Kelly L. Sovacool

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▬▬▬ Education

2018-present   **PhD Student - Bioinformatics**, *University of Michigan*,
Dept. of Computational Medicine and Bioinformatics,
Medical School | Rackham Graduate School
Advisor: Pat Schloss

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

▬▬▬ Research Experience

2019-present   **Graduate Student Research Assistant**, *Schloss Lab*,
Dept. of Microbiology and Immunology, University of Michigan
- Developing bioinformatics tools & pipelines for microbial ecology.
- 16S rRNA sequence analysis and tandem mass spectrometry data analysis.

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.

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.

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 OHara*
○ Poster, *Showcase of Undergraduate Scholars*, University of Kentucky

Service

2019-present **Graduate Student Coordinator**, *organize monthly meetings for researchers to sharpen their data analysis skills*, Data Analysis Networking Group
University of Michigan

2019-present **Executive Committee Member**, *plan and develop curriculum for a weekly club teaching programming & data science to high school women*, Girls Who Code at UM-DCMB
University of Michigan

2018-present	**Summer Experience Committee Member**, *plan, apply for funding, and develop curriculum for our Data Science Summer Experience for high school women in downtown Detroit*, Girls Who Code at UM-DCMB. University of Michigan
2009-present	**Live Sound Engineer**, *for various churches and non-profit organizations.* ○ Set up, maintain, repair, and operate front of house, monitor, and recording systems during sound checks, rehearsals, services, and concerts. ○ Train new sound techs in the art and science of live sound.

Teaching Experience

15-19 July 2019	**Facilitator & Mentor**, *taught programming and guided high school women through a data science project and presentation during the Data Science Summer Experience*, Girls Who Code at UM-DCMB. Detroit, MI
01-02 July 2019	**Software Carpentry instructor**, *workshop teaching the Unix Shell, version control with Git, and R programming.* University of Michigan
22-23 May 2019	**Software Carpentry helper**, *workshop teaching the Unix shell, version control with Git, and Python programming.* University of Michigan
25 Apr 2019	**DNA Day Ambassador**, *taught an epigenetics lesson to high school biology students*, MI DNA Day, Pioneer High School Ann Arbor, MI
20 Mar 2019	**Workshop helper**, *during GSBES meeting teaching data visualization with Python*, Graduate Society of Black Engineers and Scientists. University of Michigan
16 Mar 2019	**Capstone activity leader**, *taught binary numbers with Ozobots at FEMMES capstone event for middle school students*, Females Excelling More in Math, Engineering, & Science. University of Michigan
01 Mar 2019	**Software Carpentry helper**, *workshop teaching the Unix shell, version control with Git, and Python programming.* University of Michigan
Jan-May 2019	**Capstone project mentor**, *guided high school women through a data science project and presentation*, Girls Who Code at UM-DCMB. University of Michigan
17-18 Dec 2018	**Software Carpentry helper**, *workshop teaching the Unix shell, R programming, 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.*