

ComSciCon14



A report on the second annual national
Communicating Science Conference for graduate students



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Letter from the Organizing Committee

We are excited to share with you the achievements of our student attendees and organizers of the ComSciCon 2014 program, the third in our series of Communicating Science workshops for graduate students. This was the second event in our annual national workshop series held in Cambridge, MA, bringing together graduate students from 23 universities throughout the country.

As we reflect on the workshop, our highest priority is to express our gratitude to everyone who made it possible. First and foremost, we thank the 50 graduate students who dedicated more than four days of their time to attending the conference and engaging so thoroughly with our mission. They truly empowered themselves to become future leaders in the communication of scientific research from their fields to broad and diverse audiences. We thank our 21 invited experts, science communicators practicing at national media outlets and Congressional offices as well as the halls of academe, for sharing their wisdom, experiences, and valuable time with us. We thank the 19 graduate students, both founding ComSciCon Organizing Committee members from Harvard and MIT as well as past workshop participants from around the country, who led the planning and execution of the workshop. Finally, and crucially, we thank Harvard University's Graduate School of Arts and Science, Faculty of Arts and Science, and Department of Astronomy, and the University of Colorado at Boulder, for their generous support of the program.

The 50 graduate students who participated in ComSciCon'14 took part in our most intensive and diverse program yet. Their participation began even before they arrived in Cambridge. Motivated by experimentation and feedback from our past conferences, we kicked off the ComSciCon write-a-thon before the workshop, with attendees writing their works at home and then making revisions based on peer and expert feedback throughout the workshop. We also held, for the first time, an improv session, a career mixer, a group community outreach event at the MIT Museum, and a full day dedicated to K12 education and curriculum development to address interest expressed by past participants.

As we write this letter, attendees are continuing to produce the lasting outcomes of the workshop, by submitting their write-a-thon pieces to publications at a variety of print and online outlets, by continuing to build our network of ComSciCon alumni through social media interaction and in-person meetups, and by forming ComSciCon-local franchise Organizing Committees back at their host institutions.

In this report, we reflect on all the components of ComSciCon'14, evaluating their success and suggesting improvements for future workshops. Our goal is to continue operating ComSciCon national workshops annually, with a focus on educating and connecting future leaders in science communication. Simultaneously, we are working to support a network of ComSciCon-local workshops at universities across the country, led by past participants of the national workshop and enabled through a franchise-like model.

We thank you for your support of ComSciCon, and hope you will join with us to provide an enduring series of ComSciCon programs, to continue promoting the work of emerging leaders in the communication of science.

Sincerely,

The ComSciCon14 Program and Local Organizing Committees

ComSciCon14

Executive Summary

ComSciCon is a workshop series organized by graduate students, for graduate students, focused on leadership in science communication. Our goal is to empower young scientists to share the results from research in their field with broad and diverse audiences. ComSciCon14 is our second annual national workshop, bringing together 50 exceptional graduate students selected from more than 800 applicants nationwide.

ComSciCon 2014 Highlights

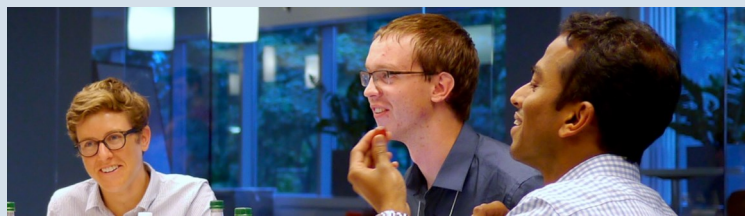
Pop Talks

A favorite ComSciCon tradition, all attendees gave a one minute summary of their research, with the audience providing instant feedback using “awesome” and “jargon” signs. These Pop Talks offered a wonderful opportunity for attendees to learn what resonates with an audience, hone their presentation style, and check for jargon pitfalls specific to their field.



Write-a-thon

Before the workshop, attendees were asked to draft an original piece of writing, audio, or video about a scientific issue they are passionate about. After being trained in peer review, students met with a group of other attendees to revise their pieces. Students then met with experts to intimately discuss their writing. Attendees are submitting their work for publication at ComSciCon partner outlets, both printed and online.



Expert Panels

Twenty experts from all facets of science communication joined attendees to discuss topics ranging from communicating complexity and controversy in science to communicating using multimedia. Attendees had the opportunity to engage in a lively discussion during every panel and to speak with experts in small groups during breaks and meals.



Keynote Lecture

Bassam Shkhashiri, Professor of Chemistry at the University of Wisconsin-Madison and 2012 American Chemical Society President gave our keynote lecture. His passionate argument for the necessity of good science communication held the audience rapt and he wowed attendees with his truly legendary chemistry demonstrations.



Improv Session



The conference kicked off with an energizing improv session led by Dr. Raquell Holmes. She taught attendees the basics of improvisation and how it can help them connect emotionally with a wide range of audiences. It also allowed everyone to get on their feet and meet new people!

Career Session



A special networking session was held on the first day of the conference to allow attendees to mingle with the speakers and meet invited guests from local companies and institutions. There was ample opportunity to discuss career paths with highly engaged researchers and professional science communicators. Attendees enjoyed the chance to talk to such a wide variety of professionals that had incorporated science communication into their careers.

Poster Session



On Saturday, attendees presented their own initiatives for science communication during a digital poster session. All posters were displayed on interactive screens and attendees took this opportunity to show off web, video, and other multimedia creations. As attendees discussed past experiences and successes, new ideas for projects and collaborations formed.

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American Scidol

On Saturday afternoon, ten attendees competed in the first ever “American Scidol” competition at the MIT Museum. Each of the competitors gave an impassioned “Pop Talk” about their research, received feedback from a panel of experts, and an audience of museum visitors put them to a vote. Congratulations to Kunmi Sobowale (U. Chicago), the first American Scidol!



K12 Session

A special full-day session brought K-12 teachers to ComSciCon to connect with graduate students and create lessons that directly connected to current research. This session helped jumpstart a new initiative to create a monthly e-magazine filled with research-connected STEM lessons, based on the model of AstroBites (astrobites.com).



Feedback

Direct quotes from attendees:

*“It was an amazing experience. You all made everyone feel so special and empowered. I think **we all left the conference feeling like we can do great things.**”*

*“This was a truly fantastic, informative, and educational experience. Probably **the highlight of my PhD thus far.** I have never been so inspired and motivated...”*

*“This was one of the **best, most informative, most inspiring workshops I've been to.**”*

ComSciCon goes local!

Because we've had to turn down more than 1400 eager applicants for our 2013 and 2014 national workshops, additional regional workshops are needed to fulfill the demand for graduate student-focused science communication training. In order to expand our programming, we are giving our outstanding national conference alumni the tools to run workshops in their home communities. We led a special session to discuss the logistics of running a workshop and gave practical advice on conference organization. We are helping our attendees franchise ComSciCon and look forward to seeing their infectious excitement spread at ComSciCon-locals across the nation! Local workshops targeted at the Chicago, Ithaca, and Ohio communities are now in planning.



Participant Profiles

ComSciCon14 convened 50 graduate students from around the country. Our attendees had a wide variety of interests and expertise, but all have shown a boundless interest in science communication and have proven themselves to be leaders in their own communities. Here we profile a small selection of our participants.

Heather Olins

Ph.D. student

Harvard, Organismic and Evolutionary Biology

Before starting her Ph.D., Heather taught middle and high school science for 3 years. As a graduate student she has made outreach a priority—instructing a week-long nature camp for kids in Maine, blogging from sea, and coordinating Science by the Pint events, giving public talks, and writing science communication pieces for Harvard's grad student group Science in the News (SITN).



Bryan Leland

Ph.D. Student

Yale, Biology

Bryan has a strong interest in communicating science to policy makers. In order to do this, he helps run a graduate student group called the Yale Science Diplomats. This group works to promote science-based policy by enhancing communication between scientists, policymakers, and the public.



Chris Holdgraf

Ph.D. student

*University of California Berkeley,
Computational and Cognitive Neuroscience*

Chris has helped edit and manage the Berkeley Science Review's blog for four years. Additionally, he is an organizer for "Beyond Academia", a conference that educates graduate students about their opportunities outside of the traditional academic research career.

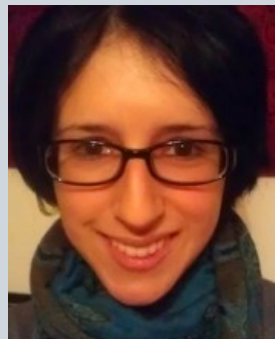


Madeleine Stone

Ph.D. student

*University of Pennsylvania,
Environmental Science*

Madeline is a self-described microbe obsessive. She writes a weekly blog focused on the ecology of strange microorganisms. She is also a science fiction writer with an interest in fiction, in any media, as a tool for science communication.

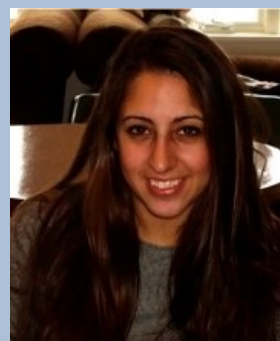


Pinar Gurel

Ph.D. student

Dartmouth, Biochemistry

Pinar is a member of the American Society for Cell Biology Committee for Students and Postdocs where she focuses on using social media and other techniques to keep scientists connected to each other and to the community. She also participates in Dartmouth's Science Technology and Education Policy Society and advocates for government funded scientific research.



Mike Chaffin

Ph.D. student

University of Colorado

Mike has competed in NASA's FameLAB communication competition, going to the finals last year in Atlanta. Mike shares his passion for science and space with the public through the Astrobiology Road Show, a traveling spectacle of science designed to bring working scientists in contact with underrepresented communities.



Speaker Profiles

ComSciCon had twenty-one amazing expert panelists with a diversity of backgrounds and experiences including:

Soren Wheeler

*Senior Producer
Radiolab*



Soren Wheeler is the Senior Producer at the Peabody Award-winning show Radiolab, where he plays a variety of roles, including producer, editor, and reporter. He also manages the production staff, and oversees the development of show content.

Before coming to Radiolab, Wheeler 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. He then went on to get masters degree in science writing at Johns Hopkins University.

Wheeler has won awards for production on radio pieces about statistics and randomness, the periodic table, and the story of a woman waking up from a coma.

David Goldston

*Director of Government Affairs
Natural Resources Defense Council*

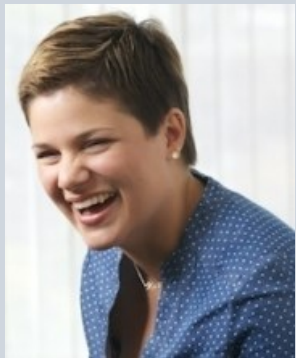


David Goldston became Director of Government Affairs at the Natural Resources Defense Council (NRDC), a leading environmental group, in July 2009. In that position, he helps shape NRDC's federal political strategy, policies and communications. Prior to that, he had spent more than 20 years on Capitol Hill in Washington, working primarily on science policy and environmental policy. He was Chief of Staff

of the House Committee on Science from 2001 through 2006. After retiring from government service, Goldston was a visiting lecturer at Princeton University's Woodrow Wilson School of Public and International Affairs in 2007 and at the Harvard University Center for the Environment in 2008 and 2009. From 2007 through November 2009, he wrote a monthly column for Nature on science policy titled "Party of One." Goldston also was the project director for the Bipartisan Policy Center report "Improving the Use of Science in Regulatory Policy."

Mónica I Feliú-Mójer

*Vice-Director and News Editor-in-chief
Ciencia Puerto Rico*



Dr. Mónica I. Feliú-Mójer (@moefeliu) uses contextually-relevant and experiential-based lessons to make science and scientific role models accessible to underserved audiences. Her bilingual outreach efforts focus on science, technology, engineering and mathematics (STEM) topics and opportunities, as well as increasing diversity in science and science communication. In 2013, she received the COPUS Paul Shin Memorial

Award for her efforts to increase public understanding of science among Hispanic audiences.

She is the vice-director and news editor-in-chief of Ciencia Puerto Rico (@CienciaPR), an organization leveraging social networks to engage scientists in science communication and education. Mónica is also the Manager of Outreach at the University of Washington Department of Biostatistics (@UWBiostat).

Lisa Song

*Reporter
InsideClimate News*



Lisa Song joined InsideClimate News in January 2011, where she reports on environmental health, oil sands, pipeline safety and natural gas drilling. She helped write "The Dilbit Disaster" series, which won the 2012 Pulitzer Prize for National Reporting, was a finalist in the 2012 Scripps Howard Awards for Environmental Reporting and won an honorable mention in the 2012 John B. Oakes Award for Distinguished

Environmental Journalism. She previously worked as a freelancer, contributing to High Country News, Scientific American and New Scientist.

Song has degrees in environmental science and science writing from the Massachusetts Institute of Technology.

Keynote Lecture

Renowned chemist, educator, and NSF and ACS leader Bassam Shakhashiri speaks at ComSciCon'14

Presenting a keynote lecture on a selection of issues as expansive as his own career, Bassam Shakhashiri, Professor of Chemistry at the University of Wisconsin-Madison, left the audience at ComSciCon'14 with more than one memorable metaphor. But perhaps the most enduring which he proposed to our graduate student attendees drew an analogy between science and sports.

“We have plenty of science *players*, already,” he acknowledged, “but not yet enough science *fans*.” His meaning was clear: the next generation of scientists has a practical mandate to be more outward facing and to engage more deeply with its community than ever before. Shakhashiri, past President of the American Chemical Society (2012) and former Assistant Director of the NSF, supported his argument with a number of examples, particularly emphasizing the struggle to communicate the scientific consensus around climate change.

Shakhashiri enchanted the audience at ComSciCon, pleasing the crowd with a selection of ebullient reactions from his legendary book series, *“Chemical Demonstrations.”* Many of the graduate students in attendance recognized these demonstrations fondly from their own science outreach efforts at programs across the country, and his message of public service and openness to scientists resonated strongly with them.

“I found the keynote address by Dr. Shakhashiri extremely moving and thought-provoking. His call to be a citizen-scientist spoke to me.”

-ComSciCon14 Attendee

Critically, Shakhashiri practiced what he preached, participating fully with the attendees in the days of the workshop before and after his keynote, and leaving a lasting impression with the graduate students through deep one-on-one conversation. It was truly a pleasure to have him join us as a keynote speaker and we are sure the audience benefitted greatly from his sage advice.



American Scidol

ComSciCon 2014 featured the first-ever American Scidol competition, which featured 10 brave ComSciCon attendees presenting short, digestible “pop talks” of their research for the public – and for the judges – at the MIT museum. Held on Saturday afternoon, after all the panels, meals, and main events, American Scidol gave the competitors a chance to practice what they had learned over the workshop, and the audience the opportunity to hear the judges’ feedback and science communication tips, as well as to vote on their favorites. The following ComSciCon attendees were chosen to compete:

Brian Aguado (Northwestern)
Jaen Altosaar (Princeton)
Reggie Bain (Duke)
Levi Gadye (UC Berkeley)
Pinar Gurel (Dartmouth)
Rosa Li (Duke)
Heather Olins (Harvard)
Kunmi Sobowale (U. Chicago)
Laura Stevens (MIT)
Madeleine Stone (U. Penn)



All ten presented passionately and effectively, and the choice was not easy for the audience. But after the first round of voting, the field was narrowed down to three: Pinar, Brian, and Kunmi. These three then were asked to step up their communication skills to the next level by presenting an additional one-minute talk on a topic in their field of science they thought was important. All three did a fantastic job with this challenging task, but at the end of the day there could be only one American Scidol, and the audience chose...

Kunmi Sobowale as the first American Scidol!

Our illustrious judges, David Aguilar, Director of the Public Affairs and

Educational Outreach Department at the Harvard-Smithsonian Center for Astrophysics, Brindha Muniappan, Director of Education and Public Programs at the MIT Museum, and Bassam Shakhshiri, Professor of Chemistry at the University of Wisconsin-Madison, science demonstration and communication advocate extraordinaire, and former ACS president all provided helpful comments to the speakers (and for the audience).

Special thanks to ComSciCon organizers Anna Schneider and Karna Gowda, and to the MIT Museum and in particular Brindha Muniappan for helping organize and execute this special event.



K12 Session

This year, ComSciCon held a special K12 session which brought together our graduate student attendees and local K12 teachers. This session kicked off with a keynote lecture by Dr. Todd Zakrajsek. He emphasized the need to always learn and improve our professional skills, something that resonated with graduate students and teachers alike.



We also heard from master teacher Dr. Kristen Cacciatore of Boston Public Schools. Through a series of engaging activities, she helped both educators and graduate students understand the difference between old science standards and new ones.

Teachers also heard a series of Pop Talks, one minute pitches by graduate student about their work, and learned about the research these students do every day in their labs.

During the last part of the day, graduate students and teachers formed teams to develop lessons with connections to the research being completed by the graduate students. Each teacher worked with a team of 2-4 graduate students to formulate ideas and create lesson plans that they could use in their classrooms.

We want all students to have the opportunity to engage with science through cutting edge research. Going forward, we will use this model of graduate student – K12 teacher collaboration to create an online resource with an e-magazine, called **BiteScis**, and lesson plans for K12 classrooms. The materials will connect science being learned by K12 students in the classroom to scientific research being done by graduate students in the lab.



Publications

ComSciCon creates publishing opportunities for young scientists.

ENDPAPER

From Reef to Tank

STORY AND PHOTOGRAPHS BY AMY MCDERMOTT

Brightly colored, graceful, and exotic, coral reef fish make tantalizing pets. But how exactly do they reach your aquarium? Over 90 percent of reef fish sold in the pet trade today come directly from the wild, sourced from at least forty-five different countries. So, chances are, any tropical fishes you see behind glass once swam on coral reefs.

I recently visited a warehouse in Los Angeles, California, only a few blocks from Los Angeles International Airport, where fish bound for pet shops and public aquariums were being held after importation. Prior to their arrival, the fish typically follow a route that begins in coastal communities throughout the tropics. Local fishermen collect them from reefs using nets or diving gear and sell them to distributors—often earning cents on the dollar of the fish’s eventual retail price. Once the fishermen sell their catch, middlemen sort the animals in portside holding facilities, preparing them for export around the world, with the majority going to the United States and the European Union.

Inside the drab gray building in L.A., rows and rows of aquariums serve as temporary holding tanks for fish of all shapes, sizes, and colors. Workers hurry across the wet concrete floors, quickly sorting incoming fish into tanks—trying to minimize the huge stress of transport on the fragile animals. Even so, mortality rates reach up to 80 percent in some

species; many are injured during collection or handled poorly in transit.

The tanks themselves are impeccably clean with walls as blue as the open sea. It sounds soothing, but the fish must endure crowded conditions. I can see that many are agitated, zipping in crisscrossing lines

across their holding tanks, hitting the walls as they swim frantically. Others drift stiff and leaflike, not likely to survive.

Why are so many aquarium fish still collected from the ocean, rather than raised in captivity? Eric Cassiano, a biologist at the University of Florida’s Tropical Aquaculture Laboratory, explains, “In some cases we are just not currently able to grow the species in an aquaculture setting. [Or] we may be able to grow them, but with limited success.” Thus cost and poor success rates create a strong incentive to take reef fish from the wild.

Moreover, the marine pet trade has brought a new source of income



to often-impoorished fishermen of the developing world. New research published in the journal *Current Opinion in Environmental Sustainability* points out: “Coral reef animals can be removed for the [marine aquarium trade] in a way that is carefully targeted, low-volume, with little environmental impact, and closely monitored. Done in this way, there are many places that the [marine aquarium trade] can provide livelihoods for reef-side communities.” Eliminating wild capture could be economically disastrous for many. And in response to an outright ban on harvesting reef fish, illegal fishing efforts would likely expand.

In the face of this dilemma, many conservationists advocate for improving the existing industry by reducing the harvest of rare or heavily exploited species, and transitioning to captive farming in some cases. Unless tastes change, it seems likely that such farming will increase in the next decade. Perhaps one day only the hardest and most abundant species will be taken off reefs and make their way to the L.A. warehouse I visited, and we may be able to strike a more equitable balance between animal welfare and economic demands in the aquarium trade.

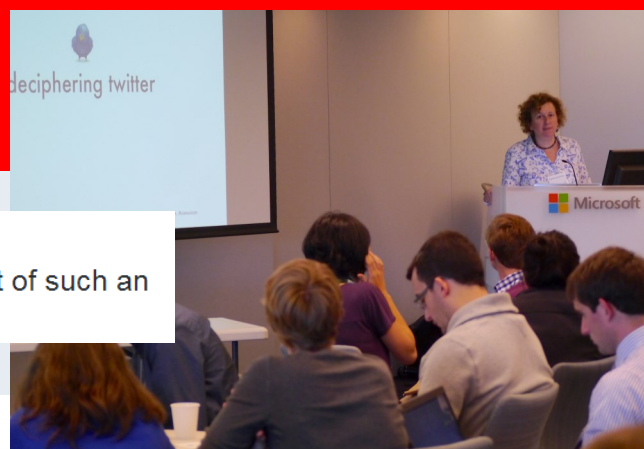
AMY MCDERMOTT is a graduate student in the Department of Ecology, Evolution, and Environmental Biology at Columbia University. She was one of fifty graduate students, chosen from more than 800 applicants across the U.S., to participate this past June in the Communicating Science workshop series, called ComSciCon’14, in Cambridge, Massachusetts. Pleased to encourage the endeavor, *Natural History* will be publishing a selection of articles that arose from the workshop over the next several issues.



A centerpiece of the ComSciCon experience for attendees is our Write-a-thon, an opportunity for students to hone their communication skills and receive detailed one-on-one feedback. Before the workshop, attendees drafted a science communication piece on a subject of their choice. At the workshop, attendees worked together and with our expert panelists to give and receive editorial criticism. Attendees are now shopping their works to publishing outlets nationwide. Five student pieces have been accepted for publication already, as features in the print magazine *Natural History*. The first of these articles, by Amy McDermott, is shown here. We look forward to seeing our attendees’ work in print.

Twitter

The #comscicon hashtag got a lot of attention over the four days of the workshop and beyond. Harvard Prof. and communication expert Alyssa Goodman led a short Twitter tutorial on the first day to help attendees get oriented. Here are some of the many tweets posted over the course of ComSciCon 2014.



Mónica Feliú-Mójer @moefeliu · Jun 14

@moefeliu: Thank you @ComSciCon. Honored to be part of such an outstanding lineup #scicommglare #comscicon



Jai Panthail @theterranerd · Jun 15

The urge to start writing about science is stronger than ever, thanks to @ComSciCon! One of the best experiences so far! Will miss everyone!

Thank you @ComSciCon #comscicon for a well-run and engaging #scicomm conference. I'm inspired by everyone. Sincerely, pic.twitter.com/QOYIY8ytSW

— Jen Briselli (@jbriselli) June 13, 2014

Fantastic time at #comscicon!! So much "awesome" to take back and start doing! Will miss hanging out with all these fantastic people!

— Bryan Leland (@BryanLeland) June 15, 2014

Have been at a lot of #scicomm mtgs recently. #comscicon was one of the most inspiring. <http://t.co/Nh5FcbZIPC>

— Dietram A. Scheufele (@scheufele) June 14, 2014

Weird, sad last day of camp feeling here at #comscicon as everyone slowly disperses

— Colin Young (@ColYou) June 15, 2014

It has been a privilege to help organize #comscicon '14. Thanks to our organizers, panelists, and attendees for being absolutely incredible!

— Anna Schneider (@archaeoanna) June 14, 2014

#comscicon was an awesome experience. Grateful to @astrobiters and the Harvard Astro dept for having the courage to do something so needed

— Madeleine Stone (@themadstone) June 15, 2014

@ComSciCon What a fantastic conference! My mind is racing with new ideas/projects- can't wait to get to work w my new friends #comscicon

— Steph Guerra (@Steph_Guerra_) June 14, 2014

What an awesome conference! #comscicon filled with awesome people and amazing science communicators! Proud to have been part of it

- Reggie Bain (@reggiebain) June 16, 2014

Thanks @ComSciCon for the best experience EVER!!!! Inspirational, eye-opening, and FUN! #comscicon

— Pinar Gurel (@pinar_gurel) June 14, 2014

@ComSciCon was absolutely incredible. Can't wait to get started on some new #scicomm projects! Keep in touch, #comscicon alums!

— Brian Aguado (@BrianAguado) June 16, 2014



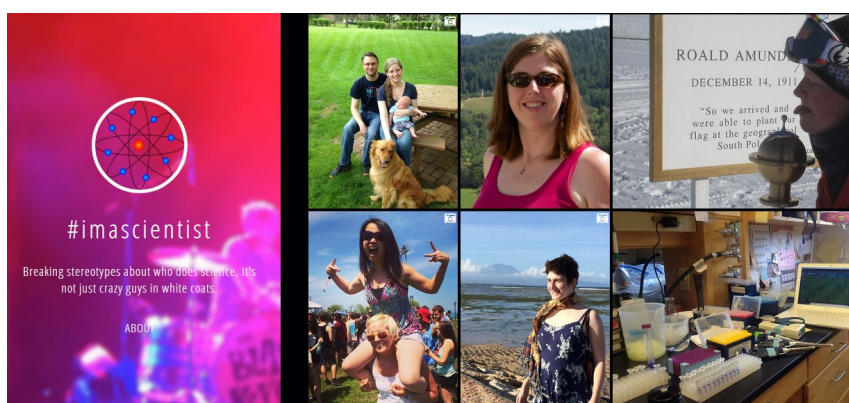
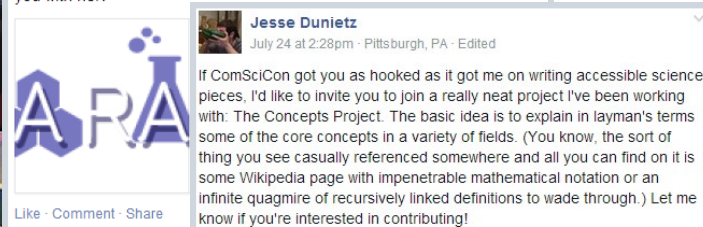
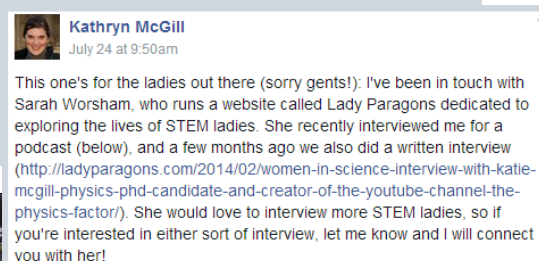
Madeleine Stone @themadstone · Jun 14



Feeling inspired by all the great people and ideas at #comscicon. Last day of the conference, but I'm pretty sure this is just the beginning

ComSciCon Alumni Network

ComSciCon ComSciCon alums continue to form a strong network through multiple social media outlets. Twitter, Facebook, and LinkedIn provide a way for alums to stay connected, announce new projects, gain support from other ComSciCon alums, and advertise opportunities. We are excited to see what our attendees accomplish and happy that the network created at ComSciCon can help them reach their goals.

Facebook has provided an important venue for gathering support for new projects and learning about new opportunities. Many attendees have started projects and gotten their initial support—blog contributions, videos, photos, etc.—from members of the ComSciCon alum Facebook group.



- 
Caren Cooper @CoopSciScoop · Jun 16
 can photoperiod (real by Earth's rotation or artificial by lights) lead to trends in bird traits along latitude & urbanization? [#popscitweet](#)
 Expand Reply Retweet Favorite More
- 
Jennifer Henderson @Jen_J_Hen · Jun 16
 Folks from [#ComSciCon](#) are trying to summarize their research story in a tweet. Follow along and join at [#popscitweet!](#)
 Expand Reply Retweet Favorite More
- 
Cat Adams @SciencelsMetal · Jun 16
 .@ESA_org Ecologists! Can you summarize what you study in 120 characters or less, with no jargon words? Use the hashtag [#popscitweet](#)
 Expand Reply Retweet Favorite More
- 
Elisabeth Newton @EllieInSpace · Jun 16
 I study the properties of the smallest & nearest stars in the galaxy, so that we can characterize the planets orbiting them. [#popscitweet](#)
 Expand Reply Retweet Favorite More

After ComSciCon14, attendees launched [#popscitweet](#), a hashtag bringing the Pop Talk to Twitter. This initiative grew to include people outside the ComSciCon network.

“Best thing I've done in grad school.”

- ComSciCon14 Attendee

Testimonials

ComSciCon is a formative experience for those who attend. The following quotes from ComSciCon14 attendees demonstrate the impact of the conference and the demand for continued and expanded offerings.

This was one of the best, most informative, most inspiring workshops I've been to.

This was a truly fantastic, informa-

I am (as are all the other attendees) floored by how well organized and run the workshop was. It is truly an inspiration. I was THRILLED to be accepted into the workshop, but I didn't have any idea how amazing it would be. It is **EASILY one of the best experiences I've had as a graduate student**. I feel much more confident about my writing and much more informed about science communication in general.

tive, and educational experience. Probably **the highlight of my PhD thus far**. I have never been so inspired and motivated to get out there and communicate for the cause. The cause that is science.

I thought that [ComSciCon] did a great job setting a warm, friendly, open, comfortable tone where **we felt free to admit that we didn't know certain things or weren't good at certain things - very different from the way I feel in graduate school every day**.

It was wonderful. I am a better scientist for participating.

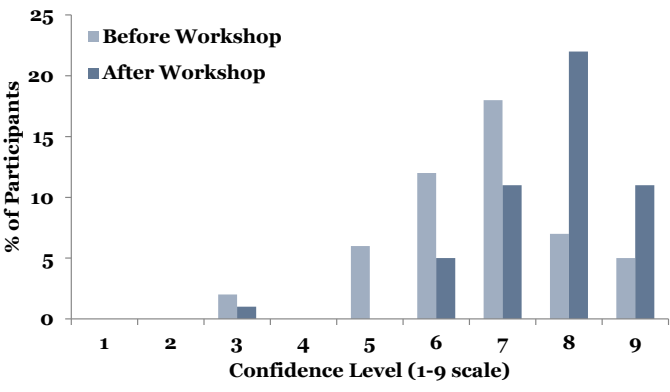
This was an incredibly organized workshop. I was so honored to be invited. The other attendees were very impressive and I felt flattered to be included in such an elite group. I am about to graduate and start a science commu-

nication career in earnest, and this workshop was perfectly timed. It was encouraging, motivating, and inspiring to hear from the panelists, and mostly to meet other incredible young people. Everyone really believed in each others' ideas. Unlike your normal conference where there is often a feeling of competition in the air, this felt like a very collaborative and warm environment. There is nothing better than bringing together a group of talented, motivated, and hard working young people and letting them just talk to each other for a few days. I left feeling invigorated and inspired, and I know the network I made at this conference will serve me well in the future. The organizers were incredible and I only wish more people could have this experience that I know was formative in my own career path. To whatever funding agency may be reading this review, please fund ComSciCon, it was **easily one of the most meaningful experiences of my graduate school career in shaping my future. This work matters**.

Evaluation

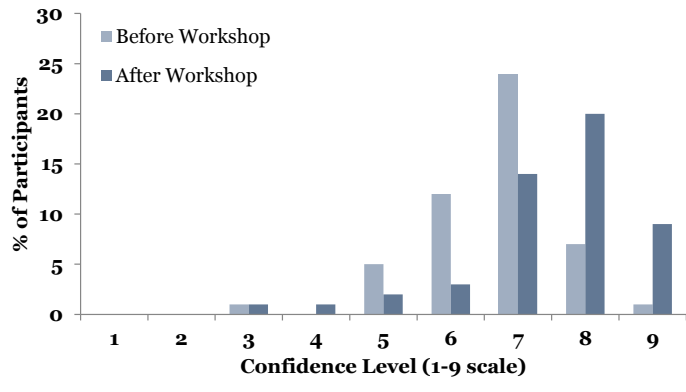
Through pre- and post-surveys of attendees, we have studied the science communication preparation of graduate students attending our workshops, and the workshop's impact on their perceptions of the field. We will perform another post-survey six months after the workshop to begin measuring its lasting effects.

Participants' confidence in their ability to communicate with the public

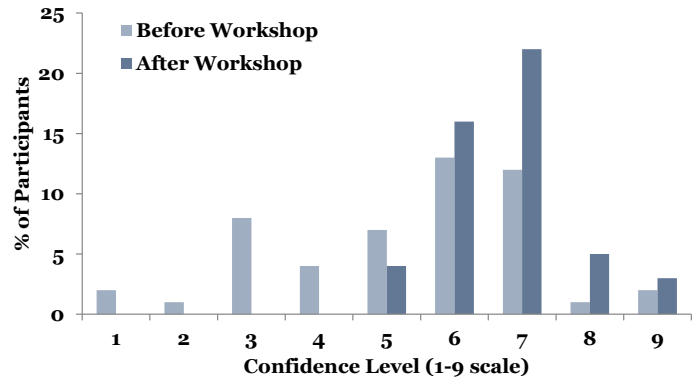


By introducing students to a network of like-minded students and experts and exposing them to new opportunities, ComSciCon helps students gain confidence in their science communication skills. The graphs here show a dramatic increase from before ComSciCon to after ComSciCon in the number of attendees with a high level (7 or above) of confidence communicating with the public, other scientists, and submitting an article to a popular science outlet.

Participants' confidence in their ability to communicate with scientists

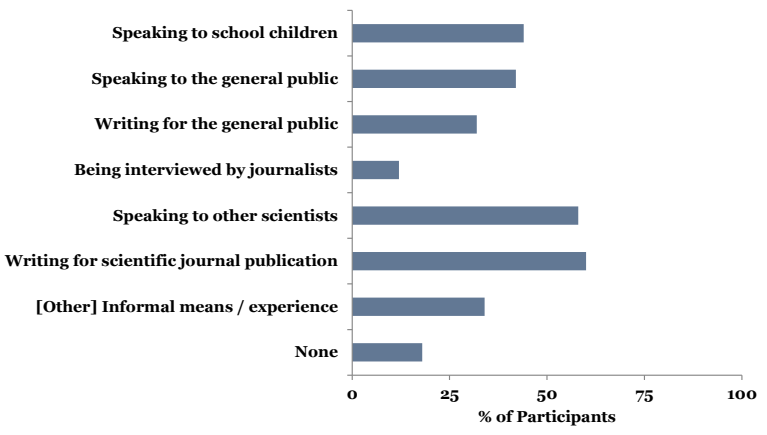


Participants' confidence submitting an article to a popular science publication



Even among our highly selective group of attendees, the number that have had previous training in communicating science is small, reflecting the need for such programs at a national scale. Nearly 20% of our attendees stated that they have had no previous training in communicating science. Just over 50% of attendees have had training for skills that are essential for success as a graduate student — presenting in front of other scientists and writing for a scientific journal. Far fewer have had training in writing for the general public, speaking to the general public, or speaking to K12 students.

Participants' Previous Training



ComSciCon Goes Local: Franchising student-led workshops

Through collaborations initiated between ComSciCon 2013 and 2014 attendees, and support from the national Organizing Committee, ComSciCon will be replicated regionally at universities across the country.

Expanding to meet a demonstrated demand

It was impossible for us to sort through the more than 1400 applications we've received for our past ComSciCon programs, for which we have had only 150 student slots in total, without recognizing the evident need for science communication training for graduate students asserted by the students themselves. Student bodies at the most eager institutions from across the country have already each contributed dozens more applications than we could accommodate.

Even among our highly self-selected and accomplished group of past ComSciCon attendees, only 40% have previously received formal training in public communication of science. A network of regional workshops based on our ComSciCon program, each serving a distinct and cohesive community of scientists, could meet this need.

ComSciCon-local: A proven franchise model

Our model for regionally scoped, "local" replications of our ComSciCon workshop program is already tested and proven. In January of 2014, we held a ComSciCon-local workshop for Harvard and MIT graduate students in Cambridge, MA, with successful outcomes including published student writing, a live keynote lecture that reached 300 community members, and highly positive student evaluations.

A special session at ComSciCon'14 guided attendees through the process of planning and organizing a ComSciCon-local workshop. An emphasis on how to seek and engage experts and resources from the local community demonstrated how to execute the program within a number of modest budget scenarios, ranging from \$2,000 to \$8,000. Attendees met in groups to discuss the opportunities and challenges that organizing a ComSciCon-local workshop in their community would pose.

A sustaining network of leaders

When ComSciCon was founded in 2012, our explicit goal was to unite and empower future leaders in science communication. Affirming this mission, 85% of our past attendees have expressed interest in continued interaction and networking with their cohort after our workshops.

Our ComSciCon-local franchising program serves not only to expand our professional development services to accommodate more attendees, but also to directly provide enduring leadership opportunities to talented and highly motivated graduate students in STEM fields. Already, eight graduate student alumni of past ComSciCon workshops have joined the ComSciCon national Organizing Committee, helping to plan and execute the program of the ComSciCon'14 workshop.

ComSciCon Organizers

ComSciCon is organized by a dedicated, talented team of graduate students and professionals from around the country.

It took the labor of many dedicated students and professionals to make ComSciCon14 possible, including our two graduate student organizing committees – the Program Organizing Committee (POC) and the Local Organizing Committee (LOC). The POC was charged with selecting and inviting expert panelists and special guests, planning the schedule, and organizing auxiliary events such as the Improv Session and American Scidol. The POC consisted of eleven graduate students: five veteran ComSciCon organizers from the Boston area, and six new organizers from around the country. Many POC members also did their part in the LOC, scoring applications, printing programs, arranging catering, and generally making sure that ComSciCon14 operated smoothly and seamlessly.



Many thanks to all of the members of the POC and LOC for their tireless efforts in making ComSciCon14 an amazing success!

Program Organizing Committee

Chris Faesi (chair), Harvard University
Maria Drout, Harvard University
Jesse Dunietz, Carnegie Mellon University
Karna Gowda, Northwestern University
Megan Harberts, Ohio State University
Kara Manke, Massachusetts Institute of Technology
Carrie McDonough, University of Rhode Island
Elisabeth Newton, Harvard University
Sukrit Ranjan, Harvard University
Anna Schneider, University of Colorado Boulder
Lauren Weiss, University of California Berkeley
Ashley Zauderer, Harvard University Postdoctoral Fellow

Local Organizing Committee

Courtney Dressing, Harvard University
Maria Drout, Harvard University
Chris Faesi, Harvard University
Rodrigo Garcia, Massachusetts Institute of Technology
Susanna Kohler, University of Colorado Boulder
Kara Manke, Massachusetts Institute of Technology
Shannon Morey, Massachusetts Institute of Technology '13
Elisabeth Newton, Harvard University
Erica Palma, Tufts University
Sukrit Ranjan, Harvard University
David Rolnick, Massachusetts Institute of Technology
Nathan Sanders, Harvard University
Ashley Zauderer, Harvard University Postdoctoral Fellow

Thank you!

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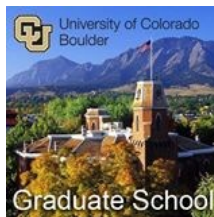
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