi project 'Filamentous fungi for biodiesel production using lignocellulosic residuals' Department of Energy SEED Grant 2015-2016

Department of Energy Plant Microbe Interfaces 2014-2015

Ectomycorrhizal fungi in Guyana project, NSF DEB0918591 2011-2012

EXTERNAL TRAINING

Woods Hole Molecular Mycology Course 2018

Dja Forest Reserve, Cameroon 2017

Plant Systems Biology group internships at the Environmental Sciences Division, Department of Energy Oak Ridge National Laboratory. Funded by GO Fellowship & CNMS grants, 2014-2015

Advanced Bacterial Genetics Course & Proteomics Course, Cold Spring Harbor Laboratory, 2013 & 2014

Pagaima Savanah/Potaro River Basin, Guyana 2010-2013

Institute for Tropical Ecology and Conservation (ITEC) Bocas del Toro, Panama 2009

SOCIAL MEDIA COVERAGE

'Peace of Mind' 2023. **ESPN**

'Restrictions on Psilocybin 'Magic Mushrooms' Are Easing as Research Ramps Up' 2022. **Scientific American**

<https://www.scientificamerican.com/article/restrictions-on-psilocybin-magic-mushrooms-are-easing-as-research-ramps-up/>

'Research helps provide scientific framework for psilocybin use in therapeutic settings' 2022. **Science Daily**

<https://www.sciencedaily.com/releases/2022/04/220411101254.htm>

'Oregon's psilocybin program stands on thousands of years of indigenous experience' 2022. **Polk County Observer**

https://www.polkio.com/news/oregon-s-psilocybin-program-stands-on-thousands-of-years-of-indigenous-experience/article_d7f4395e-0dd1-11ed-8194-e3cf554d4f34.html

'Oregon State research helps provide scientific framework for psilocybin use in therapeutic settings' 2022. **Oregon State University News Room**

<https://today.oregonstate.edu/news/oregon-state-research-helps-provide-scientific-framework-psilocybin-use-therapeutic-settings>

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'A psychedelic surprise may be thriving in your local garden' 2022. **National Geographic** <https://www.nationalgeographic.com/science/article/a-psychedelic-surprise-may-be-thriving-in-your-local-garden>

'How Fungi & Bacteria Interact' 2022. **Mushroom Revival Podcast** <https://www.mushroomrevival.com/blogs/podcast/how-fungi-bacteria-interact>

'American Pecan Truffle May Be Coming to a Plate Near You, By Way of Extremely Cute Courier' 2013. **Scientific American Blog**. Coverage of short educational film available on YouTube <https://www.youtube.com/watch?v=h514cjmJD84>,