



Jacob L. Steenwyk

Howard Hughes Medical Institute
Gilliam Fellow, Vanderbilt University
jacob.steenwyk@vanderbilt.edu
<http://jlsteenwyk.com/>

EDUCATION

| | | |
|----------------|---|------------------------------|
| Present | Ph.D. Candidate, Biological Sciences Advisor: Antonis Rokas GPA: 3.97 | Vanderbilt University |
| 2016 | M.S. Biochemistry and Molecular Biology Advisor: John G. Gibbons GPA: 3.98 | Clark University |
| 2015 | B.A. Biochemistry and Molecular Biology Advisor: Denis Larochelle Cumulative GPA: 3.84 Science GPA: 3.84 | Clark University |

AWARDS

| | |
|-------------|---|
| 2020 | Oral presentation award, SACNAS – The National Diversity in STEM Virtual Conference |
| 2020 | Registration scholarship, SACNAS – The National Diversity in STEM Virtual Conference |
| 2020 | Best Talk Honorable Mention, Canadian Fungal Research Network Meeting |
| 2020 | Trainee-of-the-Year, Vanderbilt Institute for Infection, Immunology and Inflammation |
| 2019 | Gilliam Predoctoral Fellowship, Howard Hughes Medical Institute |
| 2019 | Ann Bernard Martin Award for Excellence in Graduate Research, Vanderbilt University |
| 2019 | Ruth L. Kirschstein National Research Service Award, National Institutes of Health |
| 2019 | Ford Foundation Predoctoral Fellowship, Ford Foundation |
| 2019 | Graduate student travel grant, Vanderbilt University |
| 2019 | Curb Center Fellow, ArtLab, Vanderbilt University |
| 2018 | <i>GENETICS</i> Peer Review Training Program, Genetics Society of America |
| 2018 | Best poster award, Cellular and Molecular Fungal Biology, Gordon Research Seminar |
| 2018 | Best poster award, Cellular and Molecular Fungal Biology, Gordon Research Conference |
| 2018 | Best poster award, Department of Biological Sciences, Vanderbilt University |
| 2018 | T-shirt design contest winner, Department of Biological Sciences, Vanderbilt University |
| 2017 | Graduate student travel grant, Vanderbilt University |
| 2016 | Graduate student council travel awards, Clark University |
| 2015 | Summa cum laude, Clark University |
| 2014 | Summer research scholar, Bridging the gaps, University of Southern California Keck School of Medicine |
| 2013 | Global environmental microbiology scholar, Center for dark energy biosphere investigations, University of Southern California |
| 2011 | Jonas Clark Scholar, Clark University |

RESEARCH INTERESTS

- DNA damage and repair
- Gene and genome evolution
- Evolution of technologically and medically significant fungi
- Phylogenetics and phylogenomics

FIVE HIGHLIGHTED PUBLICATIONS (see end of CV for all publications)

Steenwyk, J.L.*, A.L. Lind*, *et al.* (2020). Pathogenic allodiploid hybrids of *Aspergillus* fungi. (*Equal contributors). *Current Biology*. doi: 10.1016/j.cub.2020.04.071

Steenwyk, J.L., *et al.* (2020). Biosynthetic gene clusters, secondary metabolite profiles, and cards of virulence in the closest nonpathogenic relatives of *Aspergillus fumigatus*. *Genetics*. doi: 10.1534/genetics.120.303549.

Steenwyk, J.L., *et al.* (2019). Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. *PLoS Biology*. doi: 10.1371/journal.pbio.3000255

Steenwyk, J.L., *et al.* (2019). A robust phylogenomic timetree for biotechnologically and medically important fungi in the genera *Aspergillus* and *Penicillium*. *mBio*. doi: 10.1128/mBio.00925-19

Shen, X.-X.*, D.A. Opulente*, J. Kominek*, X. Zhou*, **J.L. Steenwyk**, *et al.* (2018). (*Equal contributors). Tempo and mode of genome evolution in the budding yeast subphylum. *Cell*. doi: 10.1016/j.cell.2018.10.023

SOCIETIES

Genetics Society of America, American Society for Microbiology, Mycological Society of America, Society for the Advancement of Chicanos/Hispanics and Native Americans in Science

FUNDING

| | |
|---|--|
| Howard Hughes Medical Institute | Principal co-investigator (shared with Antonis Rokas), 09/19-09/22, Examining the loss of diverse DNA repair genes and long-term hypermutation in a lineage of budding yeasts, Gilliam Fellowship, Individual Predoctoral Fellowship, \$150,000 |
| National Institutes of Health | Principal investigator, 08/19-08/22, Examining the loss of diverse DNA repair genes and long-term hypermutation in a lineage of budding yeasts, Ruth L. Kirschstein National Research Service Award, Individual Predoctoral Fellowship (Parent F31), \$88,128 (declined) |
| Ford Foundation Predoctoral Fellow | Principal investigator, 08/19-08/22, The consequences of aberrant cell cycle and DNA repair processes in budding yeast, Individual Predoctoral Fellowship, \$72,000 (declined) |
| Curb Center ArtLab Fellow | Principal investigator, 12/18-04/19, Bridging the gap between artist and scientist, ArtLab, Vanderbilt University, \$300 |

INVITED TALKS

| | |
|-------------|---|
| 2020 | Genetics Society of America, Early Career Scientist Seminar Series |
| 2020 | Nicole King Lab seminar, University of California Berkeley |
| 2020 | The National Diversity in STEM Conference, SACNAS |
| 2020 | Canadian Fungal Research Network Meeting |
| 2020 | Trainee-of-the-year talk, Vanderbilt Institute for Infection, Immunology and Inflammation |
| 2020 | Day of Wond'ry, Vanderbilt University, Nashville, TN |
| 2019 | Genetics Society of America, Early Career Scientist Seminar Series |
| 2019 | Gordon Research Conference, Molecular Mechanisms in Evolution, Easton, MA |
| 2019 | Gordon Research Seminar, Molecular Mechanisms in Evolution, Easton, MA (declined) |
| 2019 | Focal Point, ArtLab, Vanderbilt University, Nashville, TN |
| 2019 | 30 th Fungal Genetics Conference at Asilomar, Pacific Grove, CA |

2019 Phylogenomics and Evolution Group, North Carolina State University, Raleigh, NC
 2018 ArtLab Seminar Series, Vanderbilt University, Nashville, TN
 2015 TedXClarkUniversity, Clark University, Worcester, MA

CONTRIBUTED TALKS

2020 Evolution Seminar Series, Vanderbilt University
 2019 DNA Damage and Response Journal Club, Vanderbilt University, Nashville, TN
 2019 Research in Progress Seminar, Vanderbilt University, Nashville, TN
 2019 Biological Sciences Annual Retreat, Vanderbilt University, Nashville, TN
 2019 Science club at the library, Nashville Public Library, Nashville, TN
 2018 Nashville Science Club, Jackalope Brewing Company, Nashville, TN
 2017 Mycological Society of America, University of Georgia, Athens, GA
 2016 Mycological Society of America, University of California Berkeley, Berkeley, CA
 2016 Graduate Student Multidisciplinary Conference, Clark University, Worcester, MA

UNDERGRADUATE ADVISING

2019-Pres. Olivia Zheng
 2018-Pres. Megan A. Phillips
 2018-2019 Benjamin Buckman
 2018 Devin G. Arrants

WORKSHOP TEACHING

2019 Organizer and instructor, Values-based leadership, Vanderbilt University, Nashville, TN
 2019 Founder and instructor, 'A beginner's guide to making figures in R', Vanderbilt University, Nashville, TN
 2019 Instructor, Workshop on Phylogenomics, Evolution and Genomics, Český Krumlov, Czech Republic
 2019 Instructor, Workshop on Genomics, Evolution and Genomics, Český Krumlov, Czech Republic

TEACHING EXPERIENCE

2020 Guest lecture, Science Communication Tools and Techniques, Vanderbilt University, Nashville, TN
 2017-2019 Teaching Assistant, Introductory Biology Lab, Vanderbilt University, Nashville, TN
 2016 Teaching Assistant, Introduction to Biostatistics, Clark University, Worcester, MA
 2014-2015 Teaching Assistant, Cell Biology, Clark University, Worcester, MA

POSTER PRESENTATIONS

2020 HHMI Gilliam Fellows Meeting, Howard Hughes Medical Institute
 2020 Vanderbilt Institute for Infection, Immunology and Inflammation Annual Symposium, Virtual Conference
 2020 The Allied Genetics Conference, Virtual Conference
 2019 HHMI Investigators Science Meeting, Howard Hughes Medical Institute, Bethesda, MD
 2019 Gilliam Fellows Annual Meeting, Howard Hughes Medical Institute, Bethesda, MD
 2019 Molecular Mechanisms in Evolution, Gordon Research Conference, Easton, MA
 2019 Molecular Mechanisms in Evolution, Gordon Research Seminar, Easton, MA
 2019 30th Fungal Genetics Conference at Asilomar, Pacific Grove, CA
 2019 Asperfest pre-meeting at 30th Fungal Genetics Conference at Asilomar, Pacific Grove, CA
 2018 Cellular and Molecular Fungal Biology, Gordon Research Conference, Holderness, NH

2018 Cellular and Molecular Fungal Biology, Gordon Research Seminar, Holderness, NH
2018 Department of Biological Sciences Annual Retreat, Vanderbilt University, Nashville, TN
2015 Bumpus Symposium, Clark University, Worcester, MA
2015 Traina Scholars Presentation, Clark University, Worcester, MA
2015 Summer Research Presentation, Clark University, Worcester, MA

RESEARCH EXPERIENCE

2016-Pres. Antonis Rokas Lab at Vanderbilt University, Nashville, TN. Doctoral Research. Evolution of medically and technologically significant fungi.
2015-2016 John Gibbons Lab at Clark University, Worcester, MA. Undergraduate and Master's Research. Copy number variation in the human pathogen, *Cryptococcus gattii*.
2015-2016 Robert Drewell Lab at Clark University, Worcester, MA. Undergraduate and Master's Research. Genome-wide methylation patterns in the social amoeba, *Dictyostelium discoideum*.
2014 Ite A. Laird-Offringa Lab at University of Southern California, Los Angeles, CA. Bridging the Gaps Summer Scholar. Mapping the autoimmune triggering epitope of *ELAVL4* in small cell lung cancer.
2013 John Heidelberg and Eric Webb Labs at University of Southern California, Los Angeles, CA. Global Environmental Microbiology Summer Scholar. Fresh and marine water microbial diversity.

SERVICE

2020-Pres. Founder and Chief Officer, SciArt with Purpose, <https://jlsteenwyk.com/sciart.html>
2020 Panelist at the Communication and Outreach Workshop, The Allied Genetics Conference, Genetics Society of America
2019-Pres. Co-chair, Communication and Outreach Subcommittee, Genetics Society of America
2019-Pres. Inclusion Coordinator, The Evolutionary Studies Initiative at Vanderbilt, Vanderbilt University, Nashville, TN
2019-Pres. Graphic Illustrator, The Evolutionary Studies Initiative at Vanderbilt, Vanderbilt University, Nashville, TN
2019-Pres. President, Inclusivity in Biosciences Association, Vanderbilt University, Nashville, TN
2018-Pres. Volunteer Deputy, American Society of Microbiology Vanderbilt University Chapter, Nashville, TN
2017-Pres. Educational outreach booth design and execution, MEGAMicrobe, Nashville, TN
2017-Pres. Communications chair, Inclusivity in Biosciences Association, Vanderbilt University, Nashville, TN
2017-Pres. Member of the Dean of Graduate Student's survey quantitative analysis subgroup, Graduate Diversity and Inclusion Committee, Vanderbilt University, Nashville, TN
2017-Pres. Judge, Middle Tennessee Science and Engineering Fair, Belmont University, Nashville, TN
2019-2020 Co-chair, MEGAMicrobe, Vanderbilt Institute for Infections, Immunology and Inflammation, Nashville, TN
2018-2019 Vice President, Inclusivity in Biosciences Association, Vanderbilt University, Nashville, TN
2013-2019 Administrator and Owner, Molecular Biology and Biochemistry for Researchers and Students Group, LinkedIn
2019 Peer review workshop leader, 30th Fungal Genetics Conference at Asilomar, Pacific Grove, CA
2018-2019 Vice President, Graduate Student Association, Department of Biological Sciences, Vanderbilt University, Nashville, TN

- 2018-2019** Vice co-chair, MEGAMicrobe, Vanderbilt Institute for Infections, Immunology and Inflammation, Nashville, TN
- 2017-2018** Secretary, Graduate Student Association, Department of Biological Sciences, Vanderbilt University, Nashville, TN
- 2017-2018** Scientific consultant, Little Harpeth Brewing, Nashville, TN
- 2017** Vanderbilt Student Volunteers for Science, Volunteer Science Teacher, West End Middle School, Nashville, TN
- 2014-2015** Undergraduate Subcommittee for Department of Chemistry, Biochemistry and Molecular Biology Faculty Search Committee, Clark University, Worcester, MA
- 2014-2015** Science Education Outreach Blogger, C-DEBI Sci-Curious Blog

ART SHOWS

- 2020** Catalyst: A virtual Sci-Art Exhibition, Michigan State University
- 2020** Day of Wond'ry, Vanderbilt University, Nashville, TN
- 2020** Fire-Exhibition, Kefi Collective at Vanderbilt University, Nashville, TN
- 2019** Biomedical Sciences Winter Show, Vanderbilt University, Nashville, TN
- 2019** Focal point, ArtLab, Vanderbilt University, Nashville, TN
- 2019** Connecting the Dots, ArtLab, Vanderbilt University, Nashville, TN
- 2018** ArtLab opening reception, ArtLab, Vanderbilt University, Nashville, TN
- 2018** The Intersection between Art and Science, ArtLab, Vanderbilt University, Nashville, TN

MANUSCRIPT REVIEWER

Systematic Biology; Genome Biology and Evolution; BMC Genomics; Nature Communications Biology; Genetics; G3: Genes | Genomes | Genetics; PLoS One; Molecular Genetics and Genomics; Young Scientists Journal; Scholarly Undergraduate Research Journal

POPULAR SCIENCE ARTICLES

- (4) Mendoza, A.D., C. Bautista, E.A. Marnik, C.M.A. Simopoulos, & **J.L. Steenwyk**. Navigating fake news as a scientist, *ecrLife*. October 8, 2020.
- (3) **Steenwyk, J.L.** & M. Jonika. How to get started in science communication, *ecrLife*. August 21, 2020.
- (2) **Steenwyk, J.L.** & A. Rokas. A new hybrid fungus is found in hospitals and linked to lung disease, *The Conversation*. June 4, 2020.
- (1) **Steenwyk, J.L.** & A. Rokas. An outlaw yeast thrives with genetic chaos – and could provide clues for understanding cancer growth, *The Conversation*. May 21, 2019.

PUBLICATIONS

Preprints

- (6) **Steenwyk, J.L.**, M.E. Mead, P.A. Castro, C. Valero, A. Damasio, R.A.C. Santos, A.L. LaBella, Y. Li, S.L. Knowles, H.A. Raja, N.H. Oberlies, X. Zhou, O.A. Cornely, F. Fuchs, P. Koehler[^], G.H. Goldman[^], A. Rokas[^] (2020). Genomic and phenotypic analysis of COVID-19-associated pulmonary aspergillosis isolates of *Aspergillus fumigatus*. ([^]Senior authors). bioRxiv. doi: 10.1101/2020.11.06.371971
- (5) **Steenwyk, J.L.**[^], T.J. Buida III, A.L. LaBella, Y. Li, X.-X. Shen, & A. Rokas[^] (2020). PhyKIT: a UNIX shell toolkit for processing and analyzing phylogenomic data. ([^]Senior authors). bioRxiv. doi: 10.1101/2020.10.27.358143
- (4) Li, Y., **J.L. Steenwyk**, Y. Chang, Y. Wang, T.Y. James, J.E. Stajich, J.W. Spatafora, M.

- Groenewald, C. Dunn, C.T. Hittinger, X.-X. Shen, A. Rokas (2020). A genome-scale phylogeny of Fungi; insights into early evolution, radiations, and the relationship between taxonomy and phylogeny. *bioRxiv*. doi: 10.1101/2020.08.23.262857v1
- (3) LaBella, A.L., D. Opulente, **J.L. Steenwyk**, C.T. Hittinger, & A. Rokas (2020). Signatures of optimal codon usage predict metabolic ecology in budding yeasts. *bioRxiv*. doi: 10.1101/2020.07.22.214635.
- (2) **Steenwyk, J.L.**[^], T.J. Buida III, Y. Li, X.-X. Shen, & A. Rokas[^] (2020). ClipKIT: a multiple sequence alignment-trimming algorithm for accurate phylogenomic inference. ([^]Senior authors). *bioRxiv*. doi: 10.1101/2020.06.08.140384.
- (1) **Steenwyk, J.**, J. St. Denis, J. Dresch, D. Larochelle, & R. Drewell (2017). Whole genome bisulfite sequencing reveals a sparse, but robust pattern of DNA methylation in the *Dictyostelium discoideum* genome. *bioRxiv*. doi: 10.1101/166033

Peer Review Published

- (30) Li, Y., K.T. David, X.-X. Shen, **J.L. Steenwyk**, K.M. Halanych, & A. Rokas (2020). Feature Frequency Profile-based phylogenies are inaccurate. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*: *in press*.
- (29) Shen, X.-X.[^], **J.L. Steenwyk**, A.L. LaBella, D.A. Opulente, X. Zhou, J. Kominek, Y. Li, M. Groenewald, C.T. Hittinger, & A. Rokas[^] (2020). Genome-scale phylogeny and contrasting modes of genome evolution in the fungal phylum Ascomycota. ([^]Senior authors). *Science Advances*. doi: 10.1126/sciadv.abd0079.
- (28) Santos, R.A.C., O. Rivero-Menendez, **J.L. Steenwyk**, M.E. Mead, G.H. Goldman[^], A. Alastruey-Izquierdo, & A. Rokas[^] (2020). Draft genome sequences of four *Aspergillus* section *Fumigati* clinical strains. ([^]Senior authors) *Microbiology Resource Announcements*. doi: 10.1128/MRA.00856-20.
- (27) Filho, A.P.C., G.T.P. Brancini, P.A. de Castro, J.A. Ferreira, L.P. Silva, M.C. Rocha, I. Malavazi, J.G.M. Pontes, T. Fill, R. Silva, F. Almeida, **J.L. Steenwyk**, A. Rokas, T.F. dos Reis, L.N.A. Ries, & G.H. Goldman (2020). *Aspergillus fumigatus* G-protein coupled receptors GprM and GprJ are important for the regulation of the cell wall integrity pathway, secondary metabolite production, and virulence. *mBio*: *in press*.
- (26) **Steenwyk, J.L.** (2020). A portrait of budding yeasts: A symbol of the arts, sciences and a whole greater than the sum of its parts. *Yeast*. doi: 10.1002/yea.3518.
- (25) **Steenwyk, J.L.**, M.E. Mead*, S.L. Knowles*, H.A. Raja, C.D. Roberts, O. Bader, J. houbraken, G.H. Goldman, N.H. Oberlies, & A. Rokas (2020). Biosynthetic gene clusters, secondary metabolite profiles, and cards of virulence in the closest nonpathogenic relatives of *Aspergillus fumigatus*. (*Equal contributors). *Genetics*. doi: 10.1534/genetics.120.303549.
- (24) Ries, L.N.A., L. Pardeshi, Z. Dong, K. Tan, **J.L. Steenwyk**, A.C. Colabardini, J.A.F. Filho, P.A. de Castro, L.P. Silva, N.W. Preite, F. Almeida, L.J. de Assis, R.A.C. dos Santos, P. Bowyer, M. Bromley, R.A. Owens, S. Doyle, M. Demasi, D.C.R. Hernández, L.E.S. Netto, M.T. Pupo, A. Rokas, F.V. Loures, K.H. Wong, & G.H. Goldman (2020). The *Aspergillus fumigatus* transcription factor RglT is important for gliotoxin biosynthesis and self-protection, and virulence. *PLoS Pathogens*. doi: 10.1371/journal.ppat.1008645
- (23) **Steenwyk, J.L.***, A.L. Lind*, L.N.A. Ries, T.F. dos Reis, L.P. Silva, F. Almeida, R.W. Bastos, T.F. de Campos Fraga da Silva, V.L.D. Bonato, A.M. Pessoni, F. Rodrigues, H.A. Raja, S.L. Knowles, N.H. Oberlies, K. Lagrou, G.H. Goldman[^], A. Rokas[^] (2020).

Pathogenic allodiploid hybrids of *Aspergillus* fungi. (*Equal contributors; ^Senior authors). Current Biology. doi: 10.1016/j.cub.2020.04.071

- (22) Mead, M.E.*, A.T. Borowsky*, B. Joehnk, **J.L. Steenwyk**, X.-X. Shen, A. Sil, & A. Rokas (2020). Recurrent loss of *abaA*, a master regulator of asexual development in filamentous fungi, correlates with changes in genomic and morphological traits. (*Equal contributors). Genome Biology and Evolution. doi: 10.1093/gbe/evaa107
- (21) Santos, R.A.C., **J.L. Steenwyk**, O. Rivero-Menendez, M.E. Mead, L.P. Silva, R.W. Bastos, A. Alastruey-Izquierdo, G.H. Goldman^, & A. Rokas^ (2020). Genomic and phenotypic heterogeneity of clinical isolates of the human pathogens *Aspergillus fumigatus*, *Aspergillus lentulus* and *Aspergillus fumigati*affinis. (^Senior contributors). Frontiers in Genetics. doi: 10.3389/fgene.2020.00459.
- (20) Bastos, R.W., C. Valero, L.P. Silva, T. Schoen, M. Drott, V. Brauer, R. Silva-Rocha, A. Lind, **J.L. Steenwyk**, A. Rokas, F. Rodrigues, A. Resendiz-Sharpe, K. Lagrou, M. Marcet-Houben, T. Gabaldon, E. McDonnell, I. Reid, A. Tsang, B.R. Oakley, F. Loures, F. Almeida, A. Huttenlocher, N.P. Keller, L. Ries, G.H. Goldman (2020). Functional characterization of clinical isolates of the opportunistic fungal pathogen *Aspergillus nidulans*. mSphere. doi: 10.1128/mSphere.00153-20.
- (19) Rokas, A., M.E. Mead, **J.L. Steenwyk**, N.H. Oberlies, & G.H. Goldman (2020). Evolving moldy murderers: *Aspergillus* section *Fumigati* as a model for studying the repeated evolution of fungal pathogenicity. PLoS Pathogens. doi: 10.1371/journal.ppat.1008315.
- (18) Knowles, S.L., M.E. Mead, L.P. Silva, H.A. Raja, **J.L. Steenwyk**, G.H. Gustavo, A. Rokas, & N.H. Oberlies (2020). Gliotoxin, a known virulence factor in the major human pathogen *Aspergillus fumigatus*, is also biosynthesized by the non-pathogenic relative *A. fischeri*. mBio. doi: 10.1128/mBio.03361-19.
- (17) Libkind, D., D. Peris, F.A. Cubillos, **J.L. Steenwyk**, D.A. Opulente, Q.K. Langdon, N. Bellora, A. Rokas, & C.T. Hittinger (2020). Into the wild: new yeast genomes from natural environments and new tools for their analysis. FEMS Yeast Research. doi: 10.1093/femsyr/foaa008.
- (16) Rokas, A., M.E. Mead, **J.L. Steenwyk**, H.A. Raja, & N.H., Oberlies (2020). Biosynthetic gene clusters and the evolution of fungal chemodiversity. Natural Product Reports. doi: 10.1039/C9NP00045C.
- (15) Bodinakku, I., J. Shaffer, A.B. Connors, **J.L. Steenwyk**, E. Kastman, A. Rokas, A. Robbat, B. Wolfe (2019). Rapid phenotypic and metabolomics domestication of wild *Penicillium* molds on cheese. mBio. doi: 10.1128/mBio.02445-19.
- (14) Mead, M.E.*, H.A. Raja*, **J.L. Steenwyk**, S.L. Knowles, N.H. Oberlies^, & A. Rokas^ (2019). Draft genome sequence of the griseofulvin-producing fungus *Xylaria flabelliformis* strain G536. (*Equal contributors; ^Senior authors) Microbiology Resource Announcements. doi: 10.1128/MRA.00890-19.
- (13) **Steenwyk, J.L.** & A. Rokas (2019). treehouse: a user-friendly application to obtain subtrees from large phylogenies. BMC Research Notes. doi: 10.1186/s13104-019-4577-5
- (12) Labella, A.L., D.A. Opulente, **J.L. Steenwyk**, C.T. Hittinger, & A. Rokas (2019). Variation and selection on codon usage bias across an entire subphylum. PLoS Genetics. doi: 10.1371/journal.pgen.1008304
- (11) **Steenwyk, J.L.**, X.-X. Shen, A.L. Lind, G.H. Goldman, & A. Rokas (2019). A robust

phylogenomic timetree for biotechnologically and medically important fungi in the genera *Aspergillus* and *Penicillium*. mBio. doi: 10.1128/mBio.00925-19

- (10) **Steenwyk, J.L.**, D. Opulente, J. Kominek, X.-X. Shen, X. Zhou, A.L. LaBella, N.P. Bradley, B.F. Eichman, N. Čadež, D. Libkind, J. DeVirgilio, A.B. Hulfachor, C.P. Kurtzman, C.T. Hittinger[^], & A. Rokas[^] (2019). Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. (^Senior authors) PLoS Biology. doi: 10.1371/journal.pbio.3000255
- (9) Ries, L.N.A., **J.L. Steenwyk**, P.A. de Castro, P.B.A. de Lima, F. Almeida, L.J. de Assis, A.O. Manfiolli, A. Takahashi-Nakaguchi, Y. Kusuya, D. Hagiwara, H. Takahashi, X. Wang, J. Obar, A. Rokas, & G.H. Goldman (2019). Nutritional heterogeneity among *Aspergillus fumigatus* strains has consequences for virulence in a strain- and host-dependent manner. Frontiers in Microbiology. doi: 10.3389/fmicb.2019.00854
- (8) Mead M.E., S.L. Knowles, H.A. Raja, S.R. Beattie, C.H. Kowalski, **J.L. Steenwyk**, L.P. Silva, J. Chiaratto, L.N.A. Ries, G.G. Goldman, R.A. Cramer, N.H. Oberlies, & A. Rokas (2019). Characterizing the pathogenic, genomic, and chemical traits of *Aspergillus fischeri*, the closest sequenced relative of the major human fungal pathogen *Aspergillus fumigatus*. mSphere. doi: 10.1128/mSphere.00018-19
- (7) Knowles, S.L., H.A. Raja, A.J. Wright, A.M.L. Lee, L.K. Caesar, N.B. Cech, M.E. Mead, **J.L. Steenwyk**, L.N.A. Ries, G.H. Goldman, A. Rokas, & N.H. Oberlies (2019). Mapping the Fungal Battlefield: Using *in situ* Chemistry and Deletion Mutants to Monitor Interspecific Chemical Interactions between Fungi. Frontiers in Microbiology: doi: 10.3389/fmicb.2019.00285
- (6) Eidem, H.R., **J.L. Steenwyk**, J. Wisecaver, J.A. Capra, P. Abbot, & A. Rokas (2018). integRATE: a desirability-based data integration framework for the prioritization of candidate genes across heterogeneous ‘omics and its application to preterm birth. BMC Medical Genomics. doi: 10.1186/s12920-018-0426-y
- (5) Shen, X.-X.*, D.A. Opulente*, J. Kominek*, X. Zhou*, **J.L. Steenwyk**, K.V. Buh, M.A.B. Haase, J.H. Wisecaver, M. Wang, D.T. Doering, J.T. Boudouris, R.M. Schneider, Q.K. Langdon, M. Ohkuma, R. Endoh, M. Takashima, R. Manabe, N. Čadež, D. Libkind, C.A. Rosa, J. DeVirgilio, A.B. Hulfachor, M. Groenewald, C.P. Kurtzman[^], C.T. Hittinger[^] & A. Rokas[^] (2018). (*Equal contributors; [^]Senior authors). Tempo and mode of genome evolution in the budding yeast subphylum. Cell. doi: 10.1016/j.cell.2018.10.023
- (4) Segal, E.S., V. Gritsenko, A. Levitan, B. Yadav, N. Dror, **J.L. Steenwyk**, Y. Silberberg, K. Mielich, A. Rokas, N.A.R. Gow, R. Kunze, R. Sharan, & J. Berman (2018). Gene Essentiality Analyzed by In Vivo Transposon Mutagenesis and Machine Learning in a Stable Haploid Isolate of *Candida albicans*. mBio. doi: 10.1128/mBio.02048-18
- (3) **Steenwyk, J.L.** & A. Rokas (2018). Copy number variation in fungi and its implications for wine yeast genetic diversity and adaptation. Frontiers in Microbiology. doi: 10.3389/fmicb.2018.00288
- (2) **Steenwyk, J.** & A. Rokas (2017). Extensive Copy number variation in fermentation-related genes among *Saccharomyces cerevisiae* wine strains. G3: Genes | Genomes | Genetics. doi: 10.1534/g3.117.040105
- (1) **Steenwyk J.L.**, J.S. Soghigian, J.R. Perfect, & J.G. Gibbons (2016). Copy number variation contributes to cryptic genetic variation in outbreak lineages of *Cryptococcus gattii* from the North American Pacific Northwest. BMC Genomics. doi: 10.1186/s12864-016-3044-0