



 **ARCS** ADVANCING
SCIENCE
IN AMERICA®
SAN DIEGO CHAPTER

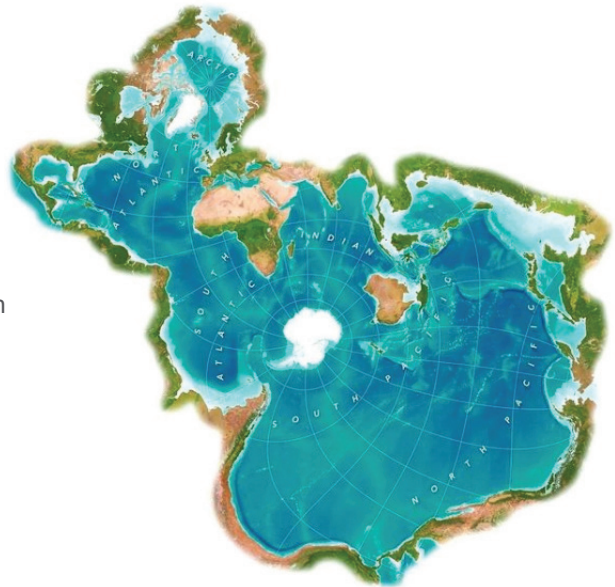
ANNUAL REPORT
2022 - 2023

ACHIEVEMENT REWARDS for COLLEGE SCIENTISTS MISSION

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, engineering and medical research.

The Spilhaus World Ocean Map

Redesigned by ESRI (Environmental Systems Research Institute)



The Spilhaus World Ocean Map is a projection of earth centered on Antarctica that makes the ocean the focus of an astonishing worldview, pushing the land to the outer edges of the square and re-organizing our global geography around the true natural systems of the world ocean. The Spilhaus projection was developed in 1942 by Dr. Athelstan Spilhaus.

This map was incorporated into a unique piece of art created by ARCS supporter Janet Hubka, CEO of Ilus Art, and presented to Dr. Leinen in thanks for her keynote speech at our 2023 Scientist of the Year Celebration.

MESSAGE FROM THE PRESIDENT

What an outstanding year the ARCS Foundation, San Diego Chapter, has had. Much of our success is owed to our incredible members who volunteer their time and treasure to facilitate our fundamental mission to support and advance science and technology education in the United States. We are also grateful to our generous funders—both long-term and new—who understand the importance of our educational mission, share our dedication to it, and continue to support our efforts. Thank you!

The Chapter's University Relations team has worked tirelessly throughout the year to cultivate close relationships with our universities and our Scholars, manage the Getting to Know You Program, host the Scholar Picnic, and otherwise maintain our university partnerships. This year we strengthened those partnerships through formal site visits and evaluations, visiting the University of San Diego and Scripps Research, and learned so much about the programs we support, their goals and objectives, their strengths and educational efforts.

As an organization, we are financially thriving, with healthy investments and endowments. This financial stability allowed us to distribute \$500,000 in Scholar Awards to support 50 Scholars in 2022-2023. We enjoyed record-breaking fundraising across all activities and campaigns. We netted \$134,000 for the 2023-2024 Scholar Fund from our Scientist of the Year Celebration in May. And we brought in over \$137,000 during our Member Giving Campaign, with an outstanding member participation rate of 96%. These contributions, together with our foundation giving receipts (\$241,000 in 2022-2023), will enable us to support 50 Scholars for the next academic year. A big thanks to members, friends, and foundations for their support.

We continue to expand our chapter membership with talented fresh faces (11 new members in 2022-2023) even as we cultivate ties with our current members through improved communication and engagement.

We've held wonderful events: Our Just for Fun Summer Party, Holiday Party, our field trips, and our general meetings. We visited the labs at the La Jolla Institute for Immunology, where CEO (and 2021 ARCS Scientist of the Year) Erica Ollmann Saphire spoke about the Institute's new research project on gender and disease. At the field trip to the San Diego Botanic Garden, participants heard from three of the Garden's lead scientists in plant research and conservation. At our June general meeting, Dwayne Roach, who heads a lab at SDSU spoke on new work in phage therapy, an exciting development in fighting antibiotic-resistant viruses. His PhD student, our ARCS Scholar Tiffany Luong, presented her work on phage therapy and how it has already helped patients today.

The year's events culminated in a spectacular Scientist of the Year Celebration at the Conrad Prebys Performing Arts Center. We honored our Scientist of the Year, Dr. Margaret Leinen, a renowned paleo-oceanographer, Director of the Scripps Institution of Oceanography and Dean of the School of Marine Sciences at UCSD. Dr. Leinen presented a fascinating and engaging talk about the state of our oceans and the climate itself. We are so thankful that Dr. Leinen plays a major role in the stewardship of our oceans. During the program we introduced our Scholars, sharing a video highlighting their work, and heard from our esteemed Scholar alumnus, Dr. Forest Rohwer. I'd like to thank our 2023 Scientist of the Year Committee for their hard work and dedication.

In closing, I'd like to express a heartfelt 'thank you' to the 2022-2023 Board of Directors. I feel blessed to be part of that team of talented women and remain grateful for board members' help, advice, and input. Thank you!!



KATHE HICKS ALBRECHT, PHD
President 2022-2023



WHO WE ARE: THE HISTORY of ARCS

October 4, 1957, was a game-changer. On that date, Russia launched Sputnik, a 183-pound satellite, roughly the size of a beach ball, into space. This surprise launch shocked the United States and forced it to rethink its place as the technological leader of the world. It also ushered in the Space Age and the Cold War. The Russian action touched all areas of America, including politics, patriotism, science, the military, and education. In response, the U.S. undertook an unprecedented push to educate Americans in science and math.

As part of that initiative, a group of women in Los Angeles saw the opportunity to make a difference by creating a partnership between science and society. Their goal was to re-establish and re-energize the technological superiority of the United States. They started the first ARCS chapter in September 1958. ARCS (Achievement Rewards for College Scientists) is a nationally recognized nonprofit organization founded and administered by women who volunteer their time and talent to support American advancement in STEM (science, technology, engineering and math) and in biomedical research. It is now comprised of 15 chapters across the nation.

In 1985, four San Diego women established ARCS Foundation, San Diego Chapter: Karen Bowden, Karon Luce, Barbara McColl, and Pattie Wellborn. Thirty-seven years later, ARCS San Diego has provided over \$12 million in financial awards to the brightest STEM Scholars at four local academic institutions. By investing in these Scholars, we are securing a better future for America and the world.

FACTS AT A GLANCE

104 CURRENT MEMBERS

1985 CHAPTER STARTED WITH 4 FOUNDERS

\$12,302,000 FUNDED SINCE 1985

50 SCHOLARS AWARDED **\$500,000** IN 2022-2023

98% GRADUATION RATE

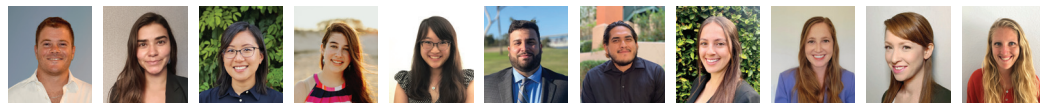
OUR SCHOLARS ... TOMORROW'S LEADERS

2022-2023 ARCS SAN DIEGO CHAPTER SCHOLARS

UNIVERSITY OF CALIFORNIA, SAN DIEGO



SAN DIEGO STATE UNIVERSITY



SCRIPPS RESEARCH



UNIVERSITY OF SAN DIEGO



We continue to be amazed by our Scholars' talent, hard work, and dedication. We are also grateful for our academic partners - UC San Diego, San Diego State University, Scripps Research and the University of San Diego – who choose our Scholars and who are approved by the ARCS National Board on the basis of excellence in basic science, engineering, math and medical research.

Our Scholars are all PhD candidates and are conducting research and making new discoveries that will lead to advances in global health and wellness, understanding and treatment of disease, national security, ecological improvements, space exploration and in many other STEM areas.

We are proud to volunteer our own time to promote scientific advancement in our country and to provide unrestricted funds to tomorrow's leaders. 100% of our contributions go directly to our Scholars, not to administration or infrastructure. ARCS is one of the largest contributors to basic science education of any private membership organization in the United States.

SCHOLAR SELECTION

Scholars must be U.S. citizens and meet ARCS-established academic criteria with a minimum 3.5 GPA, while pursuing undergraduate and graduate degrees in a wide range of scientific subjects. These Scholars are specializing in astronomy, biochemistry, botany, cell and molecular biology, chemistry, computer science, ecology, engineering, genetics, marine biology, mathematics, medical research, oceanography, physics and more.



JASON LAJOS BAER

SDSU/UC SAN DIEGO

College of Sciences

Concentration: Cell and Molecular Biology

Specialization: Microbial Ecology



GARRETT LEE LINDSEY

SCRIPPS RESEARCH

Skaggs Graduate School of Chemical and Biological Sciences

Concentration: Chemical Biology

Specialization: Chemical Proteomics



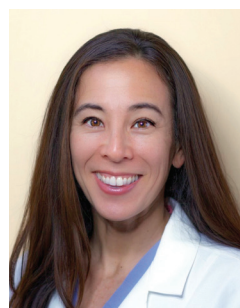
ALEC JOSEPH CALAC

UC SAN DIEGO

Herbert Wertheim School of Public Health and Human Longevity Science

Concentration: Medicine and Public Health

Specialization: Global Health



JENNIE MIKO LEE

UNIVERSITY OF SAN DIEGO

Hahn School of Nursing and Health Science

Concentration: Nursing

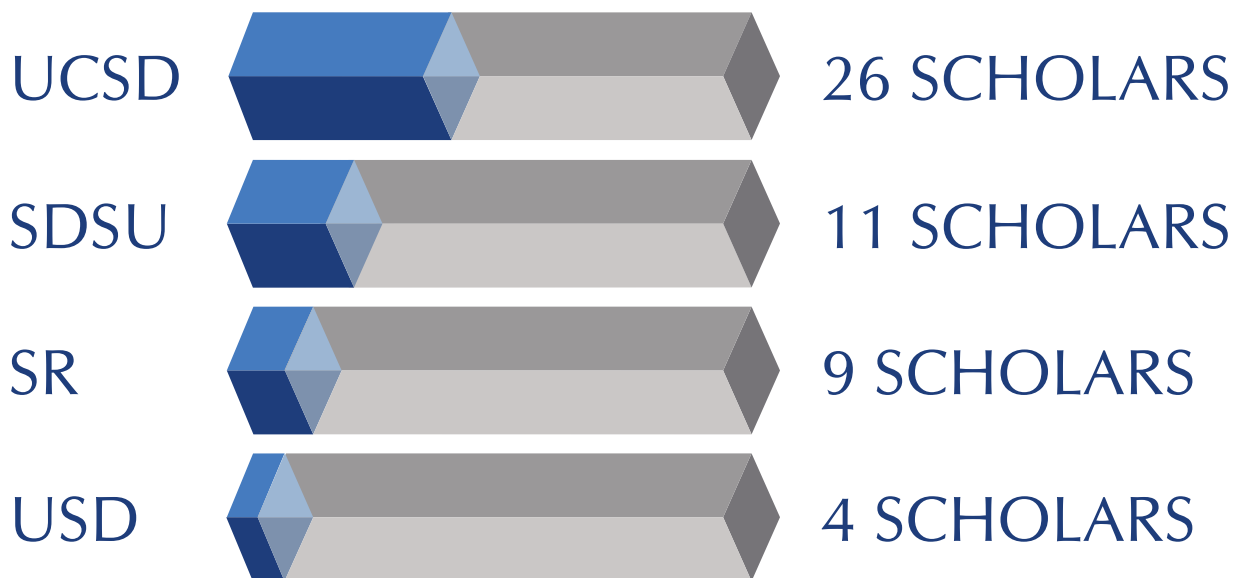
Specialization: Maternal Health Disparities



ALLOCATION of ARCS SCHOLAR AWARDS

The amount of funding available for ARCS Scholar Awards is calculated each year by using a distribution formula based on the percentage of eligible Scholars enrolled at each ARCS-approved recipient university.

The **2022-2023 academic year awards** were allocated as follows:



ARCS SAN DIEGO CUMULATIVE FUNDING 1985-2023

TOTAL AWARDS GRANTED 1,634
TOTAL FUNDING \$12,302,000



835
AWARDS

UC San Diego



493
AWARDS

SDSU | San Diego State
University



212
AWARDS

 **Scripps
Research**



94
AWARDS


University
of San Diego

2023 SCIENTIST of THE YEAR CELEBRATION

What a joy to be back in person to celebrate our 2023 Scientist of the Year and our 2022-2023 Scholars...in the warm and intimate setting of The Conrad Prebys Performing Arts Center in La Jolla, no less! The event began with hors d'oeuvres and drinks in the Wu Tsai Courtyard and the JAI, and then moved into the main Baker-Baum Concert Hall where President Kathe Albrecht welcomed the audience. We were then treated to a wonderfully uplifting program capped off by a keynote speech from Dr. Leinen in which she reaffirmed the importance of ocean research for our future. The event concluded with a selection of tasty desserts in the Wu Tsai Courtyard, where guests had the opportunity to mingle with our speakers, Scholars, and friends. Many ARCS members remarked that it was "the best SOY event ever"! We were also incredibly grateful to our members and sponsors who helped us raise over \$130,000 for our Scholars!



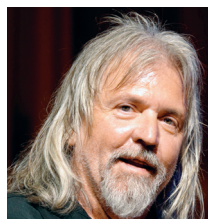
MARGARET LEINEN, PHD – 2023 SCIENTIST OF THE YEAR

Dr. Leinen is an award-winning oceanographer and distinguished national and international leader in ocean science, global climate and environmental issues. In 2013, Dr. Leinen was appointed the 11th Director of Scripps Institution of Oceanography at UC San Diego, and brings with her an impressive career in academic research and administration, federal research administration, and non-profit startups. She also serves as the University's Vice Chancellor for Marine Sciences and Dean of the School of Marine Sciences.



MARY ANN BEYSTER, MM – ARCS FRIEND AND SUPPORTER

Mary Ann is a native San Diegan, and community leader with a 30-year career as an engineer, technology and environmental executive, foundation executive and non-profit board leader, and documentary filmmaker. She is also a longtime supporter of ARCS San Diego and Scripps Institution of Oceanography, which is why she was the perfect person to introduce our 2023 Scientist of the Year.



FOREST ROHWER, PHD – ARCS SCHOLAR ALUMNUS SPEAKER

Dr. Rohwer is a viral ecologist and principal investigator at SDSU's Coastal and Marine Institute. He pioneered the field of viromics and showed that viruses are the most biodiverse life forms in the world. Combined with other "-omics" methods the Rohwer lab studies the roles of viruses and microorganisms in the health and disease of ecosystems. The lab's main study systems are coral reefs and human lungs.

TITLE SPONSOR

UC San Diego

"BREAKER" SPONSORS

SDSU | San Diego State University

"WINDSWELL" SPONSORS

 **Scripps Research**

Patricia Judd

BENEFITS of ARCS MEMBERSHIP

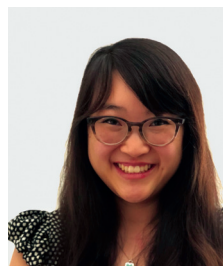
ARCS members have the opportunity to actively engage with Scholars and academic partners at presentations, lab and site visits, and social events. Members also enjoy learning about cutting-edge technologies and establishing relationships with Scholars. Here are some of the presentations and field trips we enjoyed in 2022-2023.



PALLIATIVE CARE: A PUBLIC HEALTH PRIORITY | Nothing is more gratifying than following the “career arc” of one of our esteemed Scholar alumni. On a beautiful January afternoon, at our Winter General Meeting, we were treated to a passionate and informative talk on palliative care, delivered by Caroline Etland, PhD, RN, ACHPN, who received her ARCS Scholar Award in 2006-2008 at USD’s Hahn School of Nursing and Health Science. Following her talk in January, Dr. Etland was invited to join our chapter and she accepted!



SAN DIEGO BOTANIC GARDEN | ARCS members and guests took part in a delightful field trip to the SD Botanic Garden in Encinitas. They first heard presentations from three lead scientists: CEO Ari Novy, PhD; Director of Medicinal Plants Research, Ben Naman, PhD; and Senior Director of Science and Conservation, Colin Khoury, PhD, followed by a walking tour of the gardens. Afterward, several members gathered for a delicious lunch of pot pies, hand pies and salads at Elizabethan Desserts & The 50’s Cafe.



HOW TO COMBAT THE ANTIBIOTIC RESISTANCE CRISIS / STUDENTS MAKING LIFESAVING MEDICINES | Dr. Dwayne Roach, SDSU Conrad Prebys Chair in Virology, and Tiffany Luong, ARCS Scholar at SDSU, delivered fascinating presentations on phage therapy at the Summer General Meeting in June.



UCSD SHAKE TABLE | ARCS members and guests were thrilled to visit UCSD’s High Performance Outdoor Shake Table that allows the accurate reproduction of severe near-source earthquake ground motions for the seismic testing of very large structural and soil-foundation-structure interaction systems. Tests on this facility help establish benchmarks and verify actual designs at full-scale for construction and government institutions and provide an excellent tool for outreach in education, policy makers, and news media. This outdoor shake table is the world’s first of its kind, and it is also the largest in the United States.

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2022-2023 DONOR HONOR ROLL

JULY 1, 2022 – JUNE 30, 2023
GIFTS RECEIVED FOR AWARDS TO BE MADE IN THE ACADEMIC
YEAR 2023 - 2024

\$70,000

Reuben H. Fleet Foundation

\$40,000

Beyster Family Foundation
Hervey Family Fund
University of California, San Diego

\$30,000

Donald C. and Elizabeth M. Dickinson
Foundation

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\$500 - \$999

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Betty Beyster
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Margaret Dudas
Mary Fitz
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Ann Hill
Susan Kalish
Jayne Lindberg
Karen Ludwig



Deborah Mandabach
Mary Ann McCauley
Carolyn Sharp
Janice Shaw
Marla Shepard
Ann Siemens
Tamia Strachan
Karen Tartre

UP TO \$499

Nancy Anderson
Katherine Armagnac
Julia Austin
Nancy Bildsoe
Elizabeth Bluhm
Alice Brown
Julia Brown
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Rachel Collins
Andy Correnti
Kimberly Doren
Susan Dramm
Caroline Etland
Jane Fetter

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Sandra Fleet Honnen
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Meredith Johnston
Karen Kritzer
Joy Kirsch
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Sharon LeeMaster
Sharon Lerner
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Gloria McCoy
Kimberly Miller
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Mary Mulvihill
Elizabeth Oliver

Mary Lou Quick
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Pamela Werner
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Gayle Wilson
Carol Young

The amounts above indicate donations to the ARCS Foundation Scholar Awards Fund, Endowment Fund and Memorial Funds.

See an error or omission? Please end an email to:
sandiego@arcsfoundation.org



OUR ALUMNI – CHANGING THE WORLD!

Thousands of ARCS Scholar alumni go on to make outstanding contributions to advance science and keep America competitive. Here are just a few standouts in 2022-2023 from our chapter.



PARESMA (PINKY) PATEL, PHD (2009-2010 ARCS SCHOLAR, SCRIPPS RESEARCH) is currently a Division Director in the Office of New Drug Products at the FDA’s Center for Drug Evaluation and Research (CDER). She started at the FDA in 2015 as a review chemist supporting the oncology divisions. She has worked across multiple clinical divisions as a drug substance and drug product chemistry, manufacturing, and controls (CMC) reviewer and served as a Quality Lead for two years prior to transitioning to a role as Branch Chief in 2021.



CHRISTOPHER MCKINNEY’S, CPHIL (2000-2002, UCSD) career in public service started in 2002 with the City of San Diego’s Wastewater Department. He worked there as an Electrical Engineer, Asset Management Coordinator, and Deputy Director of the Wastewater Treatment Division. He joined the City of Escondido team in 2011 as Utilities Director. McKinney holds a Master of Engineering in Electrical Engineering and Computer Science from UCSD and Professional Engineer license from the State of California in Electrical Engineering since 2005.



LAUREN FERRELL, PE (2008 ARCS SCHOLAR, SDSU) is a project manager and civil engineer with over 13 years of professional experience. She has extensive engineering and management experience leading multi-discipline teams to complete preliminary, environmental, and final design for transportation and transit centered projects. In addition to completing challenging environmental and engineering projects, Lauren specializes in storm water industrial and construction compliance management. In October 2021, Lauren was hired by the City of Carlsbad as Associate Engineer in the Public Works division.

INVESTING IN AMERICA'S FUTURE



Join us to support ARCS Scholars and invest in the future of science, technology, research and innovation in America. The Scholar Award Fund is supported by ARCS members, foundations, academic institutions, businesses, and individuals in the community.

Give online at san-diego.arcsfoundation.org

Donations by check may be mailed to:

ARCS Foundation, Inc. – San Diego Chapter

Attn: Christine Diaz, 207 West D Street, Encinitas, CA 92024

All gifts are tax-deductible and greatly appreciated by our members, the Scholars and their academic institutions.

100% OF EACH DONATION GOES TOWARDS SCHOLAR AWARDS

To make a donation of stock, create an endowment, include ARCS in your Estate plans, or request additional information, please contact:

Kathe Albrecht, President | kalbrec@gmail.com

Kristin Boyd, VP Fund Development | kmgboyd@gmail.com

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