ComSciCon21

Communicating Science Workshop

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Find us **@comscicon** on any of our social media accounts linked below! Be sure to read and share ComSciCon 2021 stories with our official hashtag: **#ComSciCon21.**

Welcome!

Dear ComSciCon Participants,

Welcome to the ComSciCon 2021 Workshop, our 9th annual flagship event. We are extremely pleased to have you join us!

Since ComSciCon began in 2012, our goal has been to empower the graduate students who are poised to become future leaders in science communication, encouraging young scientists to expand the impact of research in their field to broad and diverse audiences as ambassadors for science and engineering. ComSciCon aims to connect these inspiring young scientists through our annual Flagship Workshop and the many Local Workshops held in nearly a dozen cities across the country, allowing them to collaborate on new projects and expand the reach of their own initiatives.

We believe that graduate students have the greatest potential of any group to revolutionize how the scientific community interfaces with our broader society. Through science outreach, writing, digital media, founding scientific organizations, and other entrepreneurial endeavors, ComSciCon participants will help shape the culture and perception of science for future generations.

In recognition of both the necessity to protect the health of our attendees and the opportunity to innovate and extend our programming, our graduate student Program Organizing Committee has made the decision to transition our Flagship workshop to an online format for this year. In the following four days, you will virtually meet some of the most accomplished and ambitious science communicators from both the U.S.A. and Canada, exchange experiences and ideas through active discussion, collaborate together to revise your own written works, and push the boundaries of your capabilities as a science communicator.

We are grateful, first and foremost, to the fifty remarkable graduate students from across the world who will participate in this year's ComSciCon. The opportunity for this cohort to meet, interact, and collaborate with each other is the fundamental function of ComSciCon. We thank the invited experts who have shared their time with us, guiding us towards these ends. And we applaud the sponsoring organizations and supporters of ComSciCon, whose enduring commitments have made this program possible.

We know the test of this workshop's success will be how its impacts carry on with you throughout your career, whether through research, education, journalism, policy, or other ventures. We encourage you, from the moment you read this letter, to develop and maintain relationships with the participants of ComSciCon 2021, and reflect thoughtfully on how the principles discussed and exhibited here can be incorporated into your own practice. We hope that you will stay in touch with your fellow attendees and continue to be a part of our inclusive science communication group. Thank you, again, and welcome to the ComSciCon community.

Yours truly,
The ComSciCon 2021 Organizing Team

The ComSciCon 2021 Schedule

Legend:

Speech	Panel/Pop Talk	Workshop/Activity	Break/Social Event

All times are in E.T.

Wednesday, August 4, 2021

11:00am - 12:00pm	**Opening Remarks and Introductions**
12:00pm - 1:00pm	**Panel: *Diversity and Inclusivity*** Speakers: Sallqa-Tuwa Bondoc Mafla, Yesenia Garcia, Syreeta Nolan, Tamia Williams
30 minute break	
1:30pm - 2:00pm	**Pop Talks** Attendees: Stoica, Hunter, Le, Pier, Allen, Keuler, Molho, Ortiz-Guerrero, Paparella, Aitbekova, Vieites, Saunders, Marino, Gonçalves de Andrade
2:00pm - 3:00pm	**Poster Session**
30 minute break	
3:30pm - 5:00pm	**Workshop: *Data Visualization*** Speaker: Eisha Ahmed

Thursday, August 5, 2021

11:00am - 12:00pm	**Networking Session (optional, tentative)**
12:00pm - 1:00pm	**Panel: *Creative Storytelling*** Speakers: Sade Abiodun, Dr. Zen Faulkes, Dr. Ben Lillie, Dr. Julie E. Rorrer
30 minute break	
1:30pm - 2:00pm	**Pop Talks** Attendees: Calahan, Girouard, McDonnell, Levinson, Eldardiry, Kannan, Levere, Geest, DePolt, Stoianova, Niavi, Suresh, Poindexter, Kamal, Lana, Maitra, Phatak, Wagner
2:00pm - 3:00pm	**Discussion: "Getting to the Heart of Science Communication"** Speaker: Dr. Faith Kearns
30 minute break	
3:30pm - 5:00pm	**Write-A-Thon Expert Review**

Friday, August 6, 2021

11:00am - 12:00pm	**Networking Session (optional, tentative)**
12:00pm - 1:00pm	**Panel: *Science Policy / Advocacy*** Speakers: Adriana Bankston, Dr. Chanel Matney, Dr. Ken Spence, Emily Therese Cloyd
30 minute break	
1:30pm - 2:30pm	**Keynote** Speaker: Dr. Jorge Cham
30 minute break	
3:00pm - 3:30pm	**Pop Talks** Attendees: Ammar, Smith, Lim, Ruel, Armina-Rodriguez, Kalinowski, Jackson, Masson-Forsythe, Moffa, White, Entzminger, Dunleavy, Datta, Granata, Narayanan, Hammer, Shekari, Scrutton Alvarado
30 minute break	
4:00pm -	**Social Event/Networking Session (optional, tentative)**

Saturday, August 7, 2021

12:00pm - 12:30pm	**How to stay connected with ComSciCon**
12:30pm - 1:30pm	**Panel: Careers** Speakers: Dr. Jeff Preston, Robert Nguyen Ulrich, Dr. Phil De Luna, Dr. Raven Baxter
1:30pm - 3:00pm	**Workshop: *Creative SciComm*** Speakers: Onnesha Roychoudhuri
3:00pm - 3:10pm	**Closing Remarks**

Code of Conduct

ComSciCon is dedicated to providing a safe, hospitable, and productive environment for everyone present, regardless of ethnicity, religion, ability, physical appearance, or gender. It is important to remember that a conference where people feel uncomfortable or threatened is not a productive one. Accordingly, ComSciCon prohibits intimidating, threatening, or harassing conduct during our conference. This policy applies to speakers, organizers, expert reviewers, and attendees.

Harassment of participants will not be tolerated in any form. Harassment includes:

- Offensive verbal or written comments related to gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, religion, etc.
- Sexual images in public spaces
- Deliberate intimidation, stalking, or following
- Harassing photography or recording
- Sustained disruption of talks or other events
- Inappropriate physical contact
- Unwelcome sexual attention
- Advocating for, or encouraging, any of the above behavior

Participants asked to stop any harassing behavior are expected to comply immediately. If a participant engages in harassing behavior, ComSciCon organizers will take any action they deem appropriate, ranging from a verbal warning to expulsion from the conference.
ComSciCon organizers may take action to address any actions or behavior disrupting the conference or making the environment hostile for any participants. We expect participants to follow these rules at all conference events and ComSciCon-related social activities.
If you are being harassed, notice that someone else is being harassed, or have any other concerns, please do not hesitate to contact a member of the conference staff immediately.

We value your attendance, and we want to make the conference experience as educational, productive, and fun as possible.

Organizing Committees

A huge thank you to this year's PC and LC members for all of their hard work!

Programming Committee (PC)

Jaye Gardiner (Chair)

Ryan Venturelli (Vice Chair)

Dana Boebinger (LC Liaison)

Naheda Sahtout (LC Liaison)

Bradley Alf

Hannah Chu

Emily Costa

Julie Fornaciari

Ryan Hulett

Elena Lin

Victoria Russell

Logistics Committee (LC)

Chantanelle Nava (Chair)

Claire Lamman (Vice Chair)

Dana Boebinger (PC Liaison)

Naheda Sahtout (PC Liaison)

Gus Beane

Floor Broekgaarden

Verena Sesin

Lieke van Son

Xiaohan Wu

Attendees

A huge thank you to all of our attendees for joining us this year!

Aisulu Aitbekova
Jeffre Allen
Zeena Ammar
Albersy Armina-Rodriguez
Jenny Calahan
Bianca Datta
Kelley DePolt
Haley Dunleavy
Hisham Eldardiry
Inayah Entzminger
Emily Geest
Lauren Girouard
Elisa Gonçalves de Andrade
Lauren Granata
Michael Hammer
Laura Hunter
Christopher Jackson
Leanna Kalinowski
Mostofa Kamal
Sandhya Kannan
Rachel Keuler
Nadia Lana
Toby Le
Drake Levere
Lila Levinson
Michael Lim
Malosree Maitra
Gloria Marino
Heather Masson-Forsythe
Tara McDonnell
Jamie Moffa
Melissa Molho
Suchitra Narayanan
Christina Niavi
Carolina Ortiz-Guerrero
Alyssa Paparella
Sumira Phatak
Jaleigh Pier
Carlton Poindexter
Alexa Ruel
Will Saunders
Nicolas Scrutton Alvarado
Arman Shekari
Bill Smith
Masha Stoianova
Teodora Stoica
Shravanti Suresh
Vanessa Vieites
Lauren Wagner
Ralph White III

Invited Experts

Our events this year will be led by a range of experts in the science communication field.

Keynote speaker

Jorge Cham

The creator of "PHD Comics"

Jorge is the creator of "PHD Comics", the popular ongoing comic strip about life (or the lack thereof) in Academia. He is the co-author of the Der Spiegel best-selling book *We Have No Idea*, the co-host of the iHeart Radio show *Daniel and Jorge Explain the Universe*, and the co-creator and co-Executive Producer of the TV animated series *Elinor Wonders Why*, which airs on PBS Kids and in countries around the world. He is also the co-founder of PHDtv, a video science and discovery outreach collaborative. He earned his PhD in Robotics from Stanford University and was an Instructor and Research Associate at Caltech from 2003-2005. He is originally from Panama.

Twitter: @phdcomics

Website: http://phdcomics.com/

DEI panel

Yesenia Garcia

Neuroscience PhD student, educator & advocate for Diversity In STEM

Yesenia Garcia is a Latinx, first-generation, nonbinary scientist, educator, and advocate for diversity. They are currently pursuing a PhD in neuroscience at Emory University. They graduated from Vassar College with a BA in neuroscience and a minor in English with a concentration in race and ethnicity. Their graduate research uses behavioral, pharmacological, and genetic approaches to understand how social experiences influence reward-related decision-making in rodents. Additionally, they are interested in researching the science of sex

differences. Outside of the lab, they serve on their Graduate Student Council task force as the LGBTQ representative and are on the executive board of the LGBTQ+ Graduate Coalition. They also teach reproductive health at the high school level and serve as a mentor preparing students to enter college. Yesenia created a blog called *NonbinaryNeuro* to share their experience navigating academia in hopes of finding community and empowering and supporting fellow students in STEM who have been historically excluded, marginalized, and oppressed.
Twitter: @yeseniatweets
Website: https://www.nonbinaryneuro.com/

Tamia Williams

Science communicator combining physics & arts
Tamia Williams is a multi-hyphenate science communicator who promotes a more inclusive and creative space within STEAM. As a science communicator, Tamia uses her knowledge of physics and background in the performing arts to translate science into works of art. In addition to being a physicist and artist, Tamia is also a writer and researcher. You can find her published work in *Physics World Magazine*, one of the world's largest physical societies, on the Youtube Channel *Physics Girl*, and on her Blog.
Twitter: @Tamia_miaaaa

Sallqa-Tuwa BondocGawa

Entomology PhD candidate advocating for Diversity & Inclusion
Sallqa-Tuwa Bondoc Mafla is a Filipina-Ecuatoriana PhD candidate studying the island biogeography and community structure of tropical Odonata at the American Museum of Natural History in New York and Rutgers University Newark, New Jersey. Sallqa-Tuwa's research focuses on evaluating how morphology, range, and gene flow vary across species. In particular, she studies how this variation affects insect dispersal and migration across spatial and temporal scales. As a Philippine Islander and an Ecuadorian, Sallqa-Tuwa is particularly interested in documenting the life histories of the endemics that inhabit her ancestral islands and mountains while actively

engaging indigenous naturalists and entomologists in every project she undertakes. Sallqa-Tuwa has conducted field work in Guyana and Mexico, and learned canopy fogging from Dr. Terry Erwin in Ecuador. A main pillar of her work includes empowering historically excluded students to pursue entomological focused research projects. Sallqa-Tuwa served as a panelist on Entomological Society of America Diversity & Inclusion panels, and currently serves as the Student Representative to the Governing, the Systematics, Evolution, and Biodiversity section (SysEB) D&I representative, and is a founding member of *Entomologists of Color*. Sallqa-Tuwa's commitment to advocating for entomology and diversity can be seen at her institution, where she has directly mentored five undergraduate students on entomological research projects through Rutgers University-Newark's Louis Stokes Alliance for Minority Participation (LSAMP) program.
Twitter: @sallqatuwa

Syreeta Nolan

Disability advocate and co-founder of 'Disabled in Higher Education'

Syreeta Nolan is a disability justice advocate. She serves as co-founder of Disabled in Higher Education on Twitter (@DisInHigherEd) and is the founder of JADE (Justice, Advocacy and Disability Education) as a holistic disabled justice platform focused on empowering disabled students, faculty, staff and alumni through community and support. Her lived experience as a Black, Disabled, bisexual woman have informed her advocacy goals along with her career goals. As a board member of HealthAdvocateX, she hopes to expand the reach of health advocacy in partnership with her organization while bringing disability advocacy and health advocacy together. Syreeta graduated with her Bachelor's in Human Health Psychology from the University of California San Diego and hopes to continue to obtain a PhD in Health Policy or Prevention Science toward her goal to transform the mental health field through comprehensive preventive systems similar to what we have in our physical health system.
Twitter: @nolan_syreeta

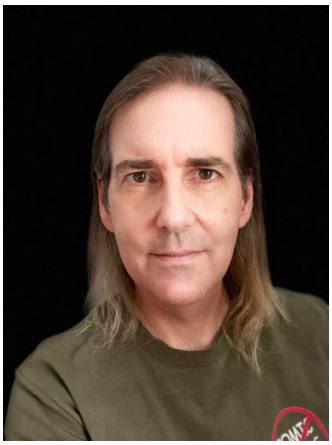
Data Viz Workshop

Eisha Ahmed

Experimental Medicine PhD candidate & brand strategist

Eisha Ahmed is a PhD candidate in experimental medicine at McGill University, studying the cellular and molecular mechanisms that underpin regulatory B cell development in allergies and asthma. Previously, she obtained her BSc in interdepartmental immunology with minors in math and computer science at McGill. She also works as the marketing and brand strategist for Dispersa, a Quebec-based cleantech start-up, to ensure that its messaging and communication is as strong as its technology. Eisha believes great potential exists in using an interdisciplinary approach while tackling challenges in and beyond scientific research, and enjoys helping others develop and diversify the necessary skills. She is active in science outreach, developing conferences and programs for high school students, and has volunteered as a science fair judge for over 5 years. She also delivers workshops on various topics in computer programming, analytics, and data visualization aimed at fellow graduate students and researchers. Both scientific rigour and visual design are important skills for scientists in her eyes; beyond research, Eisha has experience as a freelance graphic designer and web developer. When not working in the lab or on the computer, she enjoys biking, learning how to forage, and experimenting with growing food crops.

Creative storytelling panel



Zen Faulkes

Biologist and advocate for better posters

Starting off our panel of #CreativeSciComm experts is Zen Faulkes (@DoctorZen), a biologist who writes the Better Posters blog and book on academic poster presentations. He is currently an instructor at McMaster University.

Twitter: @DoctorZen

Sade Abiodun

Neuroscience PhD student bridging the gap between science and art

Sade Abiodun is a budding neuroscientist by day and aspiring filmmaker also by day. She is currently pursuing her PhD as a President's Fellow at the Princeton Neuroscience Institute. Her work focuses on neurocinematics — the neuroscience of film — and explores naturalistic approaches to examining affective and cognitive states. She is an ardent advocate for equity, diversity, and representation in science, and has worked with multiple groups and organizations to support and uplift scientists of color. She hopes to bridge the gap between science and the arts through the creation of visual experiences that center marginalized identities and stories.
Twitter: @abiodun_et_al

Julie Rorrer

Chemical engineer and founder of ColorMePhD

Dr. Julie Rorrer received her BS in Chemical Engineering from Arizona State University in 2014, and her PhD in Chemical Engineering from the University of California Berkeley in 2019, where her thesis work was centered on the heterogeneous catalytic conversion of biomass-derived platform molecules to produce fuels and lubricants. She is currently an Arnold O. Beckman Postdoctoral Research Fellow at MIT, where she utilizes heterogeneous catalysis for the chemical upcycling of plastic waste, and is a fellow of the MIT Communication Lab. In 2018, she founded the ongoing outreach initiative, ColorMePhD, a free coloring book series communicating PhD-level research in science and engineering to a broad audience. As illustrator and creator, she works directly with early-career scientists to explain their work through creative visual metaphors and written descriptions with the aim of inspiring future scientists and increasing representation and visibility for women and minorities in STEM. Since the release of ColorMePhD Volumes 1 and 2, over 15,000 of the initiative's free coloring books have been downloaded around the world. Current initiatives include the translation of ColorMePhD into Spanish, and the creation of a series of coloring pages featuring Black and Indigenous History-Making Scientists to improve visibility for scientists who have persevered against oppressive racism and sexism.
Twitter: @julie_rorrer, @colormephd

Ben Lillie

Physicist and improv comedian, co-founder of Story Collider

Ben Lillie is a high-energy particle physicist who left the ivory tower for the wilds of New York's theater district. He is obsessed with the intersection of academics and the performing arts, and is dedicated to finding new ways to blend those worlds. He is co-founder and CEO of Caveat, an event space on the lower east side for those experiments, and other forays into intelligent nightlife. He has a BA in physics from Reed College, a PhD in theoretical physics from Stanford University, and a Certificate in improv comedy from the Upright Citizens Brigade Theater. He did a postdoc at the University of Chicago and Argonne National Laboratory, and has published in The Atlantic, and Slate. He is also the co-founder of The Story Collider, where people are invited to tell stories of their personal experience of science, is a Moth StorySLAM champion, and spent four years on the editorial team at TED. Find him on Twitter or at almost any Caveat show.

Twitter: @benlillie, @caveatnyc, @storycollider

Creative storytelling workshop

Onnesha Roychoudhuri

Writer, speaker & educator for social change

Onnesha Roychoudhuri is a writer, speaker, and educator with over 15 years of experience working at the intersection of storytelling and social change. She is the author of The Marginalized Majority: Claiming Our Power in a Post-Truth America, which Naomi Klein called "a daring intervention to get us back in the game — and a witty, delightfully personal meditation on collective power." It was also named one of the best books of the year by Kirkus Reviews. Onnesha regularly leads writing and storytelling workshops for organizations across the country, including

the *Moth*, *Doctors Without Borders*, and *Future Now Fund*, as well as at universities such as San Francisco State University, Rutgers University, Hunter College, Pratt Institute, and Western Connecticut State University, where she is an instructor in the graduate writing program. A former fellow at the Center for Fiction, Onnesha's investigative journalism, essays, fiction, and other writing have appeared in publications such as Rolling Stone, Kenyon Review, n+1, Virginia Quarterly Review, The Boston Review, McSweeney's, The Rumpus, The Nation, The American Prospect, Salon, and Mother Jones. She is a 2011 and 2012 Pushcart Prize nominee, and has been awarded residencies at Hedgebrook and Blue Mountain Center.
Website: https://www.onnesha.com

Empathy workshop

Faith Kearns

Scientist, science communicator, and author of "Getting to the Heart of Science Communication"

Faith Kearns is a scientist and science communication practitioner who focuses primarily on water, wildfire, and climate change in the western United States. Her work has been published in New Republic, On Being, Bay Nature, and more. She has been working in the science communication field for more than 25 years, starting with the Ecological Society of America and going on to serve as a AAAS Science and Policy Fellow at the US Department of State, manage a wildfire research and outreach center at the University of California, Berkeley, and bridge science and policy advocacy efforts at the Pew Charitable Trusts. She currently works with the California Institute for Water Resources. Kearns holds an undergraduate environmental science degree from Northern Arizona University, and a doctorate in environmental science, policy, and management from the University of California, Berkeley.
Twitter: @frkearns

Scipol panel

Emily Therese Cloyd

Director of the AAAS Center for Public Engagement with Science and Technology

Emily Therese Cloyd is the Director of the American Association for the Advancement of Science's Center for Public Engagement with Science and Technology. She oversees all Center programming, including the AAAS Leshner Leadership Institute, the AAAS How We Respond project, and the Communicating Science program. Prior to joining AAAS in 2016, Emily led engagement and outreach for the U.S. Global Change Research Program, served as a Knauss Marine Policy Fellow at the National Oceanic and Atmospheric Administration, and studied the use of ecological models in Great Lakes management. She holds an executive certificate in nonprofit leadership (University of Notre Dame), a master's in conservation biology (SUNY College of Environmental Science and Forestry) and a bachelor's in plant biology (University of Michigan). Emily enjoys paddling on the Potomac and Anacostia Rivers (especially in a dragon boat), hiking, and tending her plot in the local community garden.

Twitter: @EngageClimate, @MeetAScientist

Ken Spence

Senior Policy Advisor with NextGen Policy

Ken Spence works on criminal justice and consumer financial protection issues for NextGen Policy, a California based non-profit organization dedicated to supporting and advocating for progressive policy, legislative, and programmatic issues. Before joining NextGen, Ken was Director of Policy and Legislation at the California Department of Pesticide Regulation, Deputy Director of the California Senate Office of Research, and a consultant in the California Assembly Speaker's Office, covering public safety and the Select Committee on Boys and Men of Color. Ken earned a doctorate in Entomology from UC Davis where he studied insect ecology, and a bachelor's degree in Biology and Spanish from Morehouse College. As a Thomas J. Watson Fellow, he visited Costa Rica, Ecuador and Peru studying alternative pest control methods. A year-long fellowship as a

California Science and Technology Fellow introduced Ken to the idea of public policy as a career. Ken loves traveling, yard-farming, and outdoor activities.
Twitter: @DaBugDr

Adriana Bankston

Principal Legislative Analyst at the University of California Office of Federal Governmental Relations

Adriana Bankston is a Principal Legislative Analyst at the University of California Office of Federal Governmental Relations in Washington, DC, where she serves as an advocate for the university with Congress, the Administration and federal agencies. Prior to this position, Adriana was a Policy & Advocacy Fellow at the Society for Neuroscience, where she provided staff support for special and on-going projects, including the society's annual lobby event and the annual meeting. In addition to working at UC, Adriana is the Chief Executive Officer & Managing Publisher of the Journal of Science Policy & Governance, an internationally recognized non-profit organization and peer-reviewed publication dedicated to empowering early career scientists, engineers, and policy professionals in international science policy debate. She is also a Biomedical Workforce & Policy Research Investigator at the STEM Advocacy Institute, as well as a member of the Engaging Scientists and Engineers in Policy (ESEP) Coalition Steering Committee. Adriana earned her PhD in Biochemistry, Cell and Developmental Biology from Emory University.
Twitter: @AdrianaBankston

Chanel Matney

Program Officer at the Forum for Neuroscience & Nervous System Disorders at National Academies of Science, Engineering, and Medicine

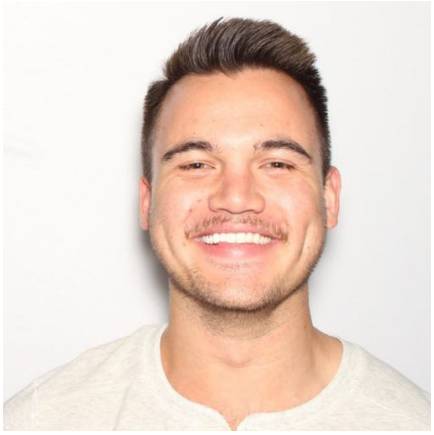
Chanel Matney earned her doctorate in neuroscience from Johns Hopkins, where her research used mapped cortical circuits using transgenics, electrophysiology, and morphological reconstructions of single neurons. While there, she co-founded the Johns Hopkins Science Policy Group, a grassroots advocacy organization that empowers early career researchers to engage with decision makers about the role of research data in policy discussions. After graduating, Chanel took on an array of professional opportunities in strategic communications, editorial support, and policy analysis in the Washington DC area. Chanel headed out to the West Coast to work on education policy as a California Council of Science and Technology (CCST) science fellow in 2019, followed by a service

as a committee staffer in the California state legislature, where she worked on transportation issues. These days, Chanel works at the National Academies of Science, Engineering, and Medicine as a Program Officer in the Forum for Neuroscience and Nervous System Disorders, a Washington DC based non-profit that advises and informs the federal government on emerging issues in science and technology.
Twitter: @chanelmatney

Career panel

Raven Baxter

Molecular biologist and science educator
Dr. Raven Baxter, also known as Dr. Raven the Science Maven, is an award-winning and internationally acclaimed science educator and molecular biologist creating science spaces that are inclusive, educational, and real. She is known for her unique musical teaching practices, combining hip-hop and science to engage the public. Dr. Baxter speaks about innovation in science education and social change in STEM. Dr. Baxter is the creator and co-host of a STEM talk show, *STEMbassy*, and *Black In Science Communication*, a group that works to build relationships in the science community, equipping others with the knowledge and resources necessary to share science with the world in their own flavor. Dr. Baxter also owns Smarty Pants, a clothing company that sells fun and stylish STEM-themed apparel and accessories and hosts an annual scholarship for STEM students. Dr. Baxter is a strong voice in the science community and has been recognized as a global influencer in several publications, including Fortune Magazine's 40 Under 40 list. She has also earned the State University of New York Chancellor's Award for Student Excellence in honor of her service in educating the public about COVID-19.
Twitter: @ravenscimaven



Rob Ulrich

Biogeochemistry PhD student and Associate Director of the Reclaiming STEM Institute

Rob Ulrich (they/he) is a Biogeochemistry PhD student at UCLA who researches how living things make their hard parts. More specifically, they are interested in developing and using novel geochemical tracers (e.g., trace elements, “clumped” isotopes) to interrogate the strategies used by organisms to make their biominerals. Beyond graduate school, Rob is also the Associate Director of the Reclaiming STEM Institute, Co-Founder of Queer & Trans in STEM (fka Queers in STEM), a writing consultant, and a writer. Their book (“The Hard Parts of Life: Windows to the Past; Keys to the Future”) about biominerals and their applications is currently up for pre-sale and is going to be published this Winter. In 2019, Rob received the UCLA Curtis Shepard LGBT Leadership award for their leadership and outreach to the LGBTQ+ community at UCLA and abroad, and under their leadership, Queer & Trans in STEM won the UCLA Organization of the Year award. For their research and advocacy, Rob currently holds fellowships with the National Science Foundation and the Center for Diverse Leadership in Science, and they have been invited to speak on the popular podcasts, including Ologies, Talk Nerdy, ExoLore, and at meetings for the American Geophysical Union, National Organization of Gay & Lesbian Scientists and Technical Professionals, the Dr. Lucy Jones Center for Science and Society, the Geologic Society of America, and the California Academy of Sciences. To avoid answering the question “What do you want to do after your PhD?”, they hide in their apartment and cook and bake, or outside by hiking and going to the beach.

Phil De Luna

Scientist, innovator and political candidate

Phil De Luna is a scientist and carbontech innovator turned first-time candidate for political office. He is currently on leave from the National Research Council of Canada where he led a $57M Canada-made cleantech program. De Luna is an award-winning scientist and has published in high-impact journals like *Science* and *Nature*. He was a Carbon XPRIZE finalist, a Forbes Top 30 Under 30, and hosts a podcast about science and behaviour. De Luna is currently the Green Party of Canada candidate for Toronto-St. Paul’s and is running to bring more diversity to parliament and more science to politics.

Twitter: @PhilDeLuna1

Jeff Preston

Assistant professor of Disability Studies and author of “The Fantasy of Disability”

Jeff Preston, PhD, is an assistant professor of Disability Studies at King's University College at Western University where he teaches classes on disability, popular culture and policy. A long-time advocate and motivational speaker, Jeff's work focuses on the intersection of disability, subjectivity, biopower and culture. Jeff's first book, *The Fantasy of Disability*, was published in 2016 by Routledge.

Twitter: @jeffpreston

Poster Abstracts

“Graduate Pathways to STEM Symposium”

Aisulu Aitbekova

The Graduate Pathways to STEM (GPS) symposium, co-run by Stanford University and UC Berkeley, is aimed at informing students from underrepresented backgrounds about graduate school. GPS targets undergraduate students minoritized in STEM, low-income students, and first-generation students in the Bay Area and at Northern and Southern California universities. This two-day event, attracting more than 300 students each year, is organized in the form of invited talks by faculty, seminars on various topics such as graduate school application process and career opportunities in STEM, and workshops on crafting personal statements. Additionally, GPS participants are paired with peer advisors, graduate students who serve as mentors to the kids to help them prepare strong application packages. For me, serving as a peer advisor is the coolest part of the symposium. Overall, GPS is not only a place to learn about graduate school in STEM but also a place to make friends and establish long-term connections!

“A Glance at Science, from the eyes of the audience”

Albersy Armina-Rodríguez

A Glance at Science (“Vistazo A La Ciencia '' in Spanish) is a non-profit organization, dedicated to dialogues about science issues from the perspectives and needs of the society composed by Spanish speakers. Our vision is to eliminate barriers between science and the community so that citizens are self-sufficient in making decisions that contribute to their personal, intellectual and social well-being. To accomplish our vision, we integrate 1) various production strategies, 2) interviews with experts, 3) collaborations with scientific organizations and 4) mentoring minority groups. Since our foundation in May 2020 we have been able to carry out 52 interviews in different science disciplines and public health topics including Covid-19, hurricanes, earthquakes, mental health, asthma, diabetes, cancer, among others. Currently we have several collaborations with other organizations such as STEAM 100x35, the National Biological Honor Society (TriBeta) at the University of Puerto Rico, Cayey campus and the American Association for the Advancement of Science (AAAS), Caribbean Division. We are on all social platforms, to share science content and actively seeking to integrate other venues to make science more accessible to society.

“Communicating Psychology and Neuroscience through a new Inter-University panel discussion Podcast: Brainstorm”

Alexa Ruel

Brainstorm: Exploring Minds and Behaviors is a new podcast for lovers of psychology and neuroscience. In this series, Alexander Bailey and Alexa Ruel — two Montreal-based graduate students share their passion for all things brain-related through invigorating and thought-provoking panel discussions with other graduate students and professors from North America and beyond.

Universities are great at starting within-department discussions about research findings and their significance. Yet, researchers seldom look to related fields for different perspectives in order to gain a better understanding of their topic as a whole. By combining the knowledge garnered from recent research in the fields of neuroscience and psychology with fields as diverse as economics, medicine, and chemistry, in-depth discussions about traditionally psychology-based topics can occur in a whole new light to fully explore the wonders of the human mind.

The goal of our podcast, Brainstorm: Exploring Minds and Behaviors, is to foster cross-field and cross-university discussions on topics related to psychology and neuroscience, all the while keeping the language of these discussions accessible. In this way, anyone interested in learning more about how the brain creates the mind can get started simply by tuning in. With each new episode, released monthly, the hosts tackle a different topic in psychology/neuroscience through round-table panel discussions with 3-4 expert graduate students and professors to spark lively discussions, jokes, and debates. By examining topics as broad as decision-making, memory, personality, and sleep with researchers each with their own unique fields and perspectives, Brainstorm hosts invigorating discussions bound to interest both academics and the members of the public alike.

Check out Brainstorm’s website at www.brainstormpodcastmtl.github.io

Interested in being featured on the show? Contact us at brainstorm.podcast.mtl@gmail.com

“Creating and Highlighting the DisabledInSTEM Community”

Alyssa Paparella

The DisabledInSTEM platform was created in March 2020 as a way to increase representation and awareness of disabled scientists within the field. Through DisabledInSTEM’s social media presence, predominantly through Twitter, but also on Instagram and through a website, the aim is to spark conversations to highlight the disabled experience and create a community. One of the goals is to highlight disabled scientists at various stages in their careers through interviews

to provide inspiration for others who may be in similar circumstances and serve as examples that everyone does belong in STEM. Additionally, DisabledInSTEM has created a mentoring program for disabled participants to get matched with a mentor to help them navigate through academia and beyond. DisabledInSTEM hopes to continue to grow into the future so that disabled individuals are more welcome and accommodated within STEM at any level.

“Oklahoma State University Extension's Insect Adventure”

Emily Geest

Insect Adventure is a live insect zoo that is located in Stillwater, Oklahoma run by Oklahoma State University Cooperative Extension. Insects make up the majority of animal life on earth, and are currently undergoing massive declines worldwide from climate change, land use change, and habitat degradation. Unfortunately, arthropods are often one of the most cited fears. Insect Adventure teaches about the importance of insects, the role pollinators and decomposers have in our life, dispels insect myths, and gives everyone a chance to hold, touch, and handle live insects. This can help reduce insect phobias and allow people to appreciate insects which are vital to helping conserve them. Insect Adventure has a traveling zoo component, with presentations and live bugs brought to locations all over the state and into neighboring states. Insect Adventure presents at schools, expo centers, clubs, museums, and fairs giving everyone the chance to learn about insects regardless of where they live in Oklahoma. This resource is incredibly important for teachers in a state where the vast majority of towns are small and rural. Science education quality is uneven across the state with funding, teacher to student ratio, and access to educational materials variable by district with rural towns have fewer opportunities and less funding available than larger and more affluent districts. Having a resource like Insect Adventure allows everyone to have a hands on science education experience no matter where they may live in the state. Insect Adventure gives over 250 presentations and reaches over 100,000 Oklahomans annually.

“SciComm for Grad Students with the GC Science Communications Academy”

Inayah Entzminger

The Graduate Center Science Communication Academy at the City University of New York is a hub of information on resources and events focused on science communication. The Academy’s overall mission is to increase science communication skills in GC graduate and postdoctoral students, staff, and faculty. The program includes a Science Communication Fellowship developed in partnership between the Graduate Center Sciences and the Office of Career Planning and Professional Development. Two students were chosen as the inaugural fellows for 2020-2021 in the paid fellowship program. Over the course of one academic year, they

developed the CUNY SciComm Toolkit, a website in the CUNY Academic Commons that presents extensive resources and original blog posts that outline such necessary parts of science communication as media engagement, community outreach, and promoting diversity, equity, and inclusion. The events that the Academy hosts under the “Communicating Your Science” series, held on the third Friday of every month, are focused on teaching STEM professionals at CUNY how to publish and communicate their research outside of the lab. Video recordings of most events are available on YouTube after the event has passed. This year culminated in a CUNY SciCom Promoting Science Accessibility Symposium held in May 2021, where early-career GC STEM students were given the opportunity to present their research in two short presentations—one more open for a general audience, and one aimed at STEM peers. The Science Communications Fellows also presented their SciComm Toolkit. Both oral presentations and graphical abstracts were presented in the two-part virtual symposium, and each were given anonymous feedback from peers.

“In Plain English: Promoting Scientific Curiosity through Podcasting”

Jamie Moffa

"In Plain English is a podcast that promotes scientific curiosity and literacy through journal club-style discussions. Each episode features a scientific paper presented by an expert or trainee in that field. The other guests—typically people with little knowledge about the subject area—ask questions about the article. These questions can cover scientific methods, core concepts, experimental design, implications for society, and more, giving the participants and the audience the opportunity to explore and engage with the text. The podcast aims to democratize scientific discussion via three principles: accessibility, diversity, and curiosity.

Accessibility: In Plain English is designed to break down barriers to scientific literature and discussion. By presenting papers “in plain English”, the podcast alleviates the need for mastery of a specific set of terms and concepts as a prerequisite for engaging with the text. The show also promotes open access science by ensuring that the articles we use are never behind a paywall. Finally, by providing a transcript for every episode, we ensure that people who are deaf or hard of hearing can participate in the discussion.

Diversity: Founded by three queer, trans scientists and healthcare workers, In Plain English is dedicated to uplifting the voices, interests, and research of people and communities who are marginalized in science. Further, we define “science” broadly, actively seeking papers from disciplines outside the “hard sciences”, such as Anthropology, Sociology, and Queer Theory.

Curiosity: In Plain English promotes curiosity at all levels: by including guests from diverse backgrounds, we invite our participants and listeners to engage with the literature through new perspectives and challenge their own beliefs and assumptions. By exploring the assumptions underlying the research questions, methods, and conclusions, we question how researchers interact with and impact the communities they study and society as a whole."

“Brain Info/ Info Cerveau: Ask and you shall receive an answer from a neuroscientist.”

Malosree Maitra

Science communication makes expert knowledge accessible to non-experts. Especially when science is funded by the public, communities should be able to access the knowledge generated. To disseminate novel findings in neuroscience research for the general audience, Brain Info / Info Cerveau was founded in 2020 by graduate students in the Integrated Program in Neuroscience at McGill University. We invite questions from the Montreal and Quebec community about the brain and nervous system, submitted directly through our website. These questions are then well-researched by graduate students. Finally, personalized, concise answers written without jargon for a non-specialist audience are emailed to the submitter. In the past year, we have answered over 30 questions in both English and French and featured selected answers on our website and social media. We provide a platform for the general audience to nurture their scientific curiosity while strengthening students’ science communication skills. Over the coming years we hope to extend our reach by offering additional formats for answers such as audio and video, build our reputation as a trustworthy information source on neuroscience for the public, and forge partnerships with other science communication initiatives in Montreal and beyond.

“Outreach activities to promote Plant Health”

Melissa Molho

The United Nations declared 2020 as the International Year of Plant Health (IYPH). It was the perfect opportunity for plant scientists to share their work with the public and highlight the importance of plants for humans and the environment.

Many organizations around the world had a year of planned events and hands out activities. However, like many things in 2020, the IYPH was disrupted by the pandemic and all the in-person activities were canceled.

The American Phytopathological Society (APS) restructured its activities and found new initiatives to promote plant health during the pandemic. We developed a public website (PlantHealthIsYourHealth.org) to share activities for kids and adults that can be done at home. We also created resources for teachers and plant scientists that can be used in the classroom and public engagement events. I want to share some of the ideas and activities that were developed by the APS outreach team, these initiatives can serve as guidance for other organizations and groups to share their science with people.

"Inquiry, inquiry, and more inquiry!"

Michael Hammer

The Institute for Scientist and Engineer Educators (ISEE) ran a Professional Development Program (PDP) where they taught graduate students and postdocs how to teach through a model that facilitates inquiry-based learning, which centers around the core idea of having students learn in the same way scientists conduct research. Since participating in the ISEE PDP, I have had the opportunity to teach using an inquiry-based model in three different settings: (1) to undergraduate summer research students in AstroCom NYC, (2) to elementary school students in UA Sky School, and (3) to undergraduates in astronomy major classes at the University of Arizona. Although very different, the success in each of these settings revolved around creating an authentic STEM experience in which students could feel like they were being real scientists. Some effective ways for setting up that experience included (a) properly motivating students to ask real scientific questions, (b) giving students the opportunity to work in groups to answer those questions so they could teach other, and (c) having students present what they learned so that they could receive recognition from their peers. Keeping the principles of inquiry-based learning in mind can be very helpful for teaching in general, including with classes and with advising students on conducting research. With this model, students can learn not just scientific knowledge, but more importantly scientific practice as well.

"My journey from a naïve science blogger to a viral science communicator and the effective communication strategies I learned along the way. "

Mostofa Kamal

The purpose of this article is to discuss the effective strategies of writing a science, technology, engineering, and mathematics (STEM) blog for a general-purpose audience that may increase the chance of becoming viral in social networking mediums. In the last decades, social media platforms have emerged as the most effective and easiest communication medium to transfer STEM knowledge to people to whom traditional scientific communication failed to reach or have limited exposure. For non-established scientists, such as STEM graduates and early career

scientists, social media is the easiest place to share and spread their scientific work while increasing the chance of getting their research findings viral. I have been writing a science blog in my mother language Bengali since 2010, but it took me ten years to become a viral science communicator. Some of my blogs go viral five years after I wrote and published them. When I started my STEM communication journey as a naïve science blogger, my blog was barely read by 100 people. However, nowadays, I regularly write science op-eds at mainstream newspapers, some of which have daily online readers of 10 million and 1 million printed circulations. Further, I am also regularly interviewed by mainstream Television channels, such as BBC Bangla service and Maasranga television regarding environmental issues. My 10-year science communication experience gives me a hands-on opportunity to learn many effective STEM communication strategies and transferable skills. My observation shows that the choice of time and location sensitive STEM subject; writing blog article with credible information source and presenting information using different styles; patiently waiting to publish certain blog article until a blog subject become relevant for large-scale community discussion and concern determines the blog's chance of becoming viral in social networking mediums.

"Wunderkinds: Cognitive Science for Kids"

Nadia Lana

Wunderkinds is an initiative to communicate scientific topics related to Cognitive Science. Cognitive Science is a broad field of study that includes Neuroscience, Linguistics, Psychology, Computer Science, and Philosophy. We have two target audiences for our content: 1) parents of elementary-school aged children, for whom we post short, engaging social media content and blog posts that summarize results of studies that may be of interest to them (e.g., when is the best time to read to your child? How do children learn abstract concepts?) and 2) children, for whom we incorporate findings into short stories with captivating illustrations (e.g., a recent study found that novel words learned in positive linguistic contexts are remembered better than those learned in neutral or negative contexts - we can incorporate this finding by using positively valenced contexts in a story that introduces difficult vocabulary). The goal of Wunderkinds is to help children become interested in learning about the brain, language, memory, learning, and other topics related to Cognitive Science, and to help parents easily access findings that can improve their children's learning and development. We are a new initiative and actively looking for collaborations: if you are interested in finding out more about Wunderkinds, email us at wunderkindscontact@gmail.com.

“Scientifically Sound: Put the Pipette on the Record”

Ralph White III

Minnie Riperton vocally eluding to the discovery of a cell's organelles? Kurtis Blow rapping about DNA Breaks? Sounds like beautiful music (and science) to my ears when they come together in my podcast, Scientifically Sound. Scientifically Sound is a podcast that uses music throughout the decades to educate others on scientists, scientific discoveries and concepts through fun storytelling. This came out of my love of crate digging for vinyl records and reading biographies about scientists and their research. In addition to storytelling, I have begun to interview and engage with scientists at different levels of training about their research. The hope is to meet scientists from all scientific disciplines and learn from each other about some music, history, and science! Using social media platforms, (@scientificallysound on Instagram/TikTok, @4theSci_Sound on Twitter), I've also put up comedy sketches and snippets revolving around music and science to engage those who follow the pages. If you would like to collaborate and/or participate in the podcast, please email me at 4thescientificallysound@gmail.com.

“How Astrophysics Shapes our Understanding of Earth”

Suchitra Narayanan

“Why study the Universe when we have so many problems on Earth?” Astronomers, physicists, and planetary scientists have faced this question at some point in their careers. As exciting and humbling it can be studying the Universe, there is simply no substitute for Earth. Why then should we still focus on studying the cosmos?

Leveraging my role as an Astrobites (a science communication platform) author, I have recently launched the Astrobites Climate Change Series, where we focus on educating the general community about the intersection between astrophysics and the environment. We are covering latest NASA Climate research, interviewing scientists who switched fields from astro/physics to environmental studies, have partnered with other sister Sci-Bites groups to cover this inherently interdisciplinary topic, and are starting an Earth Week x Astrobites every April, debuting in 2022.

Astrophysical endeavors have actually helped us deepen our understanding of our own Earth. Studying Venus is how we discovered the potential runaway greenhouse gas affect that could affect Earth should anthropogenic emissions continue through the century. Satellites sent by NASA and other space agencies send a constant flow of information to scientists who monitor

essential variables and predict critical weather conditions. Additionally, there is still so much to learn about such as uncovering the origin of Earth's magnetic field which protects our atmosphere from dangerous cosmic flares and is the reason humans can even survive!

As the "gateway" science, astronomy can lead to larger conversations; the climate crisis is likely the first time people have encountered planet-sized problems. However, in constantly having to think and solve problems on an astronomical scale, astrophysicists can help our community confront the big questions of climate science and how studying outer space helps us navigate our Earthly problems.

"Mental Health Crisis: The dark matter of graduate programs everywhere."

Sumira Phatak

Recent work describes the steady decline of graduate student mental health as a crisis. This sensitive population is 3-6 times more likely than the general public to experience mental health disorders, including anxiety and depression. Approximately 10% of all graduate students encounter suicidal thoughts and although there has been an increase in the acquisition of mental health services, so has the rate of hospitalizations and suicide attempts. Combinations of academic, financial, and professional pressure are the most cited causes, even leading to additional consequences that may include self-isolation, sleep issues, self-harm, or substance abuse. About half of those who encountered mental health problems reported a dysfunctional relationship with their advisor. Sensitive subpopulations (ethnic minorities, LBGT+, women, etc.) also exist within the general pool of graduate students that encounter additional isolating stressors, further complicating the situation. As if grad school weren't challenging enough, how can one survive and thrive during these bizarre and unpredictable times of a global pandemic? The goal of this presentation is to elucidate this expansive, yet long obscured, "dark matter" of graduate programs everywhere. Several life hacks that can be implemented to achieve balance in the chaotic grad school world will also be provided. If you find yourself experiencing these mental health disturbances, please be aware of the National Graduate Student Crisis Line (800.472.3457).

“COVID-Alerts: A Science Communication Tool for Addressing Misinformation in Nairobi, Kenya”

Toby Le

During the COVID-19 pandemic, many communities around the world struggled with the spread of misinformation. Among those affected were local communities in Africa where access to education and health resources are limited. Several of the COVID-19 myths that became popular in Africa during this period included (a) SARS-CoV-2 cannot survive in Africa’s warm climate (b) spraying alcohol/chlorine all over your body could protect you from SARS-CoV-2 (c) drinking black tea first in the morning protects you from SARS-CoV-2 (d) pepper soup with lime or lemon flushes out the virus (1, 2).

To address this issue, we are proposing a science communication (SciComm) initiative called “COVID-Alerts”. This project utilizes convenient communication platforms, such as short message services (SMS) and WhatsApp, to share educational text messages about COVID-19 to communities in Africa weekly.

Before we could implement this project, we reached out to research collaborators and clinics in Nairobi, Kenya to conduct a local survey to determine the demand for this type of public health resource. The survey was a self-administered questionnaire translated in both English and Swahili and was made available in hard copy at different clinics in Nairobi, Kenya. The sample size for this survey was set at 294 clinic patients.

About 96% of survey respondents shared that they had access to a cell phone. Among those who had access, 53% used smartphones, and 45% used non-smartphones. When asked if they would like to receive text updates about COVID-19, 83% of participants responded yes. Furthermore, most respondents preferred to receive COVID-19 updates through SMS (60%) and WhatsApp (18%). Altogether, these findings demonstrate the applicability and demand for SciComm projects in Africa to clarify and help populations overcome COVID-19 misinformation.

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