Tyler C. Shimko

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Education

Genetics Ph.D.
Stanford University
Stanford, California
August 2015 - present

Biology Honors B.S.
Chemistry Minor
University of Utah
Salt Lake City, Utah
August 2011 - May 2015

Publications

* – Denotes equal contribution

Submitted manuscripts

T.C. Shimko, P.M. Fordyce, Y. Orenstein. *DeCoDe: degenerate codon design for complete protein-codingDNA libraries.* Submitted to Nucleic Acids Research on August 4, 2019.

Peer-reviewed publications

P. Greenside, **T. Shimko**, P. Fordyce, A. Kundaje. *DFIM: Deep Feature Interaction Maps uncover latent dependence structure encoded in deep learning models of regulatory DNA sequences.* Bioinformatics. (2018)

D.D. Le*, **T.C. Shimko***, A.K. Aditham, A.M. Keys, S.A. Longwell, Y. Orenstein, and P.M. Fordyce. *Comprehensive, high-resolution binding energy landscapes reveal context dependencies of transcription factor binding.* PNAS. (2018)

K. Brower, R. Puccinelli, C.J. Markin, **T.C. Shimko**, S.A. Longwell, B. Cruz, R. Gomez-Sjoberg, and P.M. Fordyce. *An Open-Source, Programmable Pneumatic Setup for Operation and Automated Control of Single- and Multi-Layer Microfluidic Devices.* HardwareX. (2017)

GTEx Consortium. *Genetic effects on gene expression across human tissues.* Nature. (2017)

E.C. Andersen, **T.C. Shimko**, J.R. Crissman, R. Ghosh, J.S. Bloom, H.S. Seidel, J.P. Gerke, L. Kruglyak. *A Powerful New Quantitative Genetics Platform, Combining Caenorhabditis elegans High-Throughput Fitness Assays with a Large Collection of Recombinant Strains.* G3. (2015)

T.C. Shimko and E.C. Andersen. *COPASutils: An R Package for Reading, Processing, and Visualizing Data from COPAS Large-Particle Flow Cytometers.* PLOS ONE. (2014)

Conference proceedings and extended abstracts

B. Liu, N. Hussami, A. Shrikumar, **T. Shimko**, S. Bhate, S. Longwell, S. Montgomery, A. Kundaje. *A multi-modal neural network for learning cis and trans regulation of stress response in yeast.* Extended abstract – *NeurIPS MLCB Workshop.* (2017)

Chapters

A.K. Aditham*, **T.C. Shimko***, P.M. Fordyce. *BET-seq: Binding energy topographies revealed by microfluidics and high-throughput sequencing.* Methods in Cell Biology. (2018)

Honors, Awards, and Scholarships

* Denotes nationally competitive

* National Science Foundation Graduate Research Fellowship – Spring 2015

University of Utah Deans List – All semesters, Fall 2011 - Spring 2015

Myriad Academic Excellence Award – Spring 2014

* Barry Goldwater Scholarship – Spring 2013

Theodore Verender Hanks Scholarship – Spring 2013

University of Utah College of Science Deans 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

Grants

* Denotes equal contribution

The US-Israel Binational Science Foundation Prof. Rahamimoff Travel Grants Program for Young Scientists (2019) – \$4,000 travel grant to conduct research with Dr. Yaron Orenstein at Ben-Gurion University of the Negev

R. Ang*, **T.C. Shimko***, N. Teran*, and T. Susanto*. *Separating Epigenetic Cause from Effect.* (2015) – \$12,500 seed grant from Stanford Department of Genetics

Outreach/Service

Department of Genetics Student Admissions Interviewer – Spring 2019

Stanford CEHG AVID (high school outreach program) lab tour guide – Spring 2017, Spring 2018

Stanford Splash (high school outreach program) course instructor – Fall 2015

PLOS Student Blog Regular Contributor – Spring 2013 - Spring 2014

University of Utah Undergraduate Research Advisor – Spring 2013

University of Utah Undergraduate Research Ambassador – Fall 2012 - Fall 2014

Relevant coursework

Stanford CS 231N - *Convolutional neural networks for visual recognition*

Stanford CS 229 - *Machine learning*

Stanford GENE 245 - *Statistical and machine learning methods in genomics*

Stanford GENE 236 - *Deep learning in genomics and biomedicine*