Michael Acquazzino

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Education

Master of Science, Biological Sciences — Institutional GPA: 3.63 — August 2022 – May 2024
California State Polytechnic University, Pomona
Emphasis: Cell and Molecular Biology

Bachelor of Science, Major in Biology, Minor in Chemistry — Institutional GPA: 3.68 — August 2020 – May 2022
California State Polytechnic University, Pomona
Emphasis: Genetics and Molecular Cell Biology

Associate of Science for Transfer, Biology — Institutional GPA: 3.11 — August 2016 – June 2020
Citrus College, Glendora

Academic Research Experience

Master's Degree Thesis Research — June 2022 – May 2024
California State Polytechnic University, Pomona
Department of Biological Sciences

Principal Investigator: Jason Ear, PhD
Research: Characterizing signaling and localization of Daple-FLT3 gene fusions in leukemia cells.

- Developed fluorescent-tagged constructs by molecular cloning to express Daple-FLT3 gene fusion proteins and controls in cells. These constructs were verified and used for transient expression in HEK293 via PEI transfection and various leukemia cells lines (K-562, Jurkat, THP-1) via electroporation.
- Determined subcellular localization of the gene fusion in HEK293 and various leukemia cell lines (K-562, Jurkat, THP-1) through live cell fluorescent microscopy as well as immunostaining.
- Demonstrated the kinase domain of the Daple-FLT3 gene fusion to be active in HEK293 and K-562 via Western blot.
- Analyzed changes in HEK293 and K-562 cell signaling (STAT5, AKT, MAPK) by quantitative Western blotting.
- Ongoing work involves determining Daple-FLT3 cell phenotype, measuring changes in expression of downstream target genes in K-562 by RNAseq, and identifying potential substrates of the Daple-FLT3 gene fusion protein by biotin proximity labelling (TurboID).

Teaching & Mentoring Experience

Teaching Associate — August 2022 – May 2024
California State Polytechnic University, Pomona
Department of Biological Sciences

Instruction of undergraduate laboratory courses including BIO2340L Human Anatomy Lab (Fall 2022, Fall 2023) and BIO4320L Molecular Biology Techniques Lab (Spring 2023, Spring 2024).

- Managed online Canvas pages.
- Graded assignments, lab reports, quizzes, and practical exams.
- Assisted in preparation of laboratory activities and materials.
- Contributed to development of instructional and testing materials.
- Gave short lectures on course materials and supervised student laboratory activities.

Junior Laboratory Member Training & Mentorship — August 2022 – May 2024
California State Polytechnic University, Pomona
Department of Biological Sciences

- Trained junior graduate lab members in advanced techniques and laboratory skills.
- Trained undergraduate lab members in fundamental laboratory skills and protocols.
- Assisted in supervision of junior graduate and undergraduate lab member independent work and research projects.

High School Math & Science Tutor March 2020 – June 2021
Middle Tree Inc., Claremont

- After school group and one-on-one tutoring for high school students in math and science.
- Assisted in organizing and planning lessons for special programs.
- Mentored students through challenges they faced from virtual instruction.

Work Experience

Graduate Assistant – Biology Stockroom August 2023 – May 2024
California State Polytechnic University, Pomona
Department of Biological Sciences

- Assisted with maintenance and repair of Biology Department equipment for research and instructional labs.
- Receiving and distribution of packages and materials to Biology Department research and instructional labs.
- Aided in preparation, distribution, and storage of instructional lab materials

Awards & Honors

President's List
Spring 2020, Spring 2021

Dean's List
Fall 2018, Spring 2020, Fall 2020, Spring 2021, Spring 2022

Poster Presentations

Michael Acquazzino and Jason Ear. Daple-FLT3 Causes Tyrosine Kinase Domain Activation and Subcellular Localization. 20th Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), November 2022.

Michael Acquazzino and Jason Ear. Daple-FLT3 Causes Tyrosine Kinase Domain Activation and Subcellular Localization. California State Polytechnic University Pomona, 2023 College of Science Research Symposium, April 2023.

Michael Acquazzino and Jason Ear. Characterizing Signaling and Localization of Daple-FLT3 Gene Fusions in Leukemia Cells. 2024 Annual Meeting of the American Association for Cancer Research (AACR), April 2024.

Michael Acquazzino and Jason Ear. Characterizing Signaling and Localization of Daple-FLT3 Gene Fusions in Leukemia Cells. California State Polytechnic University Pomona, 2024 College of Science Research Symposium, April 2024.

Professional Membership

American Association for Cancer Research (AACR) – Associate Member (since 2023)
American Society for Cell Biology (ASCB) – Graduate Student Member (since 2022)

Laboratory Skills

Mammalian Cell Culture
- Maintenance of HEK293, K-562, Jurkat, and THP-1 cell lines
- Generation and maintenance of stable cell lines through antibiotic selection
- Preparation of cells for cryogenic storage
- Removal and thawing of cells from cryogenic storage
- Preparation of standard and specialized culturing medias

Microscopy, Staining, & Imaging
- Fluorescent microscopy
- Immunofluorescent staining
- Live cell fluorescent imaging
- Cell fixation (MeOH, PFA)
- Fixed and live cell mounting

Cell & Molecular Biology Techniques
- Molecular cloning (Gateway system)
- Bacterial transformation
- Plasmid purification and validation
- Agarose gel electrophoresis
- SDS-PAGE
- Western blotting (fluorescent)
- Immunoprecipitation (IP) and Co-IP
- PCR, qRT/PCR, and primer design
- Mammalian cell transfection and electroporation
- Mammalian cell co-transfection
- Mammalian cell lysis (Western blot, qRT/PCR)
- Cell signaling analysis

References

Jason Ear, PhD
California State Polytechnic University, Pomona
Department of Biological Sciences
Assistant Professor
Email: jear@cpp.edu
Relationship: Master's Thesis research Principal Investigator

Nancy Buckley, PhD
California State Polytechnic University, Pomona
Department of Biological Sciences
Professor
Email: nebuckley@cpp.edu
Relationship: Master's Thesis committee member

Jamie Snyder, PhD
California State Polytechnic University, Pomona
Department of Biological Sciences
Assistant Professor
Email: jcsnyder@cpp.edu
Relationship: Master's Thesis committee member