

## EDUCATION

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### **Ph.D., Bioinformatics - University of California, San Francisco (2011-2016)**

- Dissertation: *Transient thresholding in the HIV Tat fate-selection circuit*
- Awarded NSF Graduate Research Fellowship (2011)

### **B.S., Biological Engineering - Massachusetts Institute of Technology (2004-2008)**

## WORK EXPERIENCE

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### **Weinberger Lab - Gladstone Institutes at UCSF (2012-2016)**

- Developed stochastic models of HIV genetic circuit, parameterized using flow cytometry data. Using these models, proposed a functional role for “bursty” gene expression in HIV. Work received first authorship in *Biophysical Journal* and third authorship in *Cell*.
- Directly quantified transitions between “on” and “off” states in HIV gene expression using time-lapse microscopy. Wrote custom analysis pipelines in Python, R, and MATLAB.
- Created publication-quality data visualizations using R’s ggplot2 and Illustrator.
- Became go-to person for statistics, data analysis, and genomics software; work merited co-authorship on two papers from neighboring labs.

### **Fisher Lab - Massachusetts General Hospital (2009-2011)**

- Hired as tissue culture technician; took over as department sysadmin during IT crisis. Successfully restored user data and services, then implemented backup system.
- Helped design and build high-throughput drug screening facility. Wrote programs for automated cell culture, liquid handlers, and other robotics; trained the humans.
- Developed microscopy-based screening assay, published in *Experimental Dermatology*.

### **Codon Devices - Cambridge, MA**

#### **Product Development Associate (2008-2009)**

- Tested candidate genes for metabolic pathway; performed full range of wet-lab duties, from building constructs to troubleshooting protein expression and implementing activity assays.
- Began development of medium-throughput genome modification platform for *E. coli*.

#### **Intern (2007-2008)**

- Developed production-caliber methods for constructing long DNA from microarrays.
- Traced shutdown of complex gene assembly platform to error in oligo design software.

## SCIENCE OUTREACH

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- **USA Biology Team** - 2005-2006, 2009-2010, 2015. Supervised and trained national finalists at intensive two-week training camp, teaching theory as well as lab skills. 2011-Present. Helped write and proofread open, semifinal, and team selection exams.
- **Do-It-Yourself Biology** - 2008-2011. Developed safe, inexpensive protocols for at-home genetic engineering. Handled press inquiries; gave talks at conferences and “maker” events.