



LETTER FROM THE PRESIDENT



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

As my time as President of the AWIS-SD chapter draws to a close, I would like to acknowledge the many challenges that we have faced over the past two years. While it is too early to say with confidence when the SARS-CoV2 pandemic will become endemic in our country and how it will affect our lives going forward, there have been enormous contributions from many individuals in science, technology, medicine, and public health (many of them women) in developing and implementing vaccines, monoclonal antibody and antiviral therapies, and rapid screening tests to deal with this virus. In addition, countless, underappreciated efforts have been made by those on the front lines, particularly in healthcare, to support and care for those afflicted by COVID. Once again, a big thank you to those individuals for all that they have done for our community!

Unfortunately, even while dealing with a global pandemic, we are still faced with the systemic sexism that permeates our country. For instance, the pandemic has made it clear that women continue to be burdened with the majority of child- and elder care in our country. In other words, many women have two jobs, one at work and another at home. I applaud the national AWIS organization for recognizing the importance of this issue with multiple recent webinars on this topic. However, there appears to be scant interest in addressing this issue at the government or institutional level. If we want to have a workplace that is equitable for women, why is the US the only industrialized country in the world that lacks a national paid leave policy? Why is the US an outlier in the amount of funds provided to help pay for child-care? Why do companies and academic institutions make little effort to subsidize child- or elder care for their employees or students? For women to truly have an equitable role in STEM, this issue must be addressed!

One way to support women's equity in STEM is to join AWIS-SD as a member or sponsor our efforts to improve access, equity and inclusion for all women in STEM. AWIS-SD provides an exceptional array of committees and events to foster career development, networking, leadership opportunities, and community engagement in STEM. Through the hard-work of many of our members, our chapter has risen to the challenge over the past two years during the pandemic and organized many outstanding virtual events that you can read about in the accompanying newsletter as well as in past issues. We are looking for new motivated members to enhance and further our mission especially as we begin to organize in-person events again! We need your help in many aspects of our organization including the corporate sponsorship,

public relations, events, website, and newsletter committees. If you are interested in joining one of our committees, please feel free to contact me at president@awissd.org.

In my final letter, I would like to emphatically thank all of our chapter committee and board members who volunteered so many hours of their time to make this organization what it is today. I have enjoyed getting to know you and working with you all over the past two years. It has been a very rewarding experience serving as chapter President and I look forward to serving this chapter as Past President next year. I would also like to personally thank our sponsors who have made it possible for us to offer so much to our members and our community. I am especially grateful for the funds provided for our annual AWIS-SD Scholarships and the Science Fair Awards since supporting the next generation of diverse women in STEM is so important.

Warmest wishes,

Kina

Varykina Thackray, Ph.D.

President, AWIS-SD

president@awissd.org



AWIS San Diego Fall Open House

by Michelle Muldong

AWIS-SD held its annual Fall Open House on October 7th, 2021 from 6-8pm on the Gather platform. This virtual style venue allowed participants to create their very own personalized avatar which created a sense of interaction and camaraderie, even though it was virtual. Over 50 participants attended the Open House. The Open House started with a networking session that included an introduction to the various AWIS committees hosted by the different co-chairs including Corporate Sponsorship, Newsletter, Public Relations, Website, Events, Scholarship, Outreach, Academia to Industry, Career Development, and Leadership Network. Afterwards, participants were given the choice to attend either a STEM Gather Platform Career panel session or a Gender Diversity in Leadership panel session.



Virtual space of AWIS-SD Open House

The STEM Career Panel session consisted of an amazing panel of speakers from both academia and industry which included: Anita Iyer, PhD (Staff Regulatory Affairs Specialist, Illumina), Betty Cabrera, MPH (Director of Clinical Operations, UC San Diego) and Jill Slaboda, PhD (Senior UX Researcher, ServiceNow). All three panelists were either former or current members of AWIS-SD. The panel was moderated by Michelle Muldong (AWIS San Diego Chapter Board Member at Large and Scholarship Committee co-chair).

The topics discussed varied and great conversations were sparked through questions such as “How can I further develop my leadership skills?” (one answer: join AWIS!) “How do I balance being assertive vs. being aggressive?” and “What advice would you give your younger self?” The panelists answered the questions thoughtfully and eloquently and demonstrated examples of success in their various roles. The panel session had a great turnout with numerous participants expressing interest in joining an AWIS committee.

For the session on Gender Diversity in Leadership, there were two amazing speakers: Rachel Soloff, PhD (Executive Director of Research, Kyowa Kirin, Inc) and Dorothy Sears, PhD (Professor of Nutrition, Arizona State University). Previously, Rachel served on the AWIS-SD Board and Dorothy served as President and Past President of AWIS-SD. They are both currently members of the AWIS-SD Leadership Network. The session was moderated by Varykina (Kina) Thackray, PhD (current President of AWIS-SD and Professor of Ob/Gyn and Reproductive Sciences at UC San Diego). Both Rachel and Dorothy spoke about their experiences in academia and industry regarding leadership. They highlighted their career paths and gave excellent advice about taking advantage when leadership opportunities are offered to you. They also emphasized how important it is to be intentional and seek out leadership training,

particularly for women in STEM who are often not confident of their abilities in leadership. For instance, they both gained leadership experience in supportive environments through their involvement with AWIS-SD, particularly serving as a committee chair and member of the board.

A big thank you goes to AWIS San Diego President Kina Thackray and the AWIS San Diego Board for organizing and creating a wonderful agenda. It was a great success!



Academia to Industry September Coffee Club with Dr. Preeta Dasgupta

by Shanna Lavalle

The AWIS-San Diego's Academia to Industry (A2I) committee hosted Dr. Preeta Dasgupta for our September coffee club, where she spoke about her career in regulatory affairs. Dasgupta received her PhD in immunology from the University of Maryland, Baltimore, completed a postdoctoral fellowship at MedImmune/Astra Zeneca, and then transitioned from academia to a career in regulatory affairs. She has extensive experience working at the National Institutes of

Health (NIH) as a regulatory affairs officer and at University of California San Diego developing regulatory strategies for pre-clinical and clinical programs. She now serves as Associate Director of Regulatory Affairs at Wugen, a biotech company that develops cellular therapies for cancer.

Dasgupta provided insight into her day-to-day work activities and explained how it requires a lot of time but is also extremely rewarding. She shared strategies on how to enter a career in regulatory affairs and gave us historical details about the Food and Drug Administration (FDA). She also shared valuable resources for anyone interested in this line of work, such as the San Diego Regulatory Affairs Network (SDRAN) group and events hosted by the Small Business & Industry Assistance (SBIA) FDA alliance group. Attendees received valuable information at this event and expressed their appreciation to Dasgupta for her valuable insight and helpful career advice!

October Halloween STEAM Event

by Jamillah Murtadha & Jennifer Waters

On Saturday, October 30, 2021 from 2-4 p.m., at the Mission Valley Library, AWIS Outreach partnered with The Energy Coalition, All Girls STEM Society, and the Friends of Mission Valley Library for the Halloween STEAM event. About 200 people attended, and there was never a dull moment in those 2 hours.



Left to Right: Jenny Waters and Sarah McTague build candy corn or marshmallow towers with future engineers

Attendees expected scavenger hunts, crafts, and experiments and they were rewarded. As expected, AWIS Outreach provided three scientific demonstrations/experiments. Jenny Waters and Sarah Mctague showed the importance of structural integrity by guiding the attendees to construct candy corn or marshmallow toothpick towers at one table.

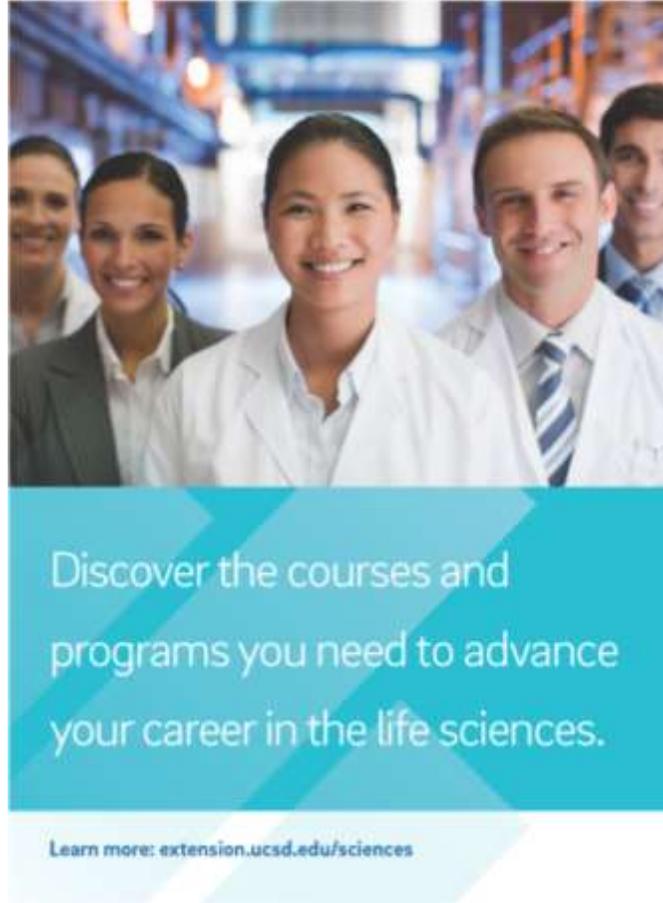


Left to Right: Michelle Muldong prepares a baking soda vinegar ghost. Leila Chihab and Gigi Gadbois make Witches Brew with Dry Ice

At our second table, Leila Chihab and Gigi Gadbois experimented with dry ice and warm water and gave meaning to sublimation and why there was a cloud in what we called the “witches’ cauldron.” At the third and last table, Jamillah Murtadha and Michelle Muldong demonstrated the product created from the classic chemical reaction of baking soda and vinegar in a balloon, not a volcano. Attendees enjoyed the demonstrations immensely, giving positive feedback on all three of the activities.



Left to Right: Michelle Muldong, Gigi Gadbois, Leila Chihab, Jamillah Murtadha, Sarah McTague and Jenny Waters take a photo break after the successful day of experiments and demonstrations



The A2I Coffee Club on Intellectual Property, July 29th 2021

by Sameera Bilgrami and Shanna Lavalle

The A2I coffee club on intellectual property was held June 29th at 5pm on Zoom virtual platform. There were 10 attendees in all. Richa Dhindsa, senior patent agent at BASF was the guest speaker. The discussion, moderated by Sameera Bilgrami, started with Dhindsa sharing her career path from a master's student in India to a senior patent attorney at BASF. Dhindsa was introduced to patent law as a summer intern while doing her master's. What started as a casual experiment during summer became her lifelong passion. She liked reading about new technologies and immediately after her master's, started pursuing law in India. When she came to the US, she registered as a United States Patent and Trademark Office (USPTO) patent agent and practiced in law firms including Klein, O'Neill and Singh, LLP, Edward Biosciences and BASF. Recently she cleared her bar exam and is now provisionally licensed to practice law in California.



Richa Dhindsa

Senior Patent Agent at BASF

Tuesday, June 29th, 2021



Hosted by AWIS SD Academia to Industry (A2I)

There were several questions focusing on the differences between a patent scientist, agent and attorney. Dhindsa clarified that a patent agent has cleared the USPTO patent bar exam and is registered with the USPTO to practice whereas a patent scientist can be anyone with a technical background who can read, understand, write and search patents. A patent attorney is a licensed lawyer who can practice in court. Usually, there is a support system in law firms where they fund the partial or complete expense of patent bar courses and/or bar exam. Also discussed were the average compensation for each designation and instances where agents are preferred more than attorney and vice-versa.

The conversation then turned toward differences between working in a law firm versus in a pharmaceutical company. In general, the annual compensation given by a biotech company is less than a law firm, but the work-life balance is better. In a biotech company a patent agent can see a patent develop and grow right from its infancy, form a rapport with scientists and engineers and oversee a project from start to finish. Among differences in working in a small biotech company vs a big one, Dhindsa said that it was easier to ask the scientists/engineers for experiments or tests in a small company. Bigger pharmaceutical companies have more bureaucracy, so it is more difficult to get experiments done when scientists have moved on to other projects.

There were questions around best and worst aspects of practicing patent law. Dhindsa finds reading about new technologies invigorating; every day is different because technologies and laws change, and you must quickly adapt yourself. The most challenging aspects of patent law are learning to write applications in legal terms, exhaustive searches and reading of patents.



Dhindsa also shared some interesting facts like a patent takes anywhere from 5 to 6 years from start to getting approved. Companies prefer to employ patent agents more than attorneys as they are paid less, there is no golden age or experience level to transition into patent law and foray into patent law is easy via internships that are offered by many law firms.

We had an amazing speaker, and even more enthusiastic participants. Dhindsa agreed to share her LinkedIn profile with all registrants.



The world leader in serving science

Educating the next generation of scientists is our investment in the future

Find out more at [thermofisher.com](https://www.thermofisher.com)

ThermoFisher
SCIENTIFIC

© 2017 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. COL31692 0417

This Year's Advances by Women in Science

by Jean Spence

One of the metrics for evaluating the parity of women in science is recognition by prestigious prizes. Unlike last year, no women won a Nobel Prize in chemistry, physics, physiology or medicine in 2021. This lack of representation of women in the lineup of winners of the most prestigious accolade in science has been historic. In the past 118 years, only 20 women have won the prize in these categories. Women are also largely absent from the selection committees.

AWIS has noted the lack of recognition of female scientists this year. Sandy Robert, CEO of AWIS, said, "This feels like a giant step backward following last year's Nobel Prizes when three women were recognized. AWIS would like to create a list of women scientists doing groundbreaking research so we can bring more recognition to their work." Recommendations for outstanding female scientists can be sent to awis@awis.org.

In an open letter entitled, "**AWIS Encourages Diverse Representation in Nobel Prizes for Science**," (<https://www.awis.org/awis-encourages-diverse-representation-nobel-prizes-science/>) Shelley O'Brien, Chief Marketing Officer for AWIS, proposes the following changes to the Nobel Prize Process:

- **A women-led research team should evaluate and audit the nomination and selection processes and recommend ways to improve diversity.**
- **A broader nomination process and more transparency is warranted.**
- The list of nominees is sealed for a period of 50 years. The lack of openness may suggest that there is something to hide. **The Nobel Prize committees should publish a short list of nominations in advance of the winners.**
- **The selection committees must also receive training to mitigate bias and set clear criteria for the awards.**

On a more positive note, the 2021 Lasker-DeBakey Clinical Medical Research Award and the 2022 Breakthrough Prizes in the Life Sciences went to Katalin Karikó (BioNTech and University of Pennsylvania) and Drew Weissman (University of Pennsylvania) for their work on modifying synthetic mRNA so that it is stable and not immunogenic when used as a therapeutic. Their research formed the basis for the Moderna and Pfizer-BioNTech COVID-19 vaccines.

Karikó's path to success was fraught with hardships. Her initial work on RNA was considered to be too experimental to be funded. Referring to her inability to secure grant funding, she said, "Every night I was working: grant, grant, grant, and it came back always no, no, no." Because of her lack of funding at the University of Pennsylvania, she was demoted from a tenure track position and had her salary cut. Fortunately, her dedication and hard work eventually paid off. She found a colleague in Drew Weissman who moved to Penn in 1997. Currently, she is senior vice president of BioNTech (valued at \$28 billion in spring, 2021) and adjunct associate professor at Penn (ironically, still not a tenure track position).



Since its inception in 2013, women have received 3 million dollars by winning at least one of the Breakthrough Prizes in Life Sciences every year with the exception of 2014. Women have not been well represented, however, in the Breakthrough Prizes in Mathematics and Fundamental Physics. The Lasker Prize, often a precursor of the Nobel Prize, has also recognized many women. Notable, the Board of Directors for both the Lasker Prize and the Breakthrough Prize are 25% and 50% women respectively.

Drew Weissman, M.D., Ph.D. and Katalin Karikó, Ph.D.

Other prestigious prizes won by women in STEM in 2021 include:

- Templeton Prize awarded to Jane Goodall of The Jane Goodall Institute.
- Copley Medal awarded to Dame Jocelyn Bell Burnell, DBE, FRS by The Royal Society for work on the discovery of pulsars.

- Waterman Prize: shared by Melanie Matchett Wood, Professor of Mathematics, Harvard University and Nicholas Carnes, Duke University - Sanford School of Public Policy.
 - Bernard M. Gordon Prize for Innovation in Engineering and Technology Education went to Dr. Linda G. Griffith, Professor of Biological Engineering and Mechanical Engineering Chair, Massachusetts Institute of Technology.
-



Celebrating Women in Science

BioLegend offers cutting-edge, high-quality reagents and tools developed by expert scientists. We are passionate about scientific discovery and our inclusive and diverse workforce inspires innovation and collaboration.

Join our team:
biolegend.com/en-us/careers

BioLegend[®]

World-Class Quality | Superior Customer Support | Outstanding Value

© 2014 BioLegend. All rights reserved. BioLegend is a registered trademark of BioLegend. All other trademarks are the property of their respective owners.

Chapter News

1) Are you interested in networking with STEM Industries, Academia, Government & Non-Profits? Are you interested in bringing people & ideas together? Are you looking for an opportunity to add additional leadership skills to your career toolbox? Join AWIS-SD leadership team and build supportive communities! [Contact our leadership team!](#)

2) All AWIS-SD committees are seeking new members. Current committees are Academia 2 Industry (A2I), Events, Public Relations, Newsletter, Scholarship, Career Advancement, Outreach, Website and Corporate Sponsorship. [Check us out!](#)

Upcoming Events

Check our [events calendar](#) for most up-to-date information.



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.

© 2018 Bristol Myers Squibb Company. All rights reserved.

About the Authors



Sameera Bilgrami, Ph.D., is a senior scientist at Aethlon Medical, a company that captures pathological disease targets using medical devices as adjuncts to traditional drug therapies. Her career as a researcher started in India at the National Centre for Biological Sciences, TIFR Bangalore, where she studied protein-lipid interactions in live cell membranes. She was a postdoctoral fellow in the late Dr. Gary Bokoch's lab at Scripps Research before moving to UCSD. Her research focused on organelle movement, angiogenesis, and cancer cell movement. Sameera has a strong background in cell biology and expertise in imaging techniques, image analysis and programming. She likes to spend time with kids, hike, and volunteer at AWIS-SD.



Shanna Newton Lavalle is a Ph.D. candidate in the Biomedical Sciences Ph.D. program at the University of California San Diego. She joined the laboratory of Dr. Pamela Mellon in July 2015 where she is currently using a combination of cell culture and genetic mouse models to study the roles of several homeodomain transcription factors within kisspeptin neurons. In 2018, she completed the Rady's School of Management MicroMBA program and was accepted into the Future Leaders Advancing Research in Endocrinology (FLARE) program. She was an active member of the Endocrine Society's Trainee and Career Development Core Committee from 2018-2020 and served as Chair of the society's Summer Research Fellowship program in 2019. In 2020 she became a Co-Chair for the Association for Women in Science (AWIS) Academia to Industry committee, where she connects industry professionals to early career individuals.



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!



Jamillah Murtadha grew up in West Virginia, but she has lived in San Diego for eight years. She transferred to UC San Diego as an undergraduate from Southwestern College. She is the first out of ten children to go to graduate school. Currently, she is a Biological Sciences major in the BS/MS program. She enjoys being the Co-chair in the Outreach Department of the Association of Women in Science (AWIS) organization. And she is always striving to seek knowledge outside her field to become a well-rounded scientist. She believes it is the duty of scientists to communicate the importance that their research has for our society.



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.



Jennifer Waters (Jenny) is a Ph.D. Candidate in the UCSD-SDSU Joint Doctoral Program in Cell and Molecular Biology. She currently works in Dr. Carrie House’s lab at SDSU studying role of preadipocytes in the ovarian cancer tumor microenvironment, and seeks to understand the effect of preadipocyte-mediated expression of insulin-like growth factor binding proteins (IGFBPs). Prior to her return to graduate school, she completed her B.S. at SDSU in Biology, and spent several years working in biotech at Organovo as a member of the Tissue Testing Team, which focused on developing a 3D bioprinted liver tissue model for applications in drug discovery and disease modeling. She is an active member of AWIS-SD and furthers her passion for empowering women by coaching for Girls on the Run (GOTR) San Diego. Outside of the lab, she enjoys hiking with her dog, competing in triathlons and trying bean-to-bar chocolates and craft beer.

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 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 Mar 10, 2022.

AWIS-SD Newsletter Committee Newsletter@awissd.org

Co-chair: Jean Spence

Member: Corine Lau, Pat Rarus, and Swathi Hullugundi

2021 AWIS-SD Board Members

President	Varykina Thackray, PhD	president@awissd.org
Secretary	Cynthia Kuan	secretary@awissd.org
Treasurer	Katherine (Kat) Chang, PhD	treasurer@awissd.org
Members at Large	Sigrid Katz, PhD	
	Kamala Janiyani, PhD	
	Angela Macia, PhD	
	Michelle Muldong	
	Robyn Wygal	

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.

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

Follow us at www.awissd.org

Gold Sponsors

Our Partner in Education



UC San Diego Extension

ThermoFisher
SCIENTIFIC



Silver Sponsors

Our Partner in Mission Delivery

BECKMAN
COULTER FOUNDATION



Bronze Sponsors



HOLOGIC
Extraordinarily powerful care



AWIS Fellow

Lynne Friedmann
