ComSciCon17

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

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Letter from the Organizing Committee

Dear Sponsors, Supporters, and other Members of the ComSciCon Community,

This past June, we held the fifth annual ComSciCon national workshop in Cambridge, MA. As always, our attendees, speakers, and organizers arrived full of enthusiasm and ideas about science communication, and they left with even more insights and inspiration. As we celebrate the completion of our fifth national workshop, we are delighted to share a few highlights of the successes of our program.

This year, we received over 1,000 applications for the 50 places at the workshop, a testament to ComSciCon's robust reputation as the premier workshop for graduate-student science communication leaders in America. In fact, this year's workshop was once again more competitive and oversubscribed than NSF fellowships, NIH grant proposals, or time allocation on the Hubble Space Telescope. The overwhelming interest in ComSciCon also highlights the growing demand for science communication training among early-career researchers, a demand we hope to continue meeting in even greater capacity in the future.

This year our team of graduate-student organizers designed a program that brought tried-and-true elements of the ComSciCon model together with interactive and innovative workshops. As in prior years, attendees had the opportunity to participate in videotaped mock interviews about their research. Additionally new hands-on workshops focused on delivering clear academic presentations, communicating through sketching, and integrating short videos into social media. Perhaps the most popular event was a hands-on workshop led by Liz Neeley and Nisse Greenberg from Story Collider, in which attendees crafted and shared science stories. We were also especially excited about a screening of clips from three documentaries by HHMI Tangled Bank Studio, followed by a discussion of the filmmaking process.

Over the past five years, our ComSciCon franchises have also grown, allowing us the opportunity to meet more of the demand for science communication training and provide alumni of the national workshop the opportunity to lead local workshops. By the end of 2017, we will have had ComSciCon workshops in seven different locations, including inaugural workshops in Houston, the Pacific Northwest, and the Rocky Mountains, as well as continuing workshops in Chicago, upstate New York (Cornell), the North Carolina Research Triangle, and San Diego. We expect additional franchise growth in 2018 and beyond.

We are also taking steps to expand ComSciCon at the national level, most notably by pursuing 501(c)(3) (nonprofit) status. We expect that as a nonprofit corporation, we will be able to further increase our impact by reaching more students and building upon our robust network to support ComSciCon alumni in their science communication ventures.

In this document, we summarize the progress that ComSciCon has made over the past year, demonstrating the value of our program to both the scientific community and the public. We are incredibly grateful to the sponsors who helped make this progress possible: Harvard University, MIT, University of Colorado Boulder, The Optical Society, The American Astronomical Society, the American Chemical Society, AAAS/Science Careers, IOP Publishing, and HHMI Tangled Bank Studios.

We are looking forward to another year of growth for ComSciCon. You can follow our progress at Comscicon.com.

Sincerely,

The ComSciCon 2017 Organizing Committee

Profiles:

Organizing Committee Members

Local Organizing Committee

Ben Cook, Chair
Harvard University

Phil Cowperthwaite
Harvard University

Erin Dahlstrom
Harvard University

Rodrigo Garcia
MIT '16

Olivia Ho-Shing
Harvard University

Harshil Kamdar
Harvard University

Susanna Kohler
University of Colorado, Boulder '14

John Lewis
Harvard University

Amber Medina
Harvard University

Shannon Morey
MIT '13

Chani Nava
Harvard University

Roxana Pop
Harvard University

Nathan Sanders
Harvard University '14

Ian Weaver
Harvard University

Program Organizing Committee

Rose Hendricks, Chair
University of California, San Diego

Alie Caldwell, Vice-Chair
University of California, San Diego

Reggie Bain
Duke University

Alex Berardino
NYU

Liz Bajema
Northwestern University

Will Chen
University of Washington

Molly Gasperini
University of Washington

Shayle Matsuda
Hawaii Institute of Marine Biology

Aggie Mika
University of Colorado, Boulder

Christina Sauer
Montana State University-Bozeman

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. ComSciCon17 was our fifth annual national workshop, bringing together 50 exceptional graduate students selected from over 1,000 applicants nationwide.

Continued Growth

In 2017, ComSciCon celebrated the conclusion of its fifth annual national leadership workshop; the third year of its local franchises in Chicago, Cornell, and the Research Triangle; the second year of its local franchise in San Diego; and the launch of new local franchises in Houston, the Pacific-Northwest, and the Rocky Mountains. The Leadership Team works to sustain our flagship national workshop and to promote the growth of our franchise programs throughout the US. Several new local franchises are already being planned for 2018!

Partners

As in past years, graduate students from around the country applied to attend ComSciCon17. We view this level of demand as a testament to the exceptionally valuable and high quality programming made possible through the phenomenal support of Harvard University, MIT, University of Colorado Boulder, The Optical Society, The American Astronomical Society, the American Chemical Society, AAAS/Science Careers, IOP Publishing, and HHMI Tangled Bank Studios.

Graduate Student Attendees

The graduate students who sought to attend our 2016 workshop were our most qualified and accomplished group of applicants ever, making our application review process even more challenging than in past years. Throughout the workshop, the line between these outstanding young science communicators and the invited experts they conversed with seemed constantly blurred.

Invited Experts

This year our panels and workshops benefited from the presence of twenty-two invited experts. This group included academics extending their impacts beyond the laboratory (like Cassandra Extavour, of Harvard and Ben Bergen of UC San Diego); science educators who use YouTube (like Ali Mattu and Lindsay Murphy); reddit (Piper Below); interactive games (Nicky Case), and those who work in diverse settings from publishing (James Dacey and

Executive Summary

Susan Curtis from IOP Publishers) to museums (Susan Heilman, Boston's Museum of Science).

Write-A-Thon

In an integral part of the ComSciCon program, each attendee produced an original piece of science writing or multimedia during the workshop. During the event, each student received one-on-one feedback on their writing from professional writers and editors—our invited experts—and from their peers. With the help of ComSciCon organizers, attendees are now seeking publication for their work at local and national outlets in print and online. Past ComSciCon attendees have now published more than 60 pieces written at our events!

ePoster Presentations

At ComSciCon, the poster session is not just a time for attendees to broadcast the status of their science communication endeavors, but more importantly it provides opportunities for connections to be made and new collaborations to begin. As in past years, we deployed a suite of electronic displays to facilitate our fourth annual attendee poster session. Attendees used the displays to showcase the websites of science outreach organizations they've founded at their universities, educational videos they've produced, interactive science games they've created, infographics and designs, and more!

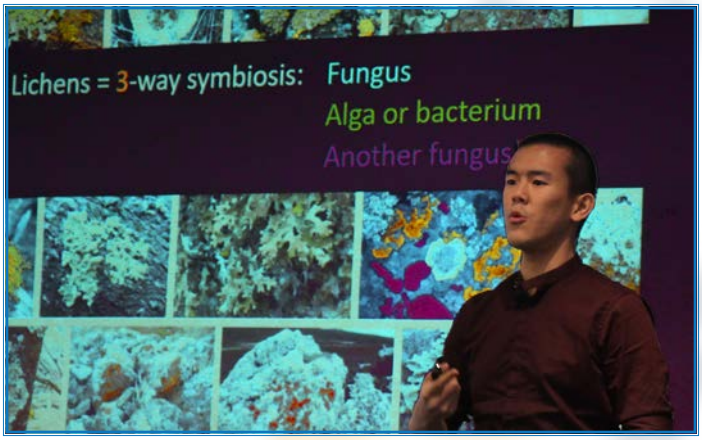
Special Sessions

As our Program Organizing Committee continues to innovate, we've not only brought back elements of previous ComSciCon workshops, but also added short hands-on workshops focused on academic presentations, communicating through sketching, and integrating short videos into social media. Perhaps the most popular event was a longer hands-on workshop led by Story Collider, which helped the attendees craft and share science stories.

Executive Summary

K12 Session

For the fourth year, ComSciCon attendees worked with K12 educators to develop original lesson plans and classroom activities focused on their own research. Connecting practicing scientific researchers - our graduate student attendees - with teachers at the front lines of science education in the United States is not only integral to ComSciCon's philosophy of active science communication, but also part of the model for our K12 education spinoff initiative, BiteScis.



Keynote Address

This year we had the privilege of hearing from Ed Yong, a science writer for The Atlantic. He shared some of his experiences in science writing in a talk that was full of concrete advice and actual science. One attendee commented that Ed Yong "delivered one of the most eloquent and inspirational talks I have ever been to. Having an expert science writer to share insights was indeed helpful."

Organizing Committee

This year twenty-four graduate students (and recent graduate students) from around the country volunteered thousands of cumulative hours to make ComSciCon17 the successful event that it was. Their contributions are critical to the operation and quality of ComSciCon, instrumental to its future, and a key outcome of the alumni community we have sought to create.

Profiles:

Participants

50 graduate students from around the United States convened in Cambridge for ComSciCon17. Our attendees came from a wide array of backgrounds and had diverse research interests, but all have demonstrated exemplary dedication to science communication in their careers to date and at our event. The following profiles provide just a few examples of the interests, motivations, and accomplishments of our attendees.

Sadie Witkowski

Sadie is a PhD student at Northwestern University in the brain, behavior, & cognition area of the psychology department. She studies how memories can be strengthened , but in her spare time she hosts the podcast PhDrinking where she interviews graduate students from across a variety of disciplines on their research.

Mejs Hasan

Mejs is a PhD student at UNC Chapel Hill, whose research uses satellites to monitor water supply and pollution in rivers and wetlands. In her spare time, she writes for UNC's science communication blog, The PipettePen. She also writes an opinion column and reports on wedding stories for The Daily Tar Heel, a community/university newspaper.

Mariana Rocha de Souza

Mariana is a PhD student in the Marine Biology department at the University of Hawaii at Manoa in Gates lab. Originally from Brazil, she holds a MSc in Oceanography from University Aix Marseille, France, and is now studying coral symbiosis in Kaneohe Bay in Hawaii. She is passionate about biology and hopes to inspire other women of the same cultural and social background to pursue a career in science.

Profiles:

Participants

Michael Zevin

Michael is a PhD candidate in physics and astronomy at Northwestern University. His research focuses on gravitational-wave astrophysics and stellar evolution, in particular utilizing observations of merging compact binaries to learn about how massive stars formed and evolved, and developing next-generation citizen science projects that combine crowdsourcing and machine learning.

Rachel Gulbraa

Rachel is a Master's of Environmental Management candidate at the Yale School of Forestry & Environmental Studies. During her time at F&ES, she has focused her studies on conservation, ecotourism, and science communication, and is interested in using film as tool to approach these interests.

JulieAnn Villa

JulieAnn is a high school science teacher, work which allows her to share her passion for science communication and engage students in primary STEM research. On top of this, she is also a graduate student in Health Communication at Northwestern University, with a personal focus on improving science literacy.

Brittany Aguilar

Brittany is currently completing her Ph.D. in Neuroscience at Georgetown University and is the founder of the Neuroscience Student Society, which serves to encourage dialogue in the areas of mentorship and graduate education. Brittany is interested in promoting public awareness of scientific advancements and encouraging stewardship of science within academia, which she pursues through meeting representatives on Capitol Hill to advocate for brain research and writing blog posts for Rescuing Biomedical Research.

Katherine Wu

Katherine is a third-year PhD student at Harvard University in the Biological and Biomedical Sciences program. She is currently Co-Director of Science in the News, a graduate-student organization that aims to communicate science to the general public through free lectures, outreach events, online blog articles, and more.

Profiles:

Panelists

Science communication experts from a broad range of backgrounds joined us at ComSciCon17, sharing their expertise on panels and facilitating interactive sessions. Read about some of our expert speakers

Ali Mattu

Columbia University & The Psych Show

Dr. Ali Mattu is a clinical psychologist who specializes in the treatment of anxiety and body-focused repetitive behaviors (trichotillomania/hair-pulling disorder and excoriation/skin-picking disorder). He aspires to bring psychology to everyone, everywhere by hosting THE PSYCH SHOW, writing about the psychology of science fiction at Brain Knows Better, presenting to the public, and advocating for the brain and behavior sciences through the American Psychological Association.

Stephani Page

UNC Chapel Hill

Dr. Stephani Page is the founder of the #BLACKandSTEM online community and a post-doc at the University of North Carolina at Chapel Hill, where she also received her PhD. She has a B.S. in Chemical Engineering and an M.S. in Biology from North Carolina A&T State University.

Stephanie Fine Sasse

The People's Science

Stephanie Fine Sasse is CEO, Co-Founder & Creative Director of The People's Science, a non-profit organization committed to engaging lifelong learners, promoting accessible evidence, and cultivating an informed citizenry. Previously, she developed educational technology and public exhibits for Oregon Health & Science University and completed post-bac research training at Harvard University from 2012-2017. She has co-authored over a dozen academic presentations and articles in developmental psychology, affective neuroscience, and science communication. In 2016, she served as the founding Editor-in-Chief of the Learning & the Brain blog.

Adam Conner-Simons

MIT CSAIL

Adam Conner-Simons oversees communications and media relations for MIT's largest interdepartmental research lab, the Computer Science and Artificial Intelligence Laboratory (CSAIL). Through his work, MIT CSAIL's research has been covered in major general-interest and tech outlets more than 1,000 times over the last 2 years, including the Wall Street Journal, NPR and CBS News. He is also a freelance reporter who has written for the New York Times, The Boston Globe, the Huffington Post and Slate Magazine.

Profiles: Educators

For the fourth time at our national workshops, we were honored to be joined by a phenomenal group of practicing educators from Boston-area K12 schools, museums, and other institutions. As part of ComSciCon's K12 Session, these educators worked directly with our graduate-student attendees to prepare their pedagogical research descriptions and classroom activities to face the reality of the teaching environment and student needs. Through this interaction, both teachers and graduate students left with a better understanding of the opportunities and challenges of bringing research to the classroom. Here's a glimpse of a couple educators we had at the K12 session.

Renata Moretti

Renata has a PhD in zoology/animal biology and has authored a Science and Biology textbook in Brazil. She is currently a visiting scholar at Harvard University as a post-doc at the Museum of Comparative Zoology. She gained experience in both formal and informal science education environments in Brazil. Renata was formerly a coordinator at the São Paulo Science Museum and a curriculum director as Head of Science at Boa Vida School in Angola. She attended the ComSciCon K12 session looking for new ideas and hoping to share her experiences from outside the United States.

James Freyermuth

James is a high school biology teacher at Bridgewater-Raynham Regional High School with interests in anatomy/physiology and zoology. He came to ComSciCon looking to expand his curriculum development experience and learn what other educators are doing to further STEM curriculum. He was excited for the opportunity to discuss education with like minded people and grow as an educator.

Special Sessions

Attendees had the opportunity to participate in a number of hands-on sessions, including mock interviews, an academic workshop, and social media training. We added these features to our program recognizing our imperative to help graduate students build the skills and familiarity required for effective science communication in the real world.

Mock Interviews

In the mock interview session, 24 of our ComSciCon attendees took advantage of the opportunity to sit on the other side of the interview table from our expert journalists and storytellers, in front of their peers and with the added pressure of live cameras. At the start of this one-hour session, the attendees were given a short crash course on interviewing tips and tricks. In their breakout groups, our expert facilitators Nisse Greenberg (Story Collider), Adam Conner-Simons (MIT-CSAIL), and James Dacey (IOP) reviewed short bios of each of their attendees before questioning them. After each interview, the groups reviewed the video of the conversation together and our experts led a discussion to provide detailed feedback to each attendee. In addition, throughout the course of the conference, James Dacey conducted short one-on-one filmed interviews with willing attendees for the IOP, giving our attendees the opportunity to advertise their science and practice their communication skills with a real audience.

Academic Workshop

Day 1 of ComSciCon17 featured several interactive/hands-on workshops for attendees. A session on improving teaching using active learning techniques in the college classroom was led by Piotr Mitros, a Chief Scientist at EdX and a leading expert in improving student learning and educational resources. Rather than lecturing attendees about active learning techniques (and in the spirit of the topic he was discussing), Dr. Mitros broke the 25 participants into small groups and assigned each group the task of preparing a presentation on a given active learning technique.

The topics covered included peer instruction, blended learning, and learning sequences. The rapid-fire learning and teaching was followed by discussion of pros and cons, as well as how to implement the methods in a science classroom. As one attendee commented, *"the edX speaker taught me so much about the idea of a flipped classroom and really changed my opinion and philosophy on how to teach!"*

Special Sessions

Communicating about Diversity within Science

This year also included an especially interactive panel focusing on Communicating about Diversity within Science. We began by asking attendees to share with their partner their first experience where they felt good at science and their first experience feeling like they did not fit in. Then, an interdisciplinary panel shared their experiences: Stephani Page (founder of #BLACKandSTEM/post-doc UNC Chapel Hill), Dina Greene (Assistant Professor, U of Washington), Lindsey Murphy (Creator/Host, The Fab Lab with Crazy Aunt Lindsey), Cassandra Extavour (Professor, Harvard University), and Shayle Matsuda (graduate student, University of Hawai'i). New this year, after the panel, each panelist led a break-out discussion with a sub-group of attendees. This is consistently reviewed as one of the most impactful panels of the conference, and we were incredibly happy to include it in this year's program.

Here's how one attendee described her takeaways from the discussion: *"As a first gen college student and a woman in science, the Diversity Panel was absolutely inspiring. Each person on that panel had a unique experience in discrimination and overcoming barriers–their stories gave me hope that together, we might be able to change the public's narrow perception of 'science' and 'scientist."*

Social Media

During the Social Media session, ComSciCon attendees explored the unique advantages of various social media platforms for communicating science for different audiences. The breakout social media session was led by two of ComSciCon's own program organizing committee members, Alie Caldwell and Shayle Matsuda. The workshop began with an overview of the demographics of some of the most popular social media platforms, including Facebook, Twitter, Instagram, and Snapchat, and it highlighted examples effective of science communicators found on each platform. Next, attendees worked with Shayle on using memes, gifs, and hashtags to leverage ongoing conversations for the purpose of science communication. Finally, attendees split into two groups: half joined in a discussion on fundamentals of making science video content for online audiences, while Shayle led the other half in a session on the utility of sketchnoting as a way to quickly synthesize information. The Sketchnotes workshop gave participants the tools and practice to begin to create engaging visual representations and interpretations of complex ideas. Visual notetaking allows the scribe to quickly process new concepts and to easily communicate them to scientific and lay audiences through easy-to-follow visual depictions. Since ComSciCon17,

Special Sessions

participants have already begun posting pictures of their Sketchnotes on social media platforms such as Twitter. One attendee specifically referred to this workshop as *"definitely the most helpful social media training I've had, because the speakers assumed no prior knowledge while also being mindful of possible priors. It was a great group discussion."*

Story Collider Workshop

One of the featured interactive workshops of ComSciCon17 was hosted by The Story Collider, a non-profit group dedicated to promoting the art of effective storytelling amongst scientists around the world. Liz Neeley, the executive director of The Story Collider, and Nisse Greenberg, a producer at the organization, hosted a 3-hour interactive session on how to effectively construct an engaging narrative. Using a number of helpful handouts and basic strategies, the attendees were led through a process of constructing their own personal stories about science. After pitching and refining their stories in peer groups, the attendees were offered the chance to present their stories to the group. With many more volunteers than time allowed, several attendees delivered powerful stories on personal experiences they'd had as scientists, which ranged widely from serious personal hardships, to more light-hearted experiences. Both Liz Neeley and Nisse Greenberg stayed for nearly the duration of the ComSciCon workshop, and Mr. Greenberg hosted an impromptu storytelling session on Day 3 of the workshop over lunch. After the workshop, one attendee told us that the Story Collider workshop *"reminded me that even if science is a big part of all of our lives, we are so much more than just our lab work."*

HHMI/Tangled Bank Film Screening

We were excited to welcome back Howard Hughes Medical Institute's (HHMI) Tangled Bank Studios to cap off our first day of the national conference program with a screening featuring clips from three of their new and in-progress films. Their sponsorship of this session allowed our attendees to be exposed to creative approaches towards topical discussions at the border of science and society from a leading scientific foundation. HHMI Tangled Bank Studios has produced award-winning scientific programming that addresses contemporary issues as part of HHMI's science education mission.

Laura Helft, a senior manager for public outreach and education at Tangled Bank led a discussion accompanying the screening. The group discussed the union of accurate scientific content with compelling storytelling. In their discussion, attendees gained behind-the-scenes insights into the process of creating a scientific documentary.

Special Sessions

Careers Mingle and Dinner

This year we had 30 guests from a diverse range of science communication fields join us for conversations over dinner. Experts represented careers in writing and publishing, academia, public outreach, industry, consulting, and government, and the group included individuals from the Museum of Science, the American Academy of Arts & Sciences, and the National Center for Science Education (to name just a few!). This event provided an opportunity for students to learn about potential careers related to science communication and facilitated connections between attendees and experts.

Write-a-Thon

A core segment of ComSciCon, the Write-a-Thon gives attendees the opportunity to practice science writing and receive guidance on translating complex subjects into engaging media for general audiences. Weeks before the conference itself, each attendee creates a short article, podcast, or video. From then through the end of the conference, students receive feedback from peers as well as from distinguished science communication experts.

Expert Review

While at ComSciCon, attendees sat with expert reviewers in groups of 3 or 4. Expert reviewers are conference panelists or invited guests with a background in publishing, writing, editing, or media, including such notables as Stephanie Fine-Sasse (Creative Director of the People's Science), Ben Bergen (UCSD Professor and author of "What the F"), and Gianna Savoie (Executive Director of Ocean Media Institute). In addition to providing feedback and tips on writing, pitching, and publishing, the expert review session promoted networking in a smaller group setting. One attendee in particular commented: *"My reviewer really helped me see the potential of my article to be much more than I was initially aware. Loved that whole process."*

Slack Pitching Session

After the conference, attendees joined science communication experts Nadja Oertelt (Co-founder of Massive Science), Gabe Stein (Co-founder of Massive Science), and Adam Conner-Simons (Communications and Media Relations Officer for MIT CSAIL) on Slack for a Q&A session on pitching and publishing their revised Write-a-thon pieces. Supplementing the Expert Review, the pitching session lifted some of the fog on how to select a publication outlet, write an effective pitch, and craft a story tailored to each outlet.

Accepted Pieces

After the workshop, attendees pushed forward to publish their Write-a-thon pieces in publication outlets around the country partnered with ComSciCon organizers, including Ensia, Boston Globe, FiveThirtyEight, and local papers. Below are a selection of these publications following ComSciCon 2017:

Gina Mantica, "*Why we need more scientists in government*", Boston Globe.

Paul Enriquez, "*Genetically modified food is too advanced for its out-of-date regulations*", The Hill.

Paul Enriquez, "*GM-food regulations: engage the public*", Nature.

Michael Graw, "*These tiny methane-eating organisms have an outsize impact on our climate models*", Massive Science.

Qingwu (William) Meng, "*Green light is more useful to plants than you might think*", Urban AG News.

K12 Session

Each year ComSciCon's K12 session offers graduate students and teachers the opportunity to collaborate on lesson plan development. Our graduate-student attendees introduce invited teachers to cutting-edge research in their fields and teachers provide perspective on what content and presentation is most effective for a K12 audience.

This year we welcomed eight educators to our K12 session to work with sixteen of our graduate-student attendees. Prior to the session, each of the graduate students wrote a short informational piece about a research article related to their current research. They targeted their writing at a high school audience and included a profile of themselves.

Each educator was assigned two graduate students to work with. The educators began their day by editing the graduate-student pieces to make them more accessible to high school students and to better align with the Next Generation Science Standards. Following the editing, educators attended the student poster session where they were able to get to know our graduate-student attendees and learn about the science communication outreach work they were already doing.

In the afternoon, teachers and graduate students met to discuss their writing pieces and start developing a lesson plan related to their articles. This chance to talk in a small group about the demands

of a K12 classroom and what it really means to address content standards allowed graduate students to learn about the obstacles teachers face. They were able to gain a better understanding of how to create resources that would actually be useful to teachers. One attendee commented: *"I loved talking to my reviewer. She helped me focus my lesson plan down to two points, and even suggested breaking my lesson into separate pieces. I never had this kind of feedback on teaching before so I really needed this guidance."* Additionally, teachers were able to learn more about current research in a variety of science fields and get ideas about how they can talk to their students about this research.

BiteScis

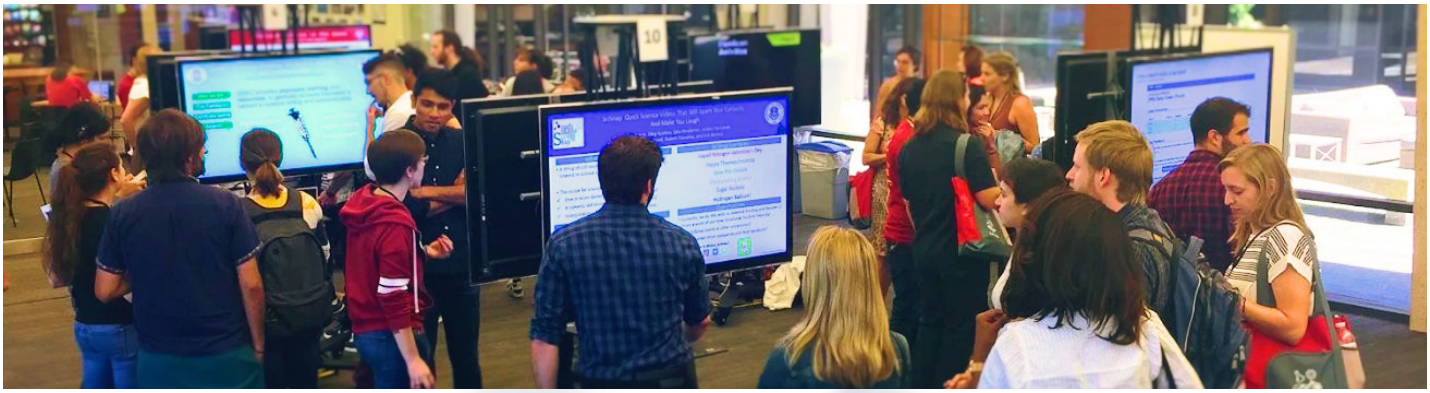
The K12 session was run by the BiteScis leadership team. BiteScis aims to bring modern science research into the classroom through one-of-a-kind lesson plans developed in partnerships between K12 teachers and STEM graduate students. BiteScis was conceived of by a group of scientists and communicators who met through ComSciCon. Over the last three years, the BiteScis organizers have hosted a Saturday K12 session of the ComSciCon workshop alongside the program organizing committee.

This spring, BiteScis was awarded a grant from the John F. Templeton Foundation. With this funding, we plan to launch a new, freely accessible web interface and populate it with content developed through our BiteScientist collaborations. We hope to establish a resource for K–12 educators that will serve as a unique and integral tool in the preparation of young thinkers to engage in the process of scientific discovery. The resource will host lesson plans based on current scientific research that are designed to highlight the processes of science and the excitement of discovery. To achieve our vision, we will develop an infrastructure for content development and training that can be scaled up as resources allow. This will enable continuous translation of authentic science into the classroom where it can inspire the next generation of scientists and excite a curiosity in science for all.

The BiteScis collaborations that develop our content are a win-win for our BiteScientists. Teachers benefit from exciting new material that invigorates learning and early-career scientists gain valuable communication and education training. BiteScis provides the structure and resources to foster personal connections between teachers and practicing scientists. In this way, BiteScis seeks to improve science education and communication, with the ultimate goal of enhancing public understanding and appreciation of science.

Poster Session

ComSciCon's poster session, which takes place on the final day of the workshop, is a showcase for and celebration of the remarkable science communication projects that our attendees have initiated and led around the country and online. We featured a select group of 16 initiatives at the workshop, and we profile just a few of them below.



Molly Edwards hosts a YouTube series called Science In Real Life, which aims to reshape viewer perceptions of scientists and encourage gender equality in STEM. Each episode features a guest scientist demonstrating their actual day-to-day process of performing science "in real life".

Jaye Gardiner shared her work with JKX Comics, which aims to increase science literacy in children through comics and cartoons. This medium has been shown to be relatable, memorable, and easily disseminated across the internet.

Zack Brown highlighted the success of his organization, SciSnaps, in reaching the public through social media. These short, 10-second demonstrations combining humor, music, and science are broadcast over Snapchat, Twitter, and Instagram, and they direct to more in-depth explanations on Facebook.

Laura Mast demonstrated Populy Voting Systems, which aims to revolutionize how science fairs, academic poster sessions, and other expos are judged. By digitizing scoring systems onto smart phones, the judging process can be easily anonymized and streamlined, and it allows for improved feedback for participants.

ComSciCon Franchises

Since its launch in 2013, ComSciCon has directly served 250 graduate students from around the country through its annual flagship event, the national leadership conference that takes place in Cambridge, MA. But in a major milestone, we have now surpassed this number of graduate students reached through our local franchised workshops.

By the end of 2017, we will have had ComSciCon workshops in seven different locations, including inaugural workshops in Houston, the Pacific Northwest, and the Rocky Mountains, as well as continuing workshops in Chicago, upstate New York (Cornell), the North Carolina Research Triangle, and San Diego. Planning is already underway for additional local workshops to be held in 2018.

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

ComSciCon-PNW 2017

ComSciCon debuted in the Pacific Northwest (PNW) this March, bringing together 45 graduate students from universities in Washington, Oregon, Idaho, Montana, northern California, and farther. They were joined by 15 science communication experts from around the Pacific Northwest who represented a variety of backgrounds including academia, journalism, business, science illustration, and education.

The keynote speaker, University of Washington professor Jennifer Nemhauser, shared her experience hosting an artist-in-residence as she paved her unique path in academia and encouraged everyone to initiate positive change within their respective institutions. The conference also featured a set of Unconference workshops, where students and panelists discussed topics that they had brainstormed over the course of the conference. These workshops included deep dives into diversity in science, dealing with anxiety in public speaking, and communicating uncertainty. ComSciCon-PNW could not have happened without the generous support of Adaptive Biotech, Sigma Xi Columbia-Willamette, and the many institutions within University of Washington and Portland State University.

Franchises

ComSciCon-Chicago 2017

The 3rd annual ComSciCon-Chicago conference wrapped up on the last weekend in August. The event brought 50 attendees from local universities such as Northwestern, University of Chicago, University of Illinois at Chicago, University of Chicago, as well as students from UW-Madison, Notre Dame, University of Illinois Urbana-Champaign, University of Michigan, Michigan State University and even those as far away as Indiana State University, University of Oklahoma, Saint Louis University, and University of Akron. Panels and workshops featured journalists, scientists, and public speaking professionals from the Chicago and Milwaukee areas. This list included ComSciCon-Chicago alumna Lisa Qu, who is now a Science Communications Associate at Weber Shandwick.

The first day of the workshop closed with a keynote address from Flash Forward podcast host, Rose Eveleth, in which she spoke about the use of science fiction in science communication, and the role it can play in storytelling.

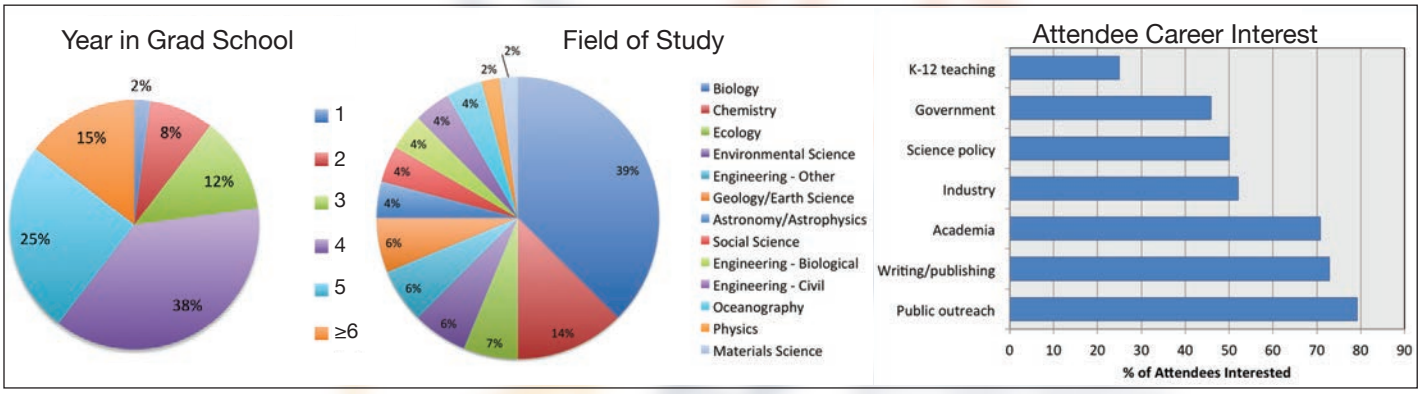
ComSciCon-Chicago was generously supported by Northwestern University and the University of Illinois at Chicago.

Evaluation

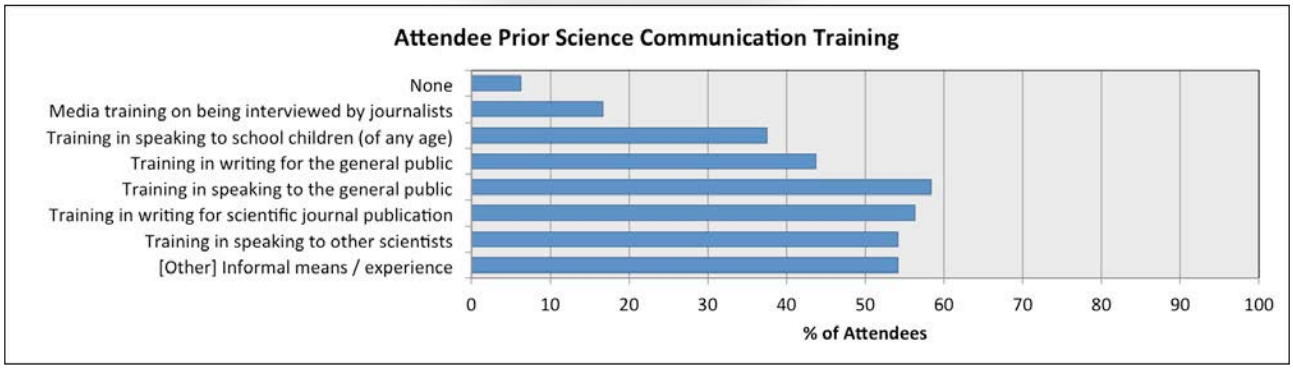
To better understand the state of science communication training in STEM fields and the impact of ComSciCon on attendees, we surveyed attendees before and after the workshop. Below are just a few results from attendee survey responses, which we plan to include in a peer-reviewed publication about the impact of science communication training on STEM graduate students.

Attendees' Backgrounds and Career Interests

ComSciCon 2017 attendees came from various stages in their graduate career, a wide range of fields of study, and home institutes from across the nation. Attendees' future career interests also spanned a broad range of possibilities.



The number of ComSciCon attendees who report having received formal science communication training prior to the workshop continues to grow every year, providing hope that more training opportunities are being made available to young scientists. Even so, nearly a quarter of ComSciCon 2017 attendees indicated that they had received no prior formal training in communicating with people other than scientists, underscoring the need for programs such as ComSciCon. As ComSciCon attendees are selected for their exemplary science communication experience, we can expect these numbers to be much lower among the general graduate student population.

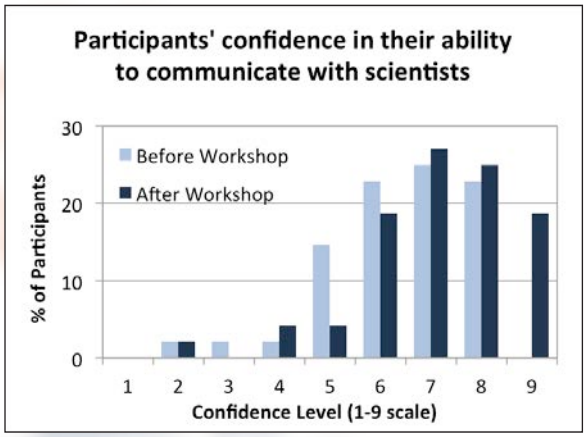


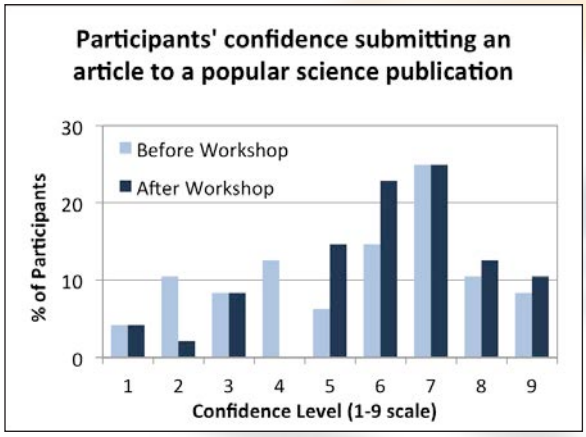
Evaluation

Impacts of ComSciCon 2017

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

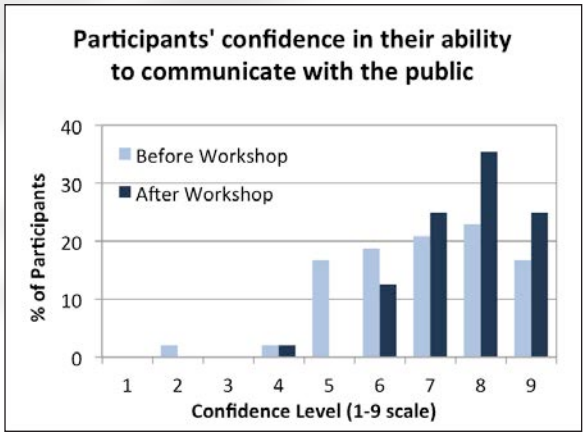
"The topics we covered are so important to being a member of society as a scientist, and I'd never had the opportunity to learn about them before this conference."





"Think big and just try it. Whether "it" is making YouTube videos, sketch notes, writing articles, telling stories, it is better to get started and make edits and learn from it than to never try."

"I came back from the workshop super inspired! I want to apply this to my science outreach activities, by showing kids from different backgrounds that they matter, and that science is a possible career!"



Testimonials

Inspired by the conference, one of our attendees, Rachael Bonoan, wrote a blog post about ComSciCon2017.

You can check it out on her blog:

https://www.rachaelebonoan.com/single-post/2017/06/16/ComSciCon17

What was the most memorable thing you learned or best piece of advice from ComSciCon 2017?

"Science communication is the art of bridging the gap between information and emotion."

"There is a difference between science skepticism and science denial. When preparing pieces and doing science outreach, avoid attacking people's personal beliefs."

"Science communication must make tangible and relevant human connections to be effective."

"Be you and don't be apologetic for who you are — your work will speak for itself."

Anonymous attendee feedback:

"[ComSciCon] is a truly fantastic opportunity and I hope it is extended to as many students as possible."

"I came away with an amazing sense of invigoration, inspiration, and community!"

"The most memorable thing was a feeling. When I looked around at my fellow attendees and the assembled experts I felt a strong sense of belonging. I felt at home in a group of people who don't believe in "dumbing it down"."

"Thank you — I am so grateful for being able to attend. Life changing."

"I walked away thinking that was by far the most useful workshop I've attended in my science career in terms of practical knowledge gained and networking with other grad students who are also finding their way in science communication."

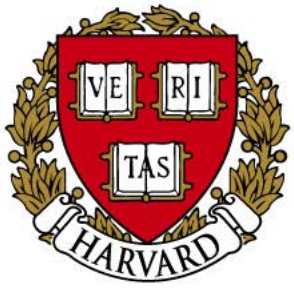
"This was the highlight of my summer and probably my year. I can't wait to bring this to Atlanta!"

"Wonderful workshop! It was amazing to meet science communicators from around the country. I know I will never forget the connections I made and the skills I built over those 3 days."

Sponsors

Thank you to our sponsors!

ComSciCon17 was generously supported by:



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