(650) 295-9281
Davis, CA
arram@ucdavis.edu

Abhineet Ram, Ph.D.

Scientist

arram-phd.github.io/portfolio
github.com/arram-phd
linkedin.com/in/abhineet-ram

Dedicated and passionate scientist seeking a fulfilling role in experimental or quantitative biology. My background includes a comprehensive skill set in both wet and dry lab techniques, ranging from high-throughput CRISPRi/a screens to multi-parameter data analysis. Expert on the Extracellular-regulated Kinase (ERK) pathway with deep knowledge of signaling and gene expression.

Skills

Tools and Languages	Python, MATLAB, Git, R, Command-Line, SQL, Docker, ImageJ, MarkDown, SnapGene, LaTeX
Quantitative Research	Data Analysis, Signal/Image Processing, Bioinformatics, Machine Learning, Statistics, Modeling
Wet Lab	Fluorescence Microscopy, **CRISPRi/a**, Cell Culture, Multiplex IF, Immuno-assays, Cloning
Professional	**Experimental Design**, Teaching, Communication, Training, Leadership, Presentation

Professional Experience

Postdoctoral Researcher — **May 2023 — January 2024**
University of California, Davis — *Davis, CA*

- Performed analyses of bulk and single-cell RNA sequencing data using DESeq2, Seurat, etc.
- Developed a computational cluster detection assay using image analysis in Python/MATLAB.
- Trained 8 technicians and students in both wet (microscopy) and dry (programming) lab techniques.

Quantitative Cell Science Intern — **June 2022 – August 2022**
Chan Zuckerberg Biohub — *San Francisco, CA*

- Implemented a Python pipeline for spectral unmixing in confocal microscopy images.
- Developed a spectral model to simulate light paths during fluorescence imaging.
- Configured microscope for multi-camera acquisition leading to a 2x increase in throughput.

Graduate Student Researcher — **August 2017 – May 2023**
University of California, Davis — *Davis, CA*

- Researched oncogenic signaling effects on cell behavior using high-throughput **microscopy** and machine learning.
- Completed **CRISPR** inactivation and GFP knock-in screens to investigate regulators of ERK signaling
- Conducted molecular biology experiments including, PCR, immuno-assays, viral transduction, and vector cloning.
- Implemented a wet-lab and computational pipeline for multiplexed immunofluorescence on cancer cells.
- Employed **systems biology** to model MAP Kinase signaling and gene expression.

Undergraduate Researcher — **July 2015 – June 2016**
University of California, Davis — *Davis, CA*

- Completed independent senior research project quantifying tissue thickness in sea anemones.

Education

Doctor of Philosophy: Biochemistry, Molecular, Cellular, & Developemental Biology — *University of California, Davis*
Bachelor of Science: Cell Biology — *University of California, Davis*

Publications (*First author)

1. *Deciphering the History of ERK Activity from Fixed-Cell Immunofluorescence Measurements ***BioRxiv*** **2024**
2. *A Guide to ERK Dynamics, part 1: mechanisms and models ***Biochemical Journal*** **2023**
3. *A Guide to ERK Dynamics, part 2: downstream decoding ***Biochemical Journal*** **2023**
4. Live-Cell Sender-Receiver Co-cultures for Quantitative Measurement of Paracrine Signaling Dynamics, Gene Expression, and Drug Response. ***Methods Mol. Biol.*** **2023**
5. *ERK signaling dynamics: Lights, camera, transduction. ***Developmental Cell*** **2022**
6. Entosis is induced by ultraviolet radiation. ***iScience*** **2021**
7. Systems-Level Properties of EGFR-RAS-ERK Signaling Amplify Local Signals to Generate Dynamic Gene Expression Heterogeneity. ***Cell Systems*** **2020**

Awards

National Institutes of Health T32 Training Award	2019
National Institutes of Health IMSD Fellow	2018
UC Davis BMCDB Graduate Group Fellowship	2017
Dean's List UC Davis College of Biological Sciences	2013, 2014
UC Davis Cal Aggie Alumni **Leadership Award**	2012