

## Jean (Zhiying) Zhao

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Berkeley, CA

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### EDUCATION

- **M.Sc. candidate, Computational Biology**, University of California, Davis 09/2021 - present
- **M.Sc. Plant Molecular Biology**, University of Toronto 01/2001 - 01/2003
- **B.S. Honor in Plant Protection**, Fujian Agriculture and Forest University (FAFU) 09/1993 - 07/1997

### Key Skills

- Extensive experience in computational biology, genomics, and metagenome data analysis.
- Strong experience in technology and platform development for high throughput phenotyping assay.
- Broad scientific training across microbiology, molecular biology, synthetic biology, and genetics.
- Self-motivated and detail-oriented, with proven ability to manage multiple projects and meet deadlines.
- Demonstrated technical expertise in project planning, design, execution, and troubleshooting.
- Work both in a team environment and as an individual contributor.

### PROFESSION EXPERIENCE

**University of California, Davis, California** 02/2022 - present  
*Bioinformatics Graduate Research Assistant (IGG program)*

- **Main Project:** analyzing information loss from the assembly of shotgun metagenomes - a common problem in the microbiome sequence analysis.
- **Main Skill set:**
  - o Hands-on experience working with large genomic NGS datasets and statistical analysis
  - o Expert knowledge of common bioinformatics databases, resources, and tools.
  - o Comfortable working in a Linux/cloud computing environment: HPC and AWS
  - o Experience using Git and GitHub for version control and R and Python for data analysis
  - o Experience using Java, SQL programming language
  - o Knowledge of human genetics and GWAS, single-cell RNA-Seq

**LBNL/Joint Genome Institute, Berkeley, California** 06/2014 - present  
*Senior Research Associate (Synthetic Biology Group)*

- **Main Project 1:** Develop a universal genome integration system - CRAGE (Chassis-independent recombinase-assisted) and CRAGE-Duet for activating biosynthesis gene clusters (BGCs) in diverse bacterial hosts. (peer-reviewed article # 1-9)
- **Main Project 2:** Expand the CRAGE technology to multiple  $\alpha$ -,  $\beta$ - proteobacteria, and cyanobacteria, and develop CRISPR editing strategies for functional investigation.
- **Key skill set:** Project Management, Synthetic Biology, Molecular & Cellular Biology, CRISPR editing.

**Joint Genome Institute, Walnut Creek, California** 10/2006 - 05/2014  
*Senior Research Associate (NGS R&D group, peer-reviewed article #10-15)*

- **Main Project 1:** Validate library creation and sequencing procedures for 454, Illumina, and Pacbio NGS platforms.
- **Main Project 2:** Customize vendors' sequencing techniques to facilitate scientific study, including high GC samples, large DNA Mate-pair method, multi-indexing, and MDA sample sequencing.
- **Key skill set:** Automation, Next-Generation Sequencing

**Ceres Biotechnology**, Thousand Oaks, California  
*Research Associate III*

06/2005- 09/2006

- **Main Project:** Develop the two-component bio-confinement system through genome mining and phenotypic screening on transgenic plants to provide an efficient strategy for releasing commercial crops.
- Hands-on experience with constructs assembly, genetic crossing, bright-field and fluorescence microscopy, and cell structure analysis.

**National Research Council Canada**, Saskatoon, Canada  
*Technical Officer 3 (Plant Biotechnology Institute)*

03/2003 - 06/2005

- **Main Project 1:** Develop and optimize the key strategies for full-length and normalized cDNA library construction.
- **Main Project 2:** Investigate the unique genes and pathways through embryo development stages of *Brassica* and *Arabidopsis* using Microarray.

### **PROGRAM MANAGER and ADMINISTRATIVE EXPERIENCE**

- Manage lab resources, purchase, inventory group supplies, and organize strain stocks and primers.
- Manage the progress of the collaborated projects, preparing material transfer agreements (MTA) for strain and technology transfer.

### **MENTORING EXPERIENCE**

- mentored undergraduate student Kelly Cheng Jun - Sep 2016
- Train new lab personnel and monitor lab safety and rules 2014 - present

### **MEMBERSHIPS & AWARDS**

- Member of ATCC's Customer Advisory Panel (Invited) 2020 - current
- Member of LBNL JGI Diversity, Equity, and Inclusion (DEI) committee 2015 - 2022
- LBNL Recognition of Excellence Awards 2021
- R&D100 Finalist: Chassis Independent Recombinase Assisted Genome Engineering 2019

### **PATENTS & PUBLICATIONS (the past 10 years)**

- <https://hackmd.io/@K9QbcCdLTuKC0MMJH8dUpw/B1sRgykno>

### **REFEREES** (Available upon request)