

# Marin Talbot Brewer

## Curriculum Vitae

### ADDRESS

Department of Plant Pathology  
University of Georgia  
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Athens, GA 30602

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### EDUCATION

|   |                          |      |
|---|--------------------------|------|
| Ph.D. Plant Pathology and Plant-Microbe Biology | Cornell University       | 2011 |
| M.S. Plant, Soil, and Environmental Sciences    | University of Maine      | 2003 |
| B.S. Biological Sciences                        | University of Cincinnati | 1998 |

### PROFESSIONAL RESEARCH EXPERIENCE

Associate Professor, Plant Pathology, University of Georgia, 2017–Present  
Assistant Professor, Plant Pathology, University of Georgia, 2011–2016  
Doctoral Research, Plant Pathology and Plant-Microbe Biology, Cornell University, 2006–2011  
Research Associate, Horticulture and Crop Science, The Ohio State University, 2003–2006  
Masters Research, Plant, Soil, and Environmental Science, University of Maine, 2000–2003  
Biological Science Technician, USDA-ARS NEPSWL, Orono, Maine, 1999–2003

### HONORS AND AWARDS

UGA Public Service and Outreach Fellowship, Office of the VP for Public Service, 2016  
UGA Focus on Faculty, Office of the Sr. VP for Academic Affairs and Provost, 2016  
UGA-CAES Undergraduate Research Mentor of the Year Award Nominee, 2016  
Schroth Faces of the Future Award and Symposium, American Phytopathological Society, 2013  
Teaching Assistant of the Year, Investigative Biology Laboratory, Cornell University, 2011  
Barbara McClintock Graduate Student Award, Plant Sciences, Cornell University, 2010  
ASEV Scholarship, American Society for Enology and Viticulture, 2010  
ASEV-ES Scholarship, American Society for Enology and Viticulture – Eastern Section, 2010  
AWS Scholarship, American Wine Society, 2010  
Best Oral Presentation Award, Mycological Society of America, 2009  
Mycological Society of America Fellowship, Graduate Fellowship and Award, 2009  
Richard P. Korf Mentor Travel Award, Mycological Society of America, 2009  
ASEV Scholarship, American Society for Enology and Viticulture, 2009  
AWS Scholarship, American Wine Society, 2009  
Richard L. Gabrielson Award, American Phytopathological Society, 2008  
Research Travel Grant, Cornell University Graduate School, Competitive Award, 2008  
Best Oral Presentation, Runner-up, American Phytopathological Society, NE Division, 2003  
Research Exposition Award, Best Poster, Natural Sciences, University of Maine, 2002  
Research Grant, Assoc. of Graduate Students, University of Maine, Competitive Award, 2002

### TEACHING EXPERIENCE

Fungi: Friends and Foes, University of Georgia, Instructor, every spring semester  
Mycology, University of Georgia, Instructor, every fall semester  
Genetics of Yeast and Filamentous Fungi, Guest Lecturer, 2014, 2016

Investigative Biology Laboratory, Cornell University, Teaching Assistant, 2010–2011  
Medical and Veterinary Mycology, Cornell University, Teaching Assistant, 2010  
Ecology of Infectious Diseases, Cornell University, Teaching Assistant, 2009  
Mushrooms of Field and Forest, Cornell University, Teaching Assistant, 2008

## **MENTORING**

Postdoctoral scholars (2) – Jane Stewart, Rajkumar Garampalli  
Ph.D. students (5) – Haoxi Li, Leilani Sumabat, Hannah Halpern, Cynthia Chan, Annakay Abrahams  
M.S. Students (2) – Jeff DeLong, Katrina Laurel,  
Undergraduate student research (11) – Christina Jones, Thomas Gotilla, Austin Nuckols, Kameron Townsend, Sabrina Park, Kyle Brooks, Jane Pruthaprasert, Jeff DeLong, Ridwan Mahboub, William Groover, Holly Young  
Ph.D. advisory committees (9) – Winnie Gimode, Jeff Standish, Cheng-Fang Hong, Aparna Petkar, Russell Ingram, Shan Gao, Manisha Rath, Stephanie Bolton, Peng Jiang  
M.S. advisory committees (4) – Frances Browne, Edward Beasley, Mary Campbell, Suzette Arcibal

## **SERVICE**

Chair, Teaching Committee, Department of Plant Pathology, 2017–Present  
Fellow, State Botanical Garden of Georgia, 2016–2017  
President, Georgia Association of Plant Pathologists, 2016–2017  
Associate Editor, Phytopathology Editorial Board, 2014–Present  
Undergraduate Curriculum Committee, CAES, University of Georgia, 2015–Present  
Advisory Committee, Plant Center, University of Georgia, 2014–2017  
Chair, Local Organizing Committee, 2017 Annual Meeting of the Mycological Society of America, 2013–2017  
Mentor, UGA Young Scholars Program, High School Student Summer Research, 2013–Present  
Evolutionary Genetics and Genomics Committee, American Phytopathological Society, 2013–Present  
Membership Committee, Mycological Society of America, 2012–2016  
Diagnostician of mushrooms and other fungi for State of Georgia, 2011–Present  
Special Session Co-Organizer, 2016 Annual Meeting of the American Phytopathological Society, Balancing a Successful Career and Family, Tampa, FL  
Symposium Organizer, 2016 Annual Meeting of the Mycological Society of America, What can population genomics of pathogenic fungi tell us about emerging diseases of plants and animals? Berkeley, CA  
Program Coordinator, 2016 Annual Meeting, Georgia Association of Plant Pathologists  
Vice President, Georgia Association of Plant Pathologists, 2015–2016  
Undergraduate Affairs Committee, CAES, University of Georgia, 2014–2016  
Councilor, Ecology and Pathology, Mycological Society of America, 2014–2016  
Instructor, Edible and Poisonous Mushrooms, State Botanical Garden of Georgia, 2012, 2013  
Expanding Your Horizons: Women in Science and Mathematics, Cornell University, 2011  
Grant Reviewer for:  
2016 NSF and USDA-NIFA Plant Biotic Interactions Program  
2015 US-Israel Binational Agricultural Research & Development Fund (BARD)  
Ad-hoc Reviewer for 40 manuscripts submitted to: *American Journal of Botany*, *Applied and Environmental Microbiology*, *European Journal of Plant Pathology*, *Fungal Biology*, *Fungal*

*Genetics and Biology, The Journal of Cotton Science, Journal of Phytopathology, Mycologia, Phytopathology, The Plant Health Instructor, Plant Pathology, Plos One, Tropical Plant Pathology*

### **PROFESSIONAL AFFILIATIONS**

Mycological Society of America  
American Phytopathological Society

### **INVITED PRESENTATIONS AND SYMPOSIA**

1. Understanding and managing emerging diseases in the southeastern U.S. using comparative genomics for marker development for fungal plant pathogens. Genomics-Based Approaches Facilitate Diagnostic and Population Genetic Marker Development for Plant Pathogens Special Session. American Phytopathological Society, Aug. 7, 2017, San Antonio, TX
2. Population genomics of fungi causing emerging plant diseases. Population Genomics of Emerging Diseases Symposium, Annual Meeting of the Mycological Society of America, Aug. 12, 2016, Berkeley, CA
3. Population structure and elevated genetic diversity in the emerging blueberry pathogen *Exobasidium maculosum*. Rosie Perez Memorial Seminar, Department of Plant Pathology, North Carolina State University, Mar. 31, 2016, Raleigh, NC
4. Phylogenetic and population genomic approaches for studying plant-parasite coevolution. National Museum of Natural History, Smithsonian Institution, Frontiers in Phylogenetics, Sept. 15, 2015, Washington, DC
5. Gummy stem blight: how understanding pathogen population biology can improve disease management. Department of Entomology and Plant Pathology, Auburn University, Mar. 2, 2015, Auburn, AL
6. Population genetic and genomic approaches for understanding the emergence of fungal plant pathogens, International Mycological Congress 2014, Aug. 5, 2014, Bangkok, Thailand
7. Diversity, divergence, and speciation in fungal pathogens of cucurbits and blueberries. Department of Plant Pathology, University of Florida, Apr. 1, 2014, Gainesville, FL.
8. Drivers of diversity, population structure, and speciation in plant pathogenic fungi. College of Agricultural, Forest, and Environmental Sciences, Clemson University, Dec. 2, 2013, Clemson, SC
9. Evolutionary history and genetic diversity of *Didymella bryoniae*, Schroth Faces of the Future Symposium, Annual Meeting of the American Phytopathological Society, Aug. 12, 2013, Austin, TX
10. Extreme genetic diversity in an emerging fungal pathogen of blueberry, The Plant Center Retreat, University of Georgia, Oct. 26, 2012, Helen, GA.
11. Phylogeography, population structure, and mating system of the grape powdery mildew fungus, *Erysiphe necator*, Department of Plant Pathology, University of Georgia, Mar. 30, 2011, Athens, GA

### **PUBLICATIONS (PEER-REVIEWED)**

1. H. Li, T.M. Gotilla, **M.T. Brewer**. 2017. Organization and evolution of mating-type genes in three *Stagonosporopsis* species causing gummy stem blight of cucurbits and leaf spot and dry rot of papaya. **Fungal Biology**, in press.
2. H. Li, K.L. Stevenson, **M.T. Brewer**. 2016. Differences in sensitivity to a triazole fungicide among *Stagonosporopsis* species causing gummy stem blight of cucurbits. **Plant Disease** 100: 2106-2112.

3. H. Li, **M.T. Brewer**. 2016. Population dynamics and spatial genetic structure of gummy stem blight fungi in the southeastern U.S. **Phytopathology** 106: 900-908
4. R.H. Garampalli, M.K. Gopalkrishna, H. Li, **M.T. Brewer**. 2016. Two *Stagonosporopsis* species identified as causal agents of gummy stem blight epidemics of gherkin cucumber (*Cucumis sativus*) in Karnataka, India. **Eur J Plant Pathology** 145: 507-512.
5. W.O. Cline, **M.T. Brewer**. 2016. Exobasidium leaf and fruit spot. Highbush Blueberry. **Compendium of Blueberry, Cranberry, and Lingonberry Diseases and Pests**. Second edition. Eds. J.J. Polashock et al., APS Press.
6. J.E. Stewart, K. Brooks, P.M. Brannen, W.O. Cline, **M.T. Brewer**. 2015. Elevated genetic diversity in the emerging blueberry pathogen *Exobasidium maculosum*. **PLOS ONE** 10: e0132545.
7. **M.T. Brewer**, M. Rath, H. Li. 2015. Genetic diversity and population structure of cucurbit gummy stem blight fungi based on microsatellite markers. **Phytopathology** 105:815-824.
8. J.E. Stewart, A.N. Turner, **M.T. Brewer**. 2015. Evolutionary history and variation in host range of three *Stagonosporopsis* species causing gummy stem blight of cucurbits. **Fungal Biology** 119:370-382.
9. C. Chen, C.H. Bock, P.M. Brannen, J.E. Adaskaveg, M.W. Hotchkiss, **M.T. Brewer**, B.W. Wood. 2014. Genetic variability among populations of *Fusicladium* species from different host trees and geographic locations in the USA. **Mycological Progress** 13: 1179-1190.
10. **M.T. Brewer**, A.N. Turner, P.M. Brannen, W.O. Cline, E.A. Richardson. 2014. *Exobasidium maculosum*, a new species causing leaf and fruit spots on blueberry in the southeastern USA, and its relationship with other *Exobasidium* spp. parasitic to blueberry and cranberry. **Mycologia** 106:415-423.
11. J. DeLong, **M.T. Brewer**. 2013. *Macrocybe titans*: largest species of mushroom in the Western Hemisphere found growing in Georgia. **CAES Extension Publications** C1033.
12. B. Asalf, D.M. Gadoury, A.M. Tronsmo, R.C. Seem, L. Cadle-Davidson, **M.T. Brewer**, and A. Stensvand. 2013. Temperature regulates the initiation of chasmothecia in powdery mildew of strawberry. **Phytopathology** 103:717-724.
13. **M.T. Brewer**, O. Frenkel, and M.G. Milgroom. 2012. Linkage disequilibrium and spatial aggregation of genotypes in sexually reproducing populations of *Erysiphe necator*. **Phytopathology** 102:997-1005.
14. N. Zhang, **M.T. Brewer**, E. van der Knaap. 2012. Fine mapping of *fw3.2* controlling fruit weight in tomato. **Theoretical and Applied Genetics** 125: 273-284.
15. O. Frenkel, I. Portillo, **M.T. Brewer**, J-P. Péros, L. Cadle-Davidson, and M.G. Milgroom. 2012. Development of microsatellite markers from the transcriptome of *Erysiphe necator* for analyzing population structure in North America and Europe. **Plant Pathology** 61: 106-119.
16. **M.T. Brewer**, L. Cadle-Davidson, P. Cortesi, P. Spanu, and M.G. Milgroom. 2011. Identification of mating-type genes and development of PCR-based markers for mating type in powdery mildew fungi. **Fungal Genetics and Biology** 48:704-713.
17. P.D. Spanu, J.C. Abbott, J. Amselem, T.A. Burgis, D.M. Soanes, K. Stüber, E.V.L. van Themaat, J.K.M. Brown, S.A. Butcher, S.J. Gurr, M.H. Lebrun, C.J. Ridout, P. Schulze-Lefert, N.J. Talbot, N. Ahmadinejad, C. Ametz, G.R. Barton, M. Benjdia, P. Bidzinski, L.V. Bindschedler, M. Both, **M.T. Brewer**, L. Cadle-Davidson, M.M. Cadle-Davidson, J. Collemare, R. Cramer, O. Frenkel, D. Godfrey, J. Harriman, C. Hoede, B.C. King, S. Klages, J. Kleemann, D. Knoll, P.S. Koti, J. Kreplak, F. López-Ruiz, X. Lu, T. Maekawa, S. Mahanil, C. Micali, M.G. Milgroom, G. Montana, S. Noir, R.J. O'Connell, S. Oberhaensli, F. Parlange, C. Pedersen, H. Quesneville, R. Reinhardt, M. Rott, S. Sacristán, S.M. Schmidt, M. Schön, P. Skamnioti, H. Sommer, A. Stephens, H.

- Takahara, H. Thordal-Christensen, M. Vigouroux, R. Weßling, T. Wicker, R. Panstruga. 2010. Genome expansion and gene loss in powdery mildew fungi reveal functional tradeoffs in extreme parasitism. **Science** 331:1543-1546.
18. **M.T. Brewer** and M.G. Milgroom. 2010. Phylogeography and population structure of the grape powdery mildew fungus, *Erysiphe necator*, from diverse *Vitis* species. **BMC Evolutionary Biology** 10:268.
  19. O. Frenkel, **M.T. Brewer** and M.G. Milgroom. 2010. Variation in pathogenicity and aggressiveness of *Erysiphe necator* from different *Vitis* species and geographic origins in the eastern United States. **Phytopathology** 100:1185-1193.
  20. M.G. Milgroom, K. Sotirovski, M. Risteski, and **M.T. Brewer**. 2009. Heterokaryons and parasexual recombinants of *Cryphonectria parasitica* in two clonal populations in southeastern Europe. **Fungal Genetics and Biology** 46:849-854.
  21. M.J. Gonzalo, **M. Talbot Brewer**, C. Anderson, D. Sullivan, S. Gray, E. van der Knaap. 2009. Fruit shape analysis using morphometric and morphology attributes implemented in Tomato Analyzer Software Program. **Journal of the American Society for Horticultural Science** 134:77-87.
  22. M.G. Milgroom, K. Sotirovski, D. Spica, J.E. Davis, **M.T. Brewer**, M. Milev, and P. Cortesi. 2008. Clonal population structure of the chestnut blight fungus in expanding ranges in southeastern Europe and Turkey. **Molecular Ecology** 17:4446-4458.
  23. **M. Talbot Brewer**, J.B. Moyseenko, A.J. Monforte, and E. van der Knaap. 2007. Morphological variation in tomato: a comprehensive study of quantitative trait loci controlling fruit shape and development. **Journal of Experimental Botany** 58:1339-1349.
  24. **M. Talbot Brewer**, K. Fujimura, L. Lang, N. Dujmovic, S. Gray, and E. van der Knaap. 2006. Development of a controlled vocabulary and software application to analyze fruit shape variation in tomato and other plant species. **Plant Physiology** 141:15-25, cover.
  25. **M. Talbot Brewer** and R.P. Larkin. 2005. Efficacy of several potential biocontrol organisms against *Rhizoctonia solani* on potato. **Crop Protection** 24:939-950.