TIMOTHY YONG JAMES
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## RESEARCH INTERESTS

My research covers multiples aspects of the evolutionary genetics of fungi. Particular research foci center around traits unique to fungi or for which fungi make excellent models. These include the genetics of multiallelic and multilocus mating systems, heterokaryosis, spore dispersal strategies, population structure, mitotic recombination, and the evolution of virulence. I also study the fungal tree of life and its relationship to the evolution of phenotypes such as mating systems, morphology, and the genome.

## EDUCATION

Ph.D. in Biology and Program in Cell and Molecular Biology (2003), Duke University, Durham, NC, USA
B.Sc. in Botany (1996), University of Georgia, Athens, GA, USA

## PROFESSIONAL EXPERIENCE

**2015-** **Lewis E. Wehmeyer and Elaine Prince Wehmeyer Professor of Fungal Taxonomy**
College of Literature Sciences and the Arts, University of Michigan, Ann Arbor, MI, USA

**2015-** **Associate professor and associate curator of fungi**, Dept. of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA

**2009-2015** **Assistant professor and assistant curator of fungi**, Dept. of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA

**2008** **Postdoctoral researcher**, Dept. of Biology, McMaster University, Hamilton, ON, Canada
Advisor: Dr. Jianping Xu
Genetic control of mitochondrial inheritance by the mating-type locus of the pathogenic yeast *Cryptococcus neoformans*.

**2006-2007** **Postdoctoral researcher**, Dept. of Evolutionary Biology, Uppsala University & Dept. of Forest Mycology and Plant Pathology, Swedish University of Agricultural Sciences, Uppsala, Sweden
Advisors: Dr. Hanna Johannesson & Dr. Jan Stenlid
Competition and cooperation among nuclei of the forest pathogen *Heterobasidion annosum*.

**2003-2006** **Postdoctoral researcher**, Dept. of Biology, Duke University, Durham, NC
Advisor: Dr. Rytas Vilgalys

Assembling the Fungal Tree of Life (AFTOL), molecular systematics of basal fungal lineages

**1997-2003** **Ph.D. Student**, Dept. of Biology, Duke University, Durham, NC
Advisor: Dr. Rytas Vilgalys
Evolution of mating type in mushroom fungi, systematics of chytrid fungi

## TEACHING EXPERIENCE

*Instructor*

**2018-2019** Introductory Biology Lab, Authentic Research Conversion (co-taught with George Zhang)
**2010-2019** Genetics (8 times), University of Michigan (co-taught with MCDB faculty member)
**2009-2017** Biology of Fungi, University of Michigan (every other year)
**2006** Evolutionary Genetics, Duke University (1/4 semester)

*Teaching Assistantships*

**2002** The Diversity of Life, Duke University, NC, USA
**2002** Molecular Evolution, Duke University, NC, USA
**2001** Experimental Cell and Molecular Biology, Duke University, Durham, NC, USA
**2000** Mycology, Duke University, Durham, NC, USA
**2000** Microbial Ecology and Evolution, Duke University, Durham, NC, USA
**1999** Introductory Microbiology, Duke University, Durham, NC, USA

*Workshops*

**2013** Workshop on Microbial Population Genetics and Evolution, Chinese Academy of Sciences, Institute of Microbiology, Beijing, China

## AWARDS AND GRANTS

**2019** National Science Foundation, DEB-SBS, PurSUiT: Discovery and phylogenetic analysis of chytrid fungi using cultures and single cells. DEB-1929738 ($708,925). Role: PI
**2018** US-Israel Binational Science Foundation. Elucidating the molecular mechanisms by which the parasitic chytrid fungus *Paraphysoderma sedebokerense* infect and collapse algal cultures. N025779 ($101,250). Role: Co-PI with Sammy Bousibba.
**2018** National Science Foundation, CSBR (Collections in Support of Biological Research): Ownership Transfer of University of Maine Chytrid Fungal Collection to University of Michigan. DBI-1756202 ($107,563). Role: PI
**2017** U-M Energy Institute, Enhancing long-term carbon sequestration in soils by mycorrhizal fungi, part II ($20,000). Seed grant for international meeting on U-M Campus. Role: Co-PI with Mark Hunter (PI).
**2016** Chinese Academy of Sciences, President's International Fellowship Initiative (¥170,000). Sabbatical fellowship support.
**2016** U-M Energy Institute, Enhancing long-term carbon sequestration in soils by mycorrhizal fungi ($19,000). Seed grant. Role: Co-PI with Mark Hunter (PI).

**2016** National Science Foundation, Dissertation Research: Evolutionary consequences of pathogen strain competition in an emerging fungal disease DEB-1601259 ($20,150). Dissertation improvement grant for Thomas Jenkinson.

**2015** U-M Water Center, Building real-time quantitative PCR capabilities for the monitoring of harmful algal blooms and their parasites across the Great Lakes Region ($20,000). Equipment Grant.

**2015** U. Michigan, 2015 Class of 1923 Memorial Teaching Award

**2015** National Science Foundation, Digitization TCN Collaborative Research: The Microfungi Collections Consortium: A networked approach to digitizing small fungi with large impacts on the function and health of ecosystems, 1502703, ($118,277). Role: PI.

**2014** Joint Genome Institute, U.S. Department of Energy, Community Sequencing Program: Revealing the ecological function of uncultured fungal dark matter in freshwater ecosystems using single cell genomics. Award of 1.4 Tb of sequence data. Role: PI

**2014** National Science Foundation, DEB Genealogy of Life (GoLife), Collaborative Research: The Zygomycetes Genealogy of Life (ZyGoLife)- the conundrum of Kingdom Fungi, DEB 1441677 ($690,389). Role: PI Includes subcontracts with U. Florida and U. Ottawa, $303,224 for U-M.

**2014** Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Ciências sem Fronteiras: Ecologia & Evolução do fungo quitrídeo de anfíbios no Brasil. National Council for Scientific and Technological Development, Science without Borders: Ecology and Evolution of the amphibian chytrid fungus in Brazil ($160,000). Role: Co-PI with L. Felipe Toledo.

**2014** National Science Foundation, DEB Biodiversity: Discovery and Analysis, Unveiling the diversity and ecological role of the obligate parasitic fungi in phylum Cryptomycota, DEB-1354625 ($550,000). Role: PI. Includes a $158,129 sub-award to U-C Berkeley.

**2013** U-M Graham Sustainability Institute, U-M/Brazil collaboration seed grants, Assessing the threat of exotic disease to Atlantic Forest frogs: fostering multi-institutional collaboration, ($10,000). Role: PI

**2013** U-M Water Center, Identifying the environmental controls of algal pathogen epidemics and their influence on harmful algal blooms in Lake Erie, ($50,000). Role: PI

**2013** National Institutes of Health, NIAID, R21: How eukaryotic pathogens explore the fitness landscape by mitotic recombination, AI105167-02 ($427,625). Role: PI

**2012** US Fish and Wildlife Service, The role of the North American bullfrog in spreading chytridiomycosis across endangered frog populations in the Atlantic Forest of Brazil, F12AP00997 ($25,985). Role: PI

**2012** National Science Foundation, Catalyzing New International Collaboration Grant, Into the Heart of an Epidemic: a US-Brazil Collaboration for Integrative Studies of the Amphibian-Killing Fungus in Brazil, OISE 1159513 ($54,656). Role: PI

**2012** National Science Foundation, Digitization TCN Collaborative Research: Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs, EF 1206134 ($455,210). Role: PI

**2011** Alexopoulos Prize for Outstanding Early-Career Mycologist; Mycology Society of America

**2011** National Science Foundation, Digitization TCN Collaborative Research: North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change, EF 115030 ($217,595). Role: PI

**2010** Office of the Vice President for Research U. Michigan, Preliminary Projects: A genomic map of the fungal pathogen causing the current amphibian chytridiomycosis pandemic ($15,000). Role: PI
**2008** Michael G. DeGroote Postdoctoral Fellowship: Mechanism of mitochondrial inheritance in the human pathogenic fungus *Cryptococcus neoformans*
**2006** Wenner-Gren Postdoctoral Fellowship: Individuality and cooperation among nuclei of the root-rot fungus *Heterobasidion annosum*
**2005** Deep Hypha Conference Travel Award
**2002** Mycological Society of America International Conference Travel Award
**2002** Mycological Society of America Graduate Student Fellowship: The evolution of the mating-type genes in the hymenomycetes (mushroom fungi)
**2001** Dissertation Improvement Grant; National Science Foundation: The evolution of the *A* mating type genes in the hymenomycetes (mushroom fungi)
**2001** Genetics Society of America; Conference Travel Grant, 21st Fungal Genetics Conference
**2000** Duke University Graduate School; Conference Travel Fellowship
**1999** Grant-in-Aid of Research, Sigma Xi, The Scientific Research Society: Concerted evolution of rDNA in the cosmopolitan mushroom *Schizophyllum commu*ne
**1997** Duke University Program in Cell and Molecular Biology, Doctoral Fellowship

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PEER-REVIEWED PUBLICATIONS

legend*: undergraduate student trainees, graduate student trainees,* postdoctoral trainees

147. **James, T. Y.**, L. A. Michelotti, *A. D. Glasco*, R. A. Clemons, *R. A. Powers*, *E. S. James*, D. R. Simmons, F. Bai, and S. Ge. (*in review*). High-resolution mapping of loss of heterozygosity in evolved yeast clones under divergent selection. *Genetics*
146. *Powers, R. A.*, and **T. Y. James**. (*in revision*). Mating and molecular studies of the *Coprinellus disseminatus* species complex reveal cryptic species with pan-global biogeographic patterns. *Mycologia*
145. *Amses, K. R.*, W. J. Davis, and **T. Y. James**. (*in review*). *scgid*: a consensus approach to contig filtering and genome prediction from single cell sequencing libraries of uncultured eukaryotes. *Bioinformatics*
144. *Russell, I. D.*, J. G. Larson, R. von May, I. A. Holmes, **T. Y. James**, and A. R. Davis-Rabosky (*in review*). Widespread chytrid infection across frogs in the Peruvian Amazon suggests critical role for low elevation in pathogen spread and persistence. *PloS One*
143. Davis, W. J., G. H. Jerônimo, D. R. Simmons, C. A. Quandt, and **T. Y. James**. (*in revision*). Revisiting the aquatic phycomycete biota of the Douglas Lake region since the time of Dogma and Sparrow. *Philipp. J. Syst. Biol*.
142. McDonald, C. A., A. R. Ellison, L. F. Toledo, **T. Y. James**, and K. R. Zamudio. (*in review*). Lineage-specific functional variation in a global wildlife pathogen: enzootic and panzootic gene expression of *Batrachochytrium dendrobatidis*. *Fungal Biol.*
141. Oliveira, I., A. Karlokoski, C. Capinha, M. J. Marques Azevedo, S. Souza da Silva, **T. Y. James**, *T. S. Jenkinson*, and L. F. Toledo. (*in review*). Environmental niche requirements of enzootic and panzootic amphibian chytrid may explain their distribution patterns. *Ecosphere*.

140. Ribeiro, L., T. Carvalho, *T. S. Jenkinson*, D. da Silva Leite, C. G. Becker, **T. Y. James**, and L. F. Toledo. *(in review*). Bullfrog farms increase disease pressure by releasing pathogenic fungal zoospores into the environment. *Sci. Rep.*
139. Su, Y., D. Qi, **T. Y. James**, W. Chen, X. Wang, C. Gao, W. Yang, L. Chen, J. Liang, and L. Cai. (*in review*). Fungal communities in the gut of giant panda. *Fungal Ecol.*
138. Wang, M., P. Danesi, **T. Y. James**, A. M. S. Al-Hatmi, M. J. Najafzadeh, S. Dolatabadi, C. Ming, G.-Y. Liou, Y. Kang, and S. de Hoog. (*in press*). Comparative pathogenicity of opportunistic black yeasts in *Aureobasidium*. *Mycoses*
137. Jerônimo, G. H., C. L. A. Pires-Zottarelli, D. R. Simmons, and **T. Y. James**. (*in press*). *Boothiomyces angulosum* and *Boothiomyces elyense*: two new combinations to Terramycetaceae (Rhizophydiales, Chytridiomycota). *Nova Hedwigia*.
136. Dubey, M. K., **T. Y. James**, A. Zehra, M. Aamir, and R. S. Upadhyay. (2019). First report of *Newbya recurva* (Saprolegniaceae) from India. *Nova Hedwigia* 109: 81-93.
135. Boyce, G. R., E. Gluck-Thaler, J. C. Slot, J. E. Stajich, W. J. Davis, **T. Y. James**, J. R. Cooley, D. G. Panaccione, J. Eilenberg, H. H. De Fine Licht, A. M. Macias, M. C. Berger, K. L. Wickert, C. M. Stauder, E. J. Spahr, M. D. Maust, A. M. Metheny, C. Simon, G. Kritsky, K. T. Hodge, R. A. Humber, T. Gullion, D. P. G. Short, T. Kijimoto, D. Mozgai, N. Arguedas, M. T. Kasson. (2019). Psychoactive plant- and mushroom-associated alkaloids from two behavior modifying cicada pathogens. *Fungal Ecol.* 41: 147-164.
134. Jerônimo, G. H., A. L. Jesus, D. R. Simmons, **T. Y. James**, and C. L. A. Pires-Zottarelli. (2019). Novel taxa in Cladochytriales (Chytridiomycota): *Karlingiella* (*gen. nov.*) and *Nowakowskiella crenulata* (*sp. nov.*). *Mycologia* 111: 506-516.
133. Muletz-Wolz, C. R., S. E. Barnett, G. V. DiRenzo, K. R. Zamudio, L. F. Toledo, **T. Y. James**, and K. R. Lips. (2019). Plastic responses to temperature by the amphibian-killing fungus may facilitate its broad host range and rapid worldwide spread. *J. Evol. Biol.* 32: 287-298.
132. Zak, D. R., P. T. Pellitier, W. A. Argiroff, *B. T. Castillo*, **T. Y. James**, L. E. Nave, C. Averill, K. Beidler, J. Bhatnagar, J. Blesh, A. T. Classen, M. Craig, C. W. Fernandez, P. Gundersen, R. Johansen, R. T. Koide, E. A. Lilleskov, B. D. Lindahl, K. Nadelhoffer, R. P. Phillips, A. Tunlid. (2019). Exploring the function of ectomycorrhizal fungi in soil organic matter dynamics. *New Phytol.* 223: 33-39.
131. Davis, W. J., *K. R. Amses*, *E. S. James*, and **T. Y. James**. (2019). An 18S rRNA phylogeny demonstrates morphology is inadequate to delineate genera and species in Zoopagales. *Mycologia* 111: 291-298.
130. Bewick, A. J., B. T. Hofmeister, *R. A. Powers*, S. J. Mondo, I. V. Grigoriev, **T. Y. James**, J. E. Stajich, and R. J. Schmitz. (2019). Diversity of cytosine methylation across the fungal tree of life. *Nat. Ecol. Evol.* 3: 479-490.
128. Adl, S. M., D. Bass, C. E. Lane, J. Lukeš, C. L. Schoch, A. Smirnov, S. Agatha, C. Berney, M. W. Brown, F. Burki, P. Cárdenas, I. Čepička, L. Chistyakova, J. del Campo, M. Dunthorn, B. Edvardsen, Y. Eglit, L. Guillou, V. Hampl, A. A. Heiss, M. Hoppenrath, **T. Y. James**, S. Karpov, E. Kim, M. Kolisko, A. Kudryavtsev, D. J. G. Lahr, E. Lara, L. Le Gall, D. H. Lynn, D. G. Mann, R. Massana Molera, E. A. D. Mitchell , C. Morrow, J. S. Park, J. W. Pawlowski, M. J. Powell, D. J. Richter, S. Rueckert, L. Shadwick, S. Shimano, F. W. Spiegel, G. Torruella Cortes, N. Youssef, V. Zlatogursky, and Q. Zhang. (2019). Revisions to the Classification, Nomenclature, and Diversity of Eukaryotes. *J. Euk. Microbiol.* 66: 4-119.

127. Davis, W. J., *K. R. Amses*, G. L. Benny, D. Carter-House, Y. Chang, I. V. Grigoriev, M. E. Smith, J. W. Spatafora, J. E. Stajich, and **T. Y. James** (2019). Genome-scale phylogenetics analyses reveals a monophyletic Zoopagales (Zoopagomycota, Fungi) with predacious taxa evolving from mycoparasite ancestors. *Mol. Phylogenet. Evol.* 133: 152-163.
126. *Belasen, A. M.*, M. C. Bletz, D. da Silva Leite, L. F. Toledo, and **T. Y. James**. (2019). Long-term habitat fragmentation is associated with reduced immunogenetic diversity and increased infections in amphibian hosts. *Front. Ecol. Evol.* 6: 236.
125. Andrew, C., J. M. Diez, **T. Y. James**, and H. Kauserud. (2019). Fungarium specimens - a largely untapped source in global change biology and beyond. *Phil. Trans. R. Soc. B.* 374: 20170392.
124. *Jenkinson, T. S.*, D. Rodriguez, *R. A. Clemons*, L. A. Michelotti, K. R. Zamudio, L. F. Toledo, J. E. Longcore, and **T. Y. James**. (2018). Globally invasive genotypes of the amphibian chytrid outcompete an enzootic lineage in coinfections. *Proc. Roy. Soc. B.* 285: 20181894.
123. Lutzoni, F., M. D. Nowak, M. E. Alfaro, V. Reeb, J. Miadlikowska, M. Krug, A. E. Arnold, L. A. Lewis, D. Swofford, D. Hibbett, K. Hilu, **T. Y. James**, D. Quandt, and S. Magallón. (2018). Contemporaneous radiations of fungi and plants linked to symbiosis. *Nat. Comm*. 9: 5451.
122. Ahrendt, S. R., C. A. Quandt, D. Ciobanu, A. Clum, A. Salamov, B. Andreopoulos, J.-F. Cheng, T. Woyke, A. Pelin, B. Henrissat, G. L. Benny, M. E. Smith, **T. Y. James**, and I. V. Grigoriev. (2018). Leveraging single-cell genomics to expand the Fungal Tree of Life. *Nat. Microbiol.* 3: 1417-1428.
121. Hibbett, D. S., M. Blackwell, **T. Y. James**, J. W. Spatafora, J. W. Taylor, and R. Vilgalys. (2018). Phylogenetic taxon definitions for *Fungi*, *Dikarya*, *Ascomycota* and *Basidiomycota*. *IMA Fungus* 9: 291-298.
120. Yao, L.-D., X. Ju, **T. Y. James**, X.-Y. Liu, and J.-Z. Qui. (2018). Relationship between saccharifying capacity and ecology of domesticated, wild, and clinical strains of the *Rhizopus arrhizus* complex. *Mycoscience* 59: 409-414.
118. Arellano, M. L., M. A. Velasco, T. M. Aguirre, O. Zarini, *A. M. Belasen*, **T. Y. James**, and F. P. Kacoliris. (2018). Management strategy to avoid chytrid fungus infection in egg clutches of the Valcheta frog *Pleurodema somuncurense. Conserv. Evidence* 15: 38.
117. Arellano, M. L., M. A. Velasco, T. M. Aguirre, O. Zarini, *A. M. Belasen*, **T. Y. James**, and F. P. Kacoliris. (2018). Treatment of adult Valcheta frogs *Pleurodema somuncurense* for chytrid fungus. *Conserv. Evidence* 15: 37.
116. *Castillo, B. T.*, L. E. Nave, J. M. Le Moine, **T. Y. James**, and K. J. Nadelhoffer. (2018). Impacts of experimentally accelerated forest succession on below-ground plant and fungal communities. *Soil Biol. Biochem.* 125: 44-53.
115. Greenspan, S. E., C. Lambertini, T. Carvalho, **T. Y. James**, L. F. Toledo, C. F. B. Haddad, and C. G. Becker (2018). Hybrids of amphibian chytrid show high virulence in native hosts. *Sci. Rep.* 8: 9600.
114. Fisher, M. C., P. Ghosh, J. M. G. Shelton, K. Bates, L. Brookes, C. Wierzbicki, G. M. Rosa, R. A. Farrer, D. M. Aanensen, M. Alvarado-Rybak, A. Bataille, L. Berger, S. Boell, J. Bosch, F. C. Clare, E. Courtois, A. Crottini, A. A. Cunningham, T. M. Doherty-Bone, F. Gebresenbet, D. J. Gower, J. Hoglund, *T. S. Jenkinson*, T. A. Kosch, **T. Y. James**, C. Lambertini, A. Laurila, C.-F. Lin, A. Loyau, A. Martel, S. Meurling, C. Miaud, P. Minting, S. Ndriantsoa, L. P. Ribeiro, L. Ribeiro, F. Pasmans, T. Rakotonanahary, F. C. E. Rabemananjara, D. S. Schmeller, B. R. Schmidt, L. Skerratt, F. Smith, C. Soto-Azat,

G. Tessa, L. F. Toledo, A. Valenzuela-Sanchez, R. Verster, J. Voros, B. Waldman, R. J. Webb, C. Weldon, E. Wombwell, K. R. Zamudio, J. E. Longcore, and T. W. J. Garner. (2018). Development and worldwide use of a non-lethal and minimal population-level impact protocols for the isolation of chytrids from amphibians. *Sci. Rep.* 8: 7772.

113. O'Hanlon, S. J., A. Rieux, R. A. Farrer, G. M. Rosa, B. Waldman, A. Bataille, T. A. Kosch, K. Murray, B. Brankovics, M. Fumagalli, M. D. Martin, N. Wales, M. Alvarado-Rybak, L. Berger, S. Böll, L. Brookes, F. Clare, E. A. Courtois, A. A. Cunningham, T. Doherty-Bone, P. Ghosh, D. J. Gower, W. E. Hintz, J. Höglund, *T. S. Jenkinson*, C.-F. Lin, A. Laurilla, A. Loyau, A. Martel, S. Meurling, C. Miaud, P. Minting, F. Pasmans, D. Schmeller, B. R. Schmidt, J. Shelton, L. F. Skerratt, F. Smith, C. Soto-Azat, M. Spagnoletti, G. Tessa, L. F. Toledo, A. Valenzuela-Sánchez, R. Verster, J. Vöros, R. J. Webb, C. Wierzbicki, E. Wombwell, K. R. Zamudio, D. M. Aanensen, **T. Y. James**, M. T. P. Gilbert, C. Weldon, J. Bosch, F. Balloux, T. W. J. Garner, and M. C. Fisher. (2018). A 20th century Out-of-Asia origin of a panzootic threat to global amphibian biodiversity. *Science* 360: 621-627.
112. Letcher, P. M., J. E. Longcore, **T. Y. James**, D. S. Leite, D. R. Simmons, and M. J. Powell. (2018). Morphology, ultrastructure, and molecular phylogeny of *Rozella multimorpha*, a new species in Cryptomycota. *J. Eukaryot. Microbiol*. 65: 180-190.
111. Ruggeri, J., S P. de Carvalho-e-Silva, **T. Y. James**, and L. F. Toledo. (2018). Amphibian chytrid infection is influenced by rainfall seasonality and water availability. *Dis. Aquat. Organ*. 127: 107-115.
110. Phadke, S. S., C. J. Maclean, S. Y. Zhao, *E. A. Mueller*, L. A. Michelotti, K. L. Norman, A. Kumar, and **T. Y. James**. (2018). Genome-wide screen for yeast genes contributing to opportunistic pathogenicity in an invertebrate model host. *G3 Genes Genom. Genet.* 8: 63-78.
109. Miller, A. N., D. B. Raudabaugh, T. Iturriaga, P. B. Matheny, K. W. Hughes, M. Gube, *R. A. Powers*, **T. Y. James**, and K. L. O'Donnell. (2017). First report of the post-fire morel, *Morchella exuberans*, in eastern North America. *Mycologia* 109: 710-714.
108. Mesquita, A. F. C., C. Lambertini, M. Lyra, L. R. Malagoli, **T. Y. James**, L. F. Toledo, C. F. B. Haddad, and C. G. Becker. (2017). Lower tolerance to chytridiomycosis in direct-developing amphibians. *Sci. Rep.* 7: 16605.
107. Quandt, C. A., D. Beaudet, D. Corsaro, J. Walochnik, R. Michel, N. Corradi, and **T. Y. James**. (2017). The genome of an intranuclear parasite, *Paramicrosporidium saccamoebae*, unveils alternative adaptations to obligate intracellular parasitism. *eLife* 6: e29594.
105. **James, T. Y.**, and K. A. Seifert. (2017). Description of *Bifiguratus adelaidae*: The hunt ends for one of the "Top 50 Most Wanted Fungi". *Mycologia* 109: 361-362.
104. Wang, Q., S. Wang, C. L. Xiong, **T. Y. James**, and X. G. Zhang. (2017). Mating-type genes of the asexual fungus *Ulocladium botrytis* affect both asexual sporulation and sexual reproduction. *Sci. Rep.* 7: 7932.
103. Powell, M. J., P. M. Letcher, and **T. Y. James**. (2017). Ultrastructural characterization of the host-parasite interface between *Allomyces anomalus* (Blastocladiomycota) and *Rozella allomycis* (Cryptomycota). *Fungal Biol.* 121: 561-572.
102. Karpov, S. A., K. S. Mamanazarova, O. V. Popova, V. V. Aleoshin, **T. Y. James**, M. A. Mamkaeva, V. S. Tevetkova, A. E. Vishnyakov, and J. E. Longcore. (2017). Monoblepharidomycetes diversity includes new parasitic and saprotrophic species with highly intronized rDNA. *Fungal Biol.* 121: 729-741.

101. Mondo, S. J., R. O. Dannebaum, R. C. Kuo, K. B. Louie, A. J. Bewick, K. LaButti, S. Haridas, A. Kuo, A. Salamov, S. R. Ahrendt, R. Lau, B. P. Bowen, A. Lipzen, W. Sullivan, W. B. Andreopoulos, A. Clum, E. Lindquist, C. Daum, T. R. Northen, G. K. Ramamoorthy, R. J. Schmitz, A. Gryganskyi, D. Culley, J. Magnuson, **T. Y. James**, M. A. O'Malley, J. E. Stajich, J. W. Spatafora, A. Visel, and I. V. Grigoriev. (2017). Widespread adenine N6-methylation of active genes in fungi. *Nat. Genet*. 49: 964-968.
100. Arellano, M. L., M. A. Velasco, F. P. Kacoliris, *A. M. Belasen*, **T. Y. James**. (2017). First record of chytrid fungus in *Pleurodema somuncurense*, a critically endangered species from Argentina. *Herp. Rev.* 48: 68-70.
99. Berbee, M. L., **T. Y. James**, and C. Strullu-Derrien. (2017). Early diverging Fungi: Diversity and impact at the dawn of terrestrial life. *Annu. Rev. Microbiol.* 71: 41-60.
98. Tedersoo, L., M. Bahram, R. Puusepp, R. H. Nilsson, and **T. Y. James**. (2017). Novel soil-inhabiting clades fill gaps in the fungal tree of life. *Microbiome*. 5: 42.
97. Farrer, R. A., A. Martel, E. Verbrugghe, A. Abouelleil, R. Ducatelle, J. E. Longcore, **T. Y. James**, M. C. Fisher, and C. A. Cuomo. (2017). Genomic innovations linked to infection strategies across emerging pathogenic chytrid fungi. *Nature Comm.* 8: 14742.
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21. **James, T. Y.**, F. Kauff, C. Schoch, P. B. Matheny, V. Hofstetter, C. Cox, G. Celio, C. Gueidan, E. Fraker, J. Miadlikowska, H. T. Lumbsch, A. Rauhut, V. Reeb, A. E. Arnold, A. Amtoft, J. E. Stajich, K. Hosaka, G.-H. Sung, D. Johnson, B. O'Rourke, M. Crockett, M. Binder, J. M. Curtis, J. C. Slot, Z. Wang, A. W. Wilson, A. Schüßler, J. E. Longcore, K. O'Donnell, S. Mozley-Standridge, D. Porter, P. M. Letcher, M. J. Powell, J. W. Taylor, M. M. White, G. W. Griffith, D. R. Davies, R. A. Humber, J. B. Morton, J. Sugiyama, A. Y. Rossman, J. D. Rogers, D. H. Pfister, D. Hewitt, K. Hansen, S. Hambleton, R. A. Shoemaker, J. Kohlmeyer, B. Volkmann-Kohlmeyer, R. A. Spotts, M. Serdani, P. W. Crous, K. W. Hughes, K. Matsuura, E. Langer, G. Langer, W. A. Untereiner, R. Lücking, B. Büdel, D. M. Geiser, A. Aptroot, P. Diederich, I. Schmitt, M. Schultz, R. Yahr, D. Hibbett, F Lutzoni, D. McLaughlin, J. Spatafora, and R. Vilgalys. (2006). Reconstructing the early evolution of the fungi using a six gene phylogeny. *Nature* 443: 818-822.

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19. Hoegger, P. J., S. Kilaru, **T. Y. James**, J. R. Thacker, and U. Kües. (2006). Phylogenetic comparison and classification of laccase and related multicopper oxidase protein sequences. *FEBS Journal* 273: 2308-2326.
18. **James, T. Y.**, P. Srivilai, U. Kües, and R. Vilgalys. (2006). Evolution of the bipolar mating system of the mushroom *Coprinellus disseminatus* from its tetrapolar ancestors involves loss of mating-type-specific pheromone receptor function. *Genetics* 172: 1877-1891.
17. Harris, R. N., **T. Y. James**, A. Lauer, M. A. Simon, and *A. Patel*. (2006). Amphibian pathogen *Batrachochytrium dendrobatidis* is inhibited by the cutaneous bacteria of amphibian species. *EcoHealth* 3: 53-56.
15. Adl, S. M., A. G. B. Simpson, M. A. Farmer, R. A. Andersen, O. R. Anderson, J. R. Barta, S. S. Bowser, G. Brugerolle, R. A. Fensome, S. Fredericq, **T. Y. James**, S. Karpov, P. Kugrens, J. Krug, C. E. Lane, L. A. Lewis, J. Lodge, D. H. Lynn, D. G. Mann, R. M. Mccourt, L. Mendoza, Ø. Moestrup, S. E. Mozley-Standridge, T. A. Nerad, C. A. Shearer, A. V. Smirnov, F. W. Spiegel, and M. F. J. R. Taylor. (2005). The new higher level classification of eukaryotes with emphasis on the taxonomy of protists. *J. Eukaryot. Microbiol.* 52: 399-451.
13. Lutzoni, F., F. Kauff, C. J. Cox, D. McLaughlin, G. Celio, B. Dentinger, M. Padamsee, D. Hibbett, **T. Y. James**, E. Baloch, M. Grube, V. Reeb, V. Hofstetter, C. Schoch, A. E. Arnold, J. Miadlikowska, J. Spatafora, D. Johnson, S. Hambleton, M. Crockett, R. Shoemaker, G.-H. Sung, R. Lücking, T. Lumbsch, K. O'Donnell, M. Binder, P. Diederich, D. Ertz, C. Gueidan, K. Hansen, R. C. Harris, K. Hosaka, Y.-W. Lim, B. Matheny, H. Nishida, D. Pfister, J. Rogers, A. Rossman, I. Schmitt, H. Sipman, J. Stone, J. Sugiyama, R. Yahr and R. Vilgalys. (2004). Assembling the fungal tree of life: Progress, classification, and evolution of subcellular traits. *Am. J. Bot.* 91: 1446-1480.
12. **James, T. Y.**, S.-R. Liou, and R. Vilgalys. (2004). The genetic structure and diversity of the *A* and *B* mating-type genes from the tropical oyster mushroom, *Pleurotus djamor*. *Fungal Genet. Biol.* 41: 813-825.
11. **James, T. Y.**, U. Kües, S. A. Rehner, and R. Vilgalys. (2004). Evolution of the gene encoding mitochondrial intermediate peptidase and its cosegregation with the *A* mating-type locus of mushroom fungi. *Fungal Genet. Biol.* 41: 381-390.
10. *Morehouse, E. A.*, **T. Y. James**, A. R. D. Ganley, R. Vilgalys, L. Berger, P. J. Murphy, and J. E. Longcore. (2003). Multilocus sequence typing suggests the chytrid pathogen of amphibians is a recently emerged clone. *Mol. Ecol.* 12: 395-403.
9. Moncalvo, J.-M., R. Vilgalys, S. A. Redhead, J. E. Johnson, **T. Y. James**, M. C. Aime, V. Hofstetter, S. Verduin, E. Larsen, T. J. Baroni, R. G. Thorn, S. Jacobsson, H. Clémençon, and O. K. Miller, Jr. (2002). One hundred and seventeen clades of euagarics. *Mol. Phylogenet. Evol*. 23: 357-400.
8. **James, T. Y**., R. P. Boulianne, A. P. F. Bottoli, J. D. Granado, M. Aebi, and U. Kües (2002). The *pab1* gene of *Coprinus cinereus* encodes a bifunctional protein for *para*-aminobenzoic acid (PABA) synthesis: implications for the evolution of fused PABA synthases. *J. Basic. Microbiol.* 42: 91-103.
7. Miller, O. K., Jr., T. W. Henkel, **T. Y. James**, and S. L. Miller (2001). *Pseudotulostoma*, a remarkable new volvate genus in the Elaphomycetaceae from Guyana. *Mycol. Res.* 105: 1268-1272.

6. **James, T. Y.**, and R. Vilgalys (2001). Abundance and diversity of *Schizophyllum commune* spore clouds in the Caribbean detected by selective sampling. *Mol. Ecol.*10: 471-480.
5. Kües, U., **T. Y. James**, R. Vilgalys, and M. Challen (2001). The chromosomal region containing *pab-1*, *mip*, and the *A* mating type locus of the secondarily homothallic basidiomycete *Coprinus bilanatus*. *Curr. Genet.* 39: 16-24.
4. **James, T. Y.**, J.-M. Moncalvo, S. Li, and R. Vilgalys (2001). Polymorphism at the ribosomal DNA spacers and its relation to breeding structure of the widespread mushroom *Schizophyllum commune*. *Genetics*. 157: 149-161.
3. **James, T. Y.**, D. Porter, C. A. Leander, R. Vilgalys, and J. E. Longcore. (2000). Molecular phylogenetics of the Chytridiomycota supports the utility of ultrastructural data in chytrid systematics. *Can. J. Bot.* 78: 336-350.
2. **James, T. Y.**, D. Porter, J. L. Hamrick, and R. Vilgalys. (1999). Evidence for limited intercontinental gene flow in the cosmopolitan mushroom, *Schizophyllum commune*. *Evolution* 53: 1665-1677.
1. **James, T.,** S. Vege, P. Aldrich, and J. L. Hamrick. (1998). Mating systems of three dry forest tropical tree species. *Biotropica* 30: 587-594.

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BOOK CHAPTERS

88. Wang, Z., R. H. Nilsson, **T. Y. James**, Y. Dai, and J. P. Townsend. (2016). Future perspectives and challenges of fungal systematics in the age of big data. In D.-W. Li [ed.]. pp. 25-46. Biology of Microfungi. Springer International, Switzerland.
74. Marano, A. V., A. L. Jesus, C. L. A. Pires-Zottarelli, **T. Y. James**, F. H. Gleason, and J. I. de Souza. (2014). Phylogenetic relationships of Pythiales and Peronosporales (Oomycetes, Straminipila) within the "peronosporalean galaxy. *In* K. D. Hyde, G. Jones and K.-L. Pang [eds]. pp. 177–200. *Freshwater fungi*. De Gruyter, Berlin.
72. **James, T. Y.**, T. M. Porter, and W. W. Martin. (2014). Blastocladiomycota. *In* D. J. McLaughlin, and J. W. Spatafora [eds]. pp. 177-207. *The Mycota VII*. Springer Verlag, Berlin.
59. **James, T. Y.** (2012). Ancient yet fast: rapid evolution of mating genes and mating systems in Fungi. *In* R. S. Singh, J. Xu, and R. J. Kulathinal [eds]. pp. 187-200. *Evolution in the Fast Lane: Rapidly Evolving Genes and Genetic Systems*. Oxford University Press, Oxford, U.K.
53. Kües, U., **T. Y. James**, and J. Heitman. (2011). Mating type in Basidiomycetes: Unipolar, bipolar, and tetrapolar patterns of sexuality. *In* S. Pöggeler, and J. Wöstemeyer [eds.]. pp. 97-160. *Evolution of fungi and fungal-like organisms, The Mycota XIV*. Springer Verlag, Berlin.
29. **James, T. Y.** (2007). Analysis of mating-type locus organization and synteny in mushroom fungi- beyond model species. pp. 317-331. *In* J. Heitman, J. Kronstad, J. W. Taylor, and L. A. Casselton [eds.]. pp. 317-331. *Sex in fungi: molecular determination and evolutionary implications*. ASM Press, Washington, D. C.
28. Idnurm, A., **T. Y. James**, and R. Vilgalys. (2007). Sex in the rest: mysterious mating in the Chytridiomycota and Zygomycota. *In* J. Heitman, J. Kronstad, J. W. Taylor, and L. A. Casselton [eds.]. pp. 407-418. *Sex in fungi: molecular determination and evolutionary implications*. ASM Press, Washington, D. C.
25. Beakes, G. W., S. L. Glockling, and **T. Y. James**. (2006). The diversity of oomycete pathogens of nematodes and its implications to our understanding of oomycete

phylogeny. *In* W. Meyer, C. Pearce [eds.] pp. 7-12. Proceedings of the Eighth International Mycological Congress. Medimond: Italy.

24. **James, T. Y.**, and R. Vilgalys. (2006). Amphibian chytridiomycosis as an emerging infectious disease of wildlife: what can we learn from the earliest diverging fungi? pp. 271-278. *In* J. Heitman, S. G. Filler, J. E. Edwards, Jr., and A. P. Mitchell [eds.]. *Molecular Principals of Fungal Pathogenesis*. ASM Press, Washington, D. C.
16. **James, T. Y.** (2005). The population genetics of phycomycetes. pp. 117-148. *In* J. Xu [ed.]. *Evolutionary Genetics of Fungi*. Horizon Bioscience, Norfolk, UK.
14. Taylor, J. W., J. Spatafora, K. O'Donnell, F. Lutzoni, **T. James**, D. S. Hibbett, D. Geiser, T. D. Bruns, and M. Blackwell. (2004). The fungi. pp. 171-194. *In* J. Cracraft and M. J. Donoghue [eds.], *Assembling the tree of life*. Oxford University Press, Oxford, UK.

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BOOKS

106. Heitman, J., B. J. Howlett, P. W. Crous, E. H. Stukenbrock, **T. Y. James**, and N. A. Gow. (2017). *The Fungal Kingdom*. ASM Press, Washington, D. C.

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OTHER PUBLICATIONS

129. Gladfelter, A. S., **T. Y. James**, and A. S. Amend. (2019). Marine fungi [A primer]. *Curr. Biol.* 29: R191-R195.
119. **James**, **T. Y.** (2018). *The Age of Yeast*, [Book review]. *Curr. Biol.* 28: R853-R854.

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INVITED PRESENTATIONS

**2019** Brazilian Congress of Mycology, Manaus, Brazil. Genomic approaches to understanding the phylogeny and ecology of uncultured dark matter fungi in aquatic ecosystems.
**2019** 30th Fungal Genetics Conference, Pacific Grove, CA. Recombination versus mutation as the fuel for rapid evolution across the fungal tree of life.
**2018** State of the World's Fungi Symposium, Kew Gardens, London, UK. Can single cell genomics bring dark fungal taxa to light?
**2018** Genomics Seminar Series, University of Wisconsin, Madison, WI. Stories read from the genomic variation within a single fungal cell.
**2018** Joint Genome Institute Genomics of Energy and Environment Meeting, San Francisco, CA. Leveraging genetic variation among single cells or individuals to understand the cryptic biology of fungi.
**2018** Department of Biological Sciences, Wayne State University, Detroit, MI. Adaptation by mitotic recombination in evolving yeast populations.
**2017** Duke University Program in Genetics and Genomics, Durham, NC. Adaptation by mitotic recombination in evolving yeast populations.
**2017** 33rd Great Lakes – St. Lawrence Mycology Meeting, Queens University Biological Station, ON, Canada. Natural born and experimentally evolved killer fungi.
**2017** 29th Fungal Genetics Conference, Pacific Grove, CA. Adaptation by mitotic recombination in evolving yeast populations.

**2016** Institute of Microbiology, Chinese Academy of Sciences, Beijing, China. Development of single cell genomics methods to place dark matter fungi on the fungal tree of life.
**2016** Guizhou Medical University, Guiyang, China. Genetic analysis of virulence in opportunistic fungi: development of a *Saccharomyces*-insect infection model.
**2016** Yunnan Institute of Tropical Crop Science and Technology, Jinghong, China. Phylogenetic methods: principles and practice.
**2016** Northwest Agriculture and Forestry University, Yangling, China. Fungal foes, friends and freaks. How genetics illuminates the mysterious nature of The Fungal Kingdom.
**2016** Shanxi University, Taiyuan, China. Genetic analysis of virulence in opportunistic fungi: development of a *Saccharomyces*-insect infection model.
**2016** Shandong Agricultural University, Tai'an China. The evolution of fungal pathogens: from obligate to opportunistic killers.
**2016** Mycological Society of China, Fuzhou, China. The evolutionary spectrum of fungal pathogenesis: from obligate killers to careless guests.
**2015** Department of Botany, University of British Columbia, Vancouver. Pathogen sex and recombination during the amphibian chytridiomycosis panzootic.
**2014** Mycological Society of Japan, Kanto Branch, Tokyo, Japan. Shedding light on "dark matter fungi": approaches for populating the fungal tree of life with uncultured species.
**2014** 30$^{th}$ Commemorative Symposium for the Award of the International Prize for Biology, Tokyo, Japan. A parasitic root on the fungal tree of life inferred using phylogenomics.
**2014** VIII Congreso Latinoamericano de Micología. Medellin, Colombia. Genetic and geographical patterns of amphibian chytridiomycosis invasion across the Americas.
**2014** Gordon Research Conference on Cellular and Molecular Mycology, Holderness, NH. Sex, recombination, and mutation in the amphibian chytrid pathogen revealed by genome resequencing.
**2014** Mycological Society of America Annual Meeting, East Lansing, MI. Deciphering the current amphibian chytridiomycosis panzootic using genomics.
**2014** Department of Biological Sciences, Humboldt State University, Arcata, CA. Molecular epidemiology of the amphibian killing fungus in the Brazilian Atlantic Coastal Forest.
**2013** EMBO Comparative Genomics of Eukaryotic Microorganisms: Complexity Patterns in Eukaryotic Genomes, St. Feliu de Guixols, Spain. How much do we really know about fungal diversity and phylogeny?
**2013** Department of Plant Pathology. Michigan State University, East Lansing, MI. What population genetics tells us about the ongoing amphibian chytridiomycosis pandemic.
**2013** Departamento de Genética, Universidade Federal de Rio Grande do Sul, Brazil. The role of the frog leg market in the global spread of the deadly amphibian-killing fungus.
**2013** Insituto de Biologia, Universidade Estadual de Campinas, Brazil. Genetic diversity of the amphibian chytrid on a global scale and the search for sexual reproduction.
**2012** Evolutionary Biology, Zoologisches Institut, Universität Basel, Switzerland. Phylogenomics reveal Cryptomycota as a diverse group of energy parasites at the base of the fungal tree of life.
**2012** Department of Ecology & Evolution, University of Lausanne, Switzerland. The evolution of ploidy and recombination across the fungal tree of life.
**2012** Department of Biology, University of Toronto Mississauga, Canada. Pathogen recombination during the amphibian chytridiomycosis pandemic: why change what's working?
**2012** Duke Symposium in Celebration of Mycology and Mycologists, Department of Molecular Genetics and Microbiology, Duke University, Durham, NC. Pathogen

recombination during the amphibian chytridiomycosis pandemic: why change what's working?

**2012** Keystone Symposium: Fungal Pathogens from Basic Biology to Drug Discovery, Santa Fe, NM. Pathogen recombination during the amphibian chytridiomycosis pandemic: why change what's working?

**2011** Biology Department, University of Ottawa, Ottawa, ON, Canada. What the genome of the endoparasite *Rozella* can tell us about the most recent common ancestor of fungi

**2011** Biology Department, Duke University, Durham, NC, What the genome of the endoparasite *Rozella* can tell us about the most recent common ancestor of fungi

**2011** Biology Department, Eastern Michigan University, Ypsilanti, MI, Origin and spread of the pandemic fungal disease linked to globally declining amphibian populations

**2010** School of Biology and Ecology, U. Maine, Orono, ME, Origin and spread of the fungal disease linked to globally declining amphibian populations

**2010** Department of Biology, Bowdoin College, Brunswick, ME, Origin and spread of the fungal disease linked to globally declining amphibian populations

**2010** Annual Meeting of the Genetics Society of Canada, McMaster University, Hamilton, ON, Canada, Ancient or fast: the hunt for trans-species polymorphism in mushroom mating genes

**2010** Montana Ecology of Infectious Diseases, U. Montana, Missoula, MT, Rare recombination events and the origin and spread of the current amphibian chytridiomycosis pandemic.

**2009** Pettengill Lecture, UM Biological Station, A clonal pandemic of the emerging fungal disease chytridiomycosis in both declining and healthy amphibian population

**2009** Evolution of Sex & Recombination: in Theory and in Practice, Iowa City, IA, Heterokaryosis and its advantages and disadvantages relative to diploidy.

**2009** Mid-Atlantic States Mycology Conference, Beltsville, MD, Mysterious mating and recombination across the Fungal Tree of Life

**2008** The IUMS XIIth International Congress of Mycology, Istanbul, Turkey, The phylogeny of basal fungal lineages: attempting a consensus using a handful of mycology's favourite gene regions.

**2007** British Mycological Society Annual Meeting, Manchester, UK, Evolution of mating type and mating systems in bipolar mushrooms.

**2006** Dept. of Biology, Oslo University, Norway, The deepest of fungi: resolving basal lineages on the fungal tree of life.

**2005** Deep Hypha Annual Meeting, Tuscon AZ, Phylogeny of basal lineages of Fungi.

**2002** Gordon Research Conference on Cellular and Molecular Mycology, Holderness, NH, Genetic evidence suggests the fungal agent of chytridiomycosis in amphibians is a recently emerged, pandemic clone.

**2002** Seventh International Mycological Congress, Global patterns of genetic variation in *Schizophyllum commune*.

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PUBLIC LECTURES AND OUTREACH

**2019** Michigan Mushroom Hunters Club, Tour of MICH Herbarium and overview of ongoing mycological projects.

**2015** Michigan Mushroom Hunters Club, Presentation: How much do we really know about fungal diversity and taxonomy?

**2015-2019** Co-founded the Midwest American Mycological Information Corp., an educational non-profit, for the dissemination of information related to fungal biology in the region. Among the goals is the establishment of a certification program for mushroom harvesters across the state of Michigan.

**2014** Kalamazoo Gazette Interview, "Mysteries of Michigan morel mushrooms stump even the experts". May 21, 2014. http://www.mlive.com/news/kalamazoo/index.ssf/2014/05/the_mysteries_of_michigan_more.html

**2012** Michigan Botanical Club, Huron Division, Fungi of the Silver Lake Area (guided walk)

**2012** Michigan Mushroom Hunters Club, Tour of MICH Herbarium and overview of ongoing mycological projects.

**2011** Michigan Botanical Club, Huron Division, Presentation: Friendly and deadly branches on the fungal tree of life.

**2011** National Public Radio Interview, "A New, Somewhat Moldy Branch On The Tree Of Life". May 12, 2011. http://www.npr.org/2011/05/12/136207874/a-new-somewhat-moldy-branch-on-the-tree-of-life

**2010** Michigan Mushroom Hunters Club, Presentation: An emerging pandemic caused by an aquatic fungus has led to the decline of global amphibian populations

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## PROFESSIONAL AFFILIATIONS

American Society of Microbiology
Genetics Society of America
Mycological Society of America

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## ACADEMIC SERVICE

Associate Editor, *Frontiers in Cellular and Infection Microbiology*, Fungal Pathogenesis Editorial Board (2018-).

Associate Editor, *Mycologia* (2012-2017).

Editorial Board, *Eukaryotic Cell* (2010-2015).

Research Awards Committee of the Mycological Society of America (2014-present).

Student Awards Committee of the Mycological Society of America (2013-2017).

Councilor in Genetics and Molecular Biology of the Mycological Society of America (2013-2015).

Councilor in Systematics and Evolution of the Mycological Society of America (2009-2011).

Annual Karling Lecture Committee of the Mycological Society of America (2008-2011).

Graduate student member of the Deep Hyphae Steering Committee for fostering research collaboration between North American fungal systematists (2000-2006).

Supervisor for high school and undergraduate students in the Howard Hughes Summer Scholars program at Duke University (Erica Morehouse 2000, Sebastian Kearse 2004, T. Alison Mao 2005).

Coauthor of two webpages on fungi for the "Tree of Life web project."

Peer reviewer for the following journals: *Applied and Environmental Microbiology, Biology Letters, BioScience, Bryologist, BMC Evolutionary Biology, BMC Genomics, Canadian Journal of Botany, Current Biology, Current Opinion in Genetics & Development, Diseases of Aquatic Organisms, Diversity, Ecology Letters, eLife, Environmental*

*Microbiology, Eukaryotic Cell, Evolution, Fungal Biology Reviews, Fungal Ecology, Fungal Genetics and Biology, G3, Gene, Genes, Genetics, Genome Biology and Evolution, Genome Research, Heredity, Herpetological Conservation and Biology, Herpetological Review*, *IMA Fungus, ISME Journal, Journal of Basic Microbiology, Journal of Eukaryotic Microbiology, mBio, Molecular Biology and Evolution, Molecular Ecology, Molecular Phylogenetics and Evolution, mSphere, Mycologia, Mycological Research, Mycology, Nature, Nature Microbiology, New Phytologist, Nucleic Acids Research, Parasitology Research, PeerJ, Persoonia, Phytopathology, PLoS Biology, PLoS Genetics, PLoS One, PLoS Pathogens, Proceedings of the National Academy of Sciences USA, Proceedings of the Royal Society Series B, Protist, Scientific Reports, Sydowia, Systematic Biology, Trends in Microbiology*.

Grant review panels: DoE Joint Genome Institute: CSP x1 panels; National Science Foundation: x3 panels; NIH: ICIDR, GCID.

Conference / meeting organizer: Enhancing Long-Term Soil C Sequestration by Ectomycorrhizal Fungi, U. Michigan (2018). Annual A. H. Smith Mycological Foray, U-M Biological Station (2016).

## DEPARTMENTAL SERVICE

| | |
|---|---|
| **2018-** | Director, Frontiers Master's Program |
| **2018-** | Frontiers Master's Program Admissions Committee |
| **2017-** | Biological Sciences Building Space and Planning Committees |
| **2017-2019** | Diversity Committee |
| **2017-2018** | Tenure Review Panel for Dr. Gina Baucom |
| **2015-2016** | Executive Committee |
| **2015** | Search Committee for Vertebrate Biologist |
| **2014-2015** | Committee for the Early Career Scientist Symposium, *Microbiomes in Action* |
| **2014-2015** | Frontiers Master's Program Admissions Committee |
| **2013-2015** | Seminar Committee |
| **2012** | Search Committee for Sustainable Food Systems Biologist |
| **2010-2012** | Graduate Admissions Committee |
| **2009-2010** | Committee for the Early Career Scientist Symposium, *Experimental Evolution* |
| **2009-2010** | Search Committee for Computational Evolutionary Biologist |
| **2009-2010** | Curriculum Committee |

## UNIVERSITY SERVICE

| | |
|---|---|
| **2018-** | Executive Committee of the Integrated Training in Microbial Systems (iTiMS) Training Program |
| **2015-** | Executive Committee of the Genetics Training Program |

## KEY COLLABORATORS

Joyce Longcore (University of Maine), Martha Powell (U. Alabama), and Maiko Kagami (Yokohama National University). *Systematics and population biology of chytrid fungi.*

Felipe Toledo (UNICAMP) & Kelly Zamudio (Cornell University) *Population genetics of the amphibian pathogen Batrachochytrium dendrobatidis in Brazil.*
Jason Stajich (University of California at Riverside), Matthew Smith (University of Florida), Joseph Spatafora (Oregon State University), Robert Roberson (Arizona State University), Tom Richards (University of Exeter) & Igor Grigoriev (Joint Genome Institute) *Genomics of early-diverging fungal lineages*.
Xiao-yong Liu (Chinese Academy of Sciences, Inst. of Microbiology). *Genomics of domestication the mold Rhizopus.*

## THESIS ADVISOR AND POSTGRADUATE-SCHOLAR SPONSOR

*Graduate* (11 total):

Elizabeth N. Feliciano, M.Sc. (2020, expected)
Kevin Amses, Ph.D. (2021, expected)
Robert Powers, Ph.D. (2021, expected), M.S. (2015)
Buck Castillo, Ph.D. (2020, expected), M.S. (2015), co-advised with Dr. Knute Nadelhoffer
Jillian Myers, Ph.D. (2020, expected)
Anat Belasen, Ph.D. (2019, expected)
Imani Russell, M.S. (2018)
Adolfo Gomez Delgado, M.S. (2017)
Thomas S. Jenkinson, Ph.D. (2017)
Clarisse Betancourt-Román, M.S. (2014)
Iman Sylvain, M.S. (2012)
Stina Johansson, M.S. (2007), Uppsala University, co-advised with Dr. Hanna Johannesson.

*Postdoctoral* (7 total):

Kensuke Seto (2019-)
D. Rabern Simmons (2017-)
William J. Davis (2016-2018)
Catherine A. Quandt (2014-2017)
John A. Marino (2014)
Sujal Phadke (2013-2015)
Linda T. A. van Diepen (2009-2010).

*Undergraduate theses* (2 total):

Katherine L. Lazarus, B.Sc. (2013)
Amit Patel, B.Sc. (2006), Duke University, senior thesis, co-advised with Dr. Rytas Vilgalys.

## THESIS COMMITTEES

*In process*:

Xukang Shen (Ph.D.)
Will Argiroff (Ph.D.; SEAS)
Adrian Melo Carrillo (Ph.D), (M.Sc.): received 2015
Giorgia Auteri (Ph.D.)
Haixing Xu (Ph.D.)

Mengyi Sun (Ph.D.)
Peter Pellitier (Ph.D.; SEAS)
Wesley Bickford (Ph.D.)
Camden Gowler (Ph.D.)

*Completed*:

Beatriz Otero Jiménez (Ph.D.): received 2019
Christian Cely (Ph.D.): received 2019
Clara Shaw (Ph.D.): received 2019
Jorge Ronny Diaz Valderrama (Ph.D., Purdue University): received 2019
Amanda Meier (Ph.D.): received 2018
Joseph Walker (Ph.D.): received 2018
Alex Taylor (Ph.D.): received 2018
Cindy Bick (Ph.D.): received 2018
Andrea Thomaz (Ph.D.): received 2017
Tristan McKnight (Ph.D.): received 2017
Kathryn Picard (Ph.D., Duke University): received 2017
Kevin Bakker (Ph.D.): received 2017
Theresa Ong (Ph.D.): received 2017, (M.Sc.): received 2011
Chuan Li (Ph.D.): received 2017
Minh Chau Ho (M.Sc.): received 2017
Elizabeth Mae Entwistle (Ph.D.; SNRE): received 2016, (M.Sc.): received 2011
Senay Yitbarek (Ph.D.): received 2016
Lauren Cline (Ph.D.; SNRE): received 2015
Brian Metzger (Ph.D.): received 2015
Na Wei (Ph.D.): received 2015
Qixin He (Ph.D.): received 2014
Lisa Walsh (M.Sc.): received 2014
Huijie Gan (Ph.D.): received 2013
Douglas Jackson (Ph.D.): received 2012
Huateng Huang (Ph.D.): received 2011

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JUNIOR FACULTY MENTORSHIP

Dr. D. André Green (2018-)
Dr. Shane Dubay (2019-)