



ComSciCon19

San Diego, CA
Annual Report



A report on the seventh annual
Communicating Science Conference
for graduate students

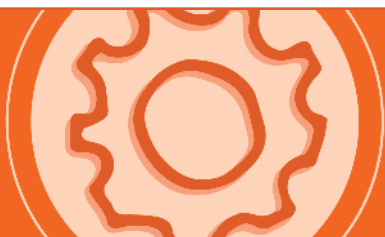


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Letter from the Organizing Committee



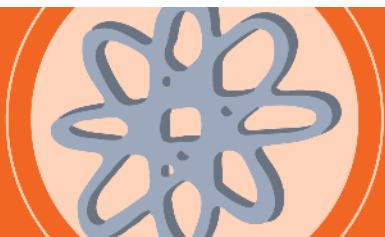
This past July, we hosted the seventh annual Communicating Science Conference Flagship workshop in San Diego, CA. Our 50 graduate student attendees were hosted graciously by University of California - San Diego and once again had the opportunity to hear from experts in a variety of arenas related to science communication, participate in hands on workshops to build new skills, and connect and collaborate with their peers to build exciting new projects for the future. We are excited to share a number of highlights from this year's program.

In 2019, we received nearly 700 applications for 50 spots in the workshop, a statistic that demonstrates ComSciCon's robust reputation as the premier workshop for graduate student science communication leaders in America. Thanks to new partnerships, for a second time, we were able to open our application to Canadian students, and received almost 120 Canadian applications alone. We are thrilled to be able to extend this opportunity to another community of students, and look forward to continuing to grow. The huge number of applications is also a testament to the increasing demand for professional development opportunities for early career researchers, and in particular the importance of and desire for communications training for the next generation of scientists. We were excited to work together for the first time with the brilliant communicators, researchers, and educators at UCSD to host the event.

This year our team of graduate student organizers put together a program including popular events from previous ComSciCon workshops and new, innovative workshop opportunities for our attendees. Panel discussions on pertinent issues such as Diversity and Inclusivity in STEM and Science Journalism provided insight into vital areas of consideration for all scientists, while this year's special panel on Mental Health helped address how we as students and communicators can practice self-care and stay motivated for our research and science communication activities. Soren Wheeler of RadioLab joined us to give this year's keynote talk, while hands-on workshops included a Transferable Business Skills workshop designed to help attendees learn how to translate their graduate and other work into potential career opportunities. We were also thrilled to have Tangled Bank Studios back again this year, this time with a special screening of their fascinating upcoming film *Inventing Tomorrow*.

Beyond the flagship workshop, ComSciCon has continued to grow in myriad ways, providing more science communication training resources to early career researchers across the country. By the end of 2019, there will have been about 45 ComSciCon franchise workshops in more than a dozen locations, including Houston, Atlanta, San Diego, Ann Arbor, Chicago, and Boulder. We have also expanded our partnerships with professional societies to offer ComSciCon workshops and short training programs at annual meetings, creating opportunities for graduate student members to obtain training that may not be available at their home institutions.

In order to provide an exceptional platform for us to build for the future as our organization grows in scope and complexity, this year ComSciCon became a fiscally sponsored project of the terrific non-profit organization Community Initiatives. We thank our previous administrative and fiscal sponsors at Harvard University



and The Story Collider for helping us evolve from 2012 to our current state

In the following pages, we have summarized the work done by ComSciCon during the last year, highlighting the value of our workshops for both the scientific community and the public. We are once again deeply grateful to our sponsors for making this work possible: the Kavli Institute for Brain and Mind, University of California, San Diego (UCSD) Social Sciences, Qualcomm Institute, UCSD Graduate Division, UCSD Neuroscience, UCSD Physical Sciences, UCSD Jacobs School of Engineering, MIT Office for Graduate Education, CU Graduate School / Research & Innovation Office, the American Chemical Society, the American Astronomical Society, the American Institute of Physics Venture Partnership Fund, AAAS/Science Careers, CogSci Society, Dunlap Institute, HHMI, Burroughs Wellcome Fund, and many individual donors.

We are looking forward to another year of growth for ComSciCon. You can follow our progress at <http://comscicon.com/>.

Sincerely,

The ComSciCon 2019 Organizing Committee



Organizing Committee Members



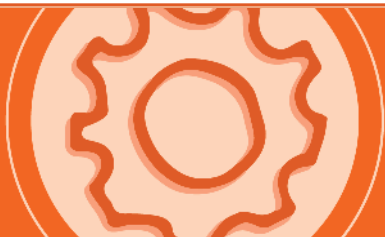
Local Organizing Committee

Harshil Kamdar, co-chair (Harvard)
John Lewis, co-chair (Harvard)
Drew Schreiner (University of California San Diego)
Catie Profaci (University of California San Diego)
Gabi Serrato Marks (MIT)
Jiwandeep Kohli (University of California San Diego)
Chani Nava (Harvard)
Ariana Remmel (University of California San Diego)
Caroline Sferrazza (University of California San Diego)
James Howe (University of California San Diego)
Dana Boebinger (Harvard)
Haylie Romero (University of California San Diego)

Program Organizing Committee

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Elena Blanco-Suarez (Salk Institute)
Stephanie Hamilton (University of Michigan)
Jaye Gardiner (Fox Chase Cancer Center)
Ryan Venturelli (University of South Florida)
Margot Wohl (University of California San Diego)
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Jessica Canizares (Tufts)
Kristen Vogt Veggeberg (University of Illinois)
Seraphina Solders (University of California San Diego)
Catie Profaci (University of California San Diego)





Executive Summary

ComSciCon is a professional development workshop organized by graduate students, with the goal of providing other STEM graduate students with the skills and resources required to communicate their science clearly and effectively with a wide array of audiences. Our seventh annual flagship workshop, ComSciCon19, saw 50 graduate student attendees selected from nearly 700 applicants coming together for three days to learn from experts in science communication and from each other.

Write-A-Thon

One of the most fundamental components of any ComSciCon workshop is the Write-A-Thon, during which conference attendees develop and workshop an original piece of writing. Participants can workshop anything from a written blog piece, to an opinion piece, to a podcast or video script. The Write-A-Thon is intended to give participants a chance to practice disseminating a complex scientific concept or result into an engaging multimedia piece for a more general audience. With the help of ComSciCon organizers, many attendees are currently seeking to publish (or have successfully published) their pieces in nationally-renowned outlets.



Poster Presentations

On the first day of ComSciCon, attendees showcased their science communication initiatives during a poster session. The 23 projects spanned a broad range of scientific disciplines as well as science communication medium,



consisting of blogs, podcasts, talk series, science through art, and traveling outreach series to disseminate scientific endeavors in remote communities. In addition to providing attendees an opportunity to broadcast their work, the poster session was a platform for initiating conversations, connections, and collaborations between the participants.

Executive Summary



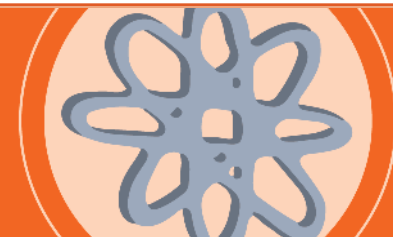
Keynote Address

The keynote address was delivered by Soren Wheeler, the managing editor of Radiolab, a radio program produced by WNYC and broadcasted in public radio and available as a podcast. It was a great opportunity to hear Soren's account on finding stories to make a podcast such as Radiolab which focuses on scientific matters. His experience gave tangible and concrete examples on how to make science accessible through human stories. Some attendees highlighted Soren's presentation style and use of YouTube as useful and interesting. In general, attendees found his presentation helpful, memorable, and very relevant.

Careers Mingle and Dinner

This year we had nearly 20 guests from a diverse range of science communication fields join us for a dinner meet & greet to share their career paths, which were then extended into more in-depth conversations over the evening. Experts represented careers in writing and publishing, academia, public outreach, the science of science communication, data science, and policy, and included individuals from Science Riot, The Story Collider, and Science Friday (to name just a few!). Invited speakers from the Mental Health, Diversity and Inclusivity, Science Journalism and Storytelling Panels also attended the event. This event provided an opportunity for students to learn about potential careers related to science communication and facilitated connections between attendees and experts.

Profiles: Panelists



Science communication experts from a broad range of backgrounds joined us at ComSciCon19, sharing their expertise on panels and facilitating interactive sessions. Read about some of our expert speakers below.



Jim Freyermuth

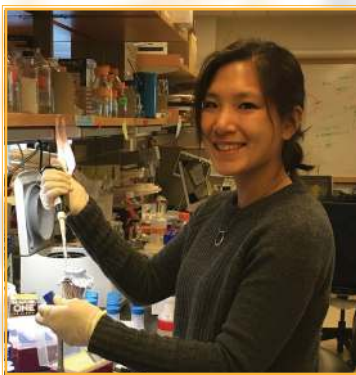
BiteScis

Jim Freyermuth is a Massachusetts native who earned a degree in Ecology and Evolutionary Biology from the University of Connecticut. He has been an educator for 8 years and has worked in diverse environments from therapeutic boarding schools to public education. Jim values science literacy and analysis skills in his students. Working with BiteScis, Jim wishes to empower and inspire the next generation of scientific thinkers and allow the average student to make scientifically informed decisions in their lives

Katherine Wu

NOVA & Story Collider

Katherine J. Wu is a scientist, writer, and science writer, not necessarily in that order. She recently earned a Ph.D. from Harvard University, where she studied how bacteria deal with stress so that she could one day learn to do the same. Now, she is a Digital Editor for NOVA, PBS' science documentary series, and a Story Collider producer based in Boston. She formerly served as a 2018 AAAS Mass Media Fellow at Smithsonian magazine and as Co-Director of Science in the News, a graduate student organization dedicated



to communicating science to the general public. In her spare time, she serves as a heat-generating pillow for her cats and continues her quest to find the authentic tacos east of the Mississippi.

Soren Wheeler

Radiolab

Soren Wheeler is the Managing Editor at Radiolab. He oversees the development of content for the show, manages all editorial and production work on individual stories, and is responsible for all final content decisions. Before coming to Radiolab, Soren was at the Association for the Advancement of Science, where he co-authored the book *Atlas of Science Literacy*. He spent 6 years as a freelance science education consultant working with science teachers and writing about how students learn science. In 2007, he received a masters degree in science writing from Johns Hopkins University. Under his supervision, Radiolab has received two Peabody awards, one for a show about language and another about the Authorization for Use of Military Force which preceded the invasion of Iraq after 9/11.



Jessie Hanson

Science Riot

Jessie Hanson, B.S., B.A., M.A., MLS (ASCP), the National Program Coordinator, is a professional laboratorian and comedienne, with a background in microbiology

Profiles: Panelists

research, medical diagnostics, and science communication. When she's not in the lab, she's on stage, performing improv, stand-up, circus acrobatics, and burlesque across the Rocky Mountain region. She owns four bicycles.



Eric Henderson

Science Riot

Eric Henderson is a professional comedian, science communicator, and above all else - A curious human being. Eric has spent years traveling the road performing at comedy clubs, casinos,

and dive bars all over the world. Having always been interested in science ever since he was a tiny child, Eric now teaches how to use humor and stand up comedy techniques as a medium for science communication.

Summer Ash

National Radio Astronomy Observatory

Summer Ash is an astrophysicist, rocket scientist, and freelance science communicator. Her work has appeared in The Atlantic, Scientific American, Smithsonian, Sky & Telescope, and SYFY Wire, among others. She loves Jupiter, Orion, supermassive black holes and smashing the patriarchy, especially in STEM fields.



Niyatee Sukumaran

University of California San Diego

Hello, I am Niyatee (knee-uh-tea) Sukumaran, and am a counseling psychologist. I work as a Staff Psychologist at the University of California,

San Diego (UCSD), Counseling and Psychological services (CAPS). I am originally from Mumbai, India, have resided in different nations, and arrived to the United States as an international student for graduate school. In therapy, I use a non-judgmental, empathic and compassionate stance in learning more about you and discuss what matters to you! My therapeutic framework is integrative including a strengths-based approach that takes into consideration a student's individuality, cultural context and systemic issues. I integrate interventions from a variety of theoretical orientations, and actively engage in outreach/ consultations to work towards reducing stigma and increasing help-seeking among under-represented groups (e.g., racial/ethnic minorities). At UCSD CAPS, I serve as a liaison to South Asian and Asian American and International Students Muslim Student Community.



Susanna Harris

University of North Carolina

Susanna builds communities, both on plant roots and on the internet. As a PhD candidate in Microbiology at the University of North Carolina, she studies how bacteria work together to

Profiles: Panelists



colonize plants. As the founder of PhDBalance, she aims to break the stigma around mental illness in higher education by connecting academics around the world to share stories and resources.



Lauren Langbein

Thomas Jefferson University

Lauren Langbein is a PhD candidate in the Cell Biology and Regenerative Medicine program at Thomas Jefferson University in Philadelphia, PA. Her work focuses on connections between the BAP1 tumor suppressor gene and interferon signaling in

kidney cancer. Before graduate school, she completed a B.S. in Biology at The College of New Jersey. Lauren founded *Anxious in Academia*, a blog detailing her journey through graduate school as a person with mental illness, in October 2018. She is also active in discussing such issues on Twitter.

Heather Buschman

University of California San Diego

Heather Buschman, PhD, is senior communications and media relations manager for UC San Diego Health Sciences, co-instructor for a science writing course at UC San



Diego Extension, elected member of the UC San Diego Chancellor's Advisory Committee on the Status of Women, and board member for the San Diego Science Writers Association. She previously worked as a science writer and communications manager

at the National Cancer Institute, Scripps Research, Sanford Burnham Prebys Medical Discovery Institute, and NuVasive, Inc. She has won a number of awards for her work, including an Association of American Medical Colleges Gold Award for Excellence, Health Care Communicators Finest Awards, Content Marketing Institute Gold Award, and PR Daily's Nonprofit PR Award.

Elah Feder

University of California San Diego

Elah Feder is a host and producer of *Undiscovered*, a podcast about science from Science Friday

and WNYC Studios. Her work has also appeared on CBC radio shows like *Spark* and *The Sunday Edition* and in publications like *The Guardian* and *Xtra!*, Canada's LGBTQ newspaper. Elah studied journalism at Columbia's Graduate School of Journalism and evolutionary biology at the University of Toronto.



Erik Anderson

KPBS

Erik Anderson brings more than three decades of journalism experience into the KPBS newsroom. That experience helps him find and tell compelling stories in the

San Diego and Imperial County region. Erik's work has been honored with national awards that include a Peabody for his collaboration on the radio series "The DNA Files," Public Radio News Director's Association Awards and recognition for excellence in





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beat reporting from the Society of Environmental Journalists. His work has also been recognized by the San Diego Press Club, The Southern California Broadcasters Association, the Society of Professional Journalists, Associated Press, Television-Radio Association of California-Nevada, The Syracuse Press Club, The New York State Associated Press Broadcasters Association, United Press International and others.



Jennifer Ouellette

National Academy of Sciences

Jennifer Ouellette is a nationally recognized science writer, senior writer for *Ars Technica*, and the author of four popular science books: *Me, Myself, and Why: Searching for the Science of Self* (2014); *The Calculus Diaries: How Math Can Help You Lose Weight, Win in Vegas, and Survive a Zombie Apocalypse* (2010); *The Physics of the Buffyverse* (2007); and *Black Bodies and Quantum Cats: Tales from the Annals of Physics* (2006), all published by Penguin. She also edited *The Best Online Science Writing 2012* (Scientific American Books/FSG). She is former science editor of *Gizmodo*, a popular technology/science daily news blog. Her freelance work has appeared in the *Washington Post*, the *Wall Street Journal*, the *Los Angeles Times*, the *New York Times Book Review*, *Discover*, *Slate*, *Salon*, *Smithsonian*, *Mental Floss*, *Alta*, *Pacific Standard*, *Alta*, *Nature*, *Physics Today*, *Physics World*, and *New Scientist*, among other venues. She holds a black belt in jujitsu, and lives in Los Angeles, California, with her husband, Caltech physicist Sean (M.) Carroll.

Mónica Feliu-Mojer

CienciaPR

Mónica grew up in rural Puerto Rico, catching lizards and with a cow in her backyard, which sparked her interest in all things biology. A PhD scientist-turned-communicator, she taps into her professional and cultural backgrounds, and uses storytelling, science communication, community-building and mentoring to make science more equitable and inclusive. She leads communications and outreach for CienciaPR, a global community of more than 9,500 scientists, students, educators, and allies democratizing science, supporting the career development of underrepresented young scientists, and transforming science education and training in Puerto Rico. She also works with the non-profit iBiology, leading science communication trainings and producing a video stories called “Background to Breakthrough” which explores the intersection of the culture, identity, and research of underrepresented scientists. Mónica earned her B.S. in Human Biology at the University of Puerto Rico in Bayamón, and her Ph.D. in Neurobiology at Harvard University.



Jesse Shanahan

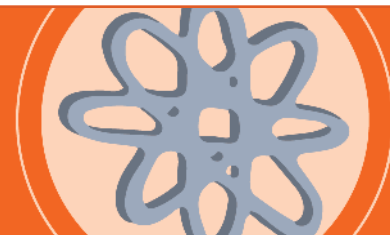
Booz Allen Hamilton

Jesse Shanahan is a data scientist at Booz Allen Hamilton, specializing in AI for humanitarian use and ethics. Currently, she is also working with Dr.



Brooke Simmons at the University of California, San

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Diego where she analyzes the multiwavelength photometry and spectroscopy of bulgeless galaxies. Formerly, she was a graduate researcher in astrophysics, an accessibility coordinator, and a science communicator with a focus on public speaking, outreach, and consulting. At Wesleyan University, she researched intermediate mass black holes and active galactic nuclei with Dr. Edward Moran, and she previously worked with Dr. Chris Lintott and the Galaxy Zoo team from Oxford University on a project that focuses on galaxy morphology and the analytics of large datasets. In her spare time, she organizes public outreach events at local schools, specializing in special needs and at-risk classrooms. In her first year of graduate school, she founded an astronomy outreach program for kids, which has received attention from press and remains a popular bi-monthly event at Van Vleck Observatory. In addition to teaching classes for the public at local museums and schools, she gives talks on improving accessibility for disabled scientists and writes for *Forbes Magazine* as a contributor specializing in astronomy and linguistics. Throughout her career, Jesse has advocated staunchly for intersectional equity and is a founding member of the Astronomy Anti-Racism Group (AARG!). She continues to be a dedicated disability rights activist and was a co-founder of the Working Group in Accessibility and Disability in the American Astronomical Society. She is also serving on the Society's Early Career Advisory Board and on the leadership board of 500 Women Scientists.



Shaun Travers

University of California San Diego

Shaun Travers is a Campus Diversity Officer and Director of the Lesbian Gay Bisexual Transgender Resource Center at the Uni-

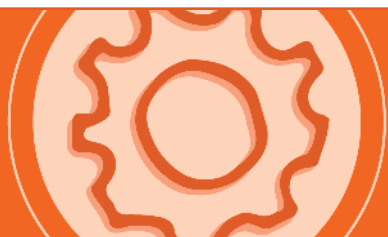
versity of California, San Diego. An active representative of the bisexual community, he has presented at Harvard College, the National Conference on Race and Ethnicity, the NASPA Multicultural Institute, and numerous trainings on campuses throughout the country. At UC San Diego he has led inclusion initiatives for trans and nonbinary communities, lectured on LGBTQIA+ communities in the School of Medicine, the Scripps Institution of Oceanography, the Graduate Division, and throughout the undergraduate campus. Dr. Travers currently chairs the San Diego LGBT Community Leadership Council. Formerly he has served as Chair of the Board of Directors for the San Diego LGBT Community Center, Vice President of the congregation at First Lutheran Church San Diego, and Chair of the Education Committee for the National Consortium of Lesbian Gay Bisexual Transgender Resource Professionals in Higher Education. Prior to UC San Diego, Shaun coordinated Gender Issues Education Services, including Women's Development Programs and Advocacy Services for victims of sexual violence, at Texas A&M University. He has served on the Board of Directors of Planned Parenthood of the Pacific Southwest, and the Board of Directors of the American Red Cross – Brazos Valley Texas. An advocate of open, poly and complex relationships and family structures, Shaun is in a long-term committed relationship with James and Bryce, and lives in the Hillcrest neighborhood of San Diego, California.

Ashanti Davis

Fleet Science

Ashanti Davis joined the Exhibitions Department of the Fleet Science Center in February 2014. As a Tinkering Studio Coordinator, she has had the opportunity to advance STEM-re-





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lated programming and making for visitors of all ages. Now, as Exhibits Project Supervisor, she continues exploring STEM through an artistic lens and collaboratively developing unique experiences and exhibitions for visitors to the Fleet Science Center. Davis is part of a co-led internal group for Diversity, Inclusion, Equity and Accessibility, seeking to make an impact on organizational culture. As someone who represents both culturally and cognitively diverse communities, she understands the necessity for cultural competency and the decolonization of museums, their leadership and experiences. Davis received a BA in Creative Arts and Communications in 2009, was a recipient of the ASTC Leadership and Diversity Fellowship in 2017 and will continue her education in a master's program in 2019. Upon completion of her masters, Davis looks forward to continuing her work in museums and leading meaningful change for museum staff and visitors as an Exhibits Director and future VP of Inspiration.



Maris Wicks

Maris Wicks is a writer and illustrator of science comics, as well as a self-proclaimed gigantic nerd. She has written, drawn, and colored comics for First Second Books, New England Aquarium and Woods Hole

Oceanographic Institution, as well as Spongebob Comics, Marvel Comics, and DC Comics. Wicks is the illustrator of The New York Times Bestselling book *Primates* (2013), written by Jim Ottaviani. After that, Wicks set out to both write and illustrate *Human Body Theater* (2015), a 240-page rollicking romp through the major systems of the human body (told in comics format, of course). Her newest book is *Coral Reefs* (2016). When she is not busy making comics, Wicks can be found prepping slides for her

collection of vintage microscopes, traveling, scuba diving, hiking, and baking cookies (though never all of those things all at once). Wicks was the science outreach communicator for Woods Hole Oceanographic Institution onboard the R/V Atlantis for Popping Rocks Cruise in March/April of 2016. Most recently, she was in Antarctica as a part of the National Science Foundation's Antarctic Artists & Writers grant, working on a graphic novel about life and science in Antarctica.

Steven Snyder

Fleet Science



Dr. Steven Snyder is the CEO for the Fleet Science Center in San Diego, CA. Since taking on the role in 2013, he has brought ambitious science experiences to San Diego, like "ILLUSION," which made its North American premiere at the Fleet, and "Taping Shape," which opened in January 2016, followed by the Fleet's current exhibition, "Taping Shape 2.0." He expanded the Fleet Inquiry Institute to teach the inquiry method of science learning to more than 1,000 local educators a year. Most significantly, Snyder redefined the Fleet's role, taking it from a science center in Balboa Park to a community organization dedicated to helping all San Diegans achieve their place in our shared scientific future. To that end, he brought science into the community with unexpected programs like Two Scientists Walk Into a Bar, which brings 50 scientists to 25 bars all over San Diego County every quarter, and which is now being offered in several cities across the United States. He also launched 52 Weeks of Science, which leverages the wealth of local science and technology resources to bring science events directly to neighborhoods. He is a president of the

Profiles: Panelists



Balboa Park Cultural Partnership, a member of the ASTC Finance Committee and a Steering Committee Member for the San Diego Festival of Science and Engineering. He is also a science advisor for the giant screen film *Secrets of the Universe*.



Nathan Dappen

Nate Dappen is an award-winning science and natural history filmmaker and photographer based in San Diego, CA. His films, images, books and other projects have been featured by organiza-

tions and publications like National Geographic, The Smithsonian Channel, The Atlantic, The Washington Post, Scientific American, New York Times, The Guardian, The World Wildlife Fund, and many others. Along with Neil Losin, he founded Day's Edge Productions, where they specialize in telling stories about science, nature, conservation and adventure. Nate is an affiliate member of the International League of Conservation Photographers (iLCP), was Collegiate Scholar of the North American Nature Photography Association and is a Fellow National member of the Explorers Club. Nate brings a strong scientific foundation into all of his media projects. He studied photography and biology at the University of Colorado, Boulder before doing his PhD in evolution and ecology at the University of Miami. Together with Neil, Nate collaborates with scientists across the globe to tell stories about their discoveries.



Sarita Menon

Smore

Dr. Sarita Menon is the founder of Smore, a publication that inspires young children especially girls to dream big and embrace their own brilliance. Dr. Menon holds a Bachelors in

Chemistry, a Masters in Biotechnology and a Ph.D. in Cancer Biology. Today Dr. Menon's purpose and passion lie in building scientific literacy skills in our children especially girls and preparing them for a future of seen and unseen challenges. With more than 17 years of combined experience as a scientific researcher and educator, she launched a children's science enrichment company in 2015. Driven by a mission to address the underrepresentation of women in STEM (science, technology, engineering, and math) and inspire more girls to stay in STEM, she went on to launch the international publication Smore in 2017. Smore covers feature STEM superwomen who are breaking glass ceilings in all areas of science and technology. Dr. Menon hopes seeing these now visible role models will empower smart young girls to imagine a future of limitless possibilities and equal opportunities for themselves. She and her husband live in Houston, TX and are raising two curious little nature-loving scientists. They may not be able to deny their daughters request for a pet cat or their son's for a pet snake much longer.

Profiles: Participants



50 graduate students from around the United States and Canada convened in San Diego for ComSciCon19. Our attendees came from a wide array of backgrounds and had diverse research interests, but all have demonstrated exemplary dedication to science communication in their careers to date and at our event. These profiles provide a survey of the interests, motivations, and accomplishments of our attendees:



Sarah Kearns spies on cells and proteins as a Ph.D. student in the Chemical Biology Program at the University of Michigan. Using microscopes (one of which is over 10 feet tall), she looks at the molecular highways of the cells and wants to understand how different road signs (chemical

modifications) change functions like cell division. Sarah directs Michigan Science Writers, is the Editor-in-Chief for STEAM magazine EQUILIBRIUM (coming Spring 2020), chaired the first ComSciCon-Michigan in 2018, works with the MIT Press, and freelances for the American Institute of Physics and her blog, Annotated Science. She wants to share her fascination with science and hopes to make it more accessible, engaging, and tangible by building bridges between researchers and the public by pursuing a career in open access or magazine/book publishing.

Manisit Das is a Ph.D. student of Pharmaceutical Sciences at the University of North Carolina - Chapel Hill. He has over seven years of research experience in diverse areas of biomedical sciences, such as cancer immunotherapy, gene

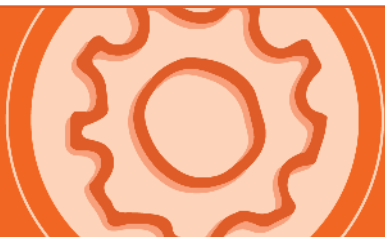


therapy, and nanomedicine. He has worked with cross-functional research teams in the US, Taiwan, and India. Manisit enjoys delving into the available evidence and identifying the most compelling way to share science. He co-founded a website called OncoBites, which offers short, easy-to-understand reports on what's new in the field of cancer research. Since 2018, OncoBites published over 100 articles from over 30 cancer researchers and patient research advocates, and secured readership in over 120 nations.

Asma Bashir is currently completing her PhD in Neuroscience at the University of British Columbia. Her research focuses on traumatic brain injury, or what happens when someone is hit on the head. As a science communicator, Asma is very interested in the



dynamics of being a visible minority in science, technology, engineering, and mathematics (STEM) and to explore this phenomenon, she launched an interview-style podcast called 'Her Royal Science' in June of 2019. Primarily, 'Her Royal Science' is a platform through which ethnic, gender, and social minorities can uninhibitedly discuss their STEM roles and experiences. Her hope for this podcast is to foster a sense of community among minorities in STEM and, importantly, to help enlighten and expose others to the experiences of their peers, who at times may feel like the token underrepresented minority in their schools and workplaces.



Profiles: Participants

to amplify other people's voices, especially those of undocumented and underrepresented minority scientists.



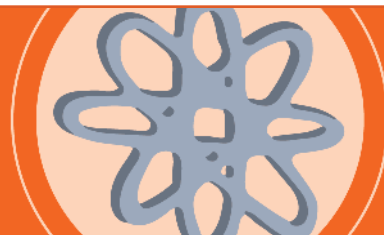
Michelle Rivers is a PhD candidate in Ecology and Evolutionary Biology at the University of Toronto. Her research examines why bats often carry viruses that can be shared with humans, but rarely get sick themselves. Outside of re-

search, she works at a science museum and started a Junior Bat Biologist program.

Bradley Allf is a PhD student at North Carolina State University studying how participation in citizen science impacts volunteer attitudes about science. Before going to school, Bradley worked as a freelance science writer and has published in outlets like *Scientific American*, *Discover*, and *Atlas Obscura*. In addition to his research, Bradley works as an editor at a science-focused literary magazine called *In Layman's Terms* and is a board member of Science Communicators of North Carolina (SCONC).



Special Sessions



During each annual ComSciCon workshop, attendees not only hear from our expert invited speakers, but also participate in a number of unique, hands-on workshops to learn new skills in science communication.

Outreach as a Professor/BiteScis & Taste of Science

We know that not all attendees will pursue a career in science communication. Many will become professors but may still want to communicate their science to a broader audience. That is why we organized a workshop to expose attendees to options for outreach outside of academia. The first half of the workshop was run by Bite Scis, a group of communicators that originally met through ComSciCon! They showed participants how to make short lesson plans for K-12 kids based on published research. One exercise that oriented attendees to the complexity of transferring published research to a primary education setting was reading an academic paper and finding “core competencies” that the article aligned with. One attendee said, “As a former educator, I really enjoyed Bite Scis and will be sharing with colleagues who are still in the field of science education,” and others expressed interest in contributing to Bite Scis by creating more lesson plans.

The second half of the workshop was run by local organizers of the Taste of Science festival which brings professors out of their labs and into bars and cafes around the city. The organizers shared tips and tricks to make infor-

mal talks about your research. To illustrate how audiences might interpret research differently than you might expect, they ran an exercise where one attendee would share their research with their neighbor. Afterwards the neighbor would relay back to them what they heard. One attendee said, “It made me realize what’s memorable and interesting in my pop talk from others’ point of view.” Another attendee mentioned, “I feel like I’ll use things I learned from them pretty regularly.”

Business Skills Workshop

Covering the basics of how to navigate the job field, as well as safeguard both monetary and intellectual properties of science communicators, was the base of both of these workshops. Complete with both a slideshow and handouts, this was two short workshops that aimed for participants to leave with the confidence of managing their work, as well as finding it too.



In the first part, ‘Get Me a Job, Dang It!’ Kristen Vogt Veggeberg, from ComSciCon, covered the basics of navigating different types of science communication jobs. A nonprofit director as well as a doctoral candidate in Curriculum and Instruction at the University of Illinois, Vogt



Special Sessions



Veggeberg also created a hand-out for ComSciCon participants with Jessica Cañizares that covered all of the topics, including flow-charts for participants to use when faced with navigating job and contract offers.

The second part, 'Stacking Papers and Getting Paid', was about navigating paperwork in order to file for taxes and savings while working either as a contractor or as a freelance science communicator. This included navigating salary and calculating hourly pay (and vice versa), what to expect with taxes, and whether or not one should walk away from a contract.

Empathy and Controversial Topics

This session was a 2-hour workshop facilitated by Reyhaneh Maktoufi, in which students discuss empathetic communication skills, practice those skills, and see examples of such modes of communication based on the work of professional female science communication researchers and practitioners. Students became familiar with and practiced the 5 principles of empathetics science communication: listening, observing, relating, replacing, and reaching out. This workshop was well received and in-

spired further discussion of the as one attendee mentions: "The empathy workshop was incredible and I'll definitely be running a version of that in NYC. I think it's easy to "villian-ify" people with wildly different beliefs, but if you do this, then you have failed your duties as a communicator. Too many people discard anti-vaxxers and climate change deniers instead of trying to understand why it is that they believe what they do."

Science Riot

To further develop attendee communication skills in a fun and unconventional way, Jesse Hanson and Eric Henderson from Science Riot Inc. led a workshop on how comedy can be used for science communication. Covering the principles of the anatomy of a joke and how to twist the mundane for an unexpected punchline, to good stage presence for effective laughs (and very translatable to presenting skills overall!), Jesse and Eric worked with attendees for a full 3 hours to hone this new skill. At the end of the workshop, nearly a dozen attendees eagerly volunteered to try out their new material; supporting and laughing with each other along the way. According to one attendee who tried his comedy set, "[This] was a very unique experience and thanks to ScienceRiot for this!".

Write-a-Thon



ComSciCon's Write-A-Thon is one of its staple components, providing participants with writing and editing experience toward conveying a complex scientific concept through an engaging piece of media for a general audience. The Write-A-Thon begins several weeks prior to the conference, with participants submitting a first draft of a blog piece, opinion piece, podcast/video script, or any other written media. From that first deadline until the conference, participants receive feedback and incorporate it into their pieces.

Expert Review

A couple of months prior to the conference, participants were asked to submit a first draft of their written piece, complete with an intended audience and outlet for the piece. They were then divided into groups of three or four for the peer review portion of the Write-a-Thon. Through peer review, participants were able to both receive constructive criticism on their own pieces while also exercising their own editing muscles on their peers' pieces. They then incorporated peer reviews into a second draft of their written piece that they submitted in advance of the expert review session at the conference itself.

The expert review session for the Write-A-Thon took place on the first day of ComSciCon. During this session, participants got to sit down in person with their editing groups and their expert editor (generally one of our panelists, workshop leaders, or a local UCSD professional with experience in writing, editing, or media). In addition to getting feedback on their pieces in person and with their expert editor, workshoping in small groups also provided an opportunity for networking before and during the conference.



Write-a-Thon



Published Pieces

ComSciCon's Write-A-Thon culminates with the opportunity for participants to submit their pieces for publication in nationally-renowned outlets, such as Scientific American or The Conversation, in addition to local or personal outlets. Listed below are a selection of some of the publications that have come from this year's ComSciCon workshops*:

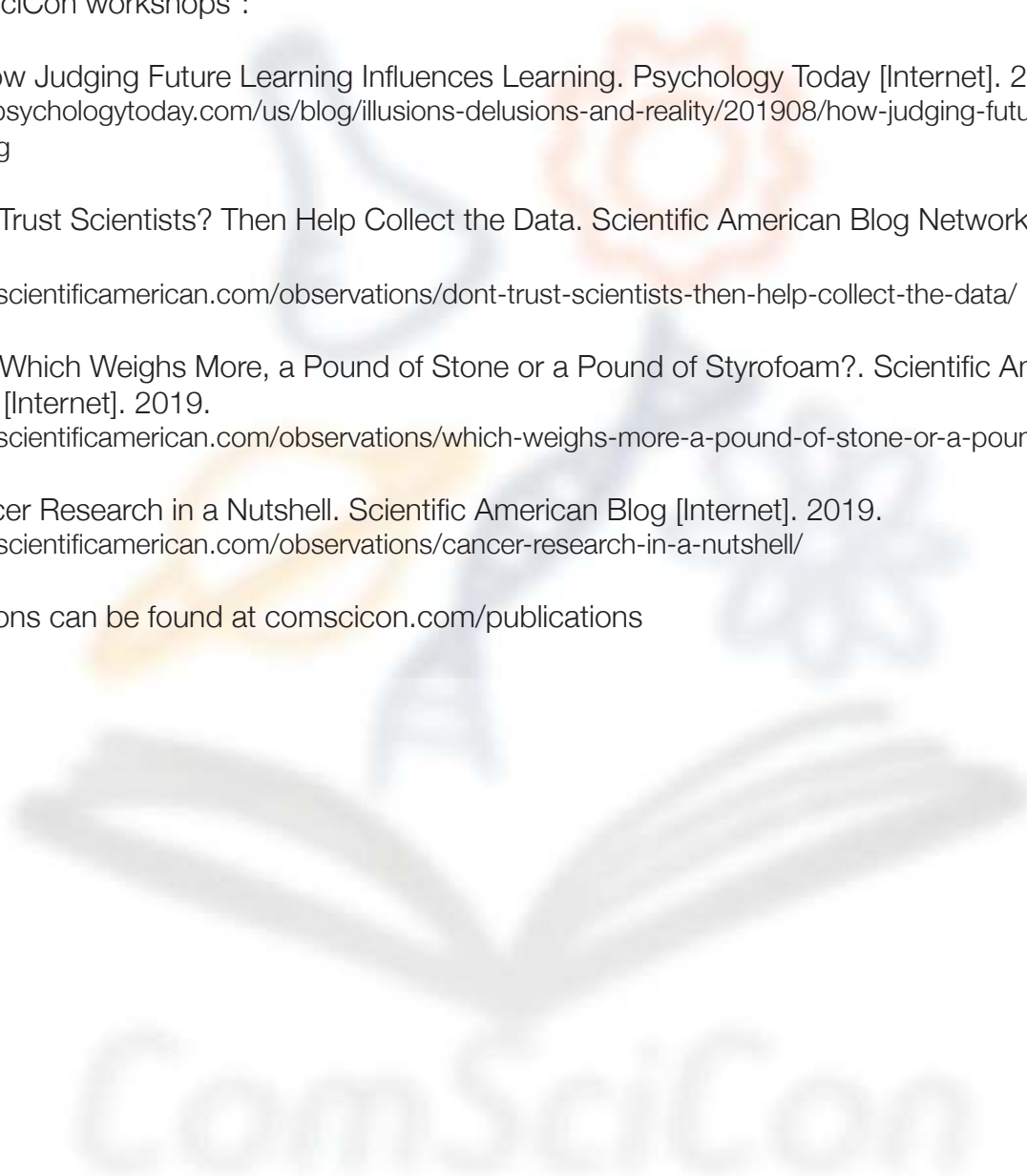
Rivers M. How Judging Future Learning Influences Learning. Psychology Today [Internet]. 2019.
<https://www.psychologytoday.com/us/blog/illusions-delusions-and-reality/201908/how-judging-future-learning-influences-learning>

Allf B. Don't Trust Scientists? Then Help Collect the Data. Scientific American Blog Network [Internet]. 2019.
<https://blogs.scientificamerican.com/observations/dont-trust-scientists-then-help-collect-the-data/>

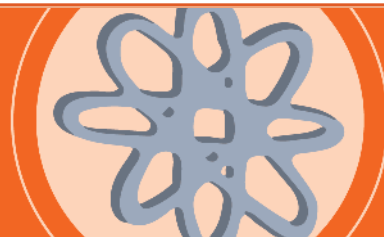
Schmehl M. Which Weighs More, a Pound of Stone or a Pound of Styrofoam?. Scientific American Observations Blog [Internet]. 2019.
<https://blogs.scientificamerican.com/observations/which-weighs-more-a-pound-of-stone-or-a-pound-of-styrofoam/>

Das M. Cancer Research in a Nutshell. Scientific American Blog [Internet]. 2019.
<https://blogs.scientificamerican.com/observations/cancer-research-in-a-nutshell/>

*All publications can be found at comscicon.com/publications



ComSciCon Franchises



Since its launch in 2013, ComSciCon has directly served approximately 350 graduate students from around the country through its annual flagship event, the national leadership conference. But by the end of 2019, we will have provided training to over 2,200 early career scientists through our local franchise workshops.

By the end of 2019, we will have had ComSciCon workshops in 16 different locations this year alone, including inaugural workshops in Miami and Canada, at Virginia Tech, and with the Entomological Society of America and the American Institute of Physics. In addition, we have had continuing workshops in Ann Arbor, Michigan, Atlanta, Chicago, Houston, upstate New York, the Pacific Northwest, the North Carolina Research Triangle, and the Rocky Mountains, plus an event in conjunction with the ScienceWriters annual conference. Planning is already underway for additional workshops to be held in 2019 and 2020.

Here we're including vignettes from two recent ComSciCon events:



Michigan

ComSciCon-MI 2019 was the second installment of ComSciCon in the Michigan region, hosted from 17-18 August at Michigan State University in East Lansing. However, attendees were not limited geographically to just Michigan! We had 104 applicants for 60 spots this year, with attendees originating

from New York to Illinois. Participants represented a wide range of science communication experience (with 46% having fewer than three years) and degree stage (77% PhD students, 11% Master's students, and 12% postdocs). During the weekend, they heard from panelists about careers in science communication, ethics, and creative approaches to



Franchises

science communication. They also attended breakout sessions intended to give hands-on experiences in websites & portfolios, podcasts & videos, journalism, illustration & graphics, science policy & advocacy, and data visualization. Our keynote lecture was by Dr. Samantha Yammine (@heysciencesam), who kicked off her talk with “laughing yoga” and walked us through the anatomy of a good social media post. She also gave participants one of the biggest takeaways reported in our post-workshop survey—“If you feel like you don’t belong in STEM, you are who we need communicating it.”

A big focus for ComSciCon-MI 2019 was on attention to Inclusion, Diversity, Equity, and Accessibility (IDEA). To start, our application review process reserved 10 spots to maximize diversity. For these spots, we additionally considered factors such as ethnicity, gender, or citizenship. Furthermore, we considered the applicant’s university in an effort to bring science communication training to smaller schools. Leading up to and at the conference itself, we implemented a number of measures to ensure our event was as inclusive as possible. There is always room for improvement, but we are extremely proud of the steps we took to create a safe, welcoming, and inclusive environment. These included:

- Pronoun stickers
- “Traffic light” interaction stickers
- Wheelchair-accessible venue
- Quiet room and lactation room
- Travel and lodging reimbursements
- Indigenous land acknowledgment
- Use of microphones at ALL times

- Real-time closed captioning with Google Slides
- Alternate text on every image, in all slides and documents
- Color-blind-friendly figures
- Use of off-white backgrounds for slides
- Accommodations for dietary restrictions
- Wide variety of food options

We found York University’s Inclusion Lens webpage (<http://inclusionlens.yorku.ca/>) to be particularly helpful in our planning efforts, and we will continue prioritizing IDEA in future installments of ComSciCon-MI.

American Institute of Physics

Thanks to generous funding from the American Institute of Physics (AIP), this year we held the first ComSciCon event specifically for graduate students in the physical sciences. The students gathered at AIP’s headquarters in College Park, Maryland for two days of science communication discussion and practice. Panel topics included diversity & equity, media engagement, science communication, and science policymaking. Breakout sessions allowed the students to practice what they were learning, and Dr. David Helfand delivered a keynote address on storytelling.

A unique component of ComSciCon-AIP was a focus on how scientific societies -- especially AIP and its 10 member societies -- can support their graduate student members’ science communication goals and efforts. Concurrently with the student workshop, staff representatives from AIP’s member societies were invited to engage with ComSciCon

Franchises

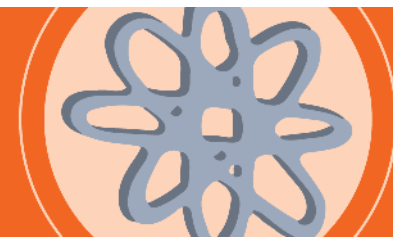


leaders in discussions about the importance of science communication training for early career scientists, how different organizations currently support and encourage their members to communicate, and the challenges societies face in doing so. Graduate student attendees and society staff also had opportunities to learn more about each other. For example, the graduate students learned more about so-

cieties' current programs and the ways they work to support their members' professional development and communication, while society staff learned more about their graduate student members' priorities and kinds of support they seek from their professional associations.



Evaluation



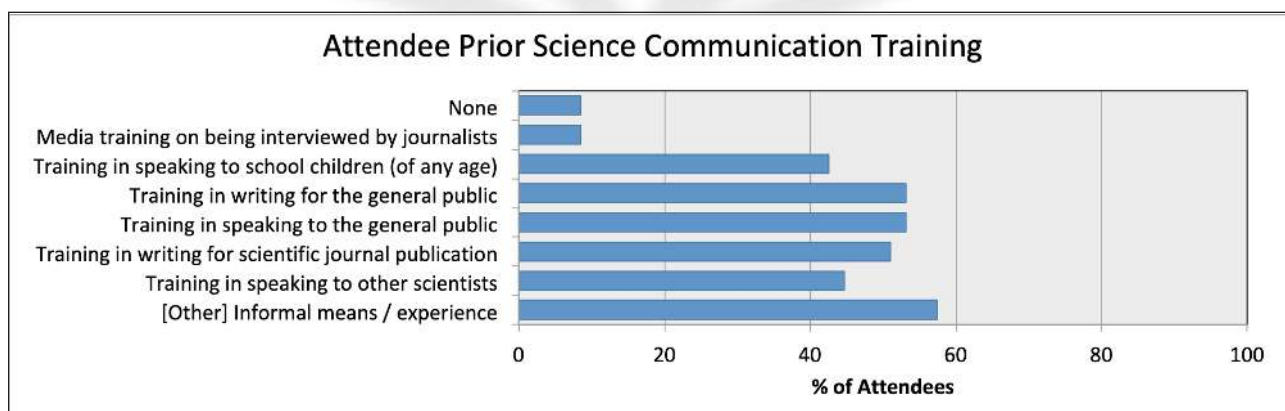
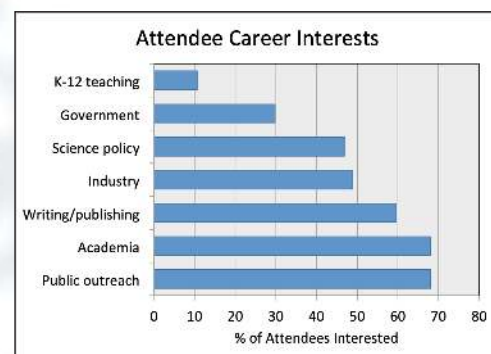
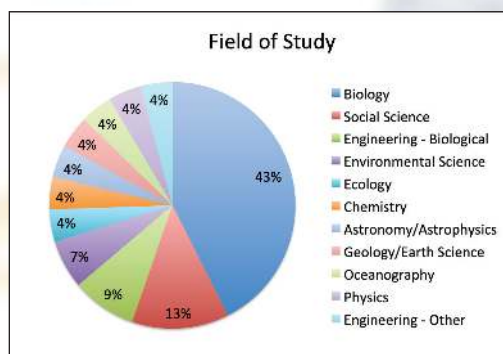
To better understand the state of science communication training in STEM fields and the impact of ComSciCon on attendees, we surveyed attendees before and after the workshop. The attendee survey responses are used to evaluate who attends ComSciCon and what effects — both short-term and long-term — the workshop has on them. We are in the process of preparing a peer-reviewed publication exploring these impacts of science communication training on STEM graduate students

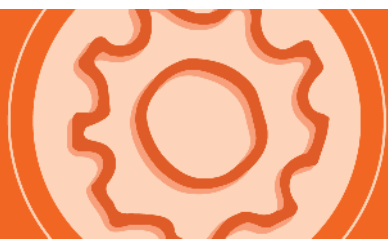


Attendees' Backgrounds and Career Interests

ComSciCon 2019 attendees came from various stages in their graduate career, a wide range of fields of study, and home institutes from across the nation. Attendees' future career interests also spanned a broad range of possibilities.

The number of ComSciCon attendees who report having received formal science communication training prior to the workshop continues to grow every year, providing hope that more training opportunities are being made available to young scientists. Even so, more than 20% of ComSciCon 2019 attendees indicated that they had received no prior formal training in communicating with people other than scientists, underscoring the need for programs such as ComSciCon. As ComSciCon attendees are selected for their exemplary science communication experience, we can expect these numbers to be much lower among the general graduate-student population.





Evaluation

Impacts of ComSciCon 2019

After the workshop experience, attendees reported increased confidence in communicating with the public, communicating with other scientists, and submitting their writing to a popular-science publication.

"We often forget that our audience may come from various backgrounds and have different experiences than ourselves. Learning to find ways to relate to their experiences is key to communicating concepts more clearly."

"It's science communication, not science telling."

"I left feeling inspired to push my projects forward and with the appropriate resources and connections to do so."

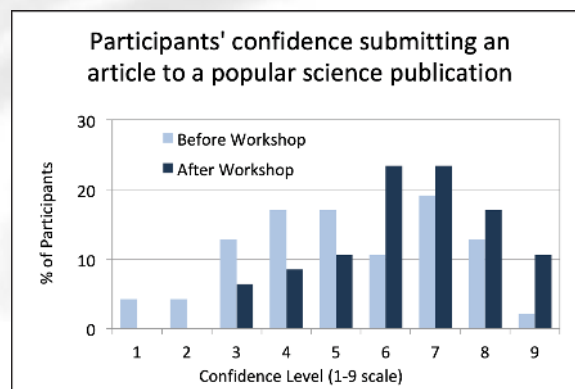
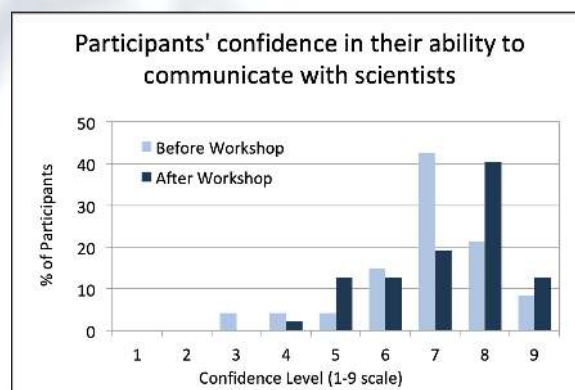
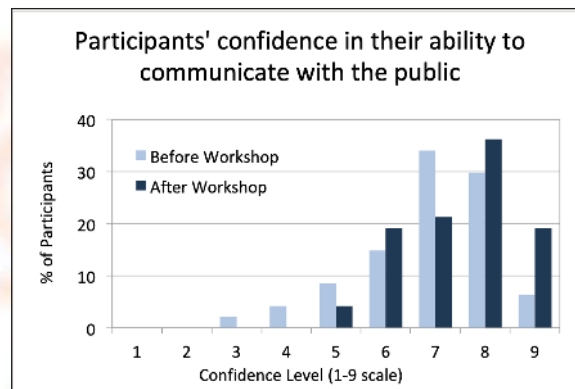
"What was the most memorable thing you learned during ComSciCon19?"

"Instill trust and foster engagement, instead of persuading the audience."

"If you're no good to yourself, you're no good to anyone else — your colleagues, your students, etc." (re: mental health and its importance in our careers)

"The best way to serve your science is to first relate to your audience; that requires empathy and consideration of the background of your listeners/readers."

"To advocate for my needs and for the needs of my colleagues, when they are unable to advocate for themselves."



Testimonials



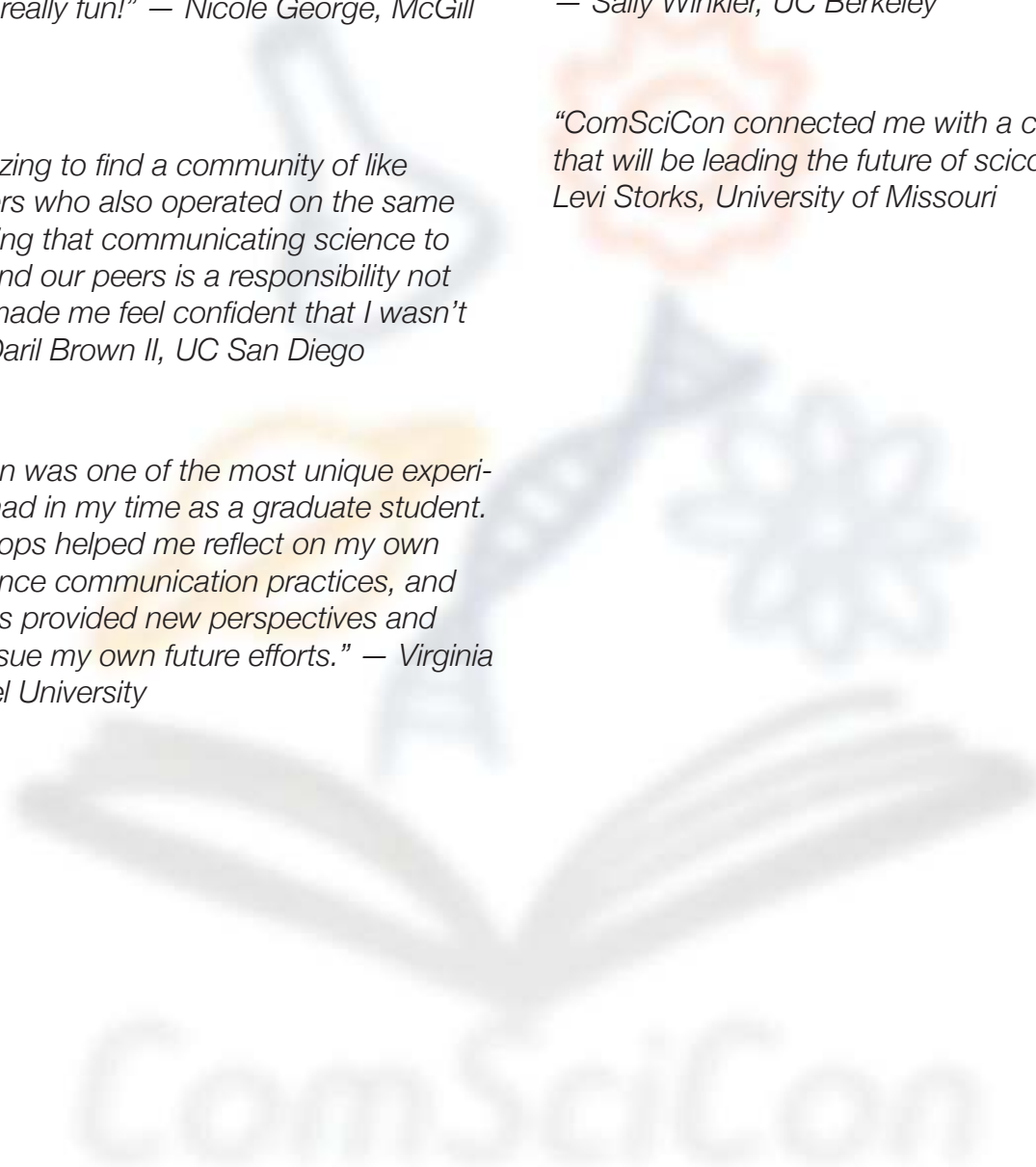
"The flagship ComSciCon workshop was a great way to meet and connect with graduate students from all around North America with similar scicomm goals and interests. It was inspiring, engaging and really fun!" — Nicole George, McGill University

"It was amazing to find a community of like minded peers who also operated on the same understanding that communicating science to the public and our peers is a responsibility not a chore. It made me feel confident that I wasn't alone." — Daril Brown II, UC San Diego

"ComSciCon was one of the most unique experiences I've had in my time as a graduate student. The workshops helped me reflect on my own current science communication practices, and the speakers provided new perspectives and tools to pursue my own future efforts." — Virginia Price, Drexel University

"ComSciCon was an amazing experience. It was incredible to meet other graduate student science communicators I've admired for so long. Excited for all the new collaborations to come!" — Sally Winkler, UC Berkeley

"ComSciCon connected me with a community that will be leading the future of scicomm." — Levi Storks, University of Missouri





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