

Nisha Balabhadra

nisha.balabhadra@gmail.com | 925.997.6842

EDUCATION

UC BERKELEY

MOLECULAR AND CELL BIOLOGY
B.A. with Emphasis in Biochemistry
May 2018

SKILLS

MOLECULAR BIOLOGY

Bacterial and Yeast Cloning
CRISPR-Cas9 editing
Strain and Plasmid design
Flow cytometry
Reverse transcription
qPCR and analysis
DNA and RNA Extraction
PCR
Benchling
BLAST
Sanger Sequencing
NGS (Nanopore)
Histology
Immunohistochemistry
Radioimmunoassay
SDS PAGE
Western Blot
Protein Purification
Cell Culture

PROGRAMMING

Python (Highly Skilled)
R (Skilled)
Java (Proficient)
HTML / CSS (Proficient)
LaTeX (Proficient)

LANGUAGES

Telugu (Fluent)
Spanish (Proficient)

COURSEWORK

- Biophysical Chemistry
- Biochemistry
- Macromolecular Synthesis and Cellular Function
- General Genetics
- Cellular and Molecular Neurobiology
- General Biochemistry Lab

ACHIEVEMENTS

Basic Life Support Provider
2016 SACNAS Poster Presenter
2014 John Muir Scholarship Recipient

EXPERIENCE

RESEARCH ASSOCIATE II | LYGOS, INC

PREVIOUSLY RESEARCH ASSOCIATE I

June 2018 – Present | Berkeley, CA

- Designed, transformed, and tested strains as needed for entire Synthetic Biology Department
- Project Director for generating and testing promoter diversity in *P. kudriavzevii*
- Project Director for improving diploid transformation efficiency in *P. kudriavzevii*
- Found and validated 3 small molecule inducible / repressible systems for gene expression via fluorescence
- Implemented small molecule expression systems for expression of product of interest
- Designed and tested experiments on the use of small molecule expression for existing protease degradation system
- Implemented novel triple fluorescent protein tagging system for general lab use
- Optimized Flow cytometry instrument and protocols for fluorescence detection
- Created novel RNA extraction, qPCR, and multiplexed qPCR protocols for general lab use
- Developed and optimized in-house luminescence based protein tagging system
- Authored SOPs for new methods developed in-house
- Wrote python script for streamlined data analysis and presentation in Jupyter Notebooks
- Regularly presented data and findings in department meetings and presented papers in journal clubs
- Collaborated with other departments to further test efficacy of strains built
- Served on company wide Safety Committee to ensure safe lab practices, complete timely inspections, and create COVID-19 protocols

UNDERGRADUATE RESEARCH ASSISTANT | HAYES LAB

October 2014 – April 2017 | Berkeley, CA

- Project Director of Estrogen Metabolite Effect on *X.Laevis* Liver
- Project Director of Effect on Group Housing Vs. Individual Housing on Stress Levels and Spontaneous Egg Laying in *X.Laevis*
- Presented Effect of Housing on Stress Levels and Egg Laying at SACNAS 2016 national conference
- Daily care of experimental and laboratory animals, including juvenile, adult and tadpole *X.Laevis*
- Created novel *X.Laevis* hepatocyte cell culture protocol
- Performed euthanization, dissection, perfusion, and cardiac puncture of live animals, as needed for experiments
- Developed novel program for qPCR analysis to replace outdated lab procedure

UNDERGRADUATE ASSISTANT | DNA SEQUENCING FACILITY

May 2015 – May 2018 | Berkeley, CA

- Performed DNA Sequencing and PCR cleanup reactions for customer samples
- Analyzed and troubleshooted Sanger sequencing reactions
- Interacted with customers to explain procedures and assist in their DNA sequencing experiments
- Trained all incoming undergraduates in lab protocols