

SOPHIE ROWLAND

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Education

WELLESLEY COLLEGE | Wellesley, MA

Bachelor of Arts | Biological Sciences and Classical Civilization | *August 2013 – May 2017*

- Cumulative GPA: 3.64, *Cum Laude*, Honors in Biological Sciences

Publications

1. Lauren Tso, Kevin S. Bonham, Alyssa Fishbein, **Sophie Rowland**, Vanja Klepac-Ceraj. "Targeted high-resolution taxonomic identification of *Bifidobacterium longum* subsp. *infantis* using human milk oligosaccharide metabolizing genes" *Nutrients* 2021.
2. Danielle Peterson, Kevin S. Bonham, **Sophie Rowland**, Cassandra W. Pattanayak, RESONANCE Consortium, Vanja Klepac-Ceraj. "Comparative analysis of 16S rRNA gene and metagenome sequencing in pediatric gut microbiomes" *Frontiers in Microbiology* 2021.
3. Kevin S. Bonham, Muriel M.K. Bruchhage, **Sophie Rowland**, Alexandra R. Volpe, Kellyn Dyer, RESONANCE Consortium, Viren D'Sa, Curtis Huttenhower, Sean C. L. Deoni, Vanja Klepac-Ceraj. "Gut microbes and their genes are associated with brain development and cognitive function in healthy children" bioRxiv 2020.
4. Mirna Daye, Vanja Klepac-Ceraj, Mikhel Pajusalu, **Sophie Rowland**, Anna Farrell-Sherman, Nicolas Beukes, Nobumichi Tamura, Gregory Fournier, Tanja Bosak. "Light-Driven Anaerobic Microbial Oxidation of Manganese" *Nature* 2019.
5. **Sophie Rowland**, Vanja Klepac-Ceraj. "Sallie 'Penny' Chisholm and Oceans of *Prochlorococcus*" in *Women in Microbiology*. Eds: RJ Whitaker, HA. Barton, 2018.

For a complete listing of research presentations, please see: www.sophiebrowland.com/resume-cv

Research Experience

WELLESLEY COLLEGE DEPARTMENT OF BIOLOGICAL SCIENCES | Wellesley, MA

Research Associate | *July 2017 – July 2020*

- Worked in a laboratory with professor Dr. Vanja Klepac-Ceraj and research scientist Dr. Kevin Bonham
- Processed and analyzed metagenome sequence data from human fecal samples as part of a multi-institute longitudinal study investigating the effect of the gut microbiome and environmental factors on neurocognitive development in infants and children
- Ran independent research project exploring prevalence of microeukaryotes in the early gut microbiome
- Created, updated, and maintained large sample database and associated files
- Mentored undergraduate research assistants
- Coordinated lab business (e.g. led meetings, managed inventory, enforced safety regulations)
- Oversaw three successive lab moves as part of science center building renovations

Undergraduate Research Assistant | *September 2015 – May 2017*

- Worked in a laboratory with professor Dr. Vanja Klepac-Ceraj and MIT professor Dr. Tanja Bosak
- Designed experiments to investigate communities of anaerobic bacteria sampled from a permanently stratified lake capable of photosynthetic manganese oxidation
- Maintained anaerobic cultures of microbial communities and isolated species
- Extracted DNA and analyzed 16S rRNA sequences from community and isolate samples
- Fixed and hybridized biofilm samples with oligonucleotide probes and imaged on confocal microscope
- Sampled microbial communities from the environmental source

Skills & Interests

- *Programming/Software*: Wix, Airtable, Adobe Illustrator, bash, R, Python, Git, G Suite, MS Office Suite
- *Interests*: microbiology, public health, biostatistics, reproductive health, science education, musical performance