UCSF PROPEL

5th Annual

SYMPOSIUM

May 27th, 2025

A NOTE FROM PROPEL LEADERSHIP

We are thrilled to be capping off our fifth full year of the PROPEL program with this symposium! This symposium marks the end of our third full year as an established program, and we are proud of all the success we have had so far. In the past three years, 38 scholars have completed the program and gone on to the next stage of their career. 79% of these scholars were accepted into a graduate (PhD, MD/PhD, MPH) or professional (MD, PharmD) school, including many who accepted offers here at UCSF, and an additional 16% have accepted positions in industry. We feel incredibly honored and privileged to be a part of this program and are looking forward to many more successes to come!

Symposium Agenda

11:30 – 12:00 **POSTER SET-UP/LIGHT REFRESHMENTS** Location: Genentech & Byers Halls 2nd Floor

12:00 – 12:15 **WELCOME** Location: Sandler Neuroscience Conference Center

12:15 – 1:15 **SCHOLAR TALKS (PART 1)**

Speakers

- **Rakshya Sharma** (Andrews Lab)- *Polygenic Risk Scores for modifiable risk factors show sex-specific associations in Alzheimer's Disease*
- **Renzo Huarcaya** (Xu Lab) - Asb4 as a novel regulator of satiety
- **Lorena Benitez-Rivera** (Stachler Lab) - *Comparison of Methylation Analysis Approaches for Biomarker Development in Barrett's Esophagus*
- **Mason Klawitter** (Sello Lab) - *Defining the Structural Activity Relationships of A-803467, a Potent Inhibitor of the Breast Cancer Resistance Protein BCRP*

1:15 – 2:00 **KEYNOTE SPEAKER**

Dr. De'Broski Herbert - Professor of Immunology in the Department of Microbiology and Immunology at Tulane University "Dispelling the Imposter Syndrome Myth"

2:15 – 3:15 **POSTER SESSION/COFFEE BREAK** Location: Genentech & Byers Halls 2nd Floor

3:30 – 5:00 **SCHOLAR TALKS (PART 2)** Location: Sandler Neurosciences Center

Speakers

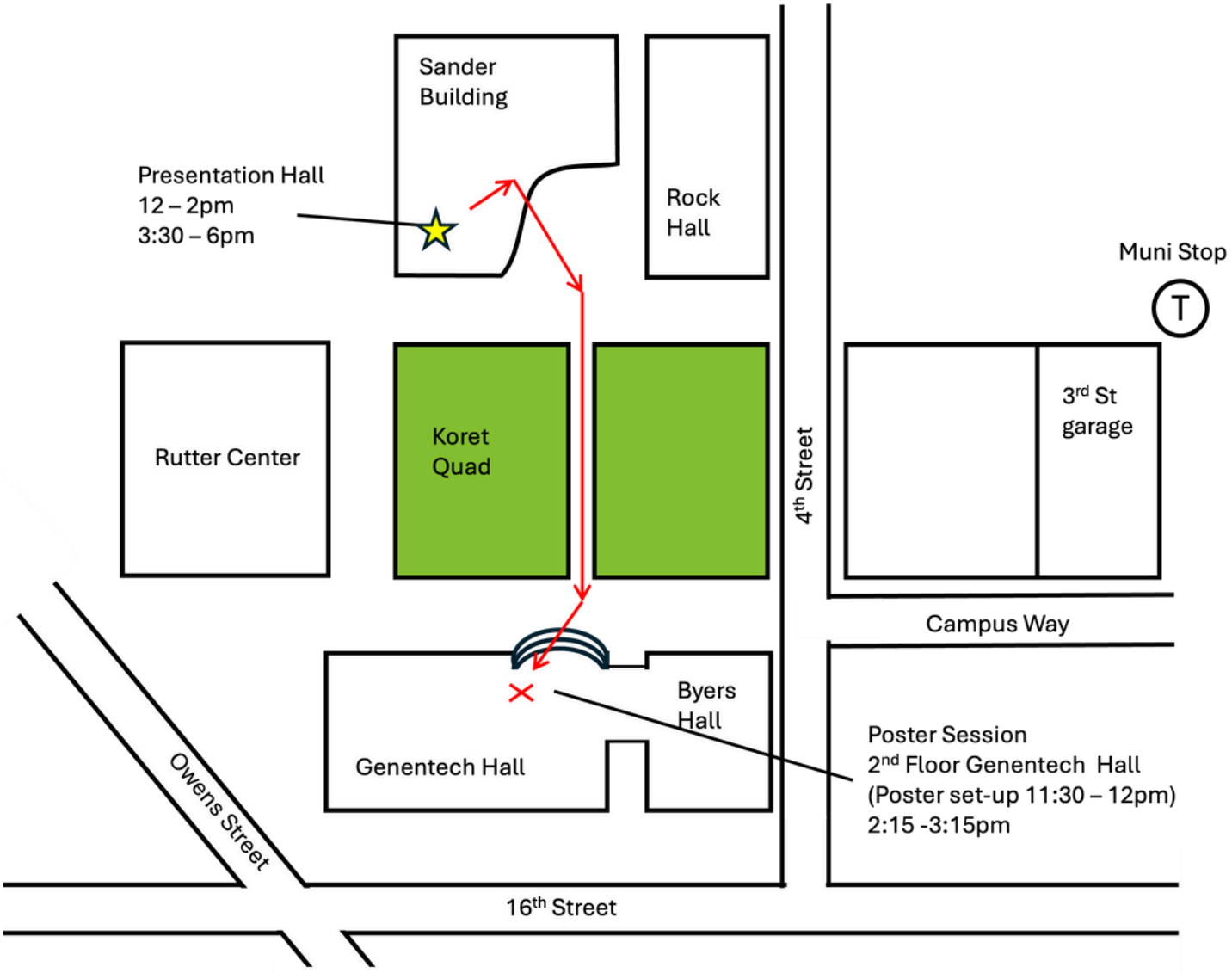
- **Mason Phan** (Villeda Lab) - *Neuronal FTL1 Modulates Dendritic Complexity and Synapse Density in the Hippocampus*
- **Erika Cota Solis** (Kimberly Kirkwood Lab) - *Optimization of enzymatic activity assay for the Early Detection of Pancreatic High Grade Dysplasia in Intraductal Papillary Mucinous Neoplasm*
- **Bethany Andoko** (Collins Lab) - *Serum Lipids and Complement Factors Define the Systemic Osteoarthritis Profile in Male Mice*
- **Justin Amakor** (Kutys Lab) - *A novel microphysiological system to investigate cytoskeletal and adhesive determinants of human epidermal morphogenesis*
- **Camille Fang** (Ou Lab) - *Ex Vivo Live Imaging of Microglia Dynamics and Their Role In Synaptic Pruning In Experimental Glaucoma*
- **Elena Ochoa** (Sil *Lab) - The kexin protease SUB6 is required for virulence of the fungal pathogen Coccidioides*

5:00 – 6:00 **SCHOLARS ONLY SESSION**
Led by Scholars Council

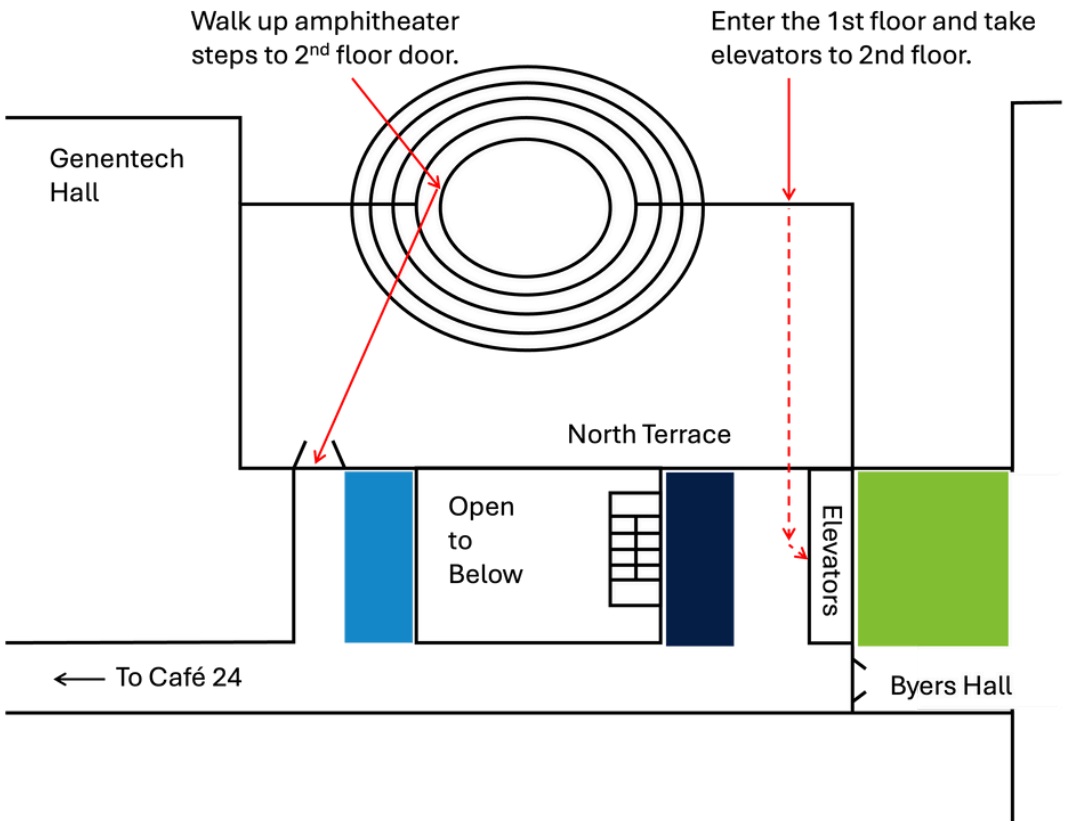
6:00 – 8:00 **AFTER-SYMPOSIUM DINNER COMPLEMENTRAY HEADHSHOTS** Location: Cafe 24, Genentech Hall

(RSVP required)

SYMPOSIUM MAP



POSTER SESSION DETAIL MAP



- Bioengineering
- Various Topics
- Chemistry & Chemical Biology
- Developmental & Stem Cell Biology
- Neurology
- Immunology
- Cancer Biology

POSTER PRESENTATIONS

2ND FLOOR ATRIUM

BIOENGINEERING AND VARIOUS TOPICS

Athalee Rachel Aguilar (Kinman Lab) - *A Structural Basis for Autophagy Initiation Decision Making*

Kina Atkin-Yamaguchi (Calderon Lab) - *Minimizing barcode swaps during the formation of plasmid libraries*

Brooke Barry(Jiam Lab) - *Spotify Music Preference Changes in Newly Implanted Cochlear Implant Users*

Gabriela Castellanos Suarez(Chen Lab) **-** Elucidating the Molecular Activation of PRKCα in Hepatic Stellate Cells

Ernesto Diaz (Larson Lab) - *Deep Learning-Based Tumor Segmentation of Murine Magnetic Resonance Images of Prostate Cancer Patient-Derived Xenografts*

Caitlin Haas (Gibson Lab) - *Preliminary Qualitative Findings from the Acupuncture Therapy Clinic for Peri/Post-Menopausal Women Veterans with Chronic Pain (A-MVP) Project*

Bazilco Marveen Jean Simon (Judge Lab) - *Improving Allele Specific Excision and Inversion for Therapeutic Dual Guide Editing*

Tiffany Pham (Collins Lab) - *Life-Long Post-Traumatic Osteoarthritis and Sham Surgery Induce Structural Damage and Pain in Aged Mice*

Hewlett Pham (Thakur Lab) - *Informing the Development of a COPD Discharge Bundle Through the Perspective of Healthcare Providers in a Safety-Net Healthcare System: A Qualitative Study*

Rochelle-Jan Reyes *(de Leon Lab) - Association of cardiometabolic and behavioral risk factors for dementia with cognitive test outcomes across different communities*

Christian Valtierra *(Pasquini Lab)* **-** *A Three-Armed Bandit Task Measuring Social Exploratory/Exploitative Behavior in Older Adults*

POSTER PRESENTATIONS

2ND FLOOR ANNEX

CHEMISTRY & CHEMICAL BIOLOGY, DEVELOPMENTAL & STEM CELL BIOLOGY

Brandon Apresa (Holmes Lab) - *Proteoglycan Remodeling in Alzheimer's Disease: A Novel Toolkit for Profiling Expression Dynamics in Health in Disease.*

Amanda Gutierrez *(Robinson Lab)* **-** *Gene Expression Dynamics in a Rat Whole Embryo Culture Model of Early Organogenesis*

Cristy Mendoza *(Nystul Lab) - Somatic ring canals contribute to the regulation of proliferation and differentiation in the Drosophila ovarian follicle stem cell lineage*

Maryam Pearson (Arkin Lab) - *The Effect of Caspase-6 on Tau Stability*

Lorenzo Ramirez (Turnbaugh Lab) - *Searching for the cryptic substrates of a prevalent gut bacterial enzyme implicated in immune activation*

Rhiannon Red Bird (Nystul Lab) **-** *Elucidating Fox Transcription Factors' Contributions to Cell Fate Specification through pH Sensing in the Drosophila Ovary*

2ND FLOOR BYERS HALL LOBBY

CANCER BIOLOGY, IMMUNOLOGY, NEUROLOGY

Bethany Andoko (Collins Lab) - *Serum Lipids and Complement Factors Define the Systemic Osteoarthritis Profile in Male Mice*

Gian Carlo Baldonado (Liao Lab) - *Immunological differences in atopic dermatitis across age groups: insights from single-cell multi-omics*

Adriana Bibo (Vaughen Lab) - *Peptidergic Neuron Function Requires Balanced Lipid Remodeling*

Esther Chavez-Iglesias *(Kober Lab) - Functional Characterization of Gene Expression and Alternative Splicing Associated with LPS Treatment in Human PBMCs Through Bulk Transcriptomics*

Cristian Chavira (Kampmann Lab) - *Investigating RNA-Mediated Mechanisms of Tau Localization and Aggregation*

POSTER PRESENTATIONS

2ND FLOOR BYERS HALL LOBBY

CANCER BIOLOGY, IMMUNOLOGY, NEUROLOGY

Jose Collado (Leung Lab) - *Probiotic Administration for Depressed Adolescents: Protocol for a Double-Blinded Randomized Controlled Trial*

Venus Hagan (Kampmann) - *Understanding the Role of m6A Machinery in Regulating Interferon-Responsive Microglia*

Rosheni Kandaswamy *(Weiner Lab) - Investigating the Role of Arachidonic Acid in Neutrophil Swarming*

Bao Ngoc (Gemma) Le *(Feinberg Lab) - Tracing projections of Superior Colliculus (SC) neurons to hindbrain region involved in eye movement*

Isabelle Lomeli (Smith Lab) - *Induced Pluripotent Stem Cells Can Model Treatment Resistance in Monocytic Acute Myeloid Leukemia*

Zanib Naeem (Vu Lab) - *Optimization of functional MRI analysis pipelines for the cervical spinal cord*

Ashlee Osborne (Suliman Lab) - *Defining the Key Tyrosine Catabolism Pathway Enzymes Involved in Regulating Responses to Mycobacterium tuberculosis Infection*

Remy Pennington (Fernando Gonzalez Lab) - *Choline increases vascularization and reduces blood brain barrier leakage after neonatal stroke*

Sadie Potts (Schwer Lab) - *Lin52 is Essential for Mammalian Forebrain Development*

Shanan Sahota (Villeda Lab) - *Age-Related Cognitive Decline is Regulated by Peripheral $CD8^+$ T cells*

POSTER PRESENTATIONS

2ND FLOOR BYERS HALL LOBBY

CANCER BIOLOGY, IMMUNOLOGY, NEUROLOGY

Shanan Sahota (Villeda Lab) - *Age-Related Cognitive Decline is Regulated by Peripheral CD8^{+} T cells*

Tara Samson (Yang Lab) - *The moderating effect of striatal structural connectivity on the link between childhood trauma and adolescent optimism*

Ariel Sauri (Yokoyama Lab) - *Usage of droplet digital PCR to experimentally confirm the effect of IFI44L genotype on IFI44L mRNA isoform generation*

Shayleen Singh (Rutishauser Lab) - *Characterizing the phenotype and function of CD8+ T cells in congenital CMV infection*

Amelia Tsark (Betancur Lab) - *A germline insertion variant within a breast cancer super-enhancer promotes tumor cell death and enhances CD80+ macrophage infiltration*

2025/26 CURRICULUM

FALL

- Literature Review Course (1st yr scholars only)
  - *Thursdays, 4pm-5pm July, 2025 - June 2026*
  - Programming and Statistic (Oct & Nov TBA)
- Graduate Applications Workshop Series (Sept & Oct, TBA

  PhD-bound:
  - Grad Applications Panel
  - Personal Statement Workshop

  MD/PhD-bound:
  - MSTP Interest Panel (hosted by UCSF MSTP)
  - Demystifying the AMCAS Application Process
  - MSTP Essay Writing Workshop
- Secondary Mentor Meetings (individually scheduled)

WINTER

- Literature Review Course - cont'd
- Grad App Workshop Series -cont'd

  PhD-bound:
  - Mock interviews (indiv. scheduled)

  MD/PhD-bound:
  - AMCAS Nuts & Bolts Workshop
- Secondary Mentor Meetings

SPRING

- Literature Review Course - cont'd
- Build Your Research Community
  - (April & May, TBA. 2nd yr and exiting scholars only)
- Secondary Mentor Meetings

PROPEL Programs

Interested in exploring more about PROPELS programs? Click on the **bolded** text from each program to learn more or visit https://propel.ucsf.edu/ and click "programs"

Secondary Mentorship

PROPEL has implemented a secondary mentorship program to give you another mentor (in addition to your primary research mentor). A secondary mentor can be a welcome addition to help your career development, aid in graduate applications, advise in maters of work-life balance, and more.

Clinical Mentorship

All PROPEL scholars are already paired with a primary research mentor, but, if they are pursuing an MD/PhD they have the option of pairing with a clinical faculty mentor as well. Our clinical mentors serve as a vital resource for our scholars and ensure the success of the entire PROPEL program.

Peer Groups

Our Peer Groups program is designed to support scholar-led networking activities, encouraging PROPEL Scholars to take the lead in building connections within their community. Whether it's grabbing lunch, exploring the city together, or organizing a unique group outing, this initiative helps Scholars connect beyond the lab.

Scholars Council

Interested in joining PROPEL leadership? Represent your peers and shape the programs future. Open positions include:

- Scholars Council
- Social Media Committee
- Undergrad Mentorship Committee
- Community Engagement
- MD/PhD Improvement Committee

CONGRADULATIONS!

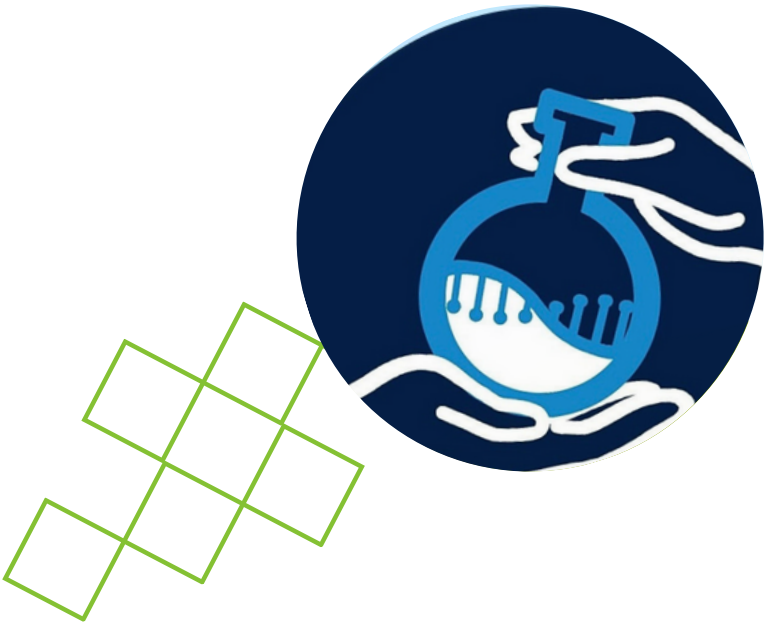
Best of luck to our scholars leaving this year.

Sydney Abelson	Harvard University - Biological and Biomedical Sciences
Rithika Adavikolanu	UCSF - Tetrad
Grace Baird	UC San Diego - Bioengineering
Adriana Bibo	Stanford University - Biosciences
Ricardo (Rico) Carale	University of Pennsylvania - MSTP
Cristian Chavira	University of Wisconsin, Madison - Biophysics
Marco Cordero	University of Wisconsin, Madison - Endocrinology and Reproductive Physiology
Migel Dio	University of Miami - MSTP
Carlos Gomez	UCSF - Biological and Medical Informatics
Aly Granados	Stanford University - Immunology
Sally Guan	UC Berkeley - Masters of Public Health
Venus Hagan	UCSF - Biomedical Sciences
Katelyn Herm	UCSF - Biomedical Sciences
Julia Hernandez	MIT - Biology
Mikias Ilala	UC Irvine - Medical School
Cori Isbell	Harvard University - Virology
Adam Kazerounian	UCSF - Biomedical Sciences
Mason Klawitter	University of Wisconsin, Madison - Biophysics
Kanika Leang	UC Berkeley - Molecular and Cell Biology
Edwina Mambou	University of Utah - Neuroscience
Supriya Mula	UCSF - MSTP
Emily Nieman	UCLA - Neuroscience
Elena Ochoa	University of Washington - Plant and Microbial Biosciences

CONGRADULATIONS!

Best of luck to our scholars leaving this year.

Faye Orcales	UCSF - Biological and Medical Informatics
Tiffany Pham	UCSF - Developmental and Stem Cell Biology
Tara Samson	The City University of New York - Clinical Psychology,
Shaila Sendan	Yale - Biological and Biomedical Sciences
Chanelle Shepherd	UCLA - Biosciences
Sara Toumi	New York University - Masters of Biology
Amelia Tsark	University of Southern California - PIBBS
Brian Zou	Washington University - MSTP



SCHOLARS' COUNCIL

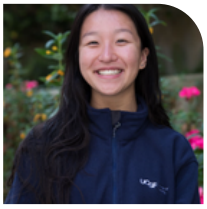
Grace Baird is a Junior Specialist in the lab of Dr. Wendell Lim. Her project focuses on engineering synthetic cell adhesion molecules to study the role of adhesion in immune synapse formation and to reprogram CAR T cell adhesion for improved therapeutic efficacy. Outside of the lab, she enjoys running, bouldering, and baking.

Ariel Sauri is a staff reserch assistant at the Yokoyama's lab, where they study the genetics underlying neurodegeneration across diverse populations. Ariel has a growing passionate about research centered around neurogenetics — specifically, the role that genetics plays in neurodiversity.

Justin Amakor is junior specialist in the Kutys Lab in the Department of Cell and Tissue Biology. He wants to be a physician-scientist and explore the intersection of bioengineering and regenerative medicine, among other topics. Outside of the lab Justin loves drawing, reading, and playing soccer and basketball.

Kanika Leang is a part of the Arkin lab where she uses protein engineering to better understand how the structure and function of the integral AAA+ protein, VCP, regulates protein homeostasis in and out of disease contexts. Outside of the lab, Kanika's hobbies include reading, crocheting, painting, and experimenting with food.

Shaista Afzal is a Staff Research Associate in Dr. Sara Suliman's Lab. Shaista hopes to make the path toe research less intimidating for others entering the field.



Caroline Le is apart of the Kober lab studying data-integrated multi-omic methods in cancer-related fatigue and neuropathy. Outside the lab, she loves dancing and hosting arts and crafts nights!

PROPEL LEADERSHIP

Todd Nystul is a Professor in the Departments of Anatomy and OB/Gyn. He received his B.S. from UC San Diego and his PhD from the University of Washington. His lab uses Drosophila and mouse models to investigate the function of epithelial stem cell lineages in vivo. Todd is also Co-director of the UCSF Developmental and Stem Cell Biology PhD program and an active member of the Tetrad and Biomedical Sciences PhD programs.

Ryan Hernandez is a Professor in the Department of Bioengineering and Therapeutic Sciences at UCSF. He co-directs both the Biological and Medical Informatics (BMI) graduate program as well as the PROPEL program, co-leads the ARCHES program, and directs the Genentech-UCSF School of Pharmacy Diversity Fellowship Program. His research focuses on population genetics, and using evolutionary modeling to understand complex biological patterns.

Paola Betancur is an Assistant Professor in the Department of Radiation Oncology. She received her B.S. from Stony Brook University, her PhD from Caltech, and performed her postdoctoral work at Stanford. Her lab studies the genomic mechanisms that activate pro-tumorigenic and immune suppressive programs in cancer cells. Paola co-chairs the Radiation Oncology DEI committee and was named John A. Watson Faculty Scholar in 2021.

K. Mark Ansel is Professor of Microbiology & Immunology and an Investigator of the Sandler Asthma Basic Research Center. He completed a B.S. at Virginia Tech, a Ph.D. at UCSF, and postdoctoral training at the Immune Disease Institute at Harvard Medical School. His lab studies RNA regulation in the immune system and cell programming involved in allergic inflammation and asthma. Mark is a former director of BMS and the chair of ImmunoX.

Sam Pleasure is Professor of Neurology and Director of the Neuroscience Graduate Program. His lab's research focuses on the role of morphogenic signals in the development of the mammalian hippocampus and cortex and on understanding the pathophysiology of autoantibody associated encephalitis. He is also an active clinical neurologist caring for patients with inflammatory CNS disorders and underserved populations at SF General Hospital.

Claude Chapman is a Professor in the Department of Medicine, in the Pulmonary, Critical Care, Allergy and Sleep Medicine Program. She completed her B.S., MEng, M.S., and Ph.D. at Universite de Provence in Marseille, France. She also received the ATS Assembly on Respiratory Cell and Molecular Biology Carol Basbaum Award in recognition of her leadership potential. Her lab applies basic science to the discovery and development of small molecules for fibrotic diseases..

Jessica Allen is the Program Administrator of PROPEL, PREP, and CIRM. Before joining PROPEL, she coordinated science enrichment programming for public school students at UCSF Science & Health Education Partnership. She's taught science and engineering at USF, Berkeley City College, and the Universidad de los Andes in Bogotá, Colombia. She completed her Ph.D. at UCSF/UCB Joint Bioengineering Program.

Karrington Hendrix Harp is the Program Assistant of PROPEL. Before joining PROPEL, she worked for the United States House of Representatives Office of Congressman Eric Swalwell. She completed her B.S. at the University of California East Bay with a degree in Public Health and Health Policy. Outside of work Karrington enjoys exploring the city and trying new foods.

Thank you to our current funding partners!

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Kavli Institute for Fundamental Neuroscience

UCSF Department of Obstetrics, Gynecology and Reproductive Sciences

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UCSF Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research

Emerson Collective

UCSF Department of Radiation Oncology

GLADSTONE INSTITUTES

UCSF Center for Reproductive Sciences

UCSF Helen Diller Family Comprehensive Cancer Center

Our mission is to help aspiring scientists realize their potential through mentorship, sponsorship, and opportunity. Interested in partnering or contributing to our transformative model? please contact program adminstrator Jessica Allen (jessica.allen@ucsf.edu) or any of the PROPEL leadership team

Thank you for joining us!

Want more information? Visit our website propel.ucsf.edu or email our program administrator Jessica Allen (jessica.allen@ucsf.edu)

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