

## Tyler C. Shimko

<b>Contact</b>	tshimko@stanford.edu tylershimko.com
<b>Education</b>	PhD, Genetics Stanford University Palo Alto, CA September 2015 - Present  Honors BS, Biology University of Utah Salt Lake City, Utah August 2011 - May 2015
<b>Undergraduate Research Experience</b>	<b>Northwestern University</b> , Dr. Erik Andersen Evanston, Illinois May 2015-August 2015 <ul style="list-style-type: none"><li>Continued development of computational pipeline for the cleaning, mapping, and analysis of linkage mapping phenotype data in <i>C. elegans</i></li><li>Developed pipeline for linkage mapping using existing genotype data paired with flexible phenotype collection techniques for several sets of <i>C. elegans</i> recombinant inbred lines</li></ul> <b>University of Utah</b> , Dr. Gillian Stanfield Salt Lake City, Utah August 2014-May 2015 <ul style="list-style-type: none"><li>Designed pipeline to align, call variants, and filter paired end sequence data</li><li>Continuation of Honors Thesis project</li></ul> <b>Northwestern University</b> , Dr. Erik Andersen Evanston, Illinois May 2014-August 2014 <ul style="list-style-type: none"><li>Developed pipeline for the cleaning, mapping, and analysis of linkage mapping phenotype data in <i>C. elegans</i></li><li>Developed <i>COPASutils</i> R package</li></ul> <b>University of Utah</b> , Dr. Gillian Stanfield Salt Lake City, Utah August 2013-May 2014 <ul style="list-style-type: none"><li>Mapped suppressors of <i>me-86</i> phenotype using CloudMap mapping protocol in <i>C. elegans</i></li><li>Honors Thesis project</li></ul> <b>Northwestern University</b> , Dr. Erik Andersen Evanston, Illinois May 2013-August 2013 <ul style="list-style-type: none"><li>Refined high-throughput phenotyping assay using COPAS (Union Biometrica) BIOSORT large-particle flow cytometer</li><li>Collected large <i>C. elegans</i> phenotype data sets for exposure to chemotherapeutics, pesticides, heavy metals, and anthelmintics</li></ul> <b>University of Utah</b> , Dr. Erik Jorgensen Salt Lake City, Utah August 2012-May 2013 <ul style="list-style-type: none"><li>Examined role of UNC-41 in synaptic vesicle recycling in <i>C. elegans</i></li><li>Attempted suppressor screen for <i>unc-41</i> phenotype</li></ul>

**Princeton University**, Dr. Leonid Kruglyak  
Princeton, New Jersey

May 2012-August 2012

- Created near isogenic lines for confidence interval under identified quantitative trait loci for body length and fecundity

**University of Utah**, Dr. Erik Jorgensen  
Salt Lake City, Utah

August 2012-May 2013

- Constructed universal transgene landing sites in *C. elegans* genome

## Publications

- Andersen, E.C., **Shimko, T.C.**, Crissman, J.R., Ghosh, R., Bloom, J.S., Seidel, H.S., Gerke, J.P., Kruglyak, L. A Powerful New Quantitative Genetics Platform, Combining *Caenorhabditis elegans* High-Throughput Fitness Assays with a Large Collection of Recombinant Strains. *G3*. (2015)
- **Tyler C. Shimko** and Erik C. Andersen. COPASutils: An R Package for Reading, Processing, and Visualizing Data from COPAS Large-Particle Flow Cytometers. *PLOS ONE*. (2014)

## Presentations

\*-Indicates presenter

§-Indicates poster

- **Tyler C. Shimko\***, Daniela Chavez, Gillian Stanfield. Identification of regulators of sperm motility in *C. elegans* males. 20<sup>th</sup> *International C. elegans Meeting*. June 2015. §
- Stefan Zdraljevic\*, Samuel Rosenberg, Robyn E. Tanny, **Tyler C. Shimko**, Erik C. Andersen. A powerful *C. elegans* resource for identifying the genetic determinants underlying complex traits. 20<sup>th</sup> *International C. elegans Meeting*. June 2015. §
- Stefan Zdraljevic\*, Samuel Rosenberg, Robyn E. Tanny, **Tyler C. Shimko**, Erik C. Andersen. A *C. elegans* large-scale genome-wide association study reveals hundreds of quantitative trait loci underlying responses to biomedically relevant therapeutics. 20<sup>th</sup> *International C. elegans Meeting*. June 2015. §
- **Tyler C. Shimko\***. Linkage mapping with recombinant inbred lines. *Northwestern University Worm Club*. July 2014.
- **Tyler C. Shimko**, Robyn E. Tanny, and Erik C. Andersen\*. Using high-throughput fitness assays to decipher the genetic causes of *C. elegans* drug sensitivities. *Society for Molecular Biology and Evolution Meeting*. July 2013. §
- **Tyler C. Shimko** and Erik C. Andersen\*. Using natural variation to decipher the complex genetic cause of *C. elegans* drug sensitivities. 19<sup>th</sup> *International C. elegans Meeting*. June 2013.
- **Tyler C. Shimko\***, Erik C. Andersen, and Leonid Kruglyak. Identifying the genes that control paraquat resistance in the roundworm *C. elegans*. *National Conference on Undergraduate Research*. April 2013. §
- **Tyler C. Shimko\***, Erik C. Andersen, and Leonid Kruglyak. Identifying the genes that control paraquat resistance in the roundworm *C. elegans*. *Utah Conference on Undergraduate Research*. February 2013. §
- **Tyler C. Shimko\***, Christian Frokjaer-Jensen, and Erik M. Jorgensen. Universal Transgene Insertion in *C. elegans*. *University of Utah Bioscience Symposium for Undergraduate Researchers*. April 2012. §
- **Tyler C. Shimko\***, Christian Frokjaer-Jensen, and Erik M. Jorgensen. Universal Transgene Insertion in *C. elegans*. *University of Utah Undergraduate Research Symposium*. March 2012. §

**Honors**                    *National Science Foundation Graduate Research Fellowship* – Spring 2015  
University of Utah Dean’s List – All semesters  
Myriad Academic Excellence Award – Spring 2014  
*Barry Goldwater Scholarship* – Spring 2013  
Theodore Verender Hanks Scholarship – Spring 2013  
University of Utah College of Science Dean’s Scholarship – Spring 2013  
Full Resident/Half Non-Resident Tuition Waiver Scholarship – Fall 2012-Spring 2014  
Undergraduate Research Opportunities Program Assistantship – Spring 2012  
Full Resident Tuition Waiver Scholarship – Fall 2011-Spring 2012

**Related Activities** PLOS Student Blog Regular Contributor – Spring 2013-Spring 2014  
Undergraduate Research Advisor – Spring 2013  
Undergraduate Research Ambassador – Fall 2012-Fall 2014

**Undergraduate**    4 Semesters of Computer Labs in the R Language  
**Course Highlights** 2 Semesters of Probability and Statistics  
1 Semester of Human Evolutionary Genetics (Population Genetics)  
1 Semester of Genome Biology  
1 Semester of Molecular Biology Theory  
1 Semester of Computer Labs in the Python Language  
1 Semester of Computer Labs in the Java Language

**Computer Languages**    **\*-Indicates self-assessed proficiency (1:Worst, 3:Best)**  
R (\*\*\*)  
Python (\*\*)  
Bash (\*\*)  
JavaScript (\*\*)  
Java(\*)