

OLIVIA WEN-MEI LANG

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EDUCATION

Cornell University, Ithaca, NY **Computational Biology PhD, September 2018--present**
Colby College, Waterville, ME **Bachelor of Arts, May 2015**
Major: Computational Biology, *Minor:* Chinese & Mathematics

RELEVANT COURSEWORK

Human Genomics, Computational Genetics & Genomics, Systems Biology, Programming Languages

WORK EXPERIENCE

- PhD Student*, **Dr. Jason Mezey**, Cornell University **August 2018– present**
- Teaching Assistant for Spring 2019 Quantitative Genetics and Genomics Course
 - Coursework on Computational Genetics and Genomics
 - Research Assistant looking into evolutionary patterns between gut microbiomes of related individuals
- Associate Biocuration Scientist*, **The Saccharomyces Genome Database**, Stanford University **November 2015—July 2017**
- Review and add ~20 papers to the database every week, tagging genes and information in need of deeper curation
 - Curate sequence data for the coordinates of genomic features from common yeast strains
 - Write various scripts to facilitate the incorporation of data into the database and to check quality of existing data
 - Test data and tools, checking for accuracy, expected behavior, and possible improvements to function or display
- Research Assistant*, **Dr. Stephanie Taylor Computer Science Department**, Colby College **Summer 2013 & 2014**
- Applied differential equations to mathematically model the proteins responsible for circadian rhythms
 - Built a circadian model that combined published models to characterize elements that elicit certain behaviors
- Teaching Assistant*, **Computer Science Department**, Colby College **September 2014 – May 2015**
- Tutored students on their Python and Java projects during weekly, three-hour evening help sessions
 - Assisted professors with answering questions for students during their weekly, two-hour lab section
- Teaching Assistant*, **Mathematics Department**, Colby College **September 2012—December 2012**
- Hosted weekly, two-hour evening homework help sessions in addition to extra sessions for exam preparation
 - Assisted professor with student work evaluation (about 20 calculus problem sets every week)

RESEARCH & RELEVANT EXPERIENCE

- Senior Capstone Project*, **Biology Department**, Colby College **September 2014 – May 2015**
- Used Trinity and ABySS to process *Illumina* sequencer data and assemble a transcriptome *de novo*
 - Wrote scripts using Biopython tools to process the transcripts and find alignments with genes from NCBI databases
 - Presented findings and methods at Colby's Liberal Arts Symposium, Spring 2015
- Winter Bioinformatics Course*, **Jackson Laboratory**, Bar Harbor, ME **January 2014**
- Practiced mouse handling, preparing DNA library samples (MiSeq), and processing procedures (Galaxy and BLAST)
 - Discussed various new technologies and approaches in the field of genetics and their impacts on research, including exome sequencing, various forms of high-throughput sequencing (like RNAseq), CRISPR

SKILLS

Programming Languages & Software

- Extensive programming in Java, Python, MATLAB
- Basic programming in R, C, Perl, SQL, Ruby, HTML
- Experience with Bioinformatics tools like BLAST, JBrowse, Trinity, ABySS, Galaxy, Biopython, NCBI's E-utils

Academic Writing and Presentation

- Lang OW, Nash RS, Hellerstedt ST, Engel SR, SGD Project. (2018) An Introduction to the Saccharomyces Genome Database (SGD). *Methods Mol Biol.* 2018 May 15; 1757:21-30. doi: 10.1007/978-1-4939-7737-6_2.
- MacPherson KA, Starr B, Wong ED, Dalusag KS, Hellerstedt ST, Lang OW, Nash RS, Skrzypek MS, Engel SR, Cherry JM. (2017) Outreach and online training services at the Saccharomyces Genome Database. *Database (Oxford)*. 2017 Jan 1; pii: bax002. doi: 10.1093/database/bax002. [PMID:28365719]

- Presented a poster on The *Saccharomyce* Genome Database Variant Viewer tool at The Allied Genetics Conference 2016 in Orlando, FL (poster found at http://wiki.yeastgenome.org/images/c/c7/TAGC_variantviewer_poster.pdf)
- Presented slides about my research for Colby's Undergraduate Research Symposium (Spring 2013, Summer 2014, and Spring 2015), symposia links: <http://bit.ly/2gLPyu3>

INTERESTS

- Rugby, Water Polo, Tough Mudder, Crossfit, Bikram Yoga

LEADERSHIP

Computational Biology Graduate Student Association, **President**, Cornell University **August 2018– present**

- Set-up a Q&A panel for students to answer questions of other students about rotations and A-exams
- Organized field events for fostering communication between graduate students in the program (bowling, skating, etc)

Cornell Grads Vote Club, **Treasurer**, Cornell University **August 2018 – present**

- Register voters and promote voter turnout through tabling, organizing events, and distributing voter information
- Collaborated in the Cornell University Votes Coalition to plan events, organize vans to precincts, and increase voter turnout in the 2018 Midterm elections