

# Yuan Xue

Bioengineering Graduate Student  
Stanford University



## Education Background

<b>2017 - now</b> Ph.D., Bioengineering Thesis Adviser: Stephen Quake Stanford University	<b>2010 - 2014</b> B.A., Biology Thesis Adviser: Jay Mellies Reed College
<b>2015 - 2017</b> M.S., Bioengineering Stanford University	<b>2007 - 2010</b> La Salle Catholic College Preparatory
<b>2014 - 2015</b> Biophysics UT Southwestern Medical Center	<b>2003 - 2007</b> Diocesan Boys' School

## Teaching Experience

<b>2017</b>	<i>Teaching Assistant of Introduction to Bioengineering</i>	Stanford University
<b>2014</b>	<i>Teaching Assistant of Microbiology</i>	Reed College
<b>2014</b>	<i>Academic Tutor of Cellular Biology</i>	Reed College
<b>2011-2014</b>	<i>Academic Tutor of Cellular Biology</i>	Reed College

## Awards and Fundings

<b>2014</b>	<i>Larry Ruben Research Fellowship</i>	Reed College
<b>2013 - 2014</b>	<i>B.U.R.P. Grant</i>	Reed College
<b>2013</b>	<i>Summer Experience Award</i>	Reed College
<b>2012</b>	<i>Independent Research Project Funded by Department and President Commendation for Academic Excellence</i>	Reed College
<b>2010 - 2011</b>		Reed College
<b>2009</b>	<i>iGEM Competition Gold Medal Award</i>	MIT

## Publications

- Yuan Xue**, Jossef Osborn, Anand Panchal, Jay L. Mellies. The RpoE stress response pathway mediates reduction of enteropathogenic *Escherichia coli* virulence by zinc. Applied and Environmental Microbiology (2015). (Spotlight research article)
- Jing Zhou, Shi-Hao Tan, Valerie Nicolas, Chantal Bauvy, Nai-Di Yang, Jianbin Zhang, **Yuan Xue**, Patrice Codogno, Han-Ming Shen. Activation of lysosomal function in the course of autophagy via mTORC1 suppression and autophagosome-lysosome fusion. Cell Research (2013).

## Contact Details

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Email: yuanxue@stanford.edu  
Website: <http://about-yuanxue.com/>

## Research Interests

- Understanding design principles of DNA polymerases through high-throughput and single-molecule measurement
- Revealing novel stem cell population in non-model organism through single-cell RNAseq

## Languages

English  
Mandarin  
Cantonese  
Japanese  
Python  
C++

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## Poster and Seminar Presentations

<b>Sept 17-18 , 2017</b>	<b>Yuan Xue</b> , Stephen Quake. Cool Biochemistry Measured With A Hot Tool. <b>Stanford Bioengineering Departmental Retreat.</b> Poster presentation at Chaminade Resort and Spa, Santa Cruz, CA, USA 95065
<b>June 3-9, 2017</b>	<b>Yuan Xue</b> , Stephen Quake. Temperature Adaptation and Polymerase Fidelity. <b>Gordon Research Conference (GRC) and Seminar (GRS): Nucleic Acids.</b> Poster presentation at University of New England, Biddeford, ME, USA
<b>July 20-25, 2014</b>	<b>Yuan Xue</b> , Jossef Osborn, Jay Mellies. Molecular Mechanism of Zinc Disruption of enteropathogenic <i>Escherichia coli</i> pathogenesis. <b>GRC: Microbial Toxins &amp; Pathogenicity.</b> Seminar presentation at Waterville Valeyly Resort, Waterville Valley, NH, USA
<b>April 25, 2014</b>	<b>Yuan Xue</b> , Jay Mellies. Alternative Sigma E-dependent Envelope Stress Response Mediates Inhibition of LEE Virulence by Zinc. <b>Reed College S.T.A.R. Seminar.</b> Seminar presentation at Reed College, Portland, Oregon
<b>Sept. 6, 2013</b>	<b>Yuan Xue</b> , Kathy Wei, Christina D. Smolke. RNA-based G0/1 Cell Cycle Control Devices. <b>Reed College Summer Research Poster Seminar.</b> Poster presentation at Reed College, Portland, Oregon

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## Standardized Examinations

GRE Subject Test (Biochemistry): 660 (92%)	Oct., 2014
GRE General Test: 167Q (94%) / 160V (85%) / 5.5AW (98%)	Sept., 2013
TOEFL iBT: 110/120	Dec., 2009

## Experimental and Technical Skills

**Biochemistry/Biophysics:** AUC analysis, confocal/TIRF quantitative microscopy, fluorescence anisotropy, DSF, FPLC system protein purification, ITC analysis, lipid bilayer assay

**Molecular Biology:** DNA/RNA extraction, PCR & qPCR, functional plasmid design & cloning, lentiviral construction, micro-RNA & riboswitch design

**Cellular Biology:** Immunoblotting, FACS & single cell RNAseq, TC, stable & transient cell line transfection, lysosomal activity assay, autophagy dynamic assay, human host cell infection assay, microbial growth and viability assay

**Computation:** Python, R, C++, shell script, snakemake pipeline, processing of NGS data, single-cell RNAseq analysis.

**Animal Models:** Drosophila handling & brain tissue extraction, mice tissue immunohistochemistry, planarian handling & maintenance, FISH