

THOMAS S. JENKINSON

Postdoctoral Research Fellow
Department of Environmental Science, Management, and Policy
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EDUCATION:

- 2017 Ph.D. in Ecology and Evolutionary Biology
University of Michigan, Ann Arbor, Michigan
- 2011 M.S. in Biology (Concentration: Ecology and Systematic Biology)
San Francisco State University, San Francisco, California
- 2005 B.S. in Biology (Concentration: Cell Biology, Minor in Chemistry)
Oregon State University, Corvallis, Oregon

PROFESSIONAL EXPERIENCE:

- 2017 - *present* NSF Postdoctoral Research Fellow in Biology – University of California, Berkeley
- 2011 Lecturer and Laboratory Coordinator – Department of Biology, San Francisco State University

HONORS & AWARDS:

- 2017 Outstanding Graduate Student Instructor Award
Rackham Graduate School, University of Michigan
- 2015 Myron P. Backus Graduate Research Award
Mycological Society of America
- 2013 Meredith Blackwell Graduate Student Oral Presentation Award
Mycological Society of America Annual Meeting: Austin, Texas
- 2010 Distinguished Graduate Student Award
College of Science and Engineering, San Francisco State University

GRANT FUNDING & FELLOWSHIPS:

- | | | |
|-------------|---|-----------|
| 2017 - 2019 | NSF Postdoctoral Research Fellowship in Biology (PRFB)
National Science Foundation | \$138,000 |
| 2016 | Helen Olson Brower Memorial Fellowship in Environmental Studies
Department of Ecology and Evolutionary Biology, University of Michigan | \$15,580 |
| 2016 | NSF Doctoral Dissertation Improvement Grant (DDIG)
National Science Foundation | \$20,150 |
| 2014 | Rackham Graduate Student Research Grant
Rackham Graduate School, University of Michigan | \$3,000 |
| 2013 - 2015 | Dow Doctoral Sustainability Fellowship
Graham Environmental Sustainability Institute, University of Michigan | \$50,000 |
| 2012 | Ecology and Evolutionary Biology Block Grant for Research
Department of Ecology and Evolutionary Biology, University of Michigan | \$2,896 |
| 2009 | Robert M. Maxwell Graduate Scholarship
College of Science and Engineering, San Francisco State University | \$4,000 |

2008 - 2009	NSF Graduate STEM Fellowship in K-12 Education (GK-12 Fellowship) National Science Foundation	\$30,000
2008	Harry D. Thiers Graduate Scholarship Mycological Society of San Francisco	\$1,000

PUBLICATIONS:

- 10) Fisher, M. C., Ghosh, P., Shelton, J. M. G., Bates, K. A., Brookes, L., Wierzbicki, C., Rosa, G. M., Farrer, R. A., Aanensen, D. M., Alvarado-Rybak, M., Bataille, A., Berger, L., Böll, S., Bosch, J., Clare, F. C., Courtois, E. A., Crottini, A., Cunningham, A. A., Doherty-Bone, T. M., Gebresenbet, F., Gower, D. J., Höglund, J., James, T. Y., **Jenkinson, T. S.**, Kosch, T. A., Lambertini, C., Laurila, A., Lin, C. F., Loyau, A., Martel A., Meurling, S., Miaud, C., Minting, P., Ndriantsoa, S., O'Hanlon, S. J., Pasmans, F., Rakotonanahary, T., Rabemananjara, F. C. E., Ribeiro, L. P., Schmeller, D. S., Schmidt, B. R., Skerratt, L., Smith, F., Soto-Azat, C., Tessa, G., Toledo, L. F., Valenzuela-Sánchez, A., Verster, R., Vörös, J., Waldman, B., Webb, R. J., Weldon, C., Wombwell, E., Zamudio, K. Z., Longcore, J. E. and T. W. J. Garner. (2018) Development and worldwide use of non-lethal, and minimal population-level impact, protocols for the isolation of amphibian chytrid fungi. *Scientific Reports* 8: 7772.
- 9) O'Hanlon, S. J., Rieux, A., Farrer, R. A., Rosa, G. M., Waldman, B., Bataille, A., Kosch, T. A., Murray, K. A., Brankovics, B., Fumagalli, M., Martin, M. D., Wales, N., Alvarado-Rybak, M., Bates K. A., Berger, L., Böll, S., Brookes, L., Clare, F., Courtois, E. A., Cunningham, A. A., Doherty-Bone, T. M., Ghosh, P., Gower, D. J., Hintz, W. E., Höglund, J., **Jenkinson, T. S.**, Lin, C. F., Laurila, A., Loyau, A., Martel, A., Meurling, S., Miaud, C., Minting, P., Pasmans, F., Schmeller, D. S., Schmidt, B. R., Shelton, J. M. G., Skerratt, L. F., Smith, F., Soto-Azat, C., Spagnoletti, M., Tessa, G., Toledo, L. F., Valenzuela-Sánchez, A., Verster, R., Vörös, J., Webb, R. J., Wierzbicki, C., Wombwell, E., Zamudio, K. R., Aanensen, D. M., James, T. Y., Gilbert, M. T. P., Weldon, C., Bosch, J., Balloux, F., Garner, T. W. J. and M. C. Fisher. (2018) Recent Asian origin of chytrid fungi causing global amphibian declines. *Science* 360(6389): 261-267.
* Cover article, and selected for a highlight in a Perspectives article in *Science*
- 8) Becker, C. G., Greenspan, S. E., Tracy, K. E., Dash, J. A., Lambertini, C., **Jenkinson, T. S.**, da Silva Leite, D., Toledo, L. F., Longcore, J. E., James, T. Y. and K. R. Zamudio. (2017) Variation in phenotype and virulence among enzootic and panzootic amphibian chytrid lineages. *Fungal Ecology* 26: 45-50.
- 7) **Jenkinson, T. S.**, Betancourt Román, C. M., Lambertini, C., Aguilar-Valencia, A., Rodriguez, D., Nunes-de-Almeida, C. H. L., Ruggeri, J., Belasen, A. M., da Silva Leite, D., Zamudio, K. R., Longcore, J. E., Toledo, L. F. and T. Y. James. (2016) Amphibian-killing chytrid in Brazil comprises both locally endemic and globally expanding populations. *Molecular Ecology* 25(13): 2978-2996.
* Selected for a highlight in a News and Views Perspectives article in *Molecular Ecology*
- 6) Lambertini, C., Becker, C. G., **Jenkinson, T. S.**, Rodriguez, D., da Silva Leite, D., James, T. Y., Zamudio, K. R. and L. F. Toledo. (2016) Local phenotypic variation in amphibian-killing fungus predicts infection dynamics. *Fungal Ecology* 20: 15-21.
- 5) James, T. Y., Toledo, L. F., Rödder, D., da Silva Leite, D., Belasen, A. M., Betancourt Román, C. M., **Jenkinson, T. S.**, Lambertini, C., Longo, A. V., Ruggeri, J., Collins, J. P., Burrowes, P. A., Lips, K. R., Zamudio, K. R. and J. E. Longcore. (2015) Disentangling host, pathogen, and environmental determinants of a recently emerged wildlife disease: Lessons from the first 15 years of amphibian chytridiomycosis research. *Ecology and Evolution* 5(18): 4079-4097.
- 4) **Jenkinson, T. S.**, Schaefer, R. E., Perry, B. A. and D. E. Desjardin. (2014) *Cryptomarasmius gen. nov.* established in the Physalacriaceae to accommodate members of *Marasmius* section *Hygrometrici*. *Mycologia* 106(1): 86-94.
- 3) Rosenblum, E. B., James, T. Y., Zamudio, K. R., Poorten, T., Ilut, D., Rodriguez, D., Eastman, J., Richards-Hrdlicka, K., Joneson, S., **Jenkinson, T. S.**, Longcore, J. E., Olea, G. P., Toledo, L. F., Arellano, M. L., Medina, E., Restrepo, S., Flechas, S. V., Berger, L., Briggs, C. E. and J. E. Stajich. (2013) Complex history of the amphibian-killing chytrid fungus revealed with genome resequencing data. *Proceedings of the National Academy of Sciences, U.S.A.* 110(23): 9385-9390.
- 2) **Jenkinson, T. S.**, Celio, G. J., Padamsee, M., Dentinger, B. T. M., Meyer, M. E. and D. J. McLaughlin. (2008) Conservation of cytoplasmic organization in the cystidia of *Suillus* species. *Mycologia* 100(4): 539-547.

- 1) Celio, G. J., Padamsee, M., Dentinger, B. T. M., Josephsen, K. A., **Jenkinson, T. S.**, McLaughlin, E. G. and D. J. McLaughlin. (2007) Septal pore apparatus and nuclear division of *Auriscalpium vulgare*. *Mycologia* 99(5): 644-654.

PUBLICATIONS IN REVIEW:

- Jenkinson, T. S.**, Rodriguez, D., Clemons, R. A., Michelotti, L. A., Zamudio, K. R., Toledo, L. F., Longcore, J. E. and T. Y. James. (2018) Globally invasive genotypes of the amphibian chytrid outcompete an enzootic lineage in coinfections. *Proceedings of the Royal Society, Series B: Biological Sciences* (In Review).
- Salla, R. F., Rizzi-Possignolo, G. M, Oliveira, C. R., Lambertini, C., Franco-Belussi, L., da Silva Leite, D., Silva-Zacarin, E. C. M., Abdalla, F. C., **Jenkinson, T. S.**, Toledo, L. F. and Jones-Costa, M. (2018) The impact of chytridiomycosis on the cardiac function of anurans: sensitive vs. tolerant species. *PeerJ – the Journal of Life and Environmental Sciences* (In Review).
- Ribeiro, L. P., Carvalho, T., **Jenkinson, T. S.**, da Silva Leite, D., Becker, C. G., James, T. Y. and L. F. Toledo. (2018) Bullfrog farms increase disease pressure by releasing pathogenic fungal zoospores into the environment. *Conservation Biology* (In Review).

INVITED RESEARCH PRESENTATIONS:

- 2018 Center for Population Biology Seminar: University of California, Davis
- Ecology, Evolution, and Conservation Biology Colloquium: San Francisco State University
- 2017 Secondary contact and rare sex between distant lineages of the amphibian-killing chytrid fungus
Invited lightning talk for the Society for the Study of Evolution Spotlight Session: Sex in the Wild
Evolution 2017: Portland, Oregon
- 2016 Population divergence and strain hybridization in the amphibian chytrid
Symposium on: What can population genomics of pathogenic fungi tell us about emergence?
Mycological Society of America: Berkeley, California
- 2015 Population genetics of *Batrachochytrium dendrobatidis* in southeastern Brazil
Institute of Health and Biological Sciences,
Universidade Federal de Alagoas, Maceió, Alagoas, Brazil
- 2014 Population history of the amphibian chytrid, *Batrachochytrium dendrobatidis*: Geographic and
genomic insights from the Atlantic Forest of Brazil
Symposium on: Fungal Diseases of Aquatic Animals,
10th International Mycological Congress: Bangkok, Thailand

CONTRIBUTED RESEARCH PRESENTATIONS:

- 2017 Intraspecific competition between divergent *Bd* lineages
Integrated Research Challenges in Environmental Biology, Amphibian Declines: Tempe, Arizona
- 2016 Population genomics of hybridization in the amphibian-killing chytrid fungus (*Lightning Talk*)
Evolution 2016: Austin, Texas
- 2015 Amphibian chytrid in Brazil comprises both stable endemic and globally expanding lineages
Mycological Society of America: Edmonton, Alberta, Canada
- Amphibian-killing chytrid fungus in Brazil comprises both stable endemic and recently expanded
populations
Evolution 2015: Guarujá, São Paulo, Brazil
- 2013 Population genetic structure of *Batrachochytrium dendrobatidis* in the hybrid zone of Brazil
Integrated Research Challenges in Environmental Biology, Amphibian Declines: Tempe, Arizona
- Pandemic and hybrid genotypes of the amphibian pathogen *Batrachochytrium dendrobatidis* in the
southern Atlantic rainforest of Brazil (*Awarded best graduate student oral presentation*)
Mycological Society of America: Austin, Texas
- 2013 Genetics of Brazilian endemic and hybrid strains of *Batrachochytrium dendrobatidis* in Paraná
Conference on Chytridiomycosis in the Atlantic Forest of Brazil:
Universidade Estadual de Campinas, Campinas, São Paulo, Brazil

2010 The role of fungal survey and inventory studies in the Micronesia Biodiversity Project
Bay Area Conservation Biology Symposium: San Francisco, California

CONTRIBUTED RESEARCH POSTERS:

2018 Genome evolution in a globally emerging amphibian pathogen
2nd Joint Congress on Evolutionary Biology: Montpellier, France

– Ecological genomics of divergence and hybridization in the amphibian chytrid
11th International Mycological Congress: San Juan, Puerto Rico

2014 Spatio-temporal patterns of *Batrachochytrium dendrobatidis* infection in the native amphibian
community of the Edwin S. George Biological Reserve, Livingston County, Michigan
Mycological Society of America: East Lansing, Michigan

2012 A new genus *Cryptomarasmius* proposed in the Physalacriaceae to accommodate members of
Marasmius section *Hygrometrici*
Mycological Society of America: New Haven, Connecticut

2009 Phylogenetic relationships within the genus *Marasmius sensu stricto* inferred from ITS and nLSU
International Conference on Fungal Evolution and Charles Darwin: Pathumthani, Thailand

2007 Conservation of cystidial ultrastructure in *Suillus* species
Mycological Society of America: Baton Rouge, Louisiana

RESEARCH EXPERIENCE:

2017 - present Postdoctoral Research – University of California, Berkeley: Historical phylogeography of
Batrachochytrium dendrobatidis using herpetological museum collections
Advised by: Erica Bree Rosenblum

2012 - 2017 Ph.D. Dissertation Research – University of Michigan: Ecological genomics of *Batrachochytrium*
dendrobatidis in the Brazilian Atlantic Forest
Advised by: Timothy Y. James

2011 Visiting Researcher – University of Maine: Field survey, isolation, and culture of
Batrachochytrium dendrobatidis
Hosted by: Joyce E. Longcore

2007 - 2010 M.S. Thesis Research – San Francisco State University: Molecular phylogenetics of the
mushroom genus *Marasmius* (Basidiomycota)
Advised by: Dennis E. Desjardin

2006 - 2007 Research Technician – University of Minnesota: Assembling the Fungal Tree of Life Project
Principal Investigator: David J. McLaughlin

TEACHING EXPERIENCE:

2015 Graduate Student Instructional Mentor – University of Michigan
Teaching mentor to first-year Program in Biology graduate student instructors
Graduate Student Instructor – University of Michigan

2015 Honors College Core in Natural Science, Biology and Society
2011, 2013 Biology of Fungi Laboratory (*Course offered alternate years*)
2012 Genetics, Discussion Section
2012 Evolution, Discussion Section

2011 Lecturer and Laboratory Coordinator – Department of Biology, San Francisco State University
Introductory Biology Laboratory I

2008 - 2010 National Science Foundation Graduate K-12 Teaching Fellow / SEPAL K-12 Teaching Partner –
San Francisco Unified School District and San Francisco State University
Eighth Grade Physical Science, Horace Mann Middle School, San Francisco, California
Graduate Teaching Assistant – San Francisco State University

2010 Science Concepts in Introductory Biology I
2010 The World of Plants Laboratory

2009 Spring Fungi of the Sierra Nevada (*SFSU Sierra Nevada Field Campus*)
2007, 2008 Introductory Biology Laboratory II
Guest lectures Global Change Biology: University of California, Berkeley
Biology of Fungi, Biology and Society, Science and Politics of Global Change: University of Michigan

FIELD EXPERIENCE:

2013 - 2015 Republic of Brazil
National Science Foundation, Catalyzing New International Collaborations: Into the Heart of an Epidemic: a US-Brazil Collaboration for Integrative Studies of the Amphibian-Killing Fungus in Brazil
2009 - 2011 Federated States of Micronesia
National Science Foundation, A Biodiversity Survey of Pohnpei and Kosrae Islands, Federated States of Micronesia: Understanding the Impact of Anthropogenic Disturbance on Plant, Fungal, and Stream Biodiversity
2008, 2011 Republic of Ecuador
National Geographic Society, Fungal Mimicry in the Deceptive Pollination of *Dracula* Orchids in Bosque Protector Los Cedros, Provincia de Imbabura
2008 California, U.S.A.
United States Forest Service Assessment of FEMAT (Forest Ecosystem Management Assessment Team) Strategy One Fungi: Tahoe National Forest, Plumas National Forest
2007 Minnesota, U.S.A.
Minnesota Department of Natural Resources County Biological Survey of Fungi

ACADEMIC & PROFESSIONAL SERVICE:

2014 - 2016 Graduate Student Representative: Education Committee, Mycological Society of America
2014 - 2015 Steering Committee: 10th and 11th Annual Early Career Scientists Symposium
University of Michigan: Ann Arbor, Michigan
2013 - 2015 Departmental Committee Member: Undergraduate Curriculum Committee
Department of Ecology & Evolutionary Biology, University of Michigan
2013 - 2015 Editorial Board Member: *Michigan Journal of Sustainability*
2013 Conference Session Chair: Concurrent Session on Fungal Genetics and Genomics
Mycological Society of America: Austin, Texas
2010 - 2011 Executive Council Member: Mycological Society of San Francisco

MANUSCRIPT REVIEW:

Molecular Ecology, Mycologia, Diseases of Aquatic Organisms, Transboundary and Emerging Diseases, PLoS ONE

PROFESSIONAL SOCIETIES:

Since 2014 Ecological Society of America
Since 2014 Genetics Society of America
Since 2009 Society for the Study of Evolution
Since 2006 Mycological Society of America

OUTREACH ACTIVITIES & MEDIA HIGHLIGHTS:

2018 Curriculum Development and Guest Instructor: Nature notebooks, making hypotheses about organism form and function, Fourth/Fifth Grade Science, Bay Area Scientists in Schools and Berkeley Unified School District, Berkeley, California

- Volunteer Organizer and Activity Facilitator: Save the Frogs Day, local elementary school students visit the Museum of Vertebrate Zoology to spend a day learning about amphibian biodiversity and conservation, University of California, Berkeley, California
- 2016 Guest Speaker: Fungal ecology, biodiversity, and mushroom identification, Seventh/Eighth Grade Science, Ann Arbor Open School, Ann Arbor, Michigan
- 2015 Volunteer Organizer and Field Trip Leader: D-Town Farms BioBlitz, biodiversity survey of D-Town Urban Farms with local middle and elementary students in the Detroit Black Community Food Security Network's Youth Development Program, Detroit, Michigan
- 2014 Organizer and Moderator: Workshop on applying to graduate school in the life sciences Undergraduate Curriculum Committee, Dept. of Ecology & Evolutionary Biology University of Michigan, Ann Arbor, Michigan
- 2013 Volunteer Organizer and High School Field Trip Leader: Belle Isle BioBlitz, biodiversity survey of Belle Isle Park, Detroit, Michigan with urban high school biology students West International High School, Detroit, Michigan
- Radio Interview: "Detroit high schoolers explore wilder side of Belle Isle" Aired: Apr 2013 The Environment Report: Michigan Public Radio
- Guest Speaker: Ecosystems and Conservation Biology, Eighth Grade Science Escola Municipal de Ensino Fundamental Jose Vieira, São Marcos, São Paulo State, Brazil
- 2012 Radio Interview: "Mushrooms glow in the dark in Micronesia" Aired: May 2012 The Pacific Beat Radio Programme: ABC Radio
- Invited Speaker: Mushrooms and the Micronesia Biodiversity Project Monthly meeting of the Illinois Mycological Association, Chicago, Illinois
- 2011 Conservation Policy Workshop Organizer and Volunteer Speaker: Workshop on protecting the critical upland forest habitat of the Micronesian Islands Kolonia City, Pohnpei State, Federated States of Micronesia
- Graduate Student Speaker: Habitat conservation in the Micronesian Islands Monthly meeting of the Mycological Society of San Francisco, San Francisco, California
- Guest Columnist: MycoDigest - The amphibian-killing chytrid fungus *Mycena News*: The Monthly Newsletter of the Mycological Society of San Francisco
- 2007 - 2010 Educational Exhibit Organizer and Volunteer: Annual Bay Area Fungus Fair Lawrence Hall of Science, University of California, Berkeley, Berkeley, California Oakland Museum of California, Oakland, California
- 2010 Alternative Weekly Interview: "Shroomin' at the Fungus Fair" Issue: Dec 2010 San Francisco Bay Guardian
- Guest Columnist: MycoDigest - The mysterious *Cordyceps* mushroom *Mycena News*: The Monthly Newsletter of the Mycological Society of San Francisco

RESEARCH MENTORSHIP:

* Indicates coauthorship on research publications

- 2018 Chellam Nayar: University of California, Berkeley Undergraduate Student in Environmental Science, Class of 2019; *Molecular biology, pathogen population genetics*
- 2018 Rebecca Salcedo: University of California, Berkeley Undergraduate Student in Molecular Environmental Biology, Class of 2019; *Molecular biology, molecular diagnostics*
- 2017 Siena McKim: University of Michigan Undergraduate Student in Art and Design, and Program in the Environment, Class of 2019; *Microscopy and scientific illustration*
- 2017 Rebecca Clemmons*: University of Michigan Undergraduate Student in Ecology and Evolutionary Biology, Class of 2019; *Molecular biology, laboratory animal care*
- 2015 - 2016 Elisabeth Oeller: University of Michigan Undergraduate Student in Ecology and Evolutionary Biology, Class of 2016; *Microbial culture, laboratory animal care*

- 2014 - 2015 Anyelet Valencia-Aguilar*: Federal University of Alagoas (Alagoas, Brazil) Masters Student in Zoology, M.S. 2015; *Field isolation of wild Batrachochytrium strains, microbial culture*
- 2013 - 2015 Carolina Lambertini*: University of Campinas (São Paulo, Brazil) Masters Student in Ecology, M.S. 2015; *Field isolation of wild Batrachochytrium strains, population genetics*
- 2012 - 2013 Clarisse Betancourt-Román*: University of Michigan Masters Student in Ecology and Evolutionary Biology, M.S. 2013; *Field isolation of wild Batrachochytrium strains, microbial culture*
- 2011 - 2012 Lindsay Isenhardt: University of Michigan Undergraduate Student in Ecology and Evolutionary Biology, Class of 2013; *Field survey of wildlife pathogen infection, molecular diagnostics*
- 2009 - 2010 Rainer Schaefer*: San Francisco State University Undergraduate Student in Biology, Class of 2010; *Molecular biology, phylogenetic analysis*

REFERENCES:

Erica Bree Rosenblum (rosenblum@berkeley.edu)

Associate Professor
Department of Environmental Science, Policy, and Management,
Museum of Vertebrate Zoology
University of California, Berkeley

Timothy Y. James (tyjames@umich.edu)

Lewis E. & Elaine P. Wehmeyer Associate Professor, and Curator of Fungi
Department of Ecology and Evolutionary Biology
University of Michigan

Kelly R. Zamudio (krz2@cornell.edu)

Goldwin Smith Professor
Department of Ecology and Evolutionary Biology
Cornell University

Patricia J. Wittkopp (wittkopp@umich.edu)

Arthur F. Thurnau Professor, and Associate Chair for Graduate Studies
Department of Ecology and Evolutionary Biology,
Department of Molecular, Cellular, and Developmental Biology
University of Michigan

Kimberly D. Tanner (kdtanner@sfsu.edu) (Teaching Reference)

Professor, and Director of the Science Education Partnership and Assessment Laboratory
Department of Biology
San Francisco State University