

JACOPO AIRAPETYAN

Riverside, CA · <https://www.jacopoairapetyan.com>

EDUCATION

Master of Science in Cell, Molecular and Developmental Biology

Expected ~ August 2022

University of California, Riverside (UCR)

Awards: CMDDB Dean's Distinguished Fellowship

Bachelor of Science in Biochemistry

June 2017

California State University, Los Angeles (CSULA)

Awards: Minority Biomedical Research Support Program- Research Initiative for Scientific Enhancement (MBRS-RISE) undergraduate fellow, Nathaniel R. And Valerie Dumont Scholarship, Bob Rice memorial scholarship

LAB & TECHNICAL SKILLS

Laboratory: Protein purification (IMAC/ion-exchange/size-exclusion chromatography) on AKTA and BioRad FPLC systems. Characterization and validation of protein activity using protein gel electrophoresis (SDS-PAGE, native PAGE), and electrophoretic mobility shift assays. Molecular cloning (PCR-based and Gibson assembly), primer and oligo design, bacterial transformations, and plasmid isolation. Isolation of nucleic acids (DNA and RNA), and application of RNA and protein analytes in custom single molecule FRET assays. Technical aptitude (assembly, operation, and troubleshooting of laboratory equipment).

Technical: Matlab, Prism, Adobe Illustrator/Photoshop, Microsoft Office, Python

LABORATORY EXPERIENCE

Graduate Research Assistant, UCR

September 2017-Present

Defining the dynamic contributions of mRNA 5' – 3' circularization on eIF4E cap recognition

- Optimized purification protocols to express and isolate recombinant yeast proteins. Designed novel purification protocols for recombinant human factors
- Established cloning strategies (PCR- and Gibson assembly based) for mutant recombinant protein factors
- Synthesized target mRNAs by PCR amplification of gDNA, followed by in vitro transcriptions and phenol chloroform or native affinity purifications to isolate RNA
- Characterized and validated DNA/RNA and protein activity using FPLC chromatograms in conjunction with Nanodrop readings, gel electrophoresis and electrophoretic mobility shift assays
- Assessed eIF4E cap-binding kinetics with RNA and protein analytes in single-molecule FRET (smFRET) fluorescent experiments
- Processed smFRET kinetics data by manual assignment in conjunction with a custom Hidden-Markov model based Matlab script
- Converted data to cumulative distribution functions and extracted kinetics by fitting to single or double exponential functions
- Analyzed and interpreted experimental results and compiled them into weekly technical reports
- Reported findings to senior supervisor in a weekly discussion format
- Collaborated with members of other laboratories in a multidisciplinary program on biochemical characterization of proteins

Undergraduate Research Assistant

MORE Programs Fellow, CSULA, Los Angeles, CA

September 2014 – May 2017

Expression of Arabidopsis thaliana recombinant LTP4 in Escherichia coli

- Extracted Arabidopsis thaliana cDNA from meristem tissue
- Performed PCR amplification using template cDNA to amplify open reading frame for lipid transfer protein 4
- Cloned *ltp4* into an expression vector
- Expressed and purified recombinant *ltp4* using Escherichia coli
- Validated DNA and protein constructs using HPLC chromatograms, Nano drop readings, and gel electrophoresis

- Extraction of lipids from leaves and seeds of wild-type and *ltp* mutants
- Assessed molecules bound to *ltp4* protein with liquid chromatography mass spectrometry

LEADERSHIP EXPERIENCE

Graduate Student Researcher, UCR

September 2017 - Present

- Coordinated between professor, five lab members, and office staff to facilitate ordering, personnel hiring and management, budget monitoring and grant management, and compliance with university regulations
- Taught other lab members proper lab procedures related to scientific equipment and computers. Instituted standardization of tests. Organized shared duties among lab members and monitored progress
- Initiated search for new grant opportunities, initiated conceptualization and writing of grants, co-wrote with PI. Written over 4 grants to agencies including NIH, NSF, and UC grants
- Mentored two graduate rotation students and three undergraduate students in laboratory techniques

Graduate Student Teaching Assistant, UCR

September 2017 - 2021

- Utilized a range of teaching and assessment activities including tutorials directed towards the delivery of five different subjects at undergraduate level (introduction to biochemistry, nutritional biochemistry, biochemistry, and biochemistry laboratory)
- Supervised the development of appropriate teaching materials to ensure content and methods of delivery meet learning objectives
- Delegated grading, writing assignments, term papers, quizzes, and exams
- Provided timely and frequent feedback to students to foster an environment of open communication and interest in discovery

PRESENTATIONS

- Interdepartmental Symposium in CMDB, Riverside, California, September 2020
- 64th Biophysics Society meeting, San Diego, California, Feb 2020
- RNA Society, Glendora, California, 2019

PROFESSIONAL AFFILIATIONS AND INVOLVEMENT

Member, Society for the Advancement of Chicanos and Native Americans in Science

June 2017 – Present

Member, Biophysics Society

September 2017-Present

Member, American Chemical Society (ACS)

September 2016 – June 2017