

Jessie K. Uehling
Curriculum Vitae
University Program in Genetics & Genomics
Duke University
Durham, NC 27708

Education

Ph.D. (Genetics & Genomics) Duke University, expected 2017
M.Sc. (Mycology) Humboldt State University, Arcata, CA 2012
B.S. (Botany) Humboldt State University, Arcata, CA 2010

Publications

- 1.) Henkel TW, Wilson AW, Aime MC, Dierks J, **Uehling JK**, Roy M, Schimann H, Wartchow F, Mueller GM. 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*. In press.
- 2.) **Uehling JK**, Henkel TW, Smith ME, Clarke HD, Vilgalys R. Ectomycorrhizal fungi associated with monodominant *Dicymbe altsonii* (Caesalpinioideae) trees and dispersed *Coccoloba* (Polygonaceae) lianas at Mabura Ecological Reserve, Guyana. *Molecular Ecology*. In Prep.
- 3.) Smith ME, **Uehling JK**, Henkel TW. 2012d. The ectomycorrhizal fungal community in a Neotropical forest dominated by the endemic dipterocarp *Pakaraimaea dipterocarpacea*. *PloS one* 8.1 (2013): e55160.
- 4.) Grupe AC, **Uehling JK**, Henkel TW. 2012c. *Sarcodon pakaraimensis*, a first record for Tropical South America. *Mycologia*. Submitted.
- 5.) **Uehling JK**, Henkel TW, Aime MC, Smith ME. 2012c. 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.
- 6.) Kennedy P, Matheny B, Ryberg M, Henkel T, **Uehling J**, Smith M. 2012b. Scaling up: examining the macroecology of ectomycorrhizal Fungi. *Molecular Ecology*. 21:4151–4154. Doi: 10.1111/j.1365-294X.2012.05703.x
- 7.) **Uehling JK**, Henkel TW, Vilgalys R, Smith ME. 2012a. *Membranomyces* species are common ectomycorrhizal symbionts in North temperate forests. *Mycorrhiza*. 22(7):577-81. doi: 10.1007/s00572-012-0457-8.
- 8.) Hodkinson BP, **Uehling JK**, Smith ME. *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.

9.) Uehling JK, Henkel TW, Aime MC, Vilgalys R, Smith ME. 2011b. New species of *Clavulina* (*Cantharellales*, *Basidiomycota*) with resupinate and effused basidiomata from the Guiana Shield. *Mycologia* 104:547-556. doi: 10.3852/11-130.

10.) Henkel TW, Aime MC, Uehling JK, Smith ME. 2011a. New species and distribution records for *Clavulina* (*Cantharellales*, *Basidiomycota*) from the Guiana Shield. *Mycologia* 103(4):883-889.

Scholarships, Fellowships, and Funding

December 2013 – European Conference for Fungal Genetics student travel grant

September 2013 – Joint Genome Institute Community Sequencing Program, “Comparative genomics of early diverging terrestrial fungi and their bacterial endosymbionts”. Collaborator.

June 2013 – Fungal Environmental Sampling and Informatics Network research dissemination grant

May 2013 – Duke University Program in Genetics & Genomics summer training travel grant

May 2012- California State University Program for Education and Research in Biotechnology travel grant

May 2012 – Humboldt State University McConkey Outstanding Graduate Student Award

October 2010, October 2011- Humboldt Bay Mycology Society George Verback Memorial Scholarship

May 2010 – Institute for Tropical Ecology & Conservation Sarah Glanzer Memorial Fellowship

December 2010 - Cascade Mycological Society Promising Graduate Student Research Grant

March 2011 – Humboldt State University Alistair McCrone Graduate Fellowship Award

May 2011 – Humboldt State University Gregory Mark Jennings Research Dissemination grant

June 2011 – Friends of the Farlow Visiting Scholar Fellowship, Harvard University

June 2011 – Sonoma County Mycological Society Outstanding Graduate Research Scholarship

Conferences and Presentations

“Genomic analyses of *Mortierella elongata* and associated bacterial endosymbiont (*Candidatus Glomeribacter* sp.)” European Conference on Fungal Genetics, Seville, Spain, J Uehling, G Bonito, K Hameed, J Labbé, DPelletier, T Tschaplinski, A Gryganskyi, A Schaefer, C Schadt, F Martin, R Vilgalys, March 2014.

“Host interaction dynamics between *Mortierella elongata* and bacterial endosymbionts *Glomeribacter*” Department of Energy Plant Microbe Interface meeting, Oak Ridge National Laboratory, J Uehling, G Bonito, K Hameed, J Labbé, DPelletier, T Tschaplinski, A Gryganskyi, A Schaefer, C Schadt, F Martin, R Vilgalys, March 2014.

“Mycological Society of America Student Section” Mycological Society of America & Plant Phytopathology Society joint meeting, Austin (poster) D Haelawaters, M Maltz, S Lee, **J Uehling** August 2013.

“Ectomycorrhizal fungi associated with *Dicymbe altsonii* trees and *Coccoloba* lianas at Mabura Ecological Reserve, Guyana”. Mycological Society of America & Plant Phytopathology Society joint meeting, Austin (poster) **JK Uehling**, TW Henkel, HD Clarke, MC Aime, R. Vilgalys, ME Smith August 2013.

“Cantharellaceae of the Guiana Shield: New species of *Craterellus*, and new distribution records for *Cantharellus guyanensis* and *Craterellus excelsus*” Mycological Society of America & Plant Phytopathology Society joint meeting, Austin TX. (poster) T Henkel, A Wilson, MC Aime, M Roy, **J Uehling**, G. Mueller. August 2013.

Mid-Atlantic State Mycological Association Conference, Beltsville, MD, April 2013.

Fungal Genetics Society of America meeting, Pacific Grove, CA. March 2013.

“Molecular, morphological, and biogeographic diversity in the ectomycorrhizal fungal genus *Clavulina*” International Biogeographers Society meeting. Miami, FL. (poster) **Uehling JK**, Henkel TW, Smith ME, Aime MC, Vilgalys R. January 2013.

“*Membranomyces* species are common ectomycorrhizal symbionts across the northern hemisphere.” Mycological Society of America (MSA) Annual Meeting, New Haven, CT. (poster) **Uehling JK**, Henkel TW, Vilgalys R, Smith ME. July 2012.

“Ectomycorrhizal fungi associated with *Pakaraimaea dipterocarpacea*, an endemic neotropical dipterocarp.” Mycological Society of America (MSA) Annual Meeting, New Haven, CT. (contributed presentation). Smith ME, Henkel TW, **Uehling JK**, Fremier AK, Clarke HD, Vilgalys July 2012.

“*Membranomyces*, a highly reduced ectomycorrhizal symbionts common in temperate forests” Humboldt Bay Mycological Society monthly meeting, Arcata, CA. April 2012.

“Implications of morphological and molecular variation in neo-tropical *Clavulina*” Sonoma County Mycological Society SOMA Camp invited speaker. Santa Rosa, CA. January 2012.

“The tale of *Clavulina* in the tropics and in the Guiana Shield” Cascade Mycological Society monthly meeting, Eugene, OR. September 2011.

“A first record for the genus *Sarcodon* in the lowland South American tropics.” Mycological Society of America (MSA) Annual Meeting, Fairbanks, AK.(poster) Grupe AC, **Uehling JK**, Smith ME, Henkel TW. August 2011.

“Is the Guiana Shield a diversity center for the genus *Clavulina*? Deviant morphologies and new species descriptions” Talk abstract, Mycological Society of America meeting, Fairbanks, AK. August 2011.

“Diversity of the genus *Clavulina* (*Cantharellales*, *Basidiomycota*) in the Guiana Shield” Guest lecture series, Institute for Tropical Ecology and Conservation, Bocas del Toro, Panama. July 2011.

“*Clavulina* in the Guiana Shield: species diversity and deviant morphologies in a global diversity center” Panel on Basidiomycete diversity, Latin American Mycological Congress meeting, San Jose, Costa Rica. July 2011.

“Systematics of the Cantharellales from the Guiana Shield” Humboldt Bay Mycological Society monthly meeting, Arcata, CA. January 2011.

Graduate Research Experience

June 2013 - Advanced Bacterial Genetics Course, Cold Spring Harbor Laboratory. Extensive Laboratory work based training in the following methods: classical mutagenesis using transposons, mutator strains, and chemical mutagens; recombineering with single and double stranded DNA; detection of gene expression changes using various reporter genes; the mapping of mutations using genetic and physical techniques; modern approaches to the generation and analysis of targeted gene disruptions and fusions using PCR and cloning methods; epitope insertion mutagenesis; site-directed mutagenesis; and fluorescence microscopy.

January 2013 – March 2013: Rotation project Heitman lab, Molecular Genetics & Microbiology, Duke University: This project involved studying putative interspecies signaling via the pheromone receptor like GPCR *cpr2*. I utilized previously made strains with varying combinations of mutated and deleted genes related to pheromone production and sensation, and plated fungi of increasingly more distant relatedness together. I used observed morphological changes to infer the functions of this gene.

September 2012 – December 2012: Rotation project Wernegreen lab, Institute for Genomic Sciences and Policy, Duke University: Bioinformatics and phylogenomics project involving assembly and alignment of mitochondrial genomes for comparisons of phylogenetic signal in ant genus *Camponotus* when using several vs. many mitochondrial protein coding genes in systematic analyses of the *Camponotini*.

July 2012 – September 2012: Rotation project Vilgalys lab, Biology Department, Duke University: Ectomycorrhizal fungal ecology study involving using Illumina amplicon library preparation and sequencing of ITS barcodes from mixed ectomycorrhizal root samples. This project assessed the effects of physical isolation and plant host identity on ECM community diversity.

September 2011 – Friends of the Farlow visiting fellow: Use of literature and fungal collections in the Farlow Herbarium at Harvard University. Finding and examining species of *Clavulina* and updating annotations for misidentifications of fungal species from around the world.

August 2010 – May 2012: Research in Henkel lab, Humboldt State University: Herbarium curation and maintenance, loan material preparation and communication with other herbaria, light and electron microscopy.

Field Work Experience

Summers 2012/2013: Collecting and processing ECM pine root tip data, New Haven CT, Blacksburg VA, Lufkin TX, USA

May 2012: Research and collecting expedition Mt. Ayanganna, Guyana

May 2011: Research and collecting expedition Mabura, Guyana

January 2011: Research and collecting expedition Pagaima Savanah, Guyana

May 2010: Research and collecting expedition Potaro River Basin, Guyana

July 2009: Field Biology course at the Institute for Tropical Ecology and Conservation (ITEC)
Bocas del Toro, Panama

Teaching & Leadership Experience

August 2013 – current Duke Graduate and Professional Student Council General Assembly
Representative for the University Program in Genetics & Genomics

April 2013 – current Secretary of the Mycological Society of America Student Section

March 2013 – Leader of NSF STEM graduate challenge collaborative team proposal involving mycology students from different universities titled, "Engaging graduate students in professional societies via technology & social media using a self-perpetuating travel-trade model: a case study".

March 2009 – May 2010: Botany 105 laboratory assistant technician, Humboldt State University, Arcata CA

August 2010 – December 2010: Botany 105 teaching assistant, Humboldt State University, Arcata, CA

August 2010 – August 2012: Research assistant on 'Ectomycorrhizal Diversity of the Guiana Shield' NSF grant NSF-DEB 0918591

January 2011: Teaching assistant at fungal biology workshop at Iwokrama Rainforest Reserve, Guyana