Nicholas Long

Computational Biologist
nlong@uta.edu • (214) 236 4183
https://github.com/n-long

Education

2013-2016 (expected) **M.S., Biology**; University of Texas at Arlington

Thesis title: Gene Expression Misregulation in Hybrids With Neuromuscular Disorder

2009-2013 **B.S., Exercise Science (Clinical Professions Track)**; UT Arlington

Minor: Biology, Chemistry

Research

- Rapidly assimilate literature and analytical techniques to answer self-directed research questions
- Compare algorithms for efficient automation across large volumes of sequencing data
- In-depth knowledge of statistical models and trade-offs in specific use cases
- Query databases for meaningful intersection of results across multiple analyses

Technical Experience

Unix Linux server maintenance

- Evaluate, install, and troubleshoot bioinformatics software
- Extensive bash scripting for data formatting and analysis pipelines
- Distribute resources with Sun Grid Engine job scheduler

R Detected gene expression changes across timepoints for a neuromuscular disease

- Gene co-expression networks for biological function of large mis-expressed clusters
- Multi-factorial design for contrasts of gene expression changes across a time-course
- Plot results intersected from varying resolutions

Python Developed pipeline based on mitochondrial sequencing reads for genome assembly and gene annotation

- Searches custom-built gene profiles
- Filters by alignment score and length
- Outputs sequence and coordinates in common format

Teaching

Graduate Teaching Assistant

- Zoology Lab: Fall 2013 - May 2015
- Anatomy & Physiology Lab: Summer 2015 - Spring 2016

Software Carpentry Workshop Instructor (1/20/16)

- Unix lesson covering loops and bash scripts to audience of 40
- Assisted other sections in Python, R, and Git

Bioinformatics tutoring

- Provided project and homework guidance for Python-based bioinformatics course (mixed undergraduate / graduate)

Graduate Courses

- Bioinformatics
- Molecular Evolution
- Population Genetics
- Biological Statistics
- Biological Modeling
- Genome Structure and Dynamics
- Advanced Molecular Biology
- Genetics Methods Lab

Publications

Watson, E.T., N.A. Long, P.D. Glenn, and J.P. Demuth. 2016. Resistance is infertile: Mitonuclear compatibility in Tribolium castaneum is associated with history of insecticide resistance.
(In preparation)

References

Jeffery Demuth
Associate Professor (Advisor)
(817) 272-2653 • jpdemuth@uta.edu

Matthew Fujita
Assistant Professor
(817) 272-1464 • mkfujita@uta.edu

Eric Watson
Postdoctoral scholar
(817) 897-0756 • ericwats@usc.edu
