
**Achievement Rewards
for College Scientists
Northern California Chapter**



**2022 – 2023
Annual Report**

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Federal Form 990 available upon request.



MISSION

MISSION STATEMENT: ARCS Foundation advances science and technology in the United States by providing financial awards to academically outstanding U.S. citizens studying to complete degrees in science, technology, engineering, mathematics and medical research.

ARCS STORY

ARCS STORY: In 1958, a group of intrepid women in Los Angeles took on the challenge of the “space race” and created ARCS Foundation, funding gifted science, medical and engineering students to help re-establish our country’s leadership in science. Today the challenge is achieving breakthroughs in biotechnology, regenerative medicine, and clean energy to secure our country’s future. Our answer is still the same: when we support brilliant young scientists, we invest in America’s future in a powerful way.

Every dollar contributed to ARCS Foundation’s Scholar Awards Fund goes directly to students selected by their universities for their merit and the caliber of their research. The impact is profound: ARCS scholars appreciate our belief in them as much as the financial help.

ARCS has 15 chapters in the United States and has awarded over \$136 million to more than 11,800 scholars since 1958.

NORTHERN CALIFORNIA CHAPTER

NORTHERN CALIFORNIA CHAPTER: The Northern California Chapter of ARCS Foundation was established in 1970 and has funded more than 3,000 Scholar Awards totaling over \$25.7 million. For the 2023-2024 academic year, the Chapter distributed \$1,150,000 to 84 scholars attending seven prestigious Northern California universities.

ARCS IS UNIQUE

- * **ARCS is 100% FOCUSED:** ARCS is the largest private membership organization in the United States focusing on support to the most promising U.S. science scholars.
- * **ARCS grants are 100% FLEXIBLE:** ARCS award recipients decide how best to use ARCS funds to pursue their academic research efforts.
- * **ARCS is 100% VOLUNTEER:** ARCS members donate their time, talents and financial resources in order to foster academic excellence and research in the sciences, mathematics, medicine and engineering.
- * **ARCS is 100% EFFECTIVE:** 100% of all donations to the annual Scholar Awards Campaign are directed to the best and brightest scholars at our nation’s top research universities.

RECIPIENT SCHOOLS OF ARCS FOUNDATION GRANTS

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ARCS FOUNDATION, INC. can boast of alumni who have achieved distinction in their fields and are making significant contributions to the strength and leadership of our country.

The scholar awards program is administered by the academic institutions to which ARCS chapters make allocations. Recipient institutions are approved by the National Board of ARCS FOUNDATION, INC. according to exacting standards.

Following is a list of the recipient schools of ARCS Foundation scholar awards for the fifteen chapters which make grants.

ATLANTA CHAPTER

Emory University
Georgia Institute of Technology
Morehouse College
University of Georgia (Athens)

COLORADO CHAPTER

Colorado School of Mines
Colorado State University
University of Colorado at Boulder
University of Colorado at Colorado Springs
University of Colorado at Denver
University of Colorado School of Medicine

HONOLULU CHAPTER

University of Hawaii, Manoa

ILLINOIS CHAPTER

Illinois Institute of Technology
Loyola University of Chicago, Stritch School of Medicine
Northwestern University
The University of Chicago
The University of Illinois at Urbana-Champaign

LOS ANGELES CHAPTER

California Institute of Technology
Harvey Mudd College
Pomona College
University of California, Los Angeles: Brain Research Institute
University of Southern California: Keck School of Medicine
Viterbi School of Engineering

METROPOLITAN WASHINGTON CHAPTER

Georgetown University
The George Washington University
The Johns Hopkins University
University of Maryland, College Park
University of Virginia

MINNESOTA CHAPTER

University of Minnesota

NORTHERN CALIFORNIA CHAPTER

San Francisco State University
Stanford University
University of California, Berkeley
University of California, Davis
University of California, Merced
University of California, San Francisco
University of California, Santa Cruz

ORANGE COUNTY CHAPTER

University of California, Irvine

OREGON CHAPTER

Oregon Health and Science University
Oregon State University
University of Oregon

PHOENIX CHAPTER

Arizona State University
Northern Arizona University
University of Arizona

PITTSBURG CHAPTER

Carnegie Mellon University
University of Pittsburgh

SAN DIEGO CHAPTER

San Diego State University
Scripps Research Institute
University of California, San Diego
University of San Diego

SEATTLE CHAPTER

University of Washington
Washington State University

UTAH CHAPTER

University of Utah

RECIPIENT UNIVERSITIES' LEADERSHIP

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ARCS Foundation Northern California Chapter appreciates its strong alliance with each of the universities receiving award funds. We hereby salute the presidents and chancellors of these, our area's finest universities, and list their names together with the departments in which scholars were funded this year.

**DR. LYNN MAHONEY, PRESIDENT
SAN FRANCISCO STATE UNIVERSITY**

Department of Biology (Cellular & Molecular)
Department of Biology (Integrative)
Department of Biology (Marine)
Department of Biology
Department of Chemistry
Department of Chemistry (Biochemistry)
Department of Mathematics
Department of Physics & Astronomy

**DR. MARC TESSIER-LAVIGNE, PRESIDENT
STANFORD UNIVERSITY**

Department of Applied Physics
Department of Bioengineering
Department of Biology
Department of Biophysics
Department of Chemical Engineering
Department of Chemistry
Department of Electrical Engineering
Department of Geophysics
Department of Mathematics
Department of Mechanical Engineering
Department of Physics

**DR. CAROL CHRIST, CHANCELLOR
UNIVERSITY OF CALIFORNIA, BERKELEY**

Department of Electrical Engineering & Computer Science
Department of Environmental Science, Policy & Management
Department of Integrative Biology
Department of Mathematics
Department of Mechanical Engineering
Department of Metabolic Biology & Molecular Toxicology
Department of Molecular & Cell Biology
Department of Nuclear Engineering
Department of Plant & Microbial Biology

**DR. GARY S. MAY, CHANCELLOR
UNIVERSITY OF CALIFORNIA, DAVIS**

Animal Behavior Graduate Group
Department of Computer Science
Department of Biomedical Engineering
Department of Chemistry
Department of Earth & Planetary Sciences
Department of Molecular, Cellular & Integrative Physiology
Department of Pharmacology & Toxicology
Department of Soils & Biogeochemistry
Ecology Graduate Group
Geology Graduate Group
Integrative Pathobiology
Neuroscience Graduate Group
Population Biology Graduate Group

**DR. JUAN SÁNCHEZ MUÑOZ, CHANCELLOR
UNIVERSITY OF CALIFORNIA, MERCED**

Department of Cognitive & Information Sciences
Department of Environmental Systems
Department of Physics

**DR. SAM HAWGOOD, CHANCELLOR
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO**

Departments of Biochemistry & Molecular Biology
Department of Bioengineering
Department of Biomedical Sciences
Department of Chemistry & Chemical Biology
Department of Developmental & Stem Cell Biology
Department of Epidemiology & Translational Science
Department of Neurology
Department of Neuroscience
Department of Pharmaceutical Science & Pharmacogenomics

**DR. CYNTHIA LARIVE, CHANCELLOR
UNIVERSITY OF CALIFORNIA, SANTA CRUZ**

Department of Astronomy & Astrophysics
Department of Biomolecular Engineering
Department of Electrical & Computer Engineering
Department of Earth & Planetary Sciences
Department of Ecology & Evolutionary Biology
Department of Environmental Studies
Department of Microbiology & Environmental Toxicology
Department of Molecular, Cell & Developmental Biology
Department of Ocean Sciences
Department of Statistics
Science Communications Master's Program

SAN FRANCISCO STATE UNIVERSITY

Master's Program Scholars
Department of Biology (Cellular & Molecular)
Department of Biology (Integrative)
Department of Biology (Marine)
Department of Biology (Marine & Estuarine)
Department of Chemistry
Department of Chemistry (Biochemistry)
Department of Mathematics
Department of Physics & Astronomy

DEPARTMENT OF BIOLOGY (INTEGRATIVE)

AMIN AL-JAMAL

ARCS FOUNDATION SCHOLAR

Amin al-Jamal is an arachnologist with a passion for science education and a broad range of experience and interest in biology. He is particularly interested in invertebrate predators, like spiders and predatory insects, their evolution, and the pressures they exert on their ecosystems. He has a broad range of expertise including insect and arachnid identification and animal behavior. Amin's research is focused on the morphology and evolution of spiders in the family *Dictynidae*, which are generally small and brown and have been given very little scientific attention historically. Despite the lack of attention, this is an enigmatic group with a wide range of fascinating ecologies and behaviors, and recent genetic studies of the group have laid the groundwork for further morphological investigation. Amin is also a talented artist and leverages his knowledge of biology for speculative anatomy and creature design.



DEPARTMENT OF BIOLOGY (MARINE)

BERENICE BACA-CEBALLOS

LAKESIDE FOUNDATION SCHOLAR

Berenice is fascinated by the diversity and beauty of developmental stages. As an undergraduate, she was the first to rear brooding sea star embryos in the genus *Leptasterias* through hatching and juvenile development, while discovering variation in timing of hatching, potentially related to maternal care. This tour de force earned her several awards and will be the basis for her Master's research exploring the impact of environmental variables on reproductive patterns in marine organisms. Berenice is gaining specialized training through the University of Washington's Larval Ecology course and the Comparative Embryology course at the University of São Paulo. As a first-generation college student, she aims to gain a PhD while pursuing her interests in developmental biology, ecology, and evolutionary biology.



**DEPARTMENT OF BIOLOGY
(CELLULAR & MOLECULAR)**

**MARIAH ANGEL CUYSON
ARCS FOUNDATION SCHOLAR**

Mariah is a first-generation graduate student interested in researching the link between the ecology of emerging infectious diseases and public health. Her interest in studying vector-borne diseases sparked as an undergraduate research assistant in Dr. Andrea Swei's lab at San Francisco State University. Continuing her research as a master's student in the Swei lab, Mariah's project will focus on the impact of host blood meal identity on tick microbiomes by developing a multi-species analysis on small mammals and reptiles. Mariah also currently serves as the NSF/CSU Louis Stokes Alliance for Minority Participation (LSAMP) Program Administrator at SFSU, which aims to financially support undergraduates from underrepresented and disadvantaged backgrounds majoring in STEM. Outside of the lab, another passion of Mariah's is music, and you can often find her playing the electric guitar and singing her heart out.



**DEPARTMENT OF BIOLOGY
(MARINE & ESTUARINE)**

ANTHONY DONAHUE

JOAN D. McCAULEY ENDOWMENT FUND SCHOLAR

Anthony gained extensive experience in aquaculture of aquatic organisms, including the endangered Delta Smelt and threatened Longfin Smelt, while working at the UC Davis Fish Conservation and Cultivation lab as a fish culturist, and has worked at UC Berkeley in a lab assisting with Zebrafish husbandry. His current plan is to pursue a PhD in Marine Biology or Biological Oceanography, and his thesis project includes studying the variability in the natural diets of the larval stages of native and non-native fishes across restoring wetlands of the San Francisco Estuary, using next-generation DNA sequencing. In a prior life, Anthony was a sommelier, and he has extensive knowledge of a wide variety of wines.



DEPARTMENT OF BIOLOGY (CELLULAR & MOLECULAR)

ALYSSA ESTRADA

ARCS FOUNDATION SCHOLAR

Alyssa has been conducting her research activities in the Amagata lab. Alyssa's project is to isolate and characterize the organic compounds from marine sediment-derived Actinomycete bacteria strain *Streptomyces* sp. CP55-76, which was chosen for further investigation for its significant cytotoxic-selectivity towards prostate cancer, using a cancer-cell based disk diffusion assay. The goal is to discover a new prostate cancer drug that will allow the focus on the elimination of human cancer cells instead of including normal cells, and bring more understanding of what new cancer compounds we can discover from their organic compounds, while evaluating how effective these are as anticancer agents.



DEPARTMENT OF BIOLOGY (INTEGRATIVE)

CAROLINE FAIRCLOTH

SHELAGH ROHLEN SCHOLAR

Caroline is interested in studying the intersection of disease ecology and conservation biology. She is working on a project using a bioinformatics approach to study the transcriptional response to infection with the parasite *Leucocytozoon* in barn owls. After earning her master's degree, she intends to pursue a PhD studying the immune physiology of fruit bats of genus *Pteropus*, with the intention of developing strategies to simultaneously protect bats from anthropogenic disruption and prevent future zoonotic spillover events. Currently, she works in the Animal Care Facility at SFSU. In her free time, she enjoys crochet and knitting.



DEPARTMENT OF PHYSICS & ASTRONOMY

KAMERON GAUSLING

ARCS FOUNDATION SCHOLAR

As an undergraduate at the University of Illinois at Urbana-Champaign, Kameron was part of the UIUC Astronomical Society and the Dobro Slovo (Slavic National Honor Society). His interest in both languages and astronomy continue at SFSU where he is currently investigating the behavior of the atmospheres of slowly rotating stars using the EXPRES spectrograph on the Lowell Discovery Telescope in Arizona. By looking at the velocity broadening of such stars, he will generate an empirical relationship between macroturbulent broadening and effective temperature that is calibrated for the EXPRES spectrograph.



DEPARTMENT OF MATHEMATICS

JASON MEINTJES

DEVLIN FAMILY ENDOWMENT FUND SCHOLAR

Jason's particular interest is in algebraic geometry, and he is currently working on a thesis project on the moduli space of curves, which has been widely studied by mathematicians due to its applicability to diverse research areas within mathematics as well as in theoretical physics. The goal of this research is to give a concrete and accessible presentation of recent results that describe the moduli space explicitly.



Prior to his academic career, Jason was a successful professional musician in his home country of South Africa. He moved with his wife and daughter to the U.S. in his late twenties and supported himself as a professional photographer while returning to school. Outside of school, some of Jason's hobbies are running and rock-climbing; his favorite climbing partner is his daughter.

DEPARTMENT OF CHEMISTRY (BIOCHEMISTRY)

MILANA MEYER

ROBERT LANSDON TRUST SCHOLAR

Milana is a passionate and dedicated individual with a strong interest in the field of Chemistry and a genuine curiosity for subjects like Quantum Mechanics and Solid-State Physics. As a non-traditional student, she has demonstrated significant academic rigor and is very excited to actively participate in research. Currently, she is working with Professor Ichimura on the analysis of lunar soils and soil analogues by ferromagnetic resonance spectroscopy (FMR) to better understand the effects of space weathering. Outside of academic activities, Milana enjoys a consistent yoga practice and hiking the beautiful natural parks of Northern California.



DEPARTMENT OF BIOLOGY (INTEGRATIVE)

KIRA MILLER

NORDSTROM STORES ENDOWMENT FUND SCHOLAR

Kira combines her interests in ecology with her love of the mountains by studying amphibians in the Sierra Nevada. Her current research investigates the interactions between the amphibian skin microbiome and the amphibian chytrid fungus, *Batrachochytrium dendrobatidis*, across two frog species with differing susceptibilities. She strives to contribute to a more holistic understanding of disease resilience across systems and aid in the conservation of threatened species. Kira works as a graduate teaching assistant at SF State, where she enjoys getting students excited about biology. Outside of research, Kira enjoys the outdoors, traveling, and trying out fun recipes.



DEPARTMENT OF CHEMISTRY

DEVIN SIMBOL

ARCS FOUNDATION SCHOLAR

Devin's research project in Dr. Taro Amagata's research group focuses on discovering next generation anti-cancer drug candidates from marine-derived actinomycetes. As part of this program, Devin has been investigating secondary metabolites produced by the actinomycete *Streptomyces* sp. CP59-55. This strain produces compounds with excellent selective cytotoxic effects against a prostate cancer cell line. In his free time, Devin enjoys painting portraits and climbing rocks.



**DEPARTMENT OF BIOLOGY
(INTEGRATIVE)**

ALICE TRUONG

LISA & DEREK KIRKLAND SCHOLAR

Alice is the first in her family to attend graduate school. Her research in Dr. Andrea Swei's Tick-Borne Disease Ecology lab focuses on studying the effectiveness of a novel, reservoir-host targeted orally administered vaccine for Lyme disease against two regional strains of *Borrelia burgdorferi*, the pathogen that causes Lyme disease. She has multiple years of experience working in lab as an undergraduate research assistant at the University of the Pacific and as a field sampler for The Wine Group. She enjoys teaching and has mentored and taught various students in classes such as General Biology and Infectious Disease Ecology. Outside of research, Alice also enjoys volunteering at Infinitycares, a hospice located in Stockton, CA, where she calls her patients and their families weekly for wellness checks, and monthly for grief support. She also enjoys dog training, embroidery, and cooking.



STANFORD UNIVERSITY

PhD Program Scholars
Department of Applied Physics
Department of Bioengineering
Department of Biology
Department of Biophysics
Department of Chemical Engineering
Department of Chemistry
Department of Electrical Engineering
Department of Geophysics
Department of Mathematics
Department of Mechanical Engineering
Department of Physics

DEPARTMENT OF BIOPHYSICS

SCOTT EVAN BERGER

ARCS FOUNDATION SCHOLAR

Scott studies vertebrate DNA replication initiation using emerging single molecule microscopy techniques and *Xenopus* egg extracts. He is also exploring DNA replication initiation in choanoflagellates, which are abundant unicellular marine eukaryotes, through an independent project funded by the research nonprofit New Science. Scott is dedicated to mentoring young scientists and has been involved with the Stanford FAST program since 2021. Outside of the lab, you will most likely catch him reading up on world history or taking macro photos of insects.



DEPARTMENT OF CHEMICAL ENGINEERING

LUCIA BRUNEL

KIMBALL FOUNDATION SCHOLAR

Lucia Brunel obtained a B.S. and M.S. in Chemical Engineering from Northwestern University in 2018 and an M.Phil. in Materials Science from the University of Cambridge in 2019. At Stanford, her research focuses on the design of hydrogels that provide biological and mechanical cues to encapsulated living cells. She is especially interested in the application of these materials as bioinks for 3D bioprinting. Outside of the lab, Lucia is active on the executive boards of the Stanford Polymer Collective and the Graduate Society of Women Engineers.



DEPARTMENT OF BIOLOGY

MALLORY HARRIS

BARBARA GLYNN SCHOLAR

Mallory studies how human behavior shapes infectious disease transmission. She uses quantitative methods to understand how infectious diseases spread through populations with social divisions, predict how climate change will affect malaria burden, and characterize sources of health misinformation. She earned her B.A. in Mathematics and Computational Biology from the University of Georgia, where she conducted research on predicting vector-borne disease outbreaks. As the co-president of Scientists Speak Up, she organizes seminars and workshops on communication and advocacy about scientific topics.



DEPARTMENT OF MECHANICAL ENGINEERING

RIANNA JITOSHO

ELIZABETH & CLARK CALLANDER SCHOLAR

Rianna's research interests include planning and controls, soft robotics, and mobile systems. Her current work focuses on leveraging reinforcement learning to enable autonomous agile maneuvers for soft robot arms. The work emphasizes the application of theoretical contributions to physical hardware. Outside of her academic pursuits, Rianna has gained industry experience at organizations including Jet Propulsion Laboratory and Honda Research Institute. In her free time, she enjoys outdoor activities and culinary adventures.



DEPARTMENT OF MATHEMATICS

MATT LARSON

RHODA GOLDMAN MEMORIAL SCHOLAR

Matt studies combinatorial algebraic geometry, which applies tools from algebraic geometry to combinatorial problems. Many combinatorial problems, especially those related to a particular type of combinatorial object called a matroid, can only be understood by constructing an algebraic variety associated to a matroid and applying a deep theorem from algebraic geometry. Matt's work involves understanding the geometry of those varieties. Matt is involved in mentoring undergraduates through the directed reading program. Outside of work, Matt enjoys road biking and he is an international master of chess.



DEPARTMENT OF CHEMISTRY

ANNA MAKAR-LIMANOV

ARCS STANFORD GRADUATE FELLOW

Anna is passionate about using chemistry to help tackle sustainability challenges. She is working on developing new resins for CLIP-3D printing to produce chemically recyclable materials. Anna received her B.A. magna cum laude with distinction in Chemistry and Mathematics from Amherst College, where she worked on metal alkoxide initiators for the ring-opening polymerization of cyclic esters. She was a Center for Sustainable Polymers Summer Undergraduate Fellow at University of Minnesota, Twin Cities. Outside of the lab, Anna enjoys singing in choirs, knitting, hiking, and listening to podcasts.



DEPARTMENT OF BIOENGINEERING

CALLAN MONETTE

DANA & ROBERT EMERY SCHOLAR

As part of Dr. Fan Yang's lab, Callan works to develop 3D tissue engineered models of the bone cancer Osteosarcoma, seeking to screen and identify novel cancer therapies. Outside of the lab, Callan is also a passionate educator. She works for the Stanford Center for Teaching and Learning as a Graduate Teaching Consultant, providing training and professional development to graduate TAs. Furthermore, she co-designed a novel pedagogy-focused course that seeks to develop inclusive teaching, mentorship, and communication skills among Bioengineering graduate students.



DEPARTMENT OF PHYSICS

NICHOLAS O'DEA

ARCS FOUNDATION SCHOLAR

Nick is interested in quantum non-equilibrium dynamics with research investigating scarred eigenstates, slow dynamics in the presence of rapid driving, and absorbing state transitions in quantum circuits. At Stanford, he received the Physics Department's Paul Kirkpatrick Award recognizing commitment to teaching. Nick enjoys reading and is an active member of four different book clubs.



DEPARTMENT OF APPLIED PHYSICS

ALEC SHELLEY

JANE FULLER GILLESPIE MEMORIAL SCHOLAR

Alec is a gregarious student who loves cooking, teaching, and chess. He has a broad interest in physics and math, and he is always eager to learn something new. He was elected president of the graduate students of applied physics and physics at Stanford, where he leads social and outreach events. He was admitted to UC Berkeley at age 14, and graduated magna cum laude with a physics and applied math double major. He has researched sea level rise, condensed matter physics, and atomic physics, and is currently interested in how fluctuations and noise can be used to predict the behavior of solids.



DEPARTMENT OF ELECTRICAL ENGINEERING

RICHELLE SMITH

WILLIAM K. BOWES, JR. FOUNDATION SCHOLAR

Richelle's research interests include energy-efficient systems, analog and radio-frequency integrated circuit design, oscillators, wireline transceivers, and brain-inspired computing. Her current projects include high-speed, energy-efficient modulation schemes for digital communications. Lowering the power consumption of the computer chips and transceivers that handle our communication traffic will reduce our carbon footprint on the planet. In addition to addressing computing's energy overhead from communications, Richelle's research also seeks to reduce the energy from computing operations by rethinking the architecture and circuits. Richelle has held internship positions at Linear Technology, Rambus Labs, Stanford Brains in Silicon Lab, and TDK-InvenSense. Outside of research, she enjoys horseback riding/horse polo, playing electric guitar/bass, and growing carnivorous plants.



DEPARTMENT OF GEOPHYSICS

PAUL SUMMERS

KIMBALL FOUNDATION SCHOLAR

Paul is working with the Thwaites Interdisciplinary Margin Evolution group focusing on numerical modeling of the physical processes governing Antarctic shear margins, with special focus on Thwaites Glacier. He also works with the Stanford Radio Glaciology group on resolving thermal anomalies in ice. Paul's research interests focus on data model integration in the cryosphere. He is a mentor to undergraduate researchers and passionate about making glaciology more accessible for rising scientists. He also enjoys running, climbing, and sewing in his free time.



UNIVERSITY OF CALIFORNIA, BERKELEY

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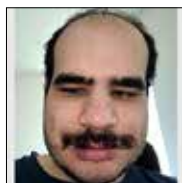
PhD Program Scholars
Department of Applied Science & Technology
Department of Computer Science
Department of Earth & Planetary Science
Department of Electrical Engineering & Computer Science
Department of Environmental Science, Policy & Management
Department of Integrative Biology
Department of Mathematics
Department of Metabolic Biology
Department of Molecular & Cell Biology
Department of Nuclear Engineering

DEPARTMENT OF MATHEMATICS

AHMAD ABASSI

ARCS FOUNDATION SCHOLAR

Ahmad completed a double bachelor's degree in Computer Engineering and Mathematics and a master's degree in Electrical Engineering from the Technion in Israel. His current research focus is on moving boundary problems in fluid mechanics using high-performance computing and asymptotic expansion methods. In addition to his studies, Ahmad is a passionate educator with four years of teaching experience at the Technion and UC Berkeley, has years of work experience in the life sciences, and is interested in linguistics and world cultures.



DEPARTMENT OF INTEGRATIVE BIOLOGY

JACQUELYN GALVEZ

SUSAN & JIM ACQUISTAPACE SCHOLAR

JULIE & TOM REIS SCHOLAR

Jackie is a native of sunny southern California, where she grew up fishing in the highly diverse watersheds around the Golden State. Her current research in the Functional Anatomy and Vertebrate Evolution Laboratory focuses on the skeletal changes in freshwater fish populations that relate to varying migratory behaviors, food preferences, and seasonal changes. Her current study animals include cichlids, trouts, and chars. Jackie is passionate about community building and public outreach, and has worked tirelessly to organize and lead community events in her department and the Museum of Vertebrate Zoology on the UC Berkeley campus.



DEPARTMENT OF MOLECULAR & CELL BIOLOGY **CYNTHIA “ABBY” HARRIS**
RHODA GOLDMAN MEMORIAL SCHOLAR

Ferroptosis is an iron-dependent type of cell death that results from the accumulation of reactive lipid peroxides. Abby is looking into elucidating the participation of copper and potentially other redox-active metals in ferroptosis, with the aim of expanding our understanding of its mechanism and allowing the development of new ways to induce ferroptotic cell death in cancer and other disorders. She pursued another side of cancer research as an intern at Genentech, where she worked on identifying novel drug targets.



DEPARTMENT OF ELECTRICAL ENGINEERING **LOGAN HOROWITZ**
& COMPUTER SCIENCE DIANA & STEVE STRANDBERG SCHOLAR

Logan is interested in working on novel power converter design, focusing on applications in renewables integration and implementation. Commercial air travel accounts for a large proportion of pollution and wasted energy all over the world, but new technologies are emerging which have enabled hybrid aircraft. Logan’s project focuses on the design optimizations required for a high-power-density, high-efficiency, high-frequency electric drivetrain.



DEPARTMENT OF INTEGRATIVE BIOLOGY **LOURENÇO MARTINS**
VENETTA & JOHN ROHAL SCHOLAR
VANESSA & THOMAS WHITFIELD SCHOLAR

From a young age Lourenço always knew he wanted to be a biologist, having spent his childhood chasing after the bugs in his family’s backyard garden. He is interested in understanding how some species can have a vast species distribution; how one genome is able to cope with vastly different environmental factors like climate. At UC Berkeley, he is using genomics to study the evolution of cold tolerance in the willow leaf beetle, *Chrysomela aeneicollis*, whose species distribution ranges from the California coast to the Canadian Rockies. As an immigrant and first-generation college student, Lourenço strives to make the science community more accessible and inclusive to people of all identities.



DEPARTMENT OF MOLECULAR & CELL BIOLOGY

MARIA MCSHARRY

MARION COPE SCHOLAR

Maria's research in Dr. Liana Lareau's lab leverages genetic engineering in budding yeast to better understand how synonymous codon choice impacts protein output. In addition to her lab work, Maria engages the wider community in science: she has a track record of volunteering in K-12 schools as a science fair judge and as a Bay Area Scientists in Schools volunteer. She is a contributing author at GeneBites, in line with her aspiration of making cutting-edge science accessible to a wider audience.



DEPARTMENT OF COMPUTER SCIENCE

REESAB PATHAK

ARCS FOUNDATION SCHOLAR

Reese's current areas of interest include distributed and non-convex optimization problems as well as the estimation problems with deep ties to applied probability, such as matrix completion and community detection. Recently he has been working on algorithms for distributed optimization in large networks. These types of problems arise in many modern applications of statistical learning.



DEPARTMENT OF NUCLEAR ENGINEERING

ROBIN PETER

RAMSAY FAMILY FOUNDATION SCHOLAR

Robin is pursuing research at the intersection of particle physics, quantitative biology, and humanitarian application. She is currently involved in projects in medical imaging, radiation detection, and radiation therapy. Her multidisciplinary interests stem from an eclectic mix of past research endeavors: memory device simulation with IBM Research, construction of a spark chamber, and studies in cuttlefish camouflage.



DEPARTMENT OF EARTH & PLANETARY SCIENCE

MARA REED

NANCY MUELLER SCHOLAR

Geyser study has important implications for volcanology, mineral exploration, and the search for life's origins. Mara's research seeks to understand the factors that influence geyser eruption timing and to apply lessons learned from geyser study to volcanology. She is passionate about integrating the public into monitoring efforts and volunteers as a scientific advisor for GeyserTimes, a crowdsourced database of geyser observations. When she's not thinking about geysers, Mara dabbles in cave photography and especially enjoys organizing beginner trips for Bay Area caving clubs.



**DEPARTMENT OF ENVIRONMENTAL SCIENCE,
POLICY & MANAGEMENT**

SOPHIE RUEHR

DOLORES & MIKE McMULLEN SCHOLAR

Sophie's graduate work is focused on the ecosystem-scale dynamics of water cycling. Using data from satellites, she studies the links between the carbon and water cycles over space and time to better understand how the terrestrial land sink may respond to climate extremes in the future. Her research has implications for both sustainable water management and predicting future climate change.



DEPARTMENT OF APPLIED SCIENCE & TECHNOLOGY

COOPER SELCO

ARCS FOUNDATION SCHOLAR

During his undergraduate education, Cooper did research in experimental quantum science, published several papers related to this research in well-known journals and presented them at leading conferences. He also won various awards and many internal fellowships from his university (USC). In his graduate work at UC Berkeley, Cooper is interested in performing research related to quantum sensing and nanoscale spin dynamics. Outside of research, Cooper enjoys both playing and watching sports such as basketball, soccer, and Formula One.



DEPARTMENT OF METABOLIC BIOLOGY

RACHELLE STARK

ARCS FOUNDATION SCHOLAR

As an undergraduate at UCLA, Rachelle utilized murine models to study the molecular mechanisms behind Duchenne muscular dystrophy, a severe muscle wasting disease. Additionally, she participated in a summer research internship in Dr. Jicheng Gong's lab at Peking University in Beijing, China, where she performed experiments to detect biomarkers of recurrent lung adenocarcinoma. Rachelle enjoyed her molecular biology education but is also intrigued by the relationship between diet and disease, and therefore chose to pursue a PhD in Metabolic Biology.



UNIVERSITY OF CALIFORNIA, DAVIS

SCHOLARS

PhD Program Scholars
Animal Behavior Graduate Group
Department of Computer Science
Department of Biomedical Engineering
Department of Chemistry
Department of Earth & Planetary Sciences
Department of Molecular, Cellular & Integrative Physiology
Department of Pharmacology & Toxicology
Department of Soils & Biogeochemistry
Ecology Graduate Group
Geology Graduate Group
Integrative Pathobiology
Neuroscience Graduate Group
Population Biology Graduate Group

POPULATION BIOLOGY GRADUATE GROUP

JONATHAN AGUIÑAGA

MONTGOMERY ST. FOUNDATION ENDOWMENT FUND SCHOLAR

Jon is a first-generation Mexican American who believes education is his key to a better future. He is broadly interested in understanding how animals, including humans, process information from their environments to make decisions. In his dissertation work, he aims to understand how single-species animal groups vary in behavior from mixed-species groups. To assess between-species differences, he must first quantify the level of within-species variation in behavior. Currently, he investigates for within- and between-species differences in foraging, exploration, and antipredator behavior in two poeciliid fish. In working towards this goal, Jon has also mentored four undergraduates and five high school students in behavioral experimentation. Outside of academia, he spends much of his time photographing nature, cooking, gardening, and playing with his dog.



DEPARTMENT OF CHEMISTRY

AMANDA CACERES

ARCS FOUNDATION SCHOLAR

Amanda is researching the link between iron misregulation and diabetes. Although correlations are documented between iron-associated phenotypes and diabetes, reports remain observational with little insight into the pathways and factors underlying these links. Her long-term research goals involve leveraging in vivo disease models coupled to multi-omics data to understand disease pathogenesis. Of particular interest to her are diseases that disproportionately affect women and communities of color; especially given that both groups experience lower quality healthcare and worse health outcomes. Outside of the laboratory Amanda serves as Chair of the Chemistry Graduate Student Association. She is also involved in outreach activities, including STEM for Girls, an outreach event that engages minority students in underserved communities.



ANIMAL BEHAVIOR GRADUATE GROUP

CASSIDY COOPER
ARCS FOUNDATION SCHOLAR

Cassidy completed her B.S. and M.S. in Dr. John Eme’s comparative physiology lab at CSU San Marcos, where she published two first-author papers while engaging in teaching and lab-based mentorship. At UC Davis she is working with Dr. Nann Fangue to complete an integrative dissertation assessing physiology and behavior of California native fishes. Cassidy’s research is grounded in conservation, and is readily used by decision-making bodies such as the California State Water Resources Control Board. Cassidy is an editor for The Ethogram (the official science communication platform of Animal Behavior at UC Davis) and their middle-school outreach team. Recently, she collaboratively developed a series of public resources to foster student interest in STEM and make animal behavior science more broadly accessible. Through this and her involvement with the Animal Behavior Diversity and Inclusion Committee, Cassidy upholds a strong commitment to mentorship, training, and collaborative and inclusive science.



DEPARTMENT OF SOILS & BIOGEOCHEMISTRY

JANE FUDYMA
ARCS FOUNDATION SCHOLAR

Jane is researching soil viral ecology in natural systems. More specifically, her research focuses on understanding the fate and transport of viruses in complex soil matrices, how the heterogeneity of soil and viruses can dictate where a virus can move, and how these properties affect small scale ecological processes. Before graduate school, she received her B.S. in General Science from Seattle University, spent nearly five years working in mining bioremediation, and spent two years in academia in an environmental metabolomics lab. Jane loves fieldwork and works as an instructor for UC undergraduates to teach field methods, safety, and introduce students to outdoor experiences. In her spare time, she enjoys attending live music, camping, and skiing.



INTEGRATIVE PATHOBIOLOGY

CARISSA GARRITY

NORDSTROM STORES ENDOWMENT FUND SCHOLAR

Carissa is finishing the fourth year of her graduate studies in the lab of Dr. Natalia Vapniarsky. Her research project focuses on musculoskeletal biology and regeneration with specific focus on cartilage tissue engineering. Carissa is the first in her family to pursue a graduate degree and came to the program after completing a bachelor's degree in animal science. Her heart is with rural communities and Aggs in the area. She has done lots of volunteer work to support and communicate recent scientific advances to these communities.



GEOLOGY GRADUATE GROUP

ELIZABETH GRANT

ARCS FOUNDATION SCHOLAR

Elizabeth studies magma assembly and storage timescales at volcanoes in New Zealand. She uses a suite of geochemical tools, including radioisotope chemistry, to understand the timescales on which these large eruptions are built prior to eruption. Most recently she spent a year working with the U.S.G.S. conducting phase equilibrium experiments to determine the pressure and temperature conditions at which caldera-forming magmas are stored in the crust. Elizabeth is a native of Seattle and obtained her B.S. in geology at the University of Washington. Outside of academia she enjoys dance, theatre, and music.



DEPARTMENT OF CHEMISTRY

MOHAMMED HASHEMIAN

ARCS FOUNDATION SCHOLAR

Mo's research pertains to the human DNA repair enzyme, MUTYH, which plays a critical role in repairing DNA damage and is associated with an increased predisposition to cancer when dysfunctional. His work focuses on characterizing the structural and biochemical features of inherited variants of MUTYH, and how they may be implicated in dysfunction and disease.



ECOLOGY GRADUATE GROUP

MACALL HOCK

MARY ANN PEOPLES SCHOLAR

Macall graduated with a B.S in chemical and biological engineering from Colorado State University. After working for a few years as an environmental consultant, she started graduate school to pursue her interests in researching climate change in the Arctic. Always interested in aquatic chemistry, she is focusing her doctoral work on examining the effects of a warming Arctic ecosystem on stream carbon cycling in northern Alaska. Her project aims to quantify carbon transport across the tundra from drainage streams and determine how various landscape types and permafrost states might influence or control carbon fluxes. In her career, she hopes to work bridging Arctic research with Arctic conservation. In her spare time, Macall enjoys spending time outside with her two dogs and practicing yoga.



DEPARTMENT OF COMPUTER SCIENCE

DOREEN JOSEPH

AGILENT TECHNOLOGIES SCHOLAR

Doreen was the first Black Woman to earn a B.S. in Cyber Security Engineering from George Mason University. Broadly defined, her research interests include firmware security, applications of machine learning in cyber security, securing the Internet of Things (IoT), and the design of cyber-resilient systems. At UC Davis, she is pursuing research in firmware binary security analysis for embedded systems. As an active student leader, she serves on the Chancellor’s Graduate and Professional Student Advisory Board, and leads in student organizations like the Black Graduate and Professional Student Association, and the Graduate Scholars of Color+ organization. Doreen is committed to public service and is eager to empower students who are underrepresented and marginalized in STEM. She aims to be a global advocate for accessible, inclusive, and equitable high-quality education for all. In her free time, she enjoys learning new skills, reading, traveling, exploring nature, and exercising.



DEPARTMENT OF EARTH & PLANETARY SCIENCES

SARAH KING

ARCS FOUNDATION SCHOLAR

Sarah is passionate about the ecology of extreme ecosystems and planetary habitability. She is developing mathematical models to quantify the mechanisms that drive the spatial self-organization of benthic microbial mats in Antarctic lakes. Through this, she aims to better understand microbial ecology and how these communities are responding to climate change. Sarah is interested in 3D visualization and virtual reality as a research and educational tool and has developed an interactive reconstruction of Mars to teach planetary geology to over 800 students. Outside of research, Sarah enjoys cultivating fungi and a variety of heirloom tomatoes.



NEUROSCIENCE GRADUATE GROUP

QUIMBY LEE

BARBARA A. WOLFE SCHOLAR

As a neuroengineer, Quimby's goal is to promote positive outcomes from neurodevelopmental diagnoses by developing accessible neuroimaging tools to better understand and characterize human brain development and its heterogeneous disorders. Her current project optimizes an accessible resting-state functional MRI metric of cerebrovascular function for pediatric populations and evaluates whether changes in cerebrovascular function may explain brain network and behavior differences in autistic compared to typical development.



ANIMAL BEHAVIOR GRADUATE GROUP

MEREDITH LUTZ

MARIE & BARRY LIPMAN SCHOLAR

Meredith's research examines how animal societies respond to environmental change over multiple temporal and spatial scales. Since 2015, she has conducted a long-term comparative study on lemur social behavior in the Maromizaha Protected Area, in collaboration with local managers, scientists, guides, and graduate students from the University of Antananarivo. To complement her field research, she is also undertaking a phylogenetic comparative analysis to explore the range of documented behavioral flexibility across primates. Meredith is also part of the inaugural cohort of the Future Undergraduate Science Educators program. Meredith is passionate about providing opportunities for undergraduates to get involved in research, by mentoring six students on their senior theses and co-leading a team of 226 additional interns in the phylogenetic comparative analysis of behavioral flexibility.



DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY **MARIA ANGELICA MUÑOZ**
ARCS FOUNDATION SCHOLAR

Maria's research interests include the mechanisms by which organophosphate pesticides and nerve agents cause neurotoxicity, and leveraging this information to develop more effective therapeutic strategies to reduce chronic adverse neurological outcomes in individuals who survive acute poisoning with these neurotoxic chemicals. Currently she is working to develop a pediatric model of organophosphate intoxication. Maria has been involved in recruitment activities for her graduate program in Pharmacology and Toxicology, and will continue participating in this service activity during the academic year. Outside the laboratory, Maria enjoys running, trying new foods and visiting coffee shops.



ECOLOGY GRADUATE GROUP **JULIA OWEN**
EILEEN D. & LISA C. LUDWIG ENDOWMENT FUND SCHOLAR

Julia studies the evolution and ecology of wildlife using genetic and genomic tools. She recently published a study using DNA from scats to identify individual bears and estimate their abundance in the Tahoe Basin. Her current research uses whole genome sequencing to illuminate the evolutionary history of the spotted skunk species complex. Julia has been awarded several fellowships/scholarships and has presented her research at multiple national and regional conferences. She is committed to helping other first-generation college students and other underserved populations, and recently received an Outstanding Teaching Assistant Award. Julia enjoys running and is currently training to run the California International Marathon.



DEPARTMENT OF BIOMEDICAL ENGINEERING **TYLER SINGER-CLARK**
KATHERINE HELLMAN BLACK ENDOWMENT FUND SCHOLAR

Tyler graduated from MIT with a degree in Computer Science and Engineering. After five years in industry developing business software with the startup MaestroQA, he joined the BrainGate research team at Brown University as a Research Engineer, with a focus on delivering an intracortical brain-computer interface (iBCI) that can be used continuously by a paralyzed user in their own home to control their personal computing devices. Transitioning to speech iBCI in particular, he joined the UC Davis Neuroprosthetics Lab as a part-time Research Engineer and then as a full-time Biomedical Engineering PhD student in Spring 2023. His current project attempts to decode attempted tongue movements from neural activity in the brain in order to control a computer cursor, and eventually an artificial (software) vocal tract to create a speech neuroprosthetic device. In addition to enjoying just about every sport, Tyler enjoys playing and reading about chess.



INTEGRATIVE PATHOBIOLOGY **DEVINN SINNOTT**
MARCIA & MAX MESSMER SCHOLAR

Devin received her B.A. in Pre-Professional Zoology from Ohio Wesleyan University in 2013 and her DVM (summa cum laude) from the Ohio State University College of Veterinary Medicine in 2017. In veterinary school she developed an interest in wildlife diseases and parasitology through her research investigating protozoal pathogens in wild canids. She completed a residency in Anatomic Pathology with an emphasis on zoo/wildlife pathology through the UC Davis School of Veterinary Medicine and the San Diego Zoo and became a Diplomate of the American College of Veterinary Pathology in 2021. Devin's PhD research project involves investigating relationships between genetic types of *Sarcocystis neurona* and fatal infections in southern sea otters in California.



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**DEPARTMENT OF MOLECULAR, CELLULAR
& INTEGRATIVE PHYSIOLOGY**

ROSS WOHLGEMUTH
JILL H. KRAMER SCHOLAR

Ross joined Dr. Lucas Smith’s lab in March 2020 as one of his first PhD students. While the pandemic made it difficult for him to get started in the lab, he has shown great curiosity for skeletal muscle physiology research. Ross has learned and utilized multiple techniques with the Smith lab, which has led to multiple publications including one as first author. His PhD research project aims to identify the architectural changes to the skeletal muscle ECM that occur in disease and elucidate impact of these architectural changes to muscle biomechanical function. In addition to his research success, Ross is a big proponent of the lab’s social events outside of work, including intramural volleyball and happy hour celebrations.



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PhD Program Scholars
Department of Cognitive & Information Sciences
Department of Environmental Systems
Department of Physics

DEPARTMENT OF ENVIRONMENTAL SYSTEMS

HOPE HAUPTMAN

DANAHER FOUNDATION SCHOLAR

Hope's research centers around 1,2,3-Trichloropropane (TCP) a suspected legacy contaminant and probable human carcinogen that contaminates thousands of wells in the United States, Europe, and Asia. Hope aims for clean drinking water for all. She uses machine learning to predict TCP levels in groundwater and will evaluate household treatments and almond-based carbon to remove TCP from drinking water. She has published a systematic review of TCP treatment technologies and a policy paper. She taught high school science for ten+ years and was a U.S. Peace Corps volunteer in Kenya. Hope volunteers at a community garden and pantry to provide fresh produce for those in need.



DEPARTMENT OF COGNITIVE & INFORMATION SCIENCES

ZUNAIRA IQBAL

GEORGIANA DUCAS ENDOWMENT FUND SCHOLAR

Zunaira graduated from UC Davis with a B.S. in Psychology with an emphasis in biology. Inspired by her undergraduate work in cognitive neurolinguistics, Zunaira's research passion is at the intersection of bilingual language processing and neurobiology. Currently, her work looks at understanding how Spanish-English bilingual phonetic representations differ from English monolinguals, through both behavioral and EEG experiments. She is part of UC Merced's NSF Research Traineeship (NRT) Program, through which she has received several fellowships. Outside of research, Zunaira enjoys watching movies, journaling, art, and taking care of her house plants.



DEPARTMENT OF PHYSICS

ARABI SESHAPPAN

AGILENT TECHNOLOGIES SCHOLAR

A high school dropout and community college transfer, Arabi obtained her B.S. in Chemistry from UCLA. Following this, she was a Bridge to Doctorate Fellow at California State University, Los Angeles, where she realized her passion lied in physics. In the UC Merced graduate program, she studies the physics of materials through computational modeling methods. Potential applications of this work include building better solar cell materials or qubits for quantum computing. Additionally, Arabi is highly passionate about increasing diversity in academia; she has been elected to the Graduate Dean's Advisory Committee on Diversity (GDACD) twice, and she serves as a graduate mentor for the Undergraduate Research Opportunities Center (UROC) on campus. In her spare time, Arabi rides horses and has three dogs.



DEPARTMENT OF PHYSICS

ALAUNA WHEELER

CHRIS SIMPSON BRENT & BRUCE BRENT SCHOLAR
IN MEMORY OF DOROTHY LEWIS SIMPSON

A PhD candidate and mother to two young children, Alauna's research interests include soft matter and self-assembly of biological systems. Her current projects include a study of the self-assembly of nanoparticles in a liquid crystal solvent undergoing a phase transition, self-assembly of the COVID viral particle, and the effect of e-cigarette chemical additives on lung surfactants. She also recently published a collaborative paper on the structure of electrosensory gels in cartilaginous fishes. She is the recipient of many honors and awards, including the 2020-2021 Outstanding Physics TA Award. Pre-PhD, Alauna spent 3+ years as a rocket propulsion and testing engineer. Her current outreach focuses on conducting hands-on science activities for elementary students using common household items. She is developing an accompanying YouTube channel so kids everywhere can do the activities at home with their adults. She is also a bargaining team member for the UC Student Researcher's Union, negotiating for more equitable working conditions. Alauna enjoys small boat sailing, visiting national and state parks with family, and board games for young children.



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PhD Program Scholars
Departments of Biochemistry & Molecular Biology
Department of Bioengineering
Department of Biomedical Sciences
Department of Chemistry & Chemical Biology
Department of Developmental & Stem Cell Biology
Department of Epidemiology & Translational Science
Department of Neurology
Department of Neuroscience
Department of Pharmaceutical Science & Pharmacogenomics

DEPARTMENT OF NEUROSCIENCE

JESSICA BLUMENFELD

FREDERICK & KATHRYN BARON SCHOLAR

Jessie is interested in understanding the cellular pathways underlying neurodegenerative diseases. She began her studies at MIT, where she majored in bioengineering with a minor in neuroscience. Following graduation, she joined Denali Therapeutics where she assessed the efficacy of therapeutics for various neurodegenerative disorders. Now as a fourth-year neuroscience graduate student at the Gladstone Institutes, Jessie seeks to understand how APOE4 genotypes may differentially drive neuronal vulnerability in Alzheimer's Disease. In particular, she investigates how neuronal MHC-I – an immune factor seemingly regulated by APOE expression – mediates downstream AD pathologies. Beyond lab, Jessie enjoys cooking, traveling, SCUBA diving, and exploring San Francisco.



DEPARTMENTS OF BIOCHEMISTRY & MOLECULAR BIOLOGY

CAMILLE DERDERIAN

DR. & MRS. BERNARD M. KRAMER ENDOWMENT FUND SCHOLAR

Camille found her passion for fundamental biological research as a technician in a neuro-oncology laboratory at Memorial Sloan Kettering Cancer Center. In 2021, she began her graduate studies at UCSF and became fascinated with understanding how cells can build, maintain, and use distinct compartments and structures for cellular communication. Her research focuses on the primary cilium, an evolutionarily ancient signaling organelle, and her thesis work is guided by a deep interest in understanding how the membrane surrounding the cilium serves as a unique environment that contributes to the communication of complex information. Outside of bench work, Camille is dedicated to sharing accessible, empowering, and accurate health and science information to students in her local community.



DEPARTMENT OF BIOMEDICAL SCIENCES

JOSEPH GERMINO

ARCS FOUNDATION SCHOLAR

Joe's research interests center around gaining a better understanding of the mechanisms responsible for regulating the complex interactions of the immune system to prevent uncontrolled immune responses that could be detrimental to the host's health while still maintaining adequate host defense. Joe is also interested in extending his education in computational biology by developing and applying cutting edge bioinformatics tools, particularly in the field of single-cell multiomics, to help answer some of the longstanding questions about immune tolerance alongside traditional wet lab approaches.



DEPARTMENTS OF BIOCHEMISTRY & MOLECULAR BIOLOGY

CHLOE GHENT

MJ WHITEHOUSE, MD & MICHAEL HEFFERNAN SCHOLAR

CHARLIE & JAMIE CAMPBELL SCHOLAR

Chloe is interested in understanding biological processes through a biochemical perspective. She began conducting protein biochemistry research as a lab technician studying chromosome segregation before joining her current graduate lab. Her thesis work focuses on understanding how the regulation of a bacterial antibiotic resistance gene is sensitized to the presence of antibiotic through a protein translation stalling pathway. Combining microbiology, genetics, and biochemical techniques, she hopes to understand the feedback mechanism that controls expression of this pervasive resistance gene. This understanding can potentially help inform the development of new antibiotics which circumvent bacterial resistance mechanisms. Outside of lab, Chloe enjoys dancing, longboarding, and exploring San Francisco.



DEPARTMENT OF BIOMEDICAL SCIENCES

DARWIN KWOK

MICHELE GOSS SCHOLAR

Darwin is a computational cancer immunologist whose research focuses on engineering novel neoantigen discovery pipelines for immunotherapy. In his biomedical engineering and immunology training at Carnegie Mellon and Yale, Darwin developed and published innovative software for investigating immunotherapy-mediated immune infiltration. At UCSF, he addresses the challenges of intratumoral heterogeneity by characterizing tumor-wide splice-derived neoantigen targets across various cancer types and developing vaccine and T-cell-based therapies that target them. Beyond science, Darwin is heavily involved with his student body and outreach as the President of ASGD and the coordinator of UCSF-LSRP, and he enjoys sharing his music with friends as a producer and DJ.



DEPARTMENT OF PHARMACEUTICAL SCIENCES
& PHARMACOGENOMICS

NILSA LA CUNZA

ARCS FOUNDATION SCHOLAR

Nilsa is a biomedical engineer whose research focuses on dissecting molecular mechanisms that regulate retinal pigment epithelium (RPE) health, which is the primary site of injury in age-related macular degeneration (AMD). Using cutting-edge live imaging technology, she has discovered a novel mechanism involving liquid-liquid phase separation that links mitochondrial fragmentation in the RPE with the formation of lipid-protein aggregates called drusen, which are a hallmark of AMD. Nilsa is an executive board member of the UCSF SACNAS chapter, where she is passionate about mentorship and empowering underrepresented minorities to become leaders in STEM. Nilsa enjoys hosting dinner parties, buying plants, and traveling.

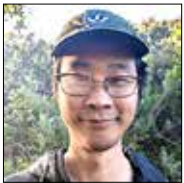


DEPARTMENT OF NEUROLOGY

ALEX JIHUN LEE

ARCS FOUNDATION SCHOLAR

Alex is broadly interested in computational biology and computer science. His background is in bioengineering and neuroscience research, and he received a B.A. in Biology from Vassar College. His thesis work focuses on the use of machine learning to help scientists understand large and complex datasets in biology and biomedicine. Specifically, his current research asks whether new spatial genomics techniques can help us understand the cellular organization of different subregions in the mouse brain and potentially uncover unknown neural circuits. Outside of the lab, Alex enjoys cooking, hiking, and taking care of his succulents.



DEPARTMENT OF NEUROSCIENCE

RACHEL O'SULLIVAN

**BETTY & BRUCE ALBERTS SCHOLAR
LESLIE & GEORGE HUME SCHOLAR**

Rachel majored in biology with a concentration in neuroscience at Williams College. After graduation, she worked at a biotech startup, Kallyope, studying the gut-brain axis and exploring novel cell-types along this axis that could be targeted by therapeutics. Now, at UCSF, she is interested in understanding the heterogeneous circuitry of the ventral hippocampus (vHPC). vHPC sends non-overlapping projections to many downstream brain areas and ultimately promotes the selection of a diverse array of motivated behavioral responses. She wants to identify how these projections differ in terms of the emotionally salient information they encode and the adaptive reactions they promote. Outside of lab, Rachel loves to spend time outdoors, skiing, biking, running, and surfing.



DEPARTMENT OF CHEMISTRY AND CHEMICAL BIOLOGY **SRUTHI RAGUVEER**
ARCS FOUNDATION SCHOLAR

As an undergraduate at Stanford, Sruthi researched the cytotoxic effects of protein-drug conjugates. After graduating, they worked on novel bispecific antibodies at Soteria Biotherapeutics and EpiBiologics. At UCSF, they plan to continue studying the therapeutic applications of proteins and hope to develop cancer immunotherapies in their future career. Outside of research, Sruthi enjoys cooking for their partner and friends, making small leather goods, and playing trivia.



DEPARTMENT OF BIOENGINEERING

DEVIN SCHOEN

**JASON FAMILY FOUNDATION SCHOLAR
SUSIE BOEING SCHOLAR**

Devin is passionate about bridging the realms of physics and medical sciences. With a B.S. in Physics and an M.S. in Medical Physics, she is currently pursuing a PhD as part of a joint program between UC Berkeley and UCSF. Working within UCSF's renowned radiology department, her research focuses on utilizing multi-modal MRI data to develop a machine learning model for predicting outcomes of Deep Brain Stimulation (DBS) in Parkinson's Disease. Committed to the principles of open and reproducible science, Devin also contributes to MRM Highlights magazine, conducting and publishing interviews with magnetic resonance researchers who are driving forward open science initiatives. In her leisure time, Devin enjoys exploring the art of crochet, engaging in stimulating board games, and delving into the history of science.



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**DEPARTMENT OF DEVELOPMENTAL
& STEM CELL BIOLOGY**

LAUREN SHECHTMAN
MERRILL RANDOL SCHOLAR

Lauren discovered her passion for stem cell and developmental biology as a research assistant in the Barlow lab at CU Anschutz, which studies taste receptor cell development and regeneration. At UCSF she aims to further explore the cellular and molecular mechanisms regulating stem cells with the hope of building on these findings in the context of regenerative medicine treatments. As a member of the Roose lab, she plans to investigate epithelial regeneration in the context of the intestinal stem cell niche. Lauren is also passionate about scientific mentoring and teaching. In her free time, she enjoys hiking, volleyball, scuba diving, yoga, and exploring the Bay Area.



**DEPARTMENT OF EPIDEMIOLOGY
& TRANSLATIONAL SCIENCE**

CAROLYN SMITH HUGHES
ALLISON & ANEEL BHUSRI SCHOLAR

Carolyn is passionate about helping to improve experiences of care and clinical outcomes for birthing persons and their infants in the US and around the world. As a survivor of severe intrapartum and postpartum complications and birth trauma, Carolyn focuses on research in the provision of person-centered prenatal, maternity, and postpartum care; the social and clinical causes of hypertensive disorders of pregnancy (HDPs); and strategies to improve outcomes among those who experience HDPs. In her free time, Carolyn enjoys cooking, long walks, reading, and learning about sea creatures with her young son and her husband.



UNIVERSITY OF CALIFORNIA, SANTA CRUZ

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PhD and Master's Programs Scholars
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Department of Environmental Studies
Department of Microbiology & Environmental Toxicology
Department of Molecular, Cell & Developmental Biology
Department of Ocean Sciences
Department of Statistics
Science Communications Master's Program

DEPARTMENT OF OCEAN SCIENCES

ANNE BEULKE

WILDCAT COVE FOUNDATION SCHOLAR

Anne studies heritable traits connected to migration behaviors in Chinook salmon and steelhead, using molecular tools to answer questions about salmon ecology and improve conservation efforts. Prior to graduate school, she completed molecular biology and field ecology research, and then worked as a field biological science technician for the U.S. Forest Service. In Anne's free time she enjoys running, hiking, and biking.



DEPARTMENT OF ASTRONOMY & ASTROPHYSICS

MADELYN BROOME

ARCS FOUNDATION SCHOLAR

Madelyn currently works on exoplanet theory with Ruth Murray-Clay at UC Santa Cruz. She is an American Astronomical Society National Osterbrock Leadership Program Fellow and a UCSC Graduate Pedagogy Fellow, both of which allow her to pursue her lifelong commitment to excite, engage and elevate historically-excluded learners in STEM, especially other Native American students and young women. Passionate about making science accessible, she has written for a variety of publications over the years and currently co-runs the UC's Ask and Astronomer program. When she is not mentoring students, she is coaching them as assistant coach for the UCSC Women's Rugby team.



**DEPARTMENT OF MOLECULAR, CELL
& DEVELOPMENTAL BIOLOGY****AMANDA CARBAJAL
ARCS FOUNDATION SCHOLAR**

Amanda has a passion for biology and a lot of experience; she worked in many unique labs at UCSF for her MS, and has held internships in industry and at NASA. She has published twice, with more pending. As a Latina woman growing up in an underserved community, she overcame many barriers, including socio-economic ones, to pursue science. Currently, her work involves leveraging genetics, molecular modeling, medicinal chemistry and genomics to understand how exposure to different classes of fluoroquinolone antibiotics provokes resistance mutations clinically observed. Amanda recently earned the prestigious UC Doctoral Diversity Initiative Award. Outside of lab, she actively helps other students and is a photographer and contemporary dancer.

**DEPARTMENT OF ECOLOGY & EVOLUTIONARY BIOLOGY****ELSIE CARRILLO
ARCS FOUNDATION SCHOLAR**

Elsie seeks to understand the physiology, behavior and evolution of a semi-aquatic lifestyle using garter snakes as a model organism. She is currently investigating whether garter snakes are able to rebreathe air from narial bubbles they produce when underwater. Elsie was recently awarded the Delta Science Fellowship to collaborate with USGS to study predator-prey dynamics of semi-aquatic snakes along the Sacramento-San Joaquin River Delta. As a graduate of the Stanford Teacher Education Program, six years teaching K-12 science, winning the Outstanding Teaching Assistant award and then serving as a graduate student instructor, Elsie aims to become a professor to help recruit and retain first-generation and underrepresented students in STEM and to help all students develop their scientific identities. Elsie enjoys celebrating diverse aquatic life through art; she and her art were featured on Santa Cruz County Naturalists. She also plays flute in the University Jazz Ensemble.



SCIENCE COMMUNICATIONS MASTER'S PROGRAM

GILLIAN DOHRN

ARCS FOUNDATION SCHOLAR

Gillian graduated from Colorado College in 2019 with a bachelor's degree in molecular and cellular biology and a minor in journalism. Her undergraduate research endeavors explored topics in microbiology and immunology. She started working in communications at Keystone Symposia after graduating and went on to join the editorial team at Springer Nature and then Frontiers. She is pursuing a master's degree in science communication and aspires to use her background in biology to explore fresh perspectives on health and the human body.



DEPARTMENT OF EARTH & PLANETARY STUDIES

AMANDA DONALDSON

ARCS FOUNDATION SCHOLAR

Amanda is an ecohydrologist who studies how the structure of Earth's surface and near surface environments dictates how water moves and is stored, and in turn, how the fate of water influences the evolution of those environments. Amanda has received numerous awards to support her research. In addition, she is heavily engaged in teaching and diversity, equity, and inclusion activities. As a 2022 Graduate Student Pedagogy Fellow, she developed and implemented a 10-week course to train graduate student teaching assistants to implement equitable teaching strategies within their classrooms. In her spare time, Amanda enjoys building community through organizing art showcases and attending the local Santa Cruz Shakespeare Theatre performances.



DEPARTMENT OF MICROBIOLOGY & ENVIRONMENTAL TOXICOLOGY

YASMINE ELSHENAWI

PAUL B. & ANITA M. FAY MEMORIAL SCHOLAR

Yazzy's long-term goal is to become a scientist studying and curing microbial infections. Her PhD research project aims to understand how *Helicobacter Pylori* regulates its chronic growth state. This work is important because chronic-state *H. pylori* are what we target with antibacterials, but we know little about *H. pylori*'s growth physiology, a gap that prevents us from employing optimal treatments. Yazzy has TAed 13 quarters as a graduate student, and also mentored a rotation student who joined the lab. She has a review article and primary manuscript in very late-stage preparation. Yazzy is a member of the Black Microbiologists Association and is skilled at promoting the success of students from underrepresented groups.



DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING **NAVID GOUGOL**
LIBBY TYREE TAYLOR & BARRY TAYLOR SCHOLAR

Navid’s research is in circuits/control for the brain. He has developed a novel ultrasound Phased Array (Beam-former) for medical and non-medical applications which is an order of magnitude lower cost with some performance breakthroughs. The device has applications in the brain, without opening the skull. Navid was a chip designer at AMD and Sun Microsystems, part of High Speed Ios and microprocessor design teams. He contributed to over half a dozen tape outs, where each CPU brought a billion-dollar revenue. Navid has started Yektasonics to commercialize his ultrasound research.



DEPARTMENT OF EARTH & PLANETARY SCIENCES **RYAN GREEN**
JI ING SOONG ENDOWMENT FUND SCHOLAR

Ryan is a dedicated researcher who is passionate about tackling the challenges of climate change. Currently a 4th year PhD candidate, Ryan’s research uses biogeochemical modeling to advance our understanding of ocean alkalinity enhancement (OAE) as a marine carbon dioxide removal method. His work specifically focuses on investigating the impact, efficiency, and detection of OAE through the examination of geologic analogs and the simulation of future OAE deployment along the west coast of the United States. He is also dedicated to mentorship and teaching, evidenced by receiving multiple Teaching Assistant awards and actively mentoring undergraduate and high school students. Outside of his research, Ryan enjoys exercise, music, and food.



DEPARTMENT OF ECOLOGY & EVOLUTIONARY BIOLOGY **JULIA HARENČÁR**
EDINA JENNISON SCHOLAR

Julia’s focus is on combining plant ecology and genetics to answer important evolutionary questions. Her multi-disciplinary dissertation will generate insight into how the environment and genome interact to shape and maintain species boundaries in recently diverged and hybridizing tropical plants. Julia has published three first-author and two co-authored articles in peer-reviewed journals. She has presented her work at international conferences and recently won best student presentation at the American Society of Naturalists conference. Julia has served as a graduate student representative to faculty both during her masters and PhD studies, where she has been an advocate for issues with outsized impacts on students from underrepresented backgrounds. She is also an active undergraduate and peer mentor informally and through formal programs. Outside of academia, Julia loves surfing, snowboarding, and exploring the California flora through hiking and backpacking.



DEPARTMENT OF STATISTICS **ZACH HORTON**
ARCS FOUNDATION SCHOLAR

Zach’s research focuses on applying Bayesian nonparametric methods to renewal process modeling, including non-homogeneous extensions such as dependence on time or covariates. Currently he is working on a Markov renewal model for predicting earthquake recurrences while accounting for previous earthquake magnitudes. His work experience includes an actuarial consulting internship, several years of teaching assistantships, and a part-time research position at an investment firm. Zach also enjoys exploring hi-fi audio and spending time with his wife and two daughters.



DEPARTMENT OF BIOMOLECULAR ENGINEERING

ALEX KRAMER

JACK LUND ENDOWMENT FUND SCHOLAR

The COVID-19 pandemic has produced a vast genomic dataset that stressed or exceeded the capacities of most bioinformatics platforms, and similar datasets will soon be available for all major human pathogens. Alex is developing scalable tools to enable precise data exploration and accurate analysis of millions of pathogen genomes, with a broader goal of assisting readiness and response to current and future health crises. He has already contributed to six ongoing or completed publications. In Alex's most ambitious project, he developed a way to use evolutionary compression of over 14 million SARS-CoV-2 samples to display the full genome sequence of each in a uniquely powerful and scalable "Treenome Browser" (Bioinformatics, 2023). His work will surely have a significant impact in the field of public health.



DEPARTMENT OF ENVIRONMENTAL STUDIES

SUZANNE LIPTON

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Suzanne studies agroecology; specifically, how farmer management practices can influence biodiversity and ecosystem function. She holds a Masters in Environmental Science and Policy from Columbia University and a BA from the University of Michigan. Her post-college, pre-graduate school experience working as a pastry chef at farm-to-table restaurants led to her research interests in sustainable agriculture and agrifood systems. Before pursuing her PhD, she worked for several non-profits and research centers focused on food and agriculture. She is co-author of the book *Sustainable Food Production: A Primer for the 21st Century* (2021).



SCIENCE COMMUNICATIONS MASTER'S PROGRAM

MADELINE REINSEL

ARCS FOUNDATION SCHOLAR

Originally from the Washington, D.C. area, Madeline worked as a research assistant at the College of William & Mary for several years, focused on the conservation of the diamondback terrapin, a small estuarine turtle found along the East and Gulf coasts. Her involvement inspired her interest in science communication, and a short film she created on diamondback terrapin conservation won an award in the 2023 Virginia Environmental Film Contest.



**DEPARTMENT OF MOLECULAR, CELL &
DEVELOPMENTAL BIOLOGY**

MAYS MOHAMMED SALIH
LINDA DYER MILLARD SCHOLAR

Prior to enrolling in the graduate program, Mays developed a variety of bench, communication and leadership skills through research and professional positions. Her current educational track allows her to develop and grow her skills as an immunologist with a focus on immune response regulation. Studying mechanisms of immune regulation will help better understand how organisms respond to pathogens and mechanisms by which inflammatory and autoimmune diseases arise and ways to target them via therapeutics. Mays also leads and participates in many student outreach activities to promote diversity in STEM and support fellow graduate students.



DEPARTMENT OF ASTRONOMY & ASTROPHYSICS

DOMINIC SANCHEZ
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Dominic develops novel astronomical instrumentation for exoplanet science. Currently in his fourth-year in the doctoral program, he is developing improved wavefront sensing devices for atmospheric turbulence correction. The device promises to enhance our ability to study planets around nearby stars. Dominic likes to work at the interface between optical techniques and astronomical research. When not in the lab you may find him hanging out with his big friendly dog, Uli.



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(as of 6/30/2023)

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Thank you to our Emeritae Members
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ARCS FOUNDATION ENDOWMENT FUND

ENDOWMENT

The Northern California Chapter Endowment was established in 1987 with \$10,000 to initiate provision for a perpetual source of funds for science scholarships. Subsequent gifts have substantially increased the corpus of the Endowment. There are two types of Endowment assets: (1) permanently restricted per donor instructions, and (2) as designated by the ARCS Foundation Northern California Chapter Board from large, unspecified donations and excess funds raised.

The Endowment offers an excellent vehicle for memorial funds and planned giving. The ARCS Foundation NCC Endowment Fund provides for establishment of named funds. Named funds established and fully funded to date are as follows:

- Katherine Hellman Black Fund
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- Nordstrom Fund
- Ji Ing Soong Fund

In addition, the following named funds have been established by Barbara Wolfe and are in the process of being funded:

- Linda Dyer Millard Fund
- Barbara A. Wolfe Fund

If you would like more information regarding the ARCS Foundation Endowment, please call the ARCS office at 415-561-6537.



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Independent Accountants' Compilation Report

To the Board of Directors of

Achievement Rewards for College Scientists Foundation, Inc.
Northern California Chapter:

Management is responsible for the accompanying financial statements of Achievement Rewards for College Scientists Foundation, Inc., Northern California Chapter (a nonprofit organization), which comprise the statement of financial position as of June 30, 2023, and the related statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the financial statements in accordance with accounting principles generally accepted in the United States of America. We have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. We did not audit or review the financial statements nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. We do not express an opinion, a conclusion, nor provide any form of assurance on these financial statements.

Novogradac & Company LLP

Walnut Creek, California
November 14, 2023

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**ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
STATEMENT OF FINANCIAL POSITION
June 30, 2023**

	Net Assets without Donor Restrictions	Net Assets with Donor Restrictions	Total
ASSETS			
Cash and cash equivalents	\$ 50,302	\$ -	\$ 50,302
Accounts receivable	45,525	-	45,525
Endowments, at fair value	<u>5,008,026</u>	<u>3,992,330</u>	<u>9,000,356</u>
Total assets	<u>\$ 5,103,853</u>	<u>\$ 3,992,330</u>	<u>\$ 9,096,183</u>
LIABILITIES			
Accrued expenses	<u>\$ 7,036</u>	<u>\$ -</u>	<u>\$ 7,036</u>
Total liabilities	7,036	-	7,036
NET ASSETS			
Without donor restrictions	88,791	-	88,791
Board designated endowment fund	5,008,026	-	5,008,026
Restricted endowment fund	<u>-</u>	<u>3,992,330</u>	<u>3,992,330</u>
Total net assets	<u>5,096,817</u>	<u>3,992,330</u>	<u>9,089,147</u>
Total liabilities and net assets	<u>\$ 5,103,853</u>	<u>\$ 3,992,330</u>	<u>\$ 9,096,183</u>

see accompanying notes

**ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2023**

	Net Assets without Donor Restrictions	Net Assets with Donor Restrictions	Total
SUPPORT AND REVENUE			
Grants and contributions	\$ 972,072	\$ -	\$ 972,072
Membership dues and fees	55,233	-	55,233
Scholar awards event	352,748	-	352,748
Field trips and other events	5,573	-	5,573
Endowment gain, net	358,728	284,013	642,741
Interest	4,137	-	4,137
Amounts appropriated for expenditure	158,504	(158,504)	-
Miscellaneous income	378	-	378
Total support and revenue	<u>1,907,373</u>	<u>125,509</u>	<u>2,032,882</u>
EXPENSES			
Program services			
Scholar awards	1,150,000	-	1,150,000
Other program services	122,693	-	122,693
Supporting services			
Management and general	173,967	-	173,967
Fundraising	145,893	-	145,893
Total expenses	<u>1,592,553</u>	<u>-</u>	<u>1,592,553</u>
INCREASE IN NET ASSETS	314,820	125,509	440,329
NET ASSETS			
Beginning of the year	<u>4,781,997</u>	<u>3,866,821</u>	<u>8,648,818</u>
End of the year	<u>\$ 5,096,817</u>	<u>\$ 3,992,330</u>	<u>\$ 9,089,147</u>

see accompanying notes

**ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
STATEMENT OF FUNCTIONAL EXPENSES
FOR THE YEAR ENDED JUNE 30, 2023**

	Program Services	Supporting Services		Total Expenses
		Management and General	Fundraising	
Expenses				
Grants and other assistance	\$ 1,267,708	\$ -	\$ -	\$ 1,267,708
Salaries and wages	-	55,396	140,001	195,397
Accounting and legal	-	36,095	-	36,095
Office expenses	-	23,163	-	23,163
Occupancy	-	15,429	-	15,429
Insurance	-	2,558	-	2,558
Member events	-	25,661	-	25,661
Member communications	4,985	9,334	-	14,319
Community outreach	-	-	5,892	5,892
Miscellaneous	-	6,331	-	6,331
Total expenses	<u>\$ 1,272,693</u>	<u>\$ 173,967</u>	<u>\$ 145,893</u>	<u>\$ 1,592,553</u>

see accompanying notes

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED JUNE 30, 2023

CASH FLOWS FROM OPERATING ACTIVITIES:	
Increase in net assets	\$ 440,329
Adjustments to reconcile increase in net assets to net cash used in operating activities:	
Net realized and unrealized gains	(642,741)
Increase in accounts receivable	(45,525)
Decrease in contributions receivable	95,685
Decrease in prepaid expenses and deposits	515
Increase in accrued expenses	7,036
Net cash used in operating activities	<u>(144,701)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:	
Purchases of investments	(862,895)
Withdrawal of investments	<u>956,129</u>
Net cash provided by investing activities	<u>93,234</u>
NET DECREASE IN CASH AND CASH EQUIVALENTS	(51,467)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>101,769</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u><u>\$ 50,302</u></u>

see accompanying notes

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

Organization

Achievement Rewards for College Scientists Foundation, Inc., Northern California Chapter (the "Organization") was formed in October 1971 and incorporated in November 1973 for the purpose of funding science scholarships for students of high achievement at Northern California universities.

Summary of significant accounting policies and nature of operations

Basis of accounting

The Organization prepares its financial statements on the accrual basis of accounting consistent with accounting principles generally accepted in the United States of America ("US GAAP").

Basis of presentation

The Organization is required to report information regarding its financial position and activities according to the following net asset classifications:

Net assets without donor restrictions: Net assets that are not subject to donor-imposed restrictions and may be expended for any purpose in performing the primary objectives of the Organization. These net assets may be used at the discretion of the Organization's management and the board of directors.

Net assets with donor restrictions: Net assets subject to stipulations imposed by donors and grantors. Some donor restrictions are temporary in nature, which will be met by actions of the Organization or by the passage of time. Other donor restrictions are perpetual in nature, whereby the donor has stipulated the funds be maintained in perpetuity.

Donor-restricted contributions are reported as increases in net assets with donor restrictions. When a restriction expires, net assets are reclassified from net assets with donor restrictions to net assets without donor restrictions in the statement of activities.

Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Cash and cash equivalents

Cash and cash equivalents include all cash balances on deposit with financial institutions and highly liquid investments with a maturity of three months or less at the date of acquisition.

Concentration of credit risk

The Organization maintains its cash in bank deposit accounts, which, at times, may exceed federally insured limits. The Organization has not experienced any losses in such accounts. The Organization believes it is not exposed to any significant credit risk on cash and cash equivalents.

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

2. Summary of significant accounting policies and nature of operations (continued)

Contributions and accounts receivable

Contributions received are recorded as net assets without donor restrictions or net assets with donor restrictions, depending on the existence and/or nature of any donor-imposed restrictions. Contributions that are restricted by the donor are reported as an increase in net assets without donor restrictions if the restriction expires in the reporting period in which the contribution is recognized. All other donor-restricted contributions are reported as an increase in net assets with donor restrictions, depending on the nature of restriction. When a restriction expires (that is, when a stipulated time restriction ends or purpose restriction is accomplished), net assets with donor restrictions are reclassified to net assets without donor restrictions and reported in the statements of activities as net assets released from restrictions.

Unconditional promises to give that are expected to be collected within one year are recorded at net realizable value. Unconditional promises to give that are expected to be collected in future years are recorded at the present value of their estimated future cash flows. The discounts on those amounts are computed using risk-adjusted interest rates applicable to the years in which the promises are received. Discount amortization is included in contribution revenue. Conditional promises to give are not included as support until the conditions are met.

As of June 30, 2023, the Organization's contributions receivable consisted of unconditional promises to give in the amount of \$45,525.

Management considers receivables to be fully collectible. If amounts become uncollectible, they are charged to operations in the period in which that determination is made. Accounting principles generally accepted in the United States of America require that the allowance method be used to recognize bad debts; however, the effect of using the direct write-off method is not materially different from the results that would have been obtained under the allowance method.

Fair value measurements

The Organization applies the accounting provisions related to fair value measurements. These provisions define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, establish a hierarchy that prioritizes the information used in developing fair value estimates and require disclosure of fair value measurements by level within the fair value hierarchy. The hierarchy gives the highest priority to quoted prices in active markets (Level 1 measurements) and the lowest priority to unobservable data (Level 3 measurements), such as the reporting entity's own data. These provisions also provide valuation techniques, such as the market approach (comparable market prices), the income approach (present value of future income or cash flows) and the cost approach (cost to replace the service capacity of an asset or replacement cost).

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

2. Summary of significant accounting policies and nature of operations (continued)

Fair value measurements (continued)

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of valuation hierarchy are defined as follows:

Level 1: Observable inputs such as quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2: Inputs other than quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3: Unobservable inputs that reflect the Organization's own assumptions.

Investments

Investments in marketable securities with readily determinable fair values and all investments in debt securities are reported at their fair values in the accompanying statement of financial position. Realized and unrealized gains and losses are included as a component of net investment income on the accompanying statement of activities.

Transfers of assets to a recipient organization

The Organization will occasionally transfer assets to a recipient organization. When the Organization specifies itself or its affiliate as the beneficiary, the Organization reports the transfer as a decrease in the asset transferred and an increase in another asset.

Endowment funds

In August 2008, Financial Accounting Standards Board ("FASB") provided guidance on the net asset classification of donor-restricted endowment funds for a not-for-profit organization that is subject to an enacted version of the Uniform Prudent Management of Institutional Funds Act of 2006 ("UPMIFA"). This guidance also improves disclosures about an organization's endowed funds (both donor-restricted endowment funds and board-designated endowment funds) whether or not the organization is subject to UPMIFA.

The Organization is subject to the required disclosures in that the Organization classifies its unrealized gains and losses on donor-restricted endowed funds as net assets with donor restrictions. As of June 30, 2023, no fund balances were below the historical gift amount. The Organization is subject to additional disclosures regarding endowment funds, which are further detailed in Note 4.

Income taxes

The Organization is exempt from federal income taxes under Internal Revenue Code Section 501(c)(3) and from California income and franchise taxes under Revenue and Taxation Code Section 23701(d). It has also been determined by the Internal Revenue Service that the Organization is not a private foundation within the meaning of Internal Revenue Code Section 509(a).

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

2. Summary of significant accounting policies and nature of operations (continued)

Income taxes (continued)

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires the Organization to report information regarding its exposure to various tax positions taken by the Organization. Management has determined whether any tax positions have met the recognition threshold and has measured the Organization's exposure to those tax positions. Management believes that the Organization has adequately addressed all relevant tax positions and that there are no unrecorded tax liabilities. Federal and state tax authorities generally have the right to examine and audit the previous three years of tax returns filed. Any interest or penalties assessed to the Organization are recorded in operating expenses. No interest or penalties from federal or state tax authorities were recorded in the accompanying financial statements.

Revenue recognition

Membership dues are deferred and recognized in the appropriate membership year. Special event ticket sales are deferred and recognized when the event takes place.

Functional expenses

The costs of providing program services and other activities have been summarized on a functional basis in the statement of activities. Accordingly, certain costs have been allocated among program services, administrative and support, and fundraising services benefited. Such allocations are determined by management on an equitable basis.

Leases

The Organization determines if an arrangement is a lease at inception. An arrangement is a lease if the arrangement conveys a right to direct the use of and to obtain substantially all of the economic benefits from the use of an asset for a period of time in exchange for consideration.

Operating lease right-of-use assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. The Organization uses a risk-free rate at the commencement date in determining the present value of lease payments.

The operating lease right-of-use asset also includes any lease payments made and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Organization will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Change in accounting principle

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Codification ("ASC") 842, Leases ("FASB ASC 842") to increase transparency and comparability among organizations by requiring the recognition of lease assets and lease liabilities on the balance sheet by lessees and the disclosure of key information about leasing arrangements.

FASB ASC 842 was adopted July 1, 2022, with certain practical expedients available. The Organization elected the available practical expedient, as an accounting policy election, to apply the short-term lease exception, which does not require the capitalization of leases with terms of 12 months or less.

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

2. Summary of significant accounting policies and nature of operations (continued)

Subsequent events

Subsequent events have been evaluated through November 14, 2023, which is the date the financial statements were available to be issued, and there are no subsequent events requiring disclosure.

3. Liquidity and availability of financial assets

The Organization's financial assets available for general expenditure, that is, without donor restrictions limiting their use, within one year of the statement of financial position date, comprise the following:

Cash and cash equivalents	\$ 50,302
Accounts receivable	45,525
Investments, at fair value	<u>5,008,026</u>
Total	<u>\$ 5,103,853</u>

The Organization regularly monitors liquidity required to meet its operating needs and other contractual commitments, while also striving to maximize the investment of its available funds. Additionally, the Organization operates with a balanced budget and anticipates generating sufficient revenue to cover general expenditures.

4. Endowments and fair value measurements

The Organization's endowment, established in 1988, exists in perpetuity to produce income to supplement current fundraising for the Organization's annual scholar awards. Its endowment includes both donor-restricted endowment funds and funds designated by the Board of Directors to function as endowments. As required by accounting principles generally accepted in the United States of America, net assets associated with endowment funds, including funds designated by the Board of Directors to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

The Organization has adopted investment and spending policies for endowment assets that attempt to provide a predictable stream of income to supplement fundraising for scholar awards as needed. Endowment assets include those assets of donor-restricted funds that the organization must hold in perpetuity as well as board-designated funds. Under this policy, as approved by the Board of Directors, the endowment assets are invested in a manner that is intended to produce results that meet or exceed the performance results of the S&P 500 index while assuming a moderate level of investment risk. The Organization expects its endowment funds, over time, to yield an average rate of return of approximately 5-10%. Actual returns in any given year may vary from this amount.

To satisfy its long-term performance objectives, the Organization utilizes a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The Organization targets a diversified asset allocation that places an emphasis on equities and fixed income investments to achieve its long-term return objectives within prudent risk constraints.

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

4. Endowments and fair value measurements (continued)

The Organization maintains a policy of appropriating no more than a 5% annual distribution of its endowment fund's average fair value over the prior 16 quarters. In establishing this policy, the Organization considered the long-term expected return on its endowment and expects the current spending policy will maintain the corpus of the endowment assets held in perpetuity as well as provide additional growth through new gifts and investment return.

As of June 30, 2023, endowment net assets consisted of the following:

	Without donor restrictions	With donor restrictions	Total
Donor-restricted endowments	\$ -	\$ 3,992,330	\$ 3,992,330
Board-designated endowments	5,008,026	-	5,008,026
Total	<u>\$ 5,008,026</u>	<u>\$ 3,992,330</u>	<u>\$ 9,000,356</u>

For the year ended June 30, 2023, changes in endowment net assets consisted of the following:

	Without donor restrictions	With donor restrictions	Total
Endowment net assets, beginning of year	\$ 4,584,028	\$ 3,866,821	\$ 8,450,849
Net investment return	358,728	284,013	642,741
Contributions	862,895	-	862,895
Withdrawals	(797,625)	-	(797,625)
Amounts appropriated for expenditure	-	(158,504)	(158,504)
Total	<u>\$ 5,008,026</u>	<u>\$ 3,992,330</u>	<u>\$ 9,000,356</u>

The return on the endowments for the year ended June 30, 2023 was a net gain in the amount of \$642,741, which is comprised of the following:

	Without donor restrictions	With donor restrictions	Total
Interest and dividends	\$ 107,911	\$ 93,994	\$ 201,905
Fees	(26,078)	(21,439)	(47,517)
Net realized/unrealized gains	276,895	211,458	488,853
Total	<u>\$ 358,728</u>	<u>\$ 284,013</u>	<u>\$ 642,741</u>

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
FOUNDATION, INC.
NORTHERN CALIFORNIA CHAPTER
NOTES TO FINANCIAL STATEMENTS
June 30, 2023

4. Endowments and fair value measurements (continued)

Donor-restricted endowments measured and recognized at fair value are comprised of the following as of June 30, 2023:

	Level 1	Level 2	Level 3	Fair Value Measurements
Money market funds	\$ 105,149	\$ -	\$ -	\$ 105,149
Fixed income	1,041,760	-	-	1,041,760
Equities	1,859,848	-	-	1,859,848
Equity funds	725,080	-	-	725,080
Exchange traded funds	214,521	-	-	214,521
Real estate investment trusts	45,972	-	-	45,972
Total assets	\$ 3,992,330	\$ -	\$ -	\$ 3,992,330

Board-designated endowments measured and recognized at fair value are comprised of the following as of June 30, 2023:

	Level 1	Level 2	Level 3	Fair Value Measurements
Money market funds	\$ 323,676	\$ -	\$ -	\$ 323,676
Fixed income	1,048,483	-	-	1,048,483
Equities	2,709,813	-	-	2,709,813
Equity funds	608,925	-	-	608,925
Exchange traded funds	250,376	-	-	250,376
Real estate investment trusts	66,753	-	-	66,753
Total assets	\$ 5,008,026	\$ -	\$ -	\$ 5,008,026

5. Office lease

On April 19, 2018, the Organization entered into a standard office lease agreement (the "Lease") with Tides, Inc., a California non-profit corporation to rent an office space in San Francisco, California. On January 9, 2020, the Lease was amended, and the lease term was renewed for an additional three-year period commencing February 1, 2020, and expiring on January 31, 2023, with monthly rent of \$1,057.50 for year one, \$1,092.75 for year two, and \$1,128.00 for year three. In accordance with the amendment, rent shall be adjusted February 1, 2021, and every 12 months thereafter. Following the expiration of the amended lease term, the Lease was held over on a month-to-month basis. For the year ended June 30, 2023, office lease expense was \$15,429.

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