

Letter from the President

Dear AWIS-SD Members, Partners, Sponsors, and Allies,

It seems like a long time has gone by since I wished everyone a Happy New Year! When I started my term as President of this chapter, I did not realize that we would be spending most of 2020 struggling with the impacts and repercussions of the global SARS CoV-2 pandemic.

I would like to acknowledge the hard work, sacrifice and dedication of the scientists and health care professionals over these past months who have developed novel diagnostics and treatments for COVID-19, worked to prevent the spread of the coronavirus, and provided our healthcare. Many, many thanks are also due to the essential workers who have labored so hard to provide all of the services we depend upon to live and thrive.

Despite the pandemic, our chapter has persisted with its mission to support the advancement of women in STEM. AWIS-SD has shifted to a virtual organization and continued to thrive. Over the past months, we have provided virtual networking and professional development events for our members as well as virtual outreach events for the community. Please read our newsletter and visit our website at awissd.org to learn more about our organization, our recent events and our upcoming events including the 2021 Virtual Women in Science and Technology Conference.

I am also extremely pleased to announce that Lynne Friedmann, an AWIS fellow and long-term member of AWIS-SD has decided to become the first legacy donor to our chapter. Please read her inspiring words in the accompanying newsletter about her decision to include AWIS-SD in her will. Finally, I wish to thank all of the AWIS-SD members who have generously volunteered their time to make this organization what it is today and our sponsors who have made it possible for us to offer so much to our members and our community.

Warmest wishes,

Kina

Varykina Thackray, Ph.D.

President, AWIS-SD

president@awissd.org



NEWS

AWIS-SD is in My Will

By Lynne Friedmann, AWIS Fellow

I recently updated my family trust, will, power of attorney, and other important end-of-life documents. Included in those documents is a bequest to AWIS-SD.

It was an easy decision to make because in my nearly 40-year career, AWIS-SD has been there every step of the way providing me a risk-free environment to develop leadership skills, receive mentoring and in turn mentor others, and develop a powerful network of women in STEM leading to mutually beneficial work relationships as well as numerous cherished friendships. The chapter also gave me unsurpassed support when I came to the board 27 years ago with the harebrained idea to launch Women in Bioscience, which evolved and continues to this day as the biennial WIST conference series.

Like so many of you, over the years I have given back to AWIS-SD through volunteer, committee, and board service. I have financially supported WIST as a conference sponsor and the chapter through annual donations.

I am proud to be taking the next step up as a legacy donor and encourage you to give thought to doing the same. By the way, you don't need to be retirement age, like I am, to set the wheels in motion.



You also don't need to hire an attorney to set up complicated legal documents to do this. Here are a few no-cost ways to create a bequest to AWIS-SD.

- Add AWIS-SD as a beneficiary of your life insurance policy.
- Name AWIS-SD as a beneficiary of your retirement plan.
- Give a tax-free gift with a charitable IRA rollover.

Decades from now, I will be long gone and people who aren't even born yet will be running this chapter. I have complete trust that the members at large, committee chairs, volunteers, and board of AWIS-SD will continue to set the standard for advancing women in STEM. That is why AWIS-SD is in my will.

2020 Virtual AWIS-SD Open House

By Kina Thackray

The annual AWIS-SD Open House was held in a virtual format this year on Tuesday, September 15th, 2020 from 6-7:30 PM. Over 50 AWIS-SD members and non-members registered for the event. Breakout rooms were created for each AWIS-SD Committee including Newsletter, Website, Corporate Sponsorship, Public Relations, Outreach, Scholarship, Events, Academia to Industry, Career Advancement, and AWIS-SD Leadership Network. Each committee was represented by its

EVENTS

Co-Chairs, who enthusiastically explained the committee's goals and activities, and how new members can contribute to the success of AWIS-SD's programming. At the end of the evening, the attendees were entered into a drawing for giftcards from Chipotle, Whole Foods, Uber Eats, Doordash and Amazon.

Although several new members were recruited to join one of our committees, we are still looking for new Co-Chairs for the Newsletter, Website, Scholarship, and Events Committees. All committees are also welcoming new members. Please read more about our different committees on our website at awissd.org and contact the current Co-Chairs for more information. In addition, we are beginning to organize for the Virtual Women in Science and Technology (WIST) Conference to be held in May, 2021. This is one of our chapter's signature events that we host every two years. Please contact President Kina Thackray at president@awissd.org if you are interested in helping with this event.



Transforming patients' lives through science™

We are in the business of breakthroughs—our diverse, promising pipeline is focused on innovative medicines that transform patients' lives. Our scientists are addressing some of the most challenging diseases of our time. We will never give up our search for more hope, for more patients, around the world.

 Bristol Myers Squibb™

We're proud to support the Association for Women in Science (AWIS) San Diego

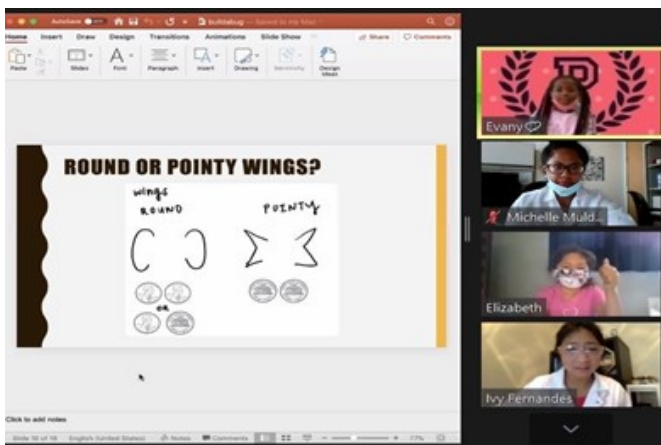
Visit bms.com to see how we're bringing a human touch to everything we do.

© 2020 Bristol Myers Squibb Company. All rights reserved.

AWIS Outreach Virtual Event: Bug Genetics and Why Do We Wash Our hands?

By Michelle Muldong

Over a three day period from July 7-9th 2020, AWIS Outreach leaders and volunteers received a wonderful opportunity to demonstrate a hands-on virtual science lesson to the third graders of Language Academy Elementary School located in La Mesa. Through the connection of AWIS committee member Dr. Yessica Diaz Roman to Senora Elisa Penalzoza (3rd grade dual immersion STEM teacher), Outreach was able to provide a fun opportunity for science participation remotely.



The first lesson, "Why do we wash our hands?" incorporated learning about surface tension, cohesion and adhesion of water molecules in addition to demonstrating the importance of hand washing to remove germs during this unprecedented time of the COVID-19 pandemic. The second lesson gave students insight into genetics by discussing recessive and dominant genes that are passed down to offspring. By using different bug traits and flipping a coin through a random coin flip tool online, students were able to create their very own unique bug, depending on the outcome of their coin flip.

EVENTS



Each lesson plan was about 45 minutes, and the technicalities of separating six to seven students worked very well in order to increase participation and attention.

There was enthusiasm from each classroom as well as inquisitive questions. Through this smooth layout, all 70 third graders from Language Academy Elementary were able to prepare for the experiment beforehand with the guidance of Senora Penalzoza and perform the activity at the same time as Outreach volunteer demonstrators. Students were then given follow-up activities for each experiment to try in their own home with their parents and were instructed to report their findings to their teacher and classmates at their next virtual class. For a virtual outreach event, it was fun and deemed a great success!

EVENTS

AWIS Outreach Virtual Event: Bug Genetics and Why Do We Wash Our hands? (cont)

Special thank you to Ivy Fernandes, Dr. Yessica Diaz Roman and Senora Elisa Penalzoza for their time and planning on this event! Also a big thank you to all our volunteers who made it possible: Monique Mazai-ka, Dr. Maryan Rizk, Suravi Hingorani, Alex Osborne, Hao Pham, Jamillah Murtadha, Alex Bosworth, Jennifer Waters & Kamala Janiyani.



Top Row L to R: Senora Elisa Penalzoza, Dr. Yessica Diaz Roman, Suravi Hingorani. Bottom Row L to R: Dr. Maryan Rizk, Michelle Muldong & Ivy Fernandes

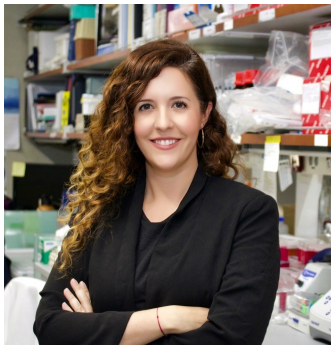
HOLOGIC®
The Science of Sure

Hologic is proud to support the Association for Women in Science.

Hologic.com
*Hologic, Inc. 2020. All rights reserved

Meet Angela Macia, Ph.D.: Blending Scientific and People Skills

By Pat Rarus, AWIS-SD Newsletter Committee



Why is it that busy people always seem to get the most work done? This is certainly true of **Angela Macia, Ph.D.**, co-chair of the AWIS Corporate Sponsorship Committee. She is a multi-tasker with strong scientific expertise as well as impressive people skills. These attributes serve Angela, a molecular biologist and UCSD post-doctoral researcher very well, as she works on brain organoids to help understand how COVID-19 impacts the brain.

A native of Spain, Angela earned her Ph.D. at Pfizer-University of Granada-Junta de Andalucia Center for Genomics and Oncological Research. She came to the United States as a result of a European Molecular Biology Organization (EMBO) fellowship, which required Angela to work overseas for a certain period of time. She studied with her current principal investigator Alysso Muotri, a director of the UCSD Stem Cell Program.

“AWIS aligned with my values of contributing to a worthy cause in addition to my scientific research,” said Angela in a recent email interview. Besides the altruistic aspect of volunteering, Angela admitted that she recognized the benefits to her career as well. “In the U.S., it’s important to have soft skills as well as scientific skills,” she said in the email interview. “This is not as important in an European country such as Spain.”

She began her AWIS San Diego involvement by attending AWIS-SD Academia 2 Industry Coffee Clubs and AWIS-SD Speed Networking events. Then Angela joined AWIS’ Corporate Sponsorship Committee at the end of 2017. She became co-chair in September 2018 and then an AWIS board member in January 2020. Back then— before COVID-19— AWIS held

many in-person events and needed financial backing from local companies. Funding from corporate sponsors is vital to support scholarships, outreach activities, and events such as the AWIS-SD Scholars Celebration and WIST Conference.

Companies benefit from sponsoring AWIS-SD in many ways, including recognition at events, in the newsletter and AWIS-SD website, job postings on AWIS-SD website. In addition, AWIS company sponsors get employee discounts or complimentary admissions to AWIS-SD events.

“I thought it was interesting the way that AWIS San Diego engages with local biotechs,” explained Angela. She expressed great pride in helping to raise \$25,000 in 2019.

Contributions also come from individuals, such as science writer Lynne Timpani Friedmann, an AWIS Fellow and long-time supporter of the chapter. “I have been enormously impressed with Angela’s work on the Corporate Sponsorship Committee. She’s a real asset to the chapter,” said Lynne via an email interview. In addition to her generous annual giving, Lynne recently added a major bequest to AWIS-SD as part of her estate planning and credits Angela’s personal touch with donors -- meeting for coffee and sharing details of her research and personal life – in helping her to make that legacy decision.

Despite Angela’s busy work and volunteer schedule, this past April she married her husband Jon, a cell culture specialist with STEMCELL Technologies, in a scaled-down ceremony at Lake Arrowhead. “We were originally planning a big wedding in Coronado, but had to improvise due to COVID-19,” she explained.

Angela has much to look forward to – both personally and professionally. AWIS San Diego appreciates her continued interest and involvement in our chapter!

SPOTLIGHT

Member News

Congratulations to Kathleen Prosser, Ph.D.



from the UCSD Department of Chemistry and Biochemistry. She is one of five finalists for the Chancellor's Outstanding Postdoctoral Scholar Award.

Please Renew Your Membership

As the year comes to an end, please renew your membership with AWIS by going to <https://www.awissd.org/index.php/membership>.

There are three categories of membership: Student, Junior and Professional.

- The Student or Chapter only membership is only \$25. This allows you to attend events at member prices but you will not receive any benefits from AWIS National and provide evidence that you have recently taken a course.
- The Junior membership is \$90 or \$25 for the local chapter and \$65 for the National membership. This gives you benefits for both local and national AWIS.
- Finally, the Professional Membership for senior leaders is \$175. The Professional membership provides more career development opportunities through the local chapter and national AWIS as well as the opportunity to mentor future STEM leaders.

NOTICES

Call for Volunteers

AWIS San Diego needs volunteers for organizing the Virtual WIST 2021 Conference. Because the conference is virtual, committee members will be recruiting speakers, registering participants and planning the program. We will also be celebrating our scholarship and science fair winners. If you are interested, please e-mail our president, Kina Thackray, at president@awissd.org.

The Outreach Committee is starting a monthly Meet a Scientist virtual speaker series for students of all ages. If you are interested in being a **speaker** please fill out the form in this link: <https://forms.gle/MCehk5QBD4hJPWhw9>

Upcoming AWIS-SD Events

AWIS San Diego Event Committee Meetings – Plan network events for AWIS members and the community.

6:00 pm on Wednesday, January 13th, 2021 and Wednesday, February 10, 2021

Zoom link will be sent out one week prior to meeting.

Outreach Committee Meeting

6:00 pm on Wednesday, January 6th

Plan STEM related activities for AWIS members and the community.

Something to Be Happy About; Better Times for Women in Science

Jean Spence

The year of 2020 will be forever etched into our memories because of the COVID-19 pandemic, racial strife and an unusual and contentious presidential election. There are reasons to celebrate however. For the first time, two women, Emmanuelle Charpentier and Jennifer A. Doudna, are sharing the Nobel Prize. Also this year, Andrea Ghez became the fourth woman to receive a Nobel Prize in physics since the prizes began in 1901.



Emmanuelle Charpentier

Jennifer A. Doudna

Charpentier (Max Planck Unit for the Science of Pathogens, Berlin, Germany) and **Doudna**

(University of California, Berkeley) discovered CRISPR/Cas9, a ‘genetic scissors’ for making changes in DNA with high accuracy and ease. CRISPR/Cas9 was originally discovered in *Streptococcus pyogenes* where it is part of a primitive immune system against viral infection by targeting the viral DNA. Doudna and Charpentier modified the bacterial proteins so that they could recognize any DNA at a designated site by changing the guide RNA. CRISPR/Cas9 has revolutionized molecular biology in the same way that PCR and restriction enzymes have. It is widely used to make changes easily in the DNA and is currently being investigated as a means of treating genetic diseases.

NEWS

Ghez is a professor in the Department of Physics and Astronomy at UCLA. She shares half of the prize with Reinhard Genzel with the other half going to Roger Penrose. Genzel and Ghez discovered a



Andrea Ghez

“supermassive compact object at the center of our galaxy” popularly called a black hole. Ghez measured the gravitational pull near this supermassive black hole in order to test Einstein’s theory of relativity. In 2009, Ghez said “[A]t some point we will need to move beyond Einstein’s theory to a more comprehensive theory of gravity that explains what a black hole is.” The other women who have won the Nobel Prize in physics are Marie Skłodowska-Curie (1903), Maria Goeppert-Mayer (1963), and Donna Strickland (2018).

Unfortunately, women have historically been awarded much fewer Nobel prizes than men. Since the prizes were started by Alfred Nobel in 1901, 3.8% of the awardees were women in chemistry, 1.8% in physics, and 5.4% in physiology / medicine. The percentages are somewhat higher in literature (13.7% women) and Peace (12.6% women). These low percentages are not due to lack of talent or intelligence. In order for a problem to be addressed, it must first be identified.

NEWS

The culture of harassment and discrimination against women has been investigated and documented. The National Academies of Sciences, Engineering, and Medicine published a 312 page study entitled “Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine” (<https://doi.org/10.17226/24994>). High profile lawsuits have been filed against major universities including the University of California, Berkeley, the University of Chicago, University of California, Los Angeles, Rutgers, and Princeton demanding equal treatment of women for tenure,



Discover the courses and programs you need to advance your career in the life sciences.

Learn more: extension.ucsd.edu/sciences

salaries and resources. The difficulties of women in science and technology have even reached public media in The Atlantic (2016), The Guardian (2019), Scientific American (2020), National Geographic (2019), Vox (2018), the NY Times, and Vice (2019) to name a few.

Change was underway in politics as well. Another glass ceiling was broken when Joe Biden selected Kamala Harris, a biracial black and south Asian American, as his running mate. On March 31, 2019, AWIS members met with members of congress to urge bipartisan support for H.R. 36 Combating Sexual Harassment in Science Act of 2019.¹

This bill, which has passed the House of Representatives, entrusts the National Science Foundation with awarding grants to research sexual and gender harassment in STEM fields and to find ways to mitigate the incidence and effects of this harassment. The primary sponsors of this bill are Reps. Eddie Bernice Johnson (D-TX), Frank Lucas (R-OK) and Sen. Kamala Harris (D-CA) (currently, vice president-elect). The bill still has to pass the senate and be signed by the president before being enacted into law. Legal action, publicity and greater recognition are all signs that the fight for gender equality is changing the tide for women in science and technology. And that is something to be happy about.

1. <https://www.awis.org/awis-advocates-women-stem-calls-funding-equity-workplace-protections-sexual-harassment-discrimination/>

NOTICES

Community Notices

The UC San Diego Human Milk Research Biorepository, (<https://mommymilkresearch.org>) is seeking donations of breast milk samples from women who have tested positive for COVID-19, have been symptomatic but not tested, or have had a high risk exposure to the virus. The study is located at the Center for Better Beginnings at UC San Diego and led by Dr. Christina Chambers in collaboration with investigators at the [Larsson-Rosenquist Foundation Mother-Milk-Infant Center of Research Excellence \(MOMI CORE\)](#) and also at UC San Diego led by Dr. Lars Bode. The study will examine the evidence for transmission of the virus through breast milk as well as determine the extent to which breastmilk may contain protective antibodies or other anti-viral compounds. Women who reside in the U.S. or Canada are eligible to enroll in the study. Women who are interested can contact Kerri Bertrand at milkstudy@ucsd.edu, by calling 858-246-1713 or through the self-referral form on the study website (<https://mommymilkresearch.org/participate>). Financial contributions to help support the study can be made through the MOMI CORE website.

Encorps STEM Teachers Program is launching a new virtual STEMx math tutoring program- if interested please sign up here: <https://www.encorps.org/>

Contribute to the Newsletter

If you are an AWIS-SD member, we encourage you to contribute to the newsletter. Please send articles, photographs, and member news as MS Word attachments to newsletter@awissd.org. News articles should not exceed 250 words, event summaries should not exceed 500 words, and feature articles (special-interest stories and profiles) should not exceed 1000 words. The submission deadline for the next issue is March 15, 2021.

AWIS-SD Newsletter Committee

Co-chairs: Alyson Smith,
Jean Spence
Members: Emily Bentley
Swathi Hullugundi
Corine Lau
Pat Rarus
Newsletter@awissd.org

2020 AWIS-SD Board Members

	Name	E-mail
President	Varykina Thackray, PhD	president@awissd.org
Past President	Courtney Benson, PhD	pastpresident@awissd.org
Secretary	Juliati Rahajeng, PhD	secretary@awissd.org
Treasurer	Katherine (Kat) Chang, PhD	treasurer@awissd.org
Members at Large	Sigrid Katz, PhD	
	Kamala Janiyani, PhD	
	Angela Macia, PhD	
	Wendy Ochoa, PhD	wochoa@awissd.org
	Robyn Wygal	

About the Authors



Science writer Lynne Friedmann is a biologist and journalist by training who has spent her career writing about science, technology, medicine, and environment topics for newspapers, journals, magazines, and online. Friedmann was named a Fellow by AWIS, AAAS, and the Public Relations Society of America. All three cited her “leadership and significant contributions to the public communication of science and technology.” Friedmann has been a member of AWIS since 1986. She created the chapter newsletter, initiated the chapter’s first public relations outreach, was elected to both the chapter and National AWIS boards, and was chair of the 1993 Women in Bioscience conference. Through her science-writing courses at UC San Diego Extension, she has nurtured and launched the science-writing careers of several AWIS-SD chapter members.



Michelle Muldong is a Research Associate at the University of California San Diego’s Moores Cancer Center. She works in Dr. Christina Jamieson’s lab studying bone-metastatic prostate cancer performing in vivo and in vitro experiments utilizing patient derived samples. Michelle obtained her B.S. from the University of California San Diego with a degree in General Biology. She has been involved in AWIS since September 2019 and is passionate about teaching the next generation about STEM. Outside of lab Michelle enjoys hot yoga, hiking, snowboarding, iced coffee & hanging out with her French bulldog/Boston Terrier mix pup- Stitch!



Pat Rarus is a long-term contributor of the Newsletter committee. As the owner-founder of Marcom Consulting Group, Pat has assisted clients with marketing communications projects. The goal: increase visibility, market share and ultimately sales for profit-making companies. Increase visibility and donors for non-profits. Pat specializes in writing and editing a wide variety of online and print marketing materials: Website copy, including SEO, press releases, blogs, social media, biographies, marketing plans, speeches, ad/brochure copy, taglines/slogans, PowerPoint presentations and much more.



Jean Spence earned a Ph.D. from the University of Utah in microbial genetics. Subsequently, she did several postdoctoral fellowships at M.I.T., Harvard Medical School, UCSD and the University of Rochester. She pursued her interest in systems biology by developing a novel platform and publishing 3 manuscripts and a book chapter as communicating author. She has been a reviewer for the AWIS-SD newsletter since 2014 and became a co-chair this year. She was also a co-chair of the former Back to Work group in AWIS-SD.



Varykina Thackray (Kina) is an Associate Professor of Reproductive Medicine at UC San Diego. She has a comprehensive background in hormone signaling, regulation of gene expression in reproductive tissues and the role of the gut microbiome in polycystic ovary syndrome. She received her PhD at the University of Colorado Health Sciences Center and completed her postdoctoral studies in reproductive endocrinology at UC San Diego. Her research accomplishments were recognized with the Endocrine Society Early Investigators Award and the Women in Endocrinology Young Investigator Award. She is an active member of the Endocrine Society, Women in Endocrinology and the AWIS-SD Outreach Committee.

AWIS San Diego Sponsors

AWIS-SD thanks our corporate sponsors for their generous support. Donations from corporate sponsors help us fund scholarship awards, monthly events and Strategy Sessions, community outreach efforts, the Newsletter and the website.

GOLD

[UCSD Extension](#)
[Bristol-Myers Squibb](#)

SILVER

[Hera Hub](#)
[TriLink](#)
[Ferring Pharmaceuticals](#)

BRONZE

[BioLegend](#)

[Hologic](#)

AWIS FELLOWS

Lynne Friedmann

UC San Diego | Extension



HOLOGIC[®]



Bristol-Myers Squibb



HERA HUB
WORKSPACE FOR WOMEN



For more information about how your company can support AWIS-SD, send e-mail to CorporateSponsorship@awissd.org

Follow us at www.awissd.org