

# Kelly L. Sovacool

✉ [sovacool@umich.edu](mailto:sovacool@umich.edu)

🖥 [sovacool.dev](http://sovacool.dev)

🌐 [kelly-sovacool](https://www.linkedin.com/in/kelly-sovacool)

🐦 [kelly-sovacool](https://twitter.com/kelly-sovacool)

🌐 [kelly-sovacool](https://www.github.com/kelly-sovacool)

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## Education

2018-present **PhD Student - Bioinformatics**, *University of Michigan*,  
Dept. of Computational Medicine and Bioinformatics,  
Program in Biomedical Sciences  
Medical School | Rackham Graduate School

2014-2018 **BS Biology**, *University of Kentucky*  
◦ Minor: Computer Science  
◦ 4-year full tuition Presidential Scholarship  
◦ Graduated Cum Laude  
◦ Departmental Honors in Biology  
◦ Lewis Honors College

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## Research Experience

2018-2019 **Rotation Student Researcher**, *Program in Biomedical Sciences*,  
University of Michigan  
◦ Arvind Rao lab: identifying master transcription factors in glioma progression.  
◦ Pat Schloss lab: benchmarking clustering algorithms for microbiome research.  
◦ Lana Garmire lab: characterizing lncRNA variation across cancer types.  
◦ Muneesh Tewari lab: exploring the miRNA profiles of healthy individuals.

2015-2018 **Undergraduate Lab Assistant**, *Moseley Bioinformatics Lab*,  
Dept. of Molecular and Cellular Biochemistry, University of Kentucky  
◦ Developed a computational tool for identifying sets of orthologous and paralogous  
gene products in whole genomes to facilitate collinearity analysis and detection  
of gene duplication events.

2016-2018 **BIO395 Independent Research Student**, *Weisrock Lab*,  
Dept. of Biology, University of Kentucky  
◦ Developed scripts and a SNP calling pipeline for amplicon sequence data.  
◦ Population structure analysis of the *Ambystoma tigrinum* species complex.  
◦ Bayesian species delimitation of the *Desmognathus fuscus* species complex.

2015-2016 **Undergraduate Lab Assistant**, *Jaromczyk Lab*,  
Dept. of Computer Science, University of Kentucky  
◦ Maintained the *Epichloë festucae* genome project database.  
◦ Analyzed RNA-seq data of *Chenopodium quinoa* and coffee ringspot virus.

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## Awards

- Dec. 2017 **Oswald Research & Creativity Award**, *University of Kentucky*
- Awarded a \$200 prize for second place in the Biological Sciences category.
  - Manuscript title: "Developing a Global Homology and Collinearity Analysis Framework for Identifying Gene Duplication Events."
  - Advisor: Prof. Hunter NB Moseley.
- May 2017 **Summer Research Grant**, *University of Kentucky*
- Awarded a \$2,000 grant by the UK Office of Undergraduate Research to work full time on a research project during the summer.
  - Project title: "Developing a Global Homology and Collinearity Analysis Framework for Identifying Gene Duplication Events."
  - Advisor: Prof. Hunter NB Moseley.

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## Presentations

- Apr. 2018 **Developing a Global Homology Analysis for Comparative Genomics**, *Advisor: Prof. Hunter NB Moseley*
- Poster, *Showcase of Undergraduate Scholars*, University of Kentucky
  - Oral, *Systems Biology & Omics Integration Seminar*, University of Kentucky
  - Poster, *National Conference on Undergraduate Research*, University of Central Oklahoma
- Apr. 2016 **Processing RNA-seq Reads of Plants Infected with the Coffee Ringspot Virus**, *Advisor: Prof. Jerzy W Jaromczyk*
- Poster, *Showcase of Undergraduate Scholars*, University of Kentucky
  - Poster, *UT-KBRIN Bioinformatics Summit*, Cadiz, KY
- Apr. 2015 **The Effect of Meditation on Performance**, *Advisor: Prof. Bruce O'Hara*
- Poster, *Showcase of Undergraduate Scholars*, University of Kentucky

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## Volunteer Service

- Mar. 2019 **Capstone activity leader**, *FEMMES capstone event*.
- Winter 2019 **Capstone project mentor**, *Girls Who Code at UM-DCMB*.
- 2018-present **Summer experience planning committee member**, *Girls Who Code at UM-DCMB*.
- 2009-present **Live sound engineer**, *for various churches and non-profit organizations*.
- Setting up, maintaining, repairing, and operating front of house, monitor, and recording systems during sound checks, rehearsals, services, and concerts.
  - Training new sound techs in the art and science of live sound.

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## Teaching Experience

- Mar. 2019 **Software Carpentry helper**, *during 2-day workshop teaching the Unix shell, version control with Git, and programming in Python*, University of Michigan.

- Dec. 2018 **Software Carpentry helper**, during 2-day *workshop* teaching the Unix shell, programming in R, and version control with Git, University of Michigan.
- 2012-2017 **Tutor**, for high school and college students in Biology, Calculus, Chemistry, Computer Science, and Bioinformatics.