

## JONATHAN LIU

505 Life Sciences Addition, UC Berkeley  
Berkeley, CA 94720  
jhliu42@berkeley.edu  
www.jonathanhliu.com

**Research interests:** Quantitative biology, gene regulation, development, biophysical modeling

### EDUCATION

Aug 2016 - Present	University of California, Berkeley Advisor: Hernan Garcia	PhD, Physics
Sep 2011 - Jun 2015	California Institute of Technology	BS, Applied Physics

### APPOINTMENTS

Aug 2016 - Present	<i>Graduate Student</i> - UC Berkeley Biophysics of gene regulation in fruit flies: Live imaging of transcription input and output with MS2 technology Experimental and theoretical investigations of nonequilibrium processes in gene regulation
Sep 2015 - Jul 2017	<i>Fulbright Visiting Student</i> - Ludwig Maximilian University of Munich Interfacial dynamics of DNA in thermal gradients: Novel discovery of interfacial DNA accumulation in heated fluid systems Extended previous work related to origins of life

### HONORS AND AWARDS

2017 NDSEG Graduate Fellowship  
2015 U.S. Fulbright Student Fellowship  
2015 Caltech B.S with Honors  
2014 DAAD RISE Research Internship  
2013 Caltech SURF Fellowship  
2012 Caltech SURF Fellowship

### TALKS PRESENTED

Feb 2018	Contributed	Biophysical Society 62nd Annual Meeting
Dec 2017	Invited	Berkeley Physics Graduate Student Seminar
Aug 2017	Contributed	Canadian-American-Mexican Graduate Student Physics Conference
Mar 2016	Contributed	German Fulbright Berlin Conference

### PUBLICATIONS

1. Elizabeth Eck, **Jonathan Liu**, Shelby Blythe, Hernan Garcia. "Equilibrium vs. Nonequilibrium Models of Transcription Regulation in *Drosophila*." Under preparation.
2. **Jonathan Liu\***, Matthias Morasch\*, Dieter Braun. "Strong Accumulation of DNA at a Heated Air-Water Interface." Under revision. (*\*equal authorship*)

**TEACHING AND MENTORING**

- Sep 2018 Caltech Physical Biology Boot Camp  
*Teaching Assistant*  
Assisted with week-long physical biology course for incoming graduate students  
Designed and ran experimental module on live imaging of transcription in fruit flies
- Fall 2016 - Spring 2017 Physics for Engineers and Scientists  
*Graduate Student Instructor*  
Taught small sections for large undergraduate physics course  
Prepared section material, supervised lab projects, graded exams
- Sep 2012 - Jun 2015 Caltech Undergraduate Dean's Office  
*Student Tutor*

**SERVICE**

- Apr 2018 Grounds for Science Volunteer  
Presented informal public science lecture to community
- Jan 2017 - Present Berkeley Physics Graduate Student Seminar Organizer  
Started and helped run seminar series for graduate students in UC Berkeley Physics
- Jan 2018 - Mar 2018 Berkeley Physics Admissions Committee  
Member of committee planning and organizing admitted graduate student visit program
- Jan 2014 - Jun 2015 Caltech Physics Club  
Started and helped organize undergraduate physics club  
Invited faculty for ongoing seminar series  
Organized events like graduate admissions panels, networking socials
- Sep 2013 - Jun 2015 Caltech Academics and Research Committee  
Member of undergraduate committee overseeing undergraduate curriculum and research issues  
Chaired 2015 committee on updating Applied Physics department requirements

**MISCELLANEOUS**

- Programming languages: MATLAB, Python, Java, Mathematica, LabVIEW  
Software: Autodesk Inventor, Adobe Illustrator, COMSOL  
Experimental skills: Fluorescence microscopy, molecular biology, *Drosophila* maintenance, optics  
Analytical skills: Statistics, calculus, differential equations  
Languages: English (native), Mandarin (fluent), Shanghainese (fluent), German (fluent)