



ARCS

ADVANCING
SCIENCE
IN AMERICA®

ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS
SAN DIEGO CHAPTER

2022 SCIENTIST OF THE YEAR VIRTUAL EVENT

PROGRAM

WELCOME

Holly Heaton, President
ARCS, San Diego Chapter

SPONSORS

2021-2022 ARCS SCHOLARS

ARCS SCIENTIST OF THE YEAR

SCHOLAR ALUMNI SPEAKERS

CLOSING REMARKS

WELCOME

PRESIDENT'S WELCOME

Welcome to our 2022 Scientist of the Year event! We are delighted to honor Dr. Ardem Patapoutian, a molecular biologist at Scripps Research and recent Nobel Laureate in Physiology or Medicine. His many awards and honors demonstrate the extraordinary strength of his commitment to and love of science and research.

We are also thrilled to celebrate our 50 Scholars and two Scholar alumnae today. They are the best and the brightest and we are proud to support them as they obtain their PhDs in STEM at our four partner academic institutions.

Our mission to advance science and technology depends on the passion and generosity of our members, donors, friends and academic partners. Now, more than ever, it is important to support and enhance this commitment. We extend our heartfelt thanks and appreciation for your partnership with ARCS and your investment in America's future.

Holly Heaton
President, San Diego Chapter

SCIENTIST OF THE YEAR COMMITTEE

Paulette Roberts, Chair
Kathe Albrecht
Ingrid Benirschke-Perkins
Rachel Collins
Holly Heaton
Karen Ludwig
Janet Roemer
Marla Shepard

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Thank you to our sponsors for your generous support of our
2022 SCIENTIST OF THE YEAR EVENT

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**SAN DIEGO STATE
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June Chocheles | Rachel Collins
Virginia C. Nelson | Marla Shepard

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Suzanne Dixon-Hennessy | Karen Ludwig

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Priscilla L. Moxley | Nancy and Edward Widmann

ARCS 2021-2022 SCHOLARS



**SAN DIEGO STATE
UNIVERSITY**

Amanda Therese Alker – Cell and Molecular Biology
Maricruz Carrillo - Mechanical Engineering
Ashley Dang-Nguyen - Chemistry
Jessica Eileen Griffin - Marine Ecology
Roslynn Beatrice King – Geophysics
Tiffany Luong – Cell and Molecular Biology
Kyle Evan Malter – Biological Sciences
Adrian Xavier Rivera - Structural Engineering
Laura Gilman Sisk-Hackworth - Microbiology
Kevin James Walsworth - Chemistry
Jennifer Anne Waters - Biology



Brett Michael Garabedian - Molecular Medicine
Nathalia Romanio Gazaniga – Biomedical Sciences
Tucker Ryan Huffman - Chemistry
Sergio Rodriguez Labra - Biomedical Science
Lucas James Oxtoby - Chemistry
Hailee Rose Perrett - Biophysics and Structural Biology
Caroline Rose Stanton - Biomedical Sciences
Nelson Ren Wu – Immunology
Leonard Heekyu Yoon - Chemical Biology



Pedro Alonso Colio- Nursing
Ann Ozaze Lawani - Nursing
Patricia Jinhae Magdaluyo - Nursing
Nicole Renae Marcy - Nursing

UC San Diego

Anela Kanani Akiona - Marine Biology
Kyle James Angle - Analytical and Atmospheric Chemistry
Gabriel Antonio Ascui-Gac - Biomedical Sciences
Miriam Kathleen Bell - Mechanical Engineering
Alec Joseph Calac - Medicine and Public Health
Minerva Contreras - Cellular and Molecular Biology
Ruben Daniel Elias - Biophysics
Sonya Renee Haupt - Biomedical Sciences
John Jaeun Holoubek - NanoEngineering
Nathaniel Max Kleivit Hopkins - Computer Science/Engineering
Jervaghna DeAnthony Hunter - Bioengineering
Pratibha Jagannatha - Bioinformatics
Andrew Thomas Kleinschmidt - Chemical Engineering
David Ambrose McBride - Chemical Engineering
Colman Arthur Moore - NanoEngineering
Channing Joseph Prend - Physical Oceanography
Eleonora Rachtman - Bioinformatics and Systems Biology
Sankaran Ramanarayanan - Mechanical/Aerospace Engineering
Samantha Lylah Sison - Neuroscience
Angus Blacklaw Thies - Marine Biology/Physiology
Brian Kha Tran - Computational Mathematics
Alisha Anish Ukani - Computer Science
Alicia Ann Van Enoo - Neuroscience
Anthony Quoc Vu - Biomedical Sciences
Alexander Jeffrey Whitehead - Bioengineering
Jiarong Zhou - NanoEngineering

2022 SCIENTIST OF THE YEAR

HONORING:

NOBEL LAUREATE

ARDEM PATAPOUTIAN, PhD

INTRODUCTION: JAMIE WILLIAMSON, PhD., EXECUTIVE VICE PRESIDENT, RESEARCH & ACADEMIC AFFAIRS AT SCRIPPS RESEARCH



Ardem Patapoutian is an American molecular biologist, neuroscientist, and now, Nobel Laureate. He was awarded, along with David Julius, the 2021 Nobel Prize in Physiology or Medicine for leading his team in groundbreaking research solving the mystery of how skin receptors enable people to sense heat, cold, pain, touch and sound. The findings have astonishing medical implications for developing treatments for a wide range of disease conditions.

Professor Patapoutian grew up in Lebanon during the civil war. He studied chemistry at the American University of Beirut before fleeing to the United States at age 18 with hopes of becoming a doctor, but while studying at UCLA he fell in love with basic research. "The discovery process is just pure joy", stated Ardem recently.

In addition to being named an investigator of the Howard Hughes Medical Institute in 2014, Patapoutian is the Scripps Research Endowed Chair in Neurobiology at the Institute's Dorris Neuroscience Center. His other recent honors and awards include the Alden Spencer Award from Columbia in 2017 and the 2019 Rosenstiel Award for Distinguished Work in Basic Medical Research. He was elected a member of the National Academy of Sciences in 2017 and the American Academy of Arts and Sciences in 2020. Members of the academy represent the most innovative thinkers including more than 250 Nobel and Pulitzer Prize Winners.

CLICK HERE to read press release and full bio from Scripps Research

SCHOLAR ALUMNI SPEAKERS



ARYN GITTIS, PhD
Associate Professor

Department of Biological Sciences
Carnegie Mellon University

Adjunct Professor of Neurobiology
University of Pittsburgh

(ARCS Scholar Award 2007-2008, UC San Diego)

Dr. Gittis is a neuroscientist in the Department of Biological Sciences at Carnegie Mellon University, whose research focuses on neural circuits in the basal ganglia, a multifunctional brain region that plays a role in the regulation of movement, learning, motivation, and reward. She is interested in how basal ganglia circuits are altered by experience and why some circuits break down in movement disorders such as Parkinson's disease and dystonia. Her laboratory uses a variety of techniques including electrophysiology, optogenetics, histology, and behavior. She uses mice as a model organism to understand how activity of specific basal ganglia circuits relates to motor control in both health and in animal models of movement disorders.

Previously, Dr. Gittis worked as a postdoctoral fellow at the Gladstone Institute of Neurological Disease in San Francisco, after receiving her PhD from UCSD in 2008.

Dr. Gittis has authored and co-authored multiple peer-reviewed scientific papers and presented her work at many national and international conferences. Her contributions have garnered recognition from subject experts around the world and she is the recipient of several distinguished awards and NIH research grants.



JULIA NUSSBACHER, PhD
Senior Scientist

Locanabio Inc.

(ARCS Scholar Award 2015-2017, UC San Diego)

Dr. Nussbacher is an RNA biochemist and bioinformatician. She has worked as a scientist at Locanabio since May of 2019 as their lead bioinformatician, managing all next-generation sequencing and analysis, as well as the Laboratory Information Management System for all of research and development. She also develops informatics pipelines to analyze the efficacy and specificity of Locanabio's RNA-targeting CRISPR gene therapies for neurodegenerative, neuromuscular, and retinal diseases.

Dr. Nussbacher completed her bachelor of science in biochemistry at Brown University. She earned her doctorate in biomedical science from the UC San Diego School of Medicine, under Dr. Gene Yeo, at the Sanford Consortium for Regenerative Medicine.

Outside of work, Dr. Nussbacher enjoys taking her dog Frankie to the park and participating in science communication and outreach.

FORMER SCIENTISTS OF THE YEAR

ARCS SAN DIEGO HONORS A LOCAL DISTINGUISHED MEMBER OF THE STEM COMMUNITY AT ITS ANNUAL SCIENTIST OF THE YEAR EVENT

- 2021 Erica Ollmann Saphire, PhD**
Professor in La Jolla Institute for Immunology's Center for Infectious Disease and Vaccine Research and Director of the Coronavirus Immunotherapy Consortium (CoVIC)
- 2020 Paul Schimmel, PhD**
Professor of Molecular Biology at Scripps Research
- 2018 Fred "Rusty" Gage, PhD**
President, Salk Institute and Professor of Genetics Vi and John Adler Chair for Research on Age-Related Neurodegenerative Disease
- 2017 Karen E. Nelson, PhD**
President
J. Craig Venter Institute
- 2016 Lawrence S.B. Goldstein, PhD**
Professor at UC San Diego,
Stem Cell Research Scientist
- 2015 Gregory T. Lucier**
Chairman and CEO, NuVasive
- 2014 V.S. Ramachandran, MD, PhD**
Director of the Center for Brain and Cognition,
University of California, San Diego
Adjunct Professor of Biology, Salk Institute
- 2013 Eric J. Topol, MD**
Director of Scripps Translational Science Institute
Voted most influential physician executive in the United States 2012
- 2012 Dean Kamen**
2000 National Medal of Technology Recipient
Inventor of Segway® Human Transporter
Founder of DEKA Research and Development Foundation, and FIRST®
- 2011 Richard C. Atkinson, PhD**
Former Director, National Science Foundation
Chancellor Emeritus, University of California, San Diego
President Emeritus, University of California System
- 2010 J. Craig Venter, PhD**
Founder, Chairman and President
J. Craig Venter Institute
- 2009 Erminia "Mimi" Guarneri, MD, FACC**
Medical Director
Scripps Center for Integrative Medicine
- 2008 Dr. Bruce Margon**
Vice Chancellor for Research,
Professor of Astronomy and Astrophysics
University of California, Santa Cruz
- 2007 John C. Reed, MD, PhD**
President and CEO
Sanford-Burnham Institute for Medical Research
- 2006 Dr. Ivor Royston**
Oncologist, Entrepreneur,
Venture Capitalist and Philanthropist
- 2005 Elbert L. "Burt" Rutan**
President and CEO
Scaled Composites, LLC
- 2004 Dr. Sydney Brenner**
Distinguished Professor
Salk Institute for Biological Studies
- 2003 Marcia K. McNutt, PhD**
President and CEO
Monterey Bay Aquarium Research Institute
- 2002 Richard A. Lerner, MD**
President
The Scripps Research Institute
- 2001 Dean Ornish, MD**
President
Preventive Medicine Research Institute
- 2000 Dr. Irwin Mark Jacobs**
Chairman and CEO
QUALCOMM
- 1999 Francis H.C. Crick, PhD, OM, FRS**
Nobel Laureate
Distinguished Research Professor
Salk Institute for Biological Studies
- 1998 Gail K. Naughton, PhD**
President and Chief Operating Officer
Advanced Tissue Sciences, Incorporated
- 1997 Kurt Benirschke, MD**
Professor Emeritus of Pathology & Reproductive Medicine
University of California,
San Diego, Medical Center
- 1996 Dr. Floyd E. Bloom**
Chairman and Member
Department of Neuropharmacology
The Scripps Research Institute
Editor in Chief, Science
- 1995 Drs. Carolyn and Eugene Shoemaker**
Codiscoverers of the Shoemaker-Levy 9 Comet
- 1994 Gerald M. Edelman, MD, PhD**
Nobel Laureate
Director
The Neurosciences Institute
- 1993 Professor Walter H. Munk**
Geophysicist
Scripps Institution of Oceanography at the University of California, San Diego
- 1992 Dr. Paul MacCready**
Inventor
Gossamer Condor
- 1991 Admiral James D. Watkins, USN (Ret.)**
Secretary
U.S. Department of Energy
- 1990 Dr. Sally K. Ride**
Astronaut
Professor of Physics
University of California, San Diego
- 1989 Dr. Simon Ramo**
Cofounder
TRW, Incorporated
- 1988 Dr. Cecil H. Green**
Cofounder
Texas Instruments, Incorporated
- 1987 Dr. Allen E. Puckett**
Chairman Emeritus
Hughes Aircraft Company

ARCS HISTORY & IMPACT

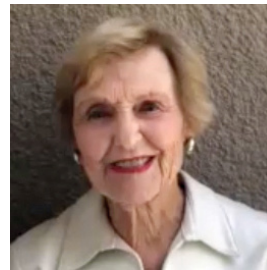
ARCS SAN DIEGO CHAPTER FOUNDERS



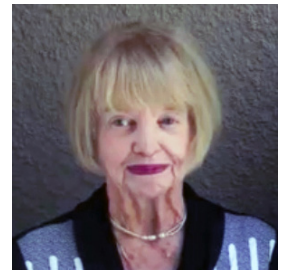
KAREN BOWDEN



KARON LUCE
(in Memoriam)



BARBARA MCCOLL



PATTIE WELLBORN

WHO WE ARE

October 4, 1957 was a game-changer. On that date, Russia launched Sputnik, a 183-pound spaceship, 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 Achievement Rewards for College Scientists (ARCS) Foundation in September 1958. Today, ARCS is a nationally recognized nonprofit organization founded and administered by women who support American leadership and aid advancement in science and technology, now comprised of 15 chapters across the nation.

In 1985, four San Diego women established ARCS Foundation San Diego: Karen Bowden, Karon Luce, Barbara McColl, and Pattie Wellborn. Thirty-seven years later, ARCS San Diego has provided over \$11 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.

SAN DIEGO CHAPTER MEMBERSHIP

2021-2022

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Britt Zeller

BELOVED MEMBERS WE HAVE LOST THIS YEAR

Joan Evangelou, Joy Brunner Frye, and Lois Thompson

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100% OF EVERY DONATION IS USED FOR SCHOLAR AWARDS

Now more than ever it is important to focus on science, technology, research and innovation. Join us and be a part of advancing science in America.

The Scholar Award Fund is supported by ARCS members, foundations, academic institutions, businesses, and individuals in the community. 100% of each contribution made to the ARCS Foundation Scholar Award Fund is awarded to a student. All operating expenses are covered by member dues.



Give online at san-diego.arcsfoundation.org

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Gifts of any size are welcome. All gifts are tax-deductible and greatly appreciated by members, Scholars and their academic institutions.

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Kevin Yturralde – Trumpeter

SPEAKERS

Ardem Patapoutian, PhD
Aryn Gittis, PhD
Julia Nussbacher, PhD
Holly Heaton

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Angela Glenn Hosac
Meredith Johnson
Matthew O'Connor
Ardem Patapoutian
Jamie Williamson