Jacob L. Steenwyk

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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

2021	Presentation award, Canadian Fungal Research Network and Great Lakes Mycology Conference
2021	Graduate Research Excellence Award in Biological Sciences, Vanderbilt University
2021	Smriti Bardhan Scholarship, Vanderbilt University
2021	Registration award, Science Talk '21
2020	Favorite Artist Award, Catalyst: A Virtual Sci-Art Exhibition
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	*GENETICS* 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

• Evolution of technologically and medically significant fungi
• Evolution and function of DNA repair
• Genome and gene evolution
• Phylogenomics and phylogenetics
• Software development

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

First author

Steenwyk, J.L.^, *et al*. (2021) PhyKIT: a UNIX shell toolkit for processing and analyzing phylogenomic data. ^Corresponding author. ***Bioinformatics***. DOI: 10.1093/bioinformatics/btab096

Steenwyk, J.L.^, *et al*. (2020). ClipKIT: a multiple sequence alignment-trimming software for accurate phylogenomic inference. ^Corresponding author. ***PLOS Biology***. DOI: 10.1371/journal.pbio.3001007

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

Middle author

Shen, Xing-Xing^, **J.L. Steenwyk**, & A. Rokas (2021). Dissecting incongruence between concatenation- and quartet-based approaches in phylogenomic data. ^Corresponding author. ***Systematic Biology***. DOI: 10.1093/sysbio/syab011

Li, Y., **J.L. Steenwyk**, *et al*. (2021). A genome-scale phylogeny of the kingdom Fungi. ***Current Biology***. DOI: 10.1016/j.cub.2021.01.074

Shen, X.-X.^, **J.L. Steenwyk**, *et al.* (2020). Genome-scale phylogeny and contrasting modes of genome evolution in the fungal phylum Ascomycota. ^Corresponding author. ***Science Advances***. DOI: 10.1126/sciadv.abd0079

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

SOFTWARE

ClipKIT: a multiple sequence alignment-trimming software for accurate phylogenomic inference. Publication PDF; Documentation; Source code

PhyKIT: a UNIX shell toolkit for processing and analyzing phylogenomic data. Publication PDF; Documentation; Source code

orthofisher: a broadly applicable tool for automated gene identification and retrieval. Documentation; Source code

treehouse: a user-friendly application to obtain subtrees from large phylogenies. Publication PDF;

Documentation & source code

ggpubfigs: an R package for creating color blind friendly figures with ggplot2. Zenodo record; Documentation & source code

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

2021	Artist-in-Residence program, Vanderbilt Institute for Infection, Immunology and Inflammation
2021	CanFunNet and Great Lakes Mycology Conference
2021	Sandler Fellows Seminar, University of California, San Francisco
2021	Department of Ecology, Evolution, and Organismal Biology, Iowa State University
2021	Medical Mycology Trainee Seminar Series, University of Utah (Link)
2021	Mycology Graduate Student Organization, University of Georgia
2021	MicroSeminar, International Society for Microbial Ecology (Link)
2021	Alliance for Diversity in Science and Engineering, Young Researchers Conference
2021	Andrew Murray Lab seminar, Harvard University, Cambridge
2020	Institute of Insect Sciences, Zhejiang University
2020	Evan Eichler Lab seminar, University of Washington, Seattle
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 30th 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

2021 Students' Mycology Colloquium, Mycological Society of America
2020 Evolution Seminar Series, Vanderbilt University (Link)
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
2018-2021 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

2021 Biology of Genomes, Cold Spring Harbor Laboratories
2021 Science Talk '21, Science Talk
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
2019-Pres. Co-chair, Communication and Outreach Subcommittee, Genetics Society of America
2019-Pres. Member, Steering Committee, Early Career Leadership Program, 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
2017-Pres. Educational outreach booth design and execution, MEGA*Microbe*, 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
2018-2021 Volunteer Deputy, American Society of Microbiology Vanderbilt University Chapter, Nashville, TN
2017-2021 Communications chair, Inclusivity in Biosciences Association, Vanderbilt University, Nashville, TN
2020 Panelist at the Communication and Outreach Workshop, The Allied Genetics Conference, Genetics Society of America
2019-2020 President, Inclusivity in Biosciences Association, Vanderbilt University, Nashville, TN
2019-2020 Co-chair, MEGA*Microbe*, 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, MEGA*Microbe*, 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

2021 Science Talk '21, Science Talk

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

Nature Communications; Molecular Biology and Evolution; Systematic Biology; Methods in Ecology and Evolution; Genome Biology and Evolution; Genetics; G3: Genes | Genomes | Genetics; FEMS Yeast Research; BMC Genomics; Nature Communications Biology; PLOS One; Molecular Genetics and Genomics; and others

POPULAR SCIENCE ARTICLES

(5) Simopoulos, M.A.C., A.F. Cisneros, A.D. Mendoza, C. Bautista, **J.L. Steenwyk**, N. Ahmad. Hurdles and advances to making science gender-neutral, *ecrLife*. November 26, 2020

(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

(3) P.A. de Castro, Moraes, A., Colabardini, A.C., Horta, M.A.C., Knowles, S.L., Raja, H.A., Oberlies, N.H., Koyama, Y., Ogawa, M., Gomi, K., **Steenwyk, J.L.**, Rokas, A., Ries, L.N.A., Goldman, G.H. (2021). Regulation of gliotoxin biosynthesis and protection in Aspergillus species. bioRxiv. DOI: 10.1101/2021.08.16.456458.

(2) **Steenwyk, J.L.**, M.A. Phillips, F. Yang, S.S. Date, T. Graham, J. Berman, C.T. Hittinger, A. Rokas (2021). A gene coevolution network provides insight into eukaryotic cellular and genomic structure and function. bioRxiv. DOI: 10.1101/2021.07.09.451830.

(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

(42) Phillips, M.A., **J.L. Steenwyk**^, X.-X. Shen, & A. Rokas^ (2021). Examination of gene loss in the DNA mismatch repair pathway and its mutational consequences in a fungal phylum. (^Corresponding authors). bioRxiv. DOI: 10.1101/2021.04.13.439724.

(41) Santos, R.A.C., M.E. Mead, **J.L. Steenwyk**, O. Rivero-Menéndez, A. Alastruey-Izquierdo, G.H. Goldman^, & A. Rokas^ (2021). Examining signatures of natural selection in antifungal resistance genes across Aspergillus fungi. ^Corresponding authors. Frontiers in Fungal Biology. DOI: 10.3389/ffunb.2021.723051

(40) **Steenwyk, J.L.** & A. Rokas (2021). orthofisher: a broadly applicable tool for automated gene identification and retrieval. G3 Genes|Genomes|Genetics. DOI: 10.1093/g3journal/jkab250.

(39) Ries, L., P. de Castro, L. Silva, C. Valero, T. dos Reis, R. Saborano, I. Duarte, G. Persinoti, **J.L. Steenwyk**, A. Rokas, F. Almeida, J. Costa, T. Fill, S.S.W. Wong, V. Aimanianda, F. Rodrigues, R. Gonçales, C. Duarte-Oliveira, A. Carvalho, & G.H. Goldman (2021). *Aspergillus fumigatus* acetate utilization impacts virulence traits and pathogenicity. mBio: *in press*.

(38) Mead, M.E.*, **J.L. Steenwyk***, L.P. Silva, P.A. de Castro, N. Saeed, F. Hillmann, G.H. Goldman, & A. Rokas (2021). An evolutionary genomic approach reveals both conserved and species-specific genetic elements related to human disease in closely related *Aspergillus* fungi. *Equal contributors. Genetics. PMID: 33944921; PMCID: PMC8225353; DOI: 10.1093/genetics/iyab066

(37) **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^ (2021). Genomic and phenotypic analysis of COVID-19-associated pulmonary aspergillosis isolates of *Aspergillus fumigatus*. ^Corresponding authors. Microbiology Spectrum. PMID: 34106569; DOI: 10.1128/Spectrum.00010-21

(36) LaBella, A.L., D. Opulente, **J.L. Steenwyk**, C.T. Hittinger, & A. Rokas (2021). Signatures of optimal codon usage in metabolic genes inform budding yeast ecology. PLOS Biology. PMID: 33872297; PMCID: PMC8084343; DOI: 10.1371/journal.pbio.3001185

(35) **Steenwyk, J.L.** (2021). Evolutionary divergence in the DNA damage response among fungi. mBio. PMID: 33727357; PMCID: PMC8092291; DOI: 10.1128/mBio.03348-20

(34) Shen, Xing-Xing, **J.L. Steenwyk**, & A. Rokas (2021). Dissecting incongruence between concatenation- and quartet-based approaches in phylogenomic data. Systematic Biology. PMID: 33616672; DOI: 10.1093/sysbio/syab011

(33) **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. ^Corresponding authors. Bioinformatics. PMID: 33560364; DOI: 10.1093/bioinformatics/btab096

(32) 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 the kingdom Fungi. ^Corresponding authors. Current Biology. PMID: 33607033; DOI: 10.1016/j.cub.2021.01.074

(31) **Steenwyk, J.L.** (2021). A portrait of budding yeasts: A symbol of the arts, sciences and a whole greater than the sum of its parts. Yeast. PMID: 32869892; DOI: 10.1002/yea.3518

(30) **Steenwyk, J.L.**^, T.J. Buida III, Y. Li, X.-X. Shen, & A. Rokas^ (2020). ClipKIT: a multiple sequence alignment-trimming software for accurate phylogenomic inference. ^Corresponding authors. PLOS Biology. PMID: 33264284; PMCID: PMC7735675; DOI: 10.1371/journal.pbio.3001007

(29) 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. PMID: 33234569; PMCID: PMC7749326; DOI: 10.1073/pnas.2013143117

(28) 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. ^Corresponding authors. Science Advances. PMID: 33148650; PMCID: PMC7673691; DOI: 10.1126/sciadv.abd0079

(27) 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. ^Corresponding authors. Microbiology Resource Announcements. PMID: 33004453; PMCID: PMC7530925; DOI: 10.1128/MRA.00856-20

(26) 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. PMID: 33051372; PMCID: PMC7554674; DOI: 10.1128/mBio.02458-20

(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. PMID: 32817009; PMCID: PMC7536862; 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. PMID: 32667960; PMCID: PMC7384679; 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; ^Corresponding authors. Current Biology. PMID: 32502407; PMCID: PMC7343619; 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. PMID: 32442273; PMCID: PMC7531577; 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 fumigatiaffinis*. ^Corresponding contributors. Frontiers in Genetics. PMID: 32477406; PMCID: PMC7236307; 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. PMID: 32269156; PMCID: PMC7142298; 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. PMID: 32106242; PMCID: PMC7046185; 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. PMID: 32047138; PMCID: PMC7018655; 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. PMID: 32009143; PMCID: PMC7067299; DOI: 10.1093/femsyr/foaa008

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