



Berkeley Science Fellow & Howard Hughes Medical  
Institute Awardee of the Life Sciences Research  
Foundation. Howard Hughes Medical Institute and  
University of California, Berkeley.  
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# Jacob L. Steenwyk

## PROFESSIONAL POSITIONS

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- Since 2024** Scientific Consultant, FutureHouse Inc., San Francisco, CA
- Since 2024** Bioinformatics Visiting Scholar, MantleBio Inc., San Francisco, CA
- Since 2023** Howard Hughes Medical Institute Awardee, Life Sciences Research Foundation
- Since 2022** Postdoctoral Associate, Laboratory of Dr. King, University of California, Berkeley
- Since 2022** Berkeley Science Fellow, University of California, Berkeley
- 2022 – 2023** Scientific Consultant, LatchBio Inc., San Francisco, CA

## FIVE HIGHLIGHTED PUBLICATIONS (Trainees and I are in **bold** font.)

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1. **Steenwyk, J.L.**, S. Knowles, R.W. Bastos, **C. Balamurugan**, D. Rinker, M.E. Mead, C.D. Roberts, H.A. Raja, Y. Li, A.C. Colabardini, P.A. de Castro, T.F. dos Reis, D. Canóvas, R.L. Sanchez, K. Lagrou, E. Torrado, F. Rodrigues, N.H. Oberlies, X. Zhou, G.H. Goldman<sup>^</sup>, & A. Rokas<sup>^</sup> (2024). <sup>^</sup>Corresponding authors. Evolutionary origin and population diversity of a cryptic hybrid pathogen. **Nature Communications**. DOI: 10.1038/s41467-024-52639-1
2. **Steenwyk, J.L.**, Y. Li, X. Zhou, X.-X. Shen, & A. Rokas (2023). Incongruence in the phylogenomics era. **Nature Reviews Genetics**. DOI: 10.1038/s41576-023-00620-x
3. **Steenwyk, J.L.**, **M.A. Phillips**, F. Yang, S.S. Date, T. Graham, J. Berman, C.T. Hittinger, & A. Rokas (2022). An orthologous gene coevolution network provides insight into eukaryotic cellular and genomic structure and function. **Science Advances**. DOI: 10.1126/sciadv.abn0105
4. **Steenwyk, J.L.**<sup>^</sup>, T.J. Buida III, A.L. LaBella, Y. Li, X.-X. Shen, & A. Rokas<sup>^</sup> (2021). PhyKIT: a UNIX shell toolkit for processing and analyzing phylogenomic data. <sup>^</sup>Corresponding authors. **Bioinformatics**. DOI: 10.1093/bioinformatics/btab096
5. **Steenwyk, J.L.**<sup>^</sup>, T.J. Buida III, Y. Li, X.-X. Shen, & A. Rokas<sup>^</sup> (2020). ClipKIT: a multiple sequence alignment-trimming software for accurate phylogenomic inference. <sup>^</sup>Corresponding authors. **PLOS Biology**. DOI: 10.1371/journal.pbio.3001007

## AWARDS

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- 2024** Frequency Bio Cohort 10 Member, Pillar Venture Capital
- 2024** Trailblazers of Tomorrow National Postdoctoral Symposium, The University of Texas at Austin
- 2024** Englund Emerging Scholar Award, Department of Biological Chemistry, Johns Hopkins Medicine
- 2023** JXTX + CSHL Genome Informatics Scholarship, Biology of Genomes, Cold Spring Harbor Laboratory
- 2023** Honorable mention, Next Generation Faculty Symposium, Stanford.Berkeley.UCSF
- 2023** Howard Hughes Medical Institute Awardee, Life Sciences Research Foundation

**2022** Fifty 50 Community Fellow, Fifty Years Industries, LLC  
**2022** Berkeley Science Fellow, Berkeley Postdoctoral Entrepreneurship Program, University of California, Berkeley  
**2022** Graduate Student Excellence Award Finalist, Society for Molecular Biology and Evolution  
**2022** Hanna H. Gray Fellows Finalist, Howard Hughes Medical Institute  
**2022** Edward Ferguson Jr. Graduate Award, Graduate School, Vanderbilt University  
**2022** James F. Crow Early Career Researcher Award Finalist, Genetics Society of America  
**2022** Harold M. Weintraub Graduate Student Award, Fred Hutchinson Cancer Research Center  
**2021** Sandler Fellows Finalist, University of California, San Francisco  
**2021** Honorable mention, Next Generation Faculty Symposium, Stanford.Berkeley.UCSF  
**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** Bridging the gaps scholar, 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

## FUNDING

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<b>Life Sciences Research Foundation</b>	Principal investigator, 08/23-08/26, Investigating the molecular underpinnings of complex traits like multicellularity, \$231,000. Funding generously provided by the Howard Hughes Medical Institute.
<b>Howard Hughes Medical Institute</b>	Principal investigator, 09/22, The evolution of pathways responsible for genome integrity in early animals and close relatives, Hanna H. Gray Finalist, \$10,000
<b>Howard Hughes Medical Institute</b>	Principal investigator, 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
<b>National Institutes of Health</b>	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)
<b>Ford Foundation Predoctoral Fellow</b>	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)
<b>Curb Center ArtLab Fellow</b>	Principal investigator, 12/18-04/19, Bridging the gap between artist and scientist, ArtLab, Vanderbilt University, \$300

## SOFTWARE

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- 1) ClipKIT: a multiple sequence alignment-trimming software for accurate phylogenomic inference. [Publication PDF](#); [Documentation](#); [Source code](#)
- 2) PhyKIT: a UNIX shell toolkit for processing and analyzing phylogenomic data. [Publication PDF](#); [Documentation](#); [Source code](#)
- 3) BioKIT: a versatile toolkit for processing and analyzing diverse types of sequence data. [Publication PDF](#); [Documentation](#); [Source code](#)
- 4) OrthoHMM: Improved Inference of Ortholog Groups using Hidden Markov Models. [Publication PDF](#); [Documentation](#); [Source code](#)
- 5) OrthoSNAP: a tree splitting and pruning algorithm for retrieving single-copy orthologs from gene family trees. [Publication PDF](#); [Documentation](#); [Source code](#)
- 6) orthofisher: a broadly applicable tool for automated gene identification and retrieval. [Publication PDF](#); [Documentation](#); [Source code](#)
- 7) treehouse: a user-friendly application to obtain subtrees from large phylogenies. [Publication PDF](#); [Documentation & source code](#)
- 8) ggpubfigs: an R package for creating colorblind friendly figures with ggplot2. [Publication PDF](#); [Documentation & source code](#)
- 9) Orthoflow: phylogenomic analysis and diagnostics with one command. [Publication PDF](#); [Documentation](#); [Source code](#)
- 10) Solu – a cloud platform for real-time genomic pathogen surveillance. [Publication PDF](#); [Platform](#)
- 11) LVBRs: a cloud-based suite of workflows for bulk RNA-seq quality control, analysis, and

functional enrichment. [Publication PDF](#); [Documentation](#); [Source code](#)

## INVITED TALKS

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- 2024** Bioinformatics Group, Utrecht University, Netherlands
- 2024** Bioinformatics Group, Wageningen University, Netherlands
- 2024** Evolutionary Rate Covariation and Related Methods Workshop, Oregon State University and Colorado State University
- 2024** Biochemistry, Molecular, and Structural Biology Graduate Program, the University of California, Los Angeles
- 2024** Southern California Evolutionary Genetics and Genomics Meeting, Caltech's Center for Evolutionary Science and the University of California's Center for Ecological and Evolutionary Dynamics, Caltech
- 2024** Postdoc Research Showcase, Molecular and Cell Biology Department, University of California, Berkeley
- 2024** Trailblazers of Tomorrow National Postdoctoral Symposium, The University of Texas at Austin
- 2024** Englund Emerging Scholar Symposium, Department of Biological Chemistry, Johns Hopkins Medicine
- 2024** 32<sup>st</sup> Fungal Genetics Conference at Asilomar, Pacific Grove, CA
- 2023** Seminar, Stowers Institute
- 2023** Innovative Genomics Institute and the Department of Electrical Engineering and Computer Sciences, University of California, Berkeley
- 2023** CanFunNet, Acadia University
- 2023** Lightning Talk, Southern California Systems Biology Conference, University of Southern California
- 2023** Departmental Seminar, Plant Pathology and Environmental Microbiology, The Pennsylvania State University
- 2022** Biology Department, Loras College
- 2022** Yeast Genetics Meeting, Genetics Society of America
- 2022** Hanna H. Gray Fellows Finalists Meeting, Howard Hughes Medical Institute
- 2022** Molecular mycology meeting, Technion - Israel Institute of Technology
- 2022** Evolution, Am. Soc. of Naturalists, Soc. for the Study of Evo., and the Soc. of Sys. Biologists, Cleveland, OH (declined due to scheduling conflict)
- 2022** James F. Crow Early Career Researcher Award Finalist, Genetics Society of America
- 2022** Department of Biological Sciences, George Washington University
- 2022** 31<sup>st</sup> Fungal Genetics Conference at Asilomar, Pacific Grove, CA
- 2021** Artist-in-Residence program, Vanderbilt Institute for Infection, Immunology and Inflammation
- 2021** CanFunNet and Great Lakes Mycology Conference
- 2021** Sandler Fellows Finalists 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** 30<sup>th</sup> 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

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- 2023** Plant and Microbial Biology, Postdoc Seminar Series, University of California, Berkeley, Berkeley, CA  
**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

## TRAINEE ADVISING

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### Graduate Students

**2023-Pres.** Saelin Bjornson, University of Melbourne (co-advised with Heroen Verbruggen)

### Undergraduates

**2024-Pres.** Veronica L Uy, University of California, Berkeley

**2022-2024** Charu Balamurugan, Vanderbilt University (co-advised with Antonis Rokas)

**2019-2022** Qianhui (Olivia) Zheng, Vanderbilt University (co-advised with Antonis Rokas)

**2018-2021** Megan A. Phillips, Vanderbilt University (co-advised with Antonis Rokas)

## COMPANY ADVISING

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**Since 2023** Advisor, ForensisGroup, Inc., Pasadena, CA

**2022-2023** Scientific Advisor, WittGen Biotechnologies, CA

**2017-2018** Scientific Consultant, Little Harpeth Brewing, Nashville, TN

## WORKSHOP TEACHING

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**2024** Instructor, Methods for Biological Data Workshop, University of Wisconsin-Madison

**2024** Instructor, Phylogenomics and Population Genomics: Inference and Applications, University of Barcelona, Barcelona, Spain

- 2024** Lead instructor, Workshop on Phylogenomics, Evolution and Genomics, Český Krumlov, Czech Republic
- 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**

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- 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**

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- 2024** Life Sciences Research Foundation Fellows Annual Meeting, Chicago, IL
- 2023** Genome Informatics, Cold Spring Harbor Laboratory
- 2023** The International Choanoflagellates & Friends Workshop
- 2022** Decoding the Genome, Howard Hughes Medical Institute
- 2021** Gilliam Fellows Meeting, Howard Hughes Medical Institute
- 2021** Biology of Genomes, Cold Spring Harbor Laboratories
- 2021** Science Talk '21, Science Talk
- 2020** 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** 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** 30<sup>th</sup> Fungal Genetics Conference at Asilomar, Pacific Grove, CA
- 2019** Asperfest pre-meeting at 30<sup>th</sup> 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

## **EDUCATION**

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Vanderbilt University	Biological Sciences	Ph.D., GPA: 3.97	2016–2022
Clark University	Biochemistry and Molecular Biology	M.S., GPA: 3.98	2015–2016

## SERVICE

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- 2024-Pres.** Member, Conferences Committee, Genetics Society of America
- 2024-Pres.** Co-chair, Postdocs Research Showcase, Molecular and Cell Biology, University of California, Berkeley
- 2023-Pres.** Mentor, Alumni Mentorship Program Early Career Mentorship Program, Genetics Society of America
- 2023-Pres.** Project Partner, Data Science Discovery Program, University of California, Berkeley
- 2023-Pres.** Chair of Alumni Affairs, The Evolutionary Studies Initiative at Vanderbilt, Vanderbilt University, Nashville, TN
- 2020-Pres.** Founder and Chief Officer, SciArt with Purpose, <https://jlsteenwyk.com/sciart.html>
- 2023-2024** Executive Board Member, Berkeley Postdoctoral Entrepreneurship Program, University of California, Berkeley
- 2023-2024** Chair, TAGC Undergraduate Travel Award Subcommittee, Genetics Society of America
- 2023-2024** Representative for Early Career Scientists, Allied Program Committee, The Allied Genetics Conference 2024, Genetics Society of America
- 2022** Panelist at the Diversity, Equity, and Inclusion Discussion, Yeast Genetics Conference, Genetics Society of America
- 2022** Scientist-Artist: Embracing Duality, ArtLab, Vanderbilt University
- 2019-2022** Member, Steering Committee, Early Career Leadership Program, Genetics Society of America
- 2019-2022** Inclusion Coordinator, The Evolutionary Studies Initiative at Vanderbilt, Vanderbilt University, Nashville, TN
- 2019-2022** Graphic Illustrator, The Evolutionary Studies Initiative at Vanderbilt, Vanderbilt University, Nashville, TN
- 2017-2022** Educational outreach booth design and execution, MEGAMicrobe, Nashville, TN
- 2017-2022** Member of the Dean of Graduate Student's survey quantitative analysis subgroup, Graduate Diversity and Inclusion Committee, Vanderbilt University, Nashville, TN
- 2017-2022** Judge, Middle Tennessee Science and Engineering Fair, Belmont University, Nashville, TN
- 2019-2021** Co-chair, Communication and Outreach Subcommittee, Genetics Society of America
- 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, 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, 30<sup>th</sup> 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** Vanderbilt Student Volunteers for Science, Volunteer Science Teacher, West End Middle School, Nashville, TN
- 2014-2015** Director, Clark University Emergency Medical Services, Clark University, Worcester, MA
- 2014-2015** 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
- 2013-2014** Secretary, Clark University Emergency Medical Services, Clark University, Worcester, MA

## **SOCIETIES**

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

## **MANUSCRIPT REVIEWER**

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*Nature Communications; Proceedings of the National Academy of Sciences, Molecular Biology and Evolution; Systematic Biology; Current Biology; PLOS Pathogens, GigaScience, Methods in Ecology and Evolution; Genome Biology and Evolution; Genetics; G3 Genes|Genomes|Genetics; FEMS Yeast Research; and others*

## **ART SHOWS**

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- 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

## **POPULAR SCIENCE ARTICLES**

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- 6. Steenwyk, J.L. & K. Giffin.** The silver lining of bioinformatics. *Genes to Genomes*. September 12, 2022
- 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** (Trainees and I are in **bold** font.)

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**Preprints/Submitted**

10. **Steenwyk, J.L.**<sup>^</sup> & T.J. Buida III (2025). ClipKIT in the Browser: Fast Online Trimming of Multiple Sequence Alignments for Phylogenetics. **Submitted**.
9. **Steenwyk, J.L.**<sup>^</sup>, T.J. Buida III, A. Rokas, & N. King (2024). <sup>^</sup>Corresponding authors. OrthoHMM: Improved Inference of Ortholog Groups using Hidden Markov Models. *bioRxiv*. DOI: 10.1101/2024.12.07.627370.
8. **Steenwyk, J.L.**, & T.J. Buida III (2024). RCVT: a novel diagnostic to quantify compositional biases among taxa for phylogenomics. *bioRxiv*. DOI: 10.1101/2024.11.28.625917.
7. Ros-Rocher, N., J. Reyes-Rivera, U. Horo, C. Combredet, Y. Foroughijabbari, B.T. Larson, M.C. Coyle, E.A.T. Houtepen, M.J.A. Vermeij, N. King, **J.L. Steenwyk**, & T. Brunet (2024). Clonal-aggregative multicellularity entrained by salinity in one of the closest relatives of animals. **Submitted**.
6. Feng, B.\*<sup>\*</sup>, Y. Li\*<sup>\*</sup>, H. Liu\*<sup>\*</sup>, **J.L. Steenwyk**, K.T. David, X. Tian, B. Xu, C. Gonçalves, D.A. Oplente, A.L. LaBella, M.-C. Harrison, J.F. Wolters, S. Shao, Z. Chen, K.J. Fisher, M. Groenewald, C.T. Hittinger, X.-X. Shen, A. Rokas<sup>^</sup>, X. Zhou<sup>^</sup>, & Y. Li<sup>^</sup> (2024). <sup>\*</sup>Equal contributors; <sup>^</sup>Corresponding authors. Unique trajectory of gene family evolution from genomic analysis of nearly all known species in an ancient yeast lineage. *bioRxiv*. DOI: 10.1101/2024.06.05.597512.
5. O. Lemke\*<sup>\*</sup>, B.M. Heineike\*<sup>\*</sup>, S. Viknander, N. Cohen, **J.L. Steenwyk**, L. Spranger, F. Li, F. Agostini, C.T. Lee, S.K. Aulakh, J. Nielsen, A. Rokas, J. Berman, A. Zelezniak, T.I. Gossmann, & M. Ralser (2024). <sup>\*</sup>Equal contributors. The Role of Metabolism in Shaping Enzyme Structures Over 400 Million Years of Evolution. *bioRxiv*. DOI: 10.1101/2024.05.27.596037
4. Fan, Y., M. Du, W. Zhang, W. Deng, E. Yang, S. Wang, L. Yan, L. Zhang, S. Kang, **J.L. Steenwyk**, Z. An, X. Liu, & M. Xiang (2024). The Genomes of Nematode-Trapping Fungi Provide Insights into the Origin and Diversification of Fungal Carnivorism. *bioRxiv*. DOI: 10.1101/2024.03.21.586190.
3. Turnbull, R.\*<sup>\*</sup>, **J.L. Steenwyk**<sup>\*</sup>, S. Mutch, P. Scholten, V.W. Salazar, J.L. Birch, & H. Verbruggen (2023). <sup>\*</sup>Equal contributors. Orthoflow: phylogenomic analysis and diagnostics with one command. *Research Square*. DOI: 10.21203/rs.3.rs-3699210/v1
2. Le, H.G.B.H.<sup>^</sup>\*<sup>\*</sup>, **J.L. Steenwyk**<sup>\*</sup>, N. Manske, M. Smolin, A. Abdulali, A. Kamat, R. Kanchana, K. Giffin, A. Andere, & K. Workman<sup>^</sup> (2022). <sup>\*</sup>Equal contributors; <sup>^</sup>Corresponding authors. Latch Verified Bulk-RNA Seq toolkit: a cloud-based suite of workflows for bulk RNA-seq quality control, analysis, and functional enrichment. *bioRxiv*. DOI: 10.1101/2022.11.10.516016.
1. **Zheng, Q.**, **J.L. Steenwyk**<sup>^</sup>, & A. Rokas<sup>^</sup> (2022). Lack of universal mutational biases in a

## Peer Review Published

78. Delbaje, E., L. Pontes, J. Rhodes, **J.L. Steenwyk**, L. Lu, T.F. dos Reis, A. Rokas & G.H. Goldman (2025). *Aspergillus fumigatus* mitogenomes and their influence on azole-resistant and -susceptible populations. *npj Antimicrobials and Resistance: in press*.
77. Moilanen, T., K. Visuri, J. Lehtinen, I. Ortega-Sanz, **J.L. Steenwyk**, & S. Sihvonen (2025). Solu: a cloud platform for real-time genomic pathogen surveillance. *BMC Bioinformatics*. DOI: 10.1186/s12859-024-06005-z.
76. Li, N., D.M. Geiser, **J.L. Steenwyk**, C. Tsuchida, S. Koike, S. Slinski, & F.N. Martin (2024). A systematic approach for identifying unique genomic sequences for *Fusarium oxysporum* f. sp. *lactucae* race 1 and development of molecular diagnostic tools. *Phytopathology*. DOI: 10.1094/PHYTO-04-24-0142-R.
75. **Steenwyk, J.L.**, S. Knowles, R.W. Bastos, **C. Balamurugan**, D. Rinker, M.E. Mead, C.D. Roberts, H.A. Raja, Y. Li, A.C. Colabardini, P.A. de Castro, T.F. dos Reis, D. Canóvas, R.L. Sanchez, K. Lagrou, E. Torrado, F. Rodrigues, N.H. Oberlies, X. Zhou, G.H. Goldman^, & A. Rokas^ (2024). ^Corresponding authors. Evolutionary origin and population diversity of a cryptic hybrid pathogen. *Nature Communications*. DOI: 10.1038/s41467-024-52639-1.
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