

Matt Ralston

interdisciplinary life scientist

contact

15 Innovation Way
Newark, DE 19717

302.547.2437

mrals@udel.edu
matthewralston.github.io
LinkedIn:matthewralston

wet-lab

RNA-seq, RT-PCR
Northern & Western
Spectrometry, HPLC
Immunofluorescence
Mammalian cell culture
Anaerobic fermentation

dry-lab

♥ Ruby/Rails, R
Bash, Python, Julia
Matlab, \LaTeX , Racket
MySQL, SQLite
Javascript, CSS/HTML

summary

A versatile researcher with solid biochemical training and experience producing and interpreting large 'omic datasets. Deeply enjoys research and development, from experimental design to analysis. Offers interdisciplinary expertise for teams of scientists, engineers, and analysts.

education

- 2012-2015 **Masters** of Bioinformatics and Computational Biology **3.97** University of Delaware
Assembling Improved Gene Annotations in Clostridium acetobutylicum with RNA Sequencing.
First strand-specific catalog of transcripts in the genus *Clostridia*.
- 2008-2012 **Bachelors** of Biochemistry University of Delaware
Minor in Biochemical Engineering

experience

- 2012-Now **DELAWARE BIOTECHNOLOGY INSTITUTE** Newark, DE
Graduate Research Assistant
Accomplishments:
 - Developed and utilized laboratory and computational workflows for deep RNA sequencing.
 - Produced a catalog of transcripts from multiple culture conditions.
 - Built and launched a genome browser for research community.
- 2010-2012 **Center for Translational Cancer Research** Newark, DE
Undergraduate Research Fellow
Investigated the BMP-signaling pathway in colon cancer cell lines and fresh colon tissue.

awards

- 2013 **Winning Proposal** Fraunhofer CMB
Awarded for a revision to a vaccine production process. Part of IGERT Business, Ethics, and Communication course.
- 2008 **Merit Based Scholarship** University of Delaware

leadership

- 2014 **Bioinformatic Student Association** Newark, DE
President
Lead a UNIX and HPC workshop and won funding for student development workshops.
- 2013 **IGERT Business, Ethics, and Communication Project** Newark, DE
Project Manager
Won a proposal for a revision to Fraunhofer CMB's GMP vaccine production process.

publications

- "The Transcriptome of *C. acetobutylicum*: Deep Sequencing and Assembly," in preparation.
- "The *Clostridium* small RNome that response to stress: the paradigm and importance of toxic metabolite stress in *C. acetobutylicum*", contributing author. *BMC Genomics*. 14.1 (2013): 849.
- "Overexpression of the *L. plantarum* peptidoglycan biosynthesis murA2 gene increases the tolerance of *E. coli* to alcohols and enhances ethanol production", contributing author. *Applied Microbiology and Biotechnology* 98.19 (2014): 8399-8411.