

# Jacob Steenwyk

Graduate Student  
Evolutionary genomics

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## Education

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<b>Present</b>	Graduate Student Biological Sciences Advisor: Antonis Rokas Current GPA: 3.97	<b>Vanderbilt University</b>
<b>2016</b>	M.S. Biochemistry and Molecular Biology Advisor: John G. Gibbons GPA: 3.98	<b>Clark University</b>
<b>2015</b>	B.A. Biochemistry and Molecular Biology Advisor: Denis Larochelle Cumulative GPA: 3.84 Science GPA: 3.84	<b>Clark University</b>

## Awards

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<b>2018</b>	Best poster award, Gordon Research Seminar
<b>2018</b>	Best poster award, Gordon Research Conference
<b>2018</b>	Best poster award, Department of Biological Sciences, Vanderbilt University
<b>2018</b>	T-shirt design contest winner, Department of Biological Sciences, Vanderbilt University
<b>2017</b>	Graduate student travel grant, Vanderbilt University
<b>2016</b>	Graduate student council travel awards, Clark University
<b>2015</b>	Summa cum laude, Clark University
<b>2014</b>	Summer research scholar, Bridging the gaps, University of Southern California Keck School of Medicine
<b>2013</b>	Global environmental microbiology scholar, Center for dark energy biosphere investigations, University of Southern California
<b>2011</b>	Jonas Clark Scholar, Clark University

## Publications \*co-first authors

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In prep:	Lind A.L.*, <b>Steenwyk J.L.*</b> , Ries L., Goldman G., and Rokas A. The first report, evolution, and function of clinically isolated <i>Aspergillus</i> hybrids.
Preprint:	Eidem H.R., <b>Steenwyk J.L.</b> , Wisecaver J., Capra J.A., Abbot P., and Rokas A. (2018). integRATE: a desirability-based data integration framework for the prioritization of candidate genes across heterogeneous ‘omics and its application to preterm birth
Preprint:	<b>Steenwyk J.</b> , St. Denis J., Dresch J., Larochelle D., Drewell R. (2017). Whole genome bisulfite sequencing reveals a sparse, but robust pattern of DNA methylation in the <i>Dictyostelium discoideum</i> genome. bioRxiv. doi: 10.1101/166033

- Submitted: Shen X.-X. and 24 others including **Steenwyk J.L.** Tempo and mode of genome evolution in the budding yeast subphylum
- (3) **Steenwyk J.L.**, Rokas A. (2018). Copy number variation in fungi and its implications for wine yeast genetic diversity and adaptation. *Frontiers in Microbiology*. doi: <https://doi.org/10.3389/fmicb.2018.00288>
- (2) **Steenwyk J.**, Rokas A. (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.**, Soghigian J.S., Perfect J.R. and Gibbons J.G. (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

### Contributed Talks

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| <b>2017</b> | Mycological Society of America, Univ. of Georgia, Athens, GA<br>Extensive Copy Number Variation in Fermentation-Related Genes Among <i>Saccharomyces cerevisiae</i> Wine Strains   |
| <b>2016</b> | Mycological Society of America, Univ. of California Berkeley, Berkeley, CA<br>Population structure and copy number variation in the fungal pathogen <i>Cryptococcus gattii</i>     |
| <b>2016</b> | Graduate Student Multidisciplinary Conference, Clark University, Worcester, MA<br>Population structure and copy number variation in the fungal pathogen <i>Cryptococcus gattii</i> |
| <b>2015</b> | TedXClarkUniversity, Clark University, Worcester, MA<br>Instinct and Intelligence  |

### Poster Presentations

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| <b>2018</b> | Cellular and Molecular Fungal Biology, Gordon Research Conference, Holderness, New Hampshire  |
| <b>2018</b> | Cellular and Molecular Fungal Biology, Gordon Research Seminar, Holderness, New Hampshire   |
| <b>2018</b> | Department of Biological Sciences Annual Retreat, Vanderbilt University, Nashville, TN  |
| <b>2018</b> | Exploring the intersection between Art and Science, ArtLab, Vanderbilt University, Nashville, TN  |
| <b>2015</b> | Bumpus Symposium, Clark University, Worcester, MA<br>Population structure and copy number variation in the fungal pathogen <i>Cryptococcus gattii</i> |
| <b>2015</b> | Traina Scholars Presentation, Clark University, Worcester, MA<br><i>Mapping the Auto-Immune Triggering Epitope of ELAVL4</i>                          |
| <b>2015</b> | Summer Research Presentation, Clark University, Worcester, MA   |

## Mapping the Auto-Immune Triggering Epitope of *ELAVL4*

### Research Experience

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- 2016-Pres.** Antonis Rokas Lab at Vanderbilt University, Nashville, TN.
- 2015-16** John Gibbons Lab at Clark University, Worcester, MA. Investigation of copy number variation in the human pathogen, *Cryptococcus gattii*.
- 2015-16** Robert Drewell Lab at Clark University, Worcester, MA. Investigation of genome-wide methylation patterns in *Dictyostelium discoideum*.
- 2014** Ite A. Laird-Offringa Lab at University of Southern California, Los Angeles, CA. Bridging the Gaps Summer Scholar. Project aim was to map 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. Investigation of fresh and marine water microbial diversity.

### Teaching Experience

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- 2017-Pres.** 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

### Service

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- 2018-Pres.** Co-chair, MEGAMicrobe, Vanderbilt Institute for Infections, Immunology and Inflammation, Nashville, TN
- 2017-Pres.** Communications chair, Inequalities in Biological Sciences Association, Vanderbilt University, Nashville, TN
- 2017-Pres.** Secretary, Graduate Student Association, Department of Biological Sciences, 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
- 2017-Pres.** Scientific consultant, Little Harpeth Brewing, Nashville, TN
- 2017** Vanderbilt Student Volunteers for Science, Volunteer Science Teacher, West End Middle School, Nashville, TN
- 2017** Educational outreach booth design and execution, MEGAMicrobe, Nashville, TN
- 2014-15** Undergraduate Subcommittee for Department of Chemistry, Biochemistry and Molecular Biology Faculty Search Committee, Clark University, Worcester, MA
- 2014-15** Science Education Outreach Blogger, C-DEBI Sci-Curious Blog

### Manuscript reviewer

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*Molecular Genetics and Genomics, BMC Genomics, Public Library of Sciences (PLOS) One, Young Scientists Journal, Scholarly Undergraduate Research Journal*