



Communicating Science Workshop 2013

Cambridge, MA
June 13-15 2013



A report on the first
Communicating Science workshop
for graduate students

Communicating Science 2013

A Workshop for Graduate Students



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Letter from the organizing committee

To supporters of the Communicating Science Workshop,

We were overwhelmed by the positive response to ComSciCon'13, the first Communicating Science workshop. The spirit of initiative and collaboration among the 50 graduate student attendees of the workshop was infectious, and in the weeks since the event we have taken great pleasure in watching the student publications, news reports, and new science communication organizations that have resulted from the event.

Our thanks go to the phenomenal student participants, invited speakers, and supporters that made the workshop possible.

Even before the workshop, as we sifted through more than 700 applications for the 50 student spots, it was clear that there was more enthusiasm for professional development in science communication than one workshop could satiate. We hope to continue and extend ComSciCon programming in the future.

We aim to operate the national ComSciCon workshop annually each summer in order to provide future generations of students with the opportunity to improve their science communication skills and form networks with their like-minded peers. To better serve our own graduate student community at Harvard and MIT, we hope to launch a ComSciCon-local workshop to be held in Cambridge annually during the January term session.

In this report, we reflect on the experience of ComSciCon'13 and its many lasting outcomes. We hope these events will prove equally as inspirational to you as they have been for us, and that you will join us in conceiving of a future direction for ComSciCon.

Sincerely,

Nathan Sanders
(nsanders@fas.harvard.edu)
Shannon Morey

(ORGANIZING COMMITTEE CO-CHAIRS)

Courtney Dressing (Harvard)
Maria Drouot (Harvard)
Chris Faesi (Harvard)
Susanna Kohler (U. Colorado - Boulder)
Kara Manke (MIT)
Elisabeth Newton (Harvard)
Sukrit Ranjan (Harvard)

(ORGANIZING COMMITTEE MEMBERS)

Prof. Marcia Bartusiak (MIT)
Prof. Alyssa Goodman (Harvard)

(FACULTY ADVISORS)

Executive summary

ComSciCon'13

Fifty graduate students in all fields of science and engineering gathered in Cambridge, MA on June 13–15th, 2013 for the Communicating Science workshop (ComSciCon). This first-of-its-kind event, fully organized and operated by a team of nine graduate students, empowered young scientists to act as ambassadors for their fields by learning from experts, workshopping original writing pieces, and interacting with their peers. The attendees were selected from more than 730 applicants based on their achievement in and enthusiasm for communicating science to diverse audiences.



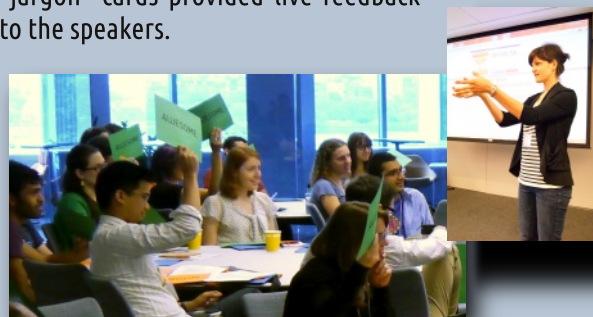
Expert panels

Twenty-one expert science communicators from theatre, journalism, publishing, and more discussed their work and answered questions from attendees during seven panel sessions. Amanda Martinez, a writer for The Atlantic and others, advised attendees that her favorite writing "accorded me the basic human dignity of allowing me to draw my own conclusions."



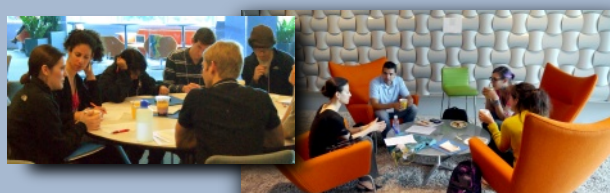
Pop talks

Truly a highlight of the workshop, every ComSciCon session opened with 1 minute "pop talks" from attendees about their research. Attendees wielding "awesome" and "jargon" cards provided live feedback to the speakers.



Write-a-thon

On Thursday night attendees wrote two-page articles using the ideas from the day's sessions. On Friday, small groups of students dished out comments and then met with experts for deep reads and thoughtful feedback.



Poster session

ComSciCon attendees shared the many unique communication and outreach initiatives they are leading at locations around the country using video and web content on digital poster boards.

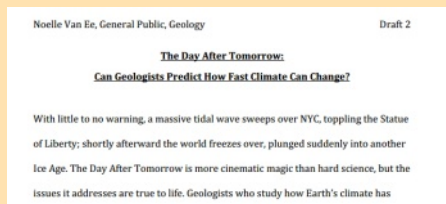


As we issue this report, the list of accomplishments by our attending students is already long. With the connections now established between these fifty young leaders in science communication, and new collaborations already formed, this list will continue to grow in the coming months.



Writing

All fifty attendees created a new, original piece of science writing during the workshop and performed two rounds of revision based on peer and expert feedback. Their pieces ranged from profiles of comet hunters to retrospectives on the public reaction to climate change research to op-eds about state investment in higher education.

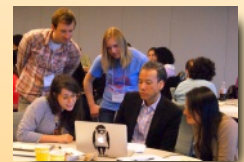


Publishing

Many students sought publication for their writing in one of several outlets which have committed to accepting submissions from ComSciCon attendees. Eleven student pieces have been published to date by our partner outlets:



Professor Rob Lue (Harvard):
"Anything that weaves science a little more closely into the fabric of the world is worthwhile."



Attendee Flip Tanedo (Cornell):
"The workshop was really fantastic in ways that I didn't even expect...a unique and rare gem of an event..."

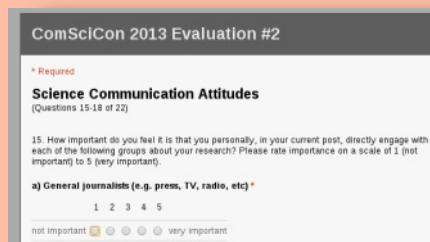
GeoSciBites

Saturday's technical session featured a tutorial for starting new Astrobit.es spin-offs. Within an hour, ComSciCon attendees had founded the first spin-off site to be born from the workshop: GeoSciBites, focusing on undergraduates in the geological sciences. Other attendees are launching -bites sites for particle physics, ocean ecology, and STEM education.



Survey

ComSciCon organizer Susanna Kohler is performing a 6-month study of science communication activities and perceptions among graduate students using responses from ComSciCon attendees. Her study has been approved by an Institutional Review Board and will form part of her Ph.D. thesis.



Thank you!



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Astronomy

Visit www.comscicon.com for more information!



Office of the
Dean for Graduate Education

Contact: Nathan Sanders nsanders@fas.harvard.edu



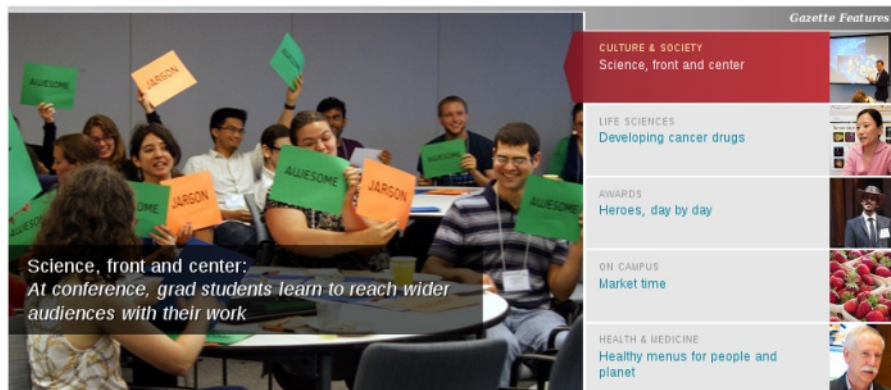
Microsoft
New England Research & Development Center



astrobit.es
THE ASTRO-PH READER'S DIGEST

A profile of ComSciCon'13

Harvard Gazette writer Chuck Leddy joined us at the workshop to sit in on the panel discussions and interact with our invited experts and attendees. His June 17th Gazette article describing this experience was shared more than a thousand times on Facebook and Twitter.



New England Research and Development Center in Cambridge, the grad students presented one-minute “pop talks” before the start of every expert session. As the “pop talkers” summarized their research, they received real-time peer feedback in the form of handheld green posters reading “awesome” or orange posters reading “jargon.”

For example, when one grad student discussing amino acids started using acronyms for particular cells, orange “jargon” posters went up all around the room. Harvard grad student Cat Adams, who studies the evolutionary ecology of plant-fungal interactions, saw a roomful

By Chuck Leddy **I**t’s one thing to conduct good science. It’s another to get people to notice.

“We are trying to empower graduate students to communicate science so that they can tell others about the research they’re doing,” said Nathan Sanders, a third-year graduate student in Harvard’s Department of Astronomy and a co-chair of the Communicating Science Conference’s Organizing Committee.

ComSciCon, sponsored by Harvard and Massachusetts Institute of Technology, was a three-day workshop during which 50 graduate students chosen from 700 applicants interacted with each other and with experts to improve their science communication.

During ComSciCon, which was held at Microsoft’s

of green “awesome” posters after her talk began with: “Have you ever wondered why chili peppers are spicy? Chili peppers are spicy because they produce a chemical to fight off fungi.”

In one session, Harvard’s Robert Lue discussed how to use visualizations to communicate science. Lue, a professor of the practice of molecular and cellular biology in the Department of Molecular and Cellular Biology, has created amazing videos to help people understand that “Wow, there’s really a lot going on within cells.” He showed a few videos to ComSciCon attendees. Lue said that while the films may run the risk of oversimplifying the complexity of cells, they serve “to spark engagement.”

Lue, who is also the Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and

Learning, stressed “the importance of engaging the heart as well as the mind.” Visualization is a useful tool. “Never have we seen the opportunities that we see today to communicate science in ways that are engaging and interactive using multimedia,” he said. Lue described the present landscape as “a golden age” for integrating multimedia tools and learning. Driving engagement, whatever the method, is a precondition to deeper learning.

“And don’t knock cat videos either,” Lue said with a smile, referencing the most viral videos on YouTube. “If I could do cat videos to show protein-protein interaction, I would.”

Another session explored getting science writing published outside academia, whether as books or magazine articles. Marcia Bartusiak, professor of the practice and executive director of the Graduate Program in Science Writing at MIT, said that “story ideas are the coin of the realm” in science writing and that science is full of great stories. Profiles of scientists are in demand, as are explanations of cutting-edge research. Even the dynamics inside a laboratory present great dramatic material, she said. Mathematics, perhaps the least-accessible science, offers great drama too, Bartusiak told the Gazette, because “Most mathematic stories begin with an interesting character, an unusual and eccentric genius who’s figured out some mystery.”

Science journalist Daniel Engber offered tips on finding ideas, suggesting “read widely, and talk to people. Even silly observations during your day can turn into science stories. For example, I’ve just started a story for Slate about why there’s no toothpaste in hotel rooms.”

When a grad student asked about conducting effective interviews with scientists, Bartusiak said, “Sometimes it’s best to play dumb so the subject will be forced to translate the science into understandable language. I like to ask scientists, ‘How would you explain this to your mother?’”

Writing was emphasized, as the grad students reviewed each other’s work and then received expert reviews. Bartusiak explained how translating the jargon and numbers of science for public consumption is vital: “Most scientific research is publicly funded, and if the public gets too far away from science, they could support cutting that funding.” Much continued federal funding for

research already is under siege.

So what makes good scientific communication? A few apparent best practices emerged. Harvard Professor of Astronomy Alyssa Goodman, who helped to organize the conference, also stressed the importance of communicating science as stories. The third of Goodman’s “Ten Tips for Communicating Science with Scientists” was “Turn your work into a compelling story.” Communicators need to explain what the science means in a wider context and structure engaging narratives that have a beginning, middle, and end. Another theme was the need to find the right balance between making the science broadly accessible and offering more depth.

Shannon Morey, an MIT grad student in chemistry and a co-chair of the conference’s organizing committee, said that ComSciCon got her to think seriously about how to reach nonscientists. “Scientists shouldn’t overestimate their audience’s knowledge,” she said, “but they shouldn’t underestimate their intelligence either. People are smart, and you need to find the right balance between accessibility and going into too much depth.” Elisabeth Newton, a second-year grad student in Harvard’s Department of Astronomy and a writer for the online journal *Astrobites*, agreed, saying: “There’s a need to offer a broader context and to communicate the big idea,” rather than getting too granular.

Bartusiak summed up the sessions by saying: “I love that these young scientists want to let people know why science is so important. I’ve had such a fun time with them these last few days.” ComSciCon offered attendees many reasons to flash their green “awesome” posters.



The attendees of ComSciCon'13

Fifty graduate students with diverse backgrounds in science and engineering hopped on the T, drove, or flew in from around the country to attend ComSciCon'13 at the Microsoft N.E.R.D. Center in Cambridge, MA. You can see full biographies of each attendee at <http://comscicon.com/>.

Sarah Rosengard

A chemical oceanography graduate student at **MIT/Woods Hole**, Sarah studies carbon sequestration in our oceans. She is the founder of the Broader Impacts Group, an organization for graduate students interested in communicating science to broad audiences.



Flip Tanedo

The founder of particlebites, Flip Tanedo recently received a Ph.D. in particle physics from **Cornell University** and is now a postdoctoral fellow at the University of California at Irvine. Flip's has written about the theoretical physics underlying the experiments at the Large Hadron Collider at CERN for the Quantum Diaries blog.



Noelle Van Ee

Noelle Van Ee is a Ph.D. student in Marine and Atmospheric Science at the **University of Miami, FL**, and received her B.S. there in 2007. She served as a scientist in residence for an 8th grade classroom through the National Science Foundation's Science Made Sensible program. Noelle's ComSciCon'13 writing will appear in an upcoming issue of Natural History magazine.



Elaine Oberlick

Elaine is a PhD student in Biomedical Sciences at **Harvard University** and graduate of Emory University. As the Curriculum Coordinator for the Health Professions Recruitment & Exposure Program, she helps build pathways for underserved and underrepresented high school students into science and medicine.



Ian Yue

A M.S. student in Agricultural and Resource Economics at the **University of Connecticut**, Ian did his undergraduate work in environmental studies at Wheaton College in Illinois. Ian was formerly the Evening News Producer and youth journalism coordinator at the public radio station KFAI in Minneapolis.



The invited experts of ComSciCon'13

Twenty-one experts in science communication from diverse fields of research and practice joined us at ComSciCon'13 to share their perspectives with the student attendees. These included journalists who have worked for publications big and small, press officers from research institutions, educators who teach science writing, fiction authors, and more. You can find full biographies of these experts at <http://comscicon.com/>.

Rob Lue

Robert Lue is a **Professor of Molecular and Cellular Biology** at Harvard, Faculty Director of the Derek Bok Center for Teaching and Learning, and Faculty Director of the HarvardX component of edX.



"He was simply incredible. One of the most charismatic, energetic, and fascinating speakers I have ever seen, with the ability to really draw you in one-on-one and bring out the best efforts from within you." — ComSciCon attendee



Bethany Halford

Bethany Halford trained in medicinal and synthetic organic chemistry at Johns Hopkins University. She is currently the **senior editor of Chemical & Engineering News**, the weekly magazine of the American Chemical Society, and writes about organic chemistry and nanotechnology.

Michael Lemonick

Michael Lemonick is a **senior writer at Climate Central**, a nonprofit organization dedicated to creating nonpartisan science-based journalism about climate. He spent nearly 21 years at **TIME Magazine**, where he wrote more than 50 cover stories on topics ranging from climate change to genomics to astrophysics.



"The meeting was extraordinarily well organized and run, and the graduate students who took part were engaged, motivated and focused. They were a delight to work with — and every other panelist I spoke with agreed." — Michael Lemonick



Joe Haldeman

The youngest writer to be named a **Grand Master by the Science Fiction and Fantasy Writers of America**, Joe Haldeman's novels *The Forever War* and *Forever Peace* both made clean sweeps of the Hugo and Nebula Awards. A professor at M.I.T., he has taught writing to scientists and engineers every fall semester since 1983.

ComSciCon'13 Student Publications

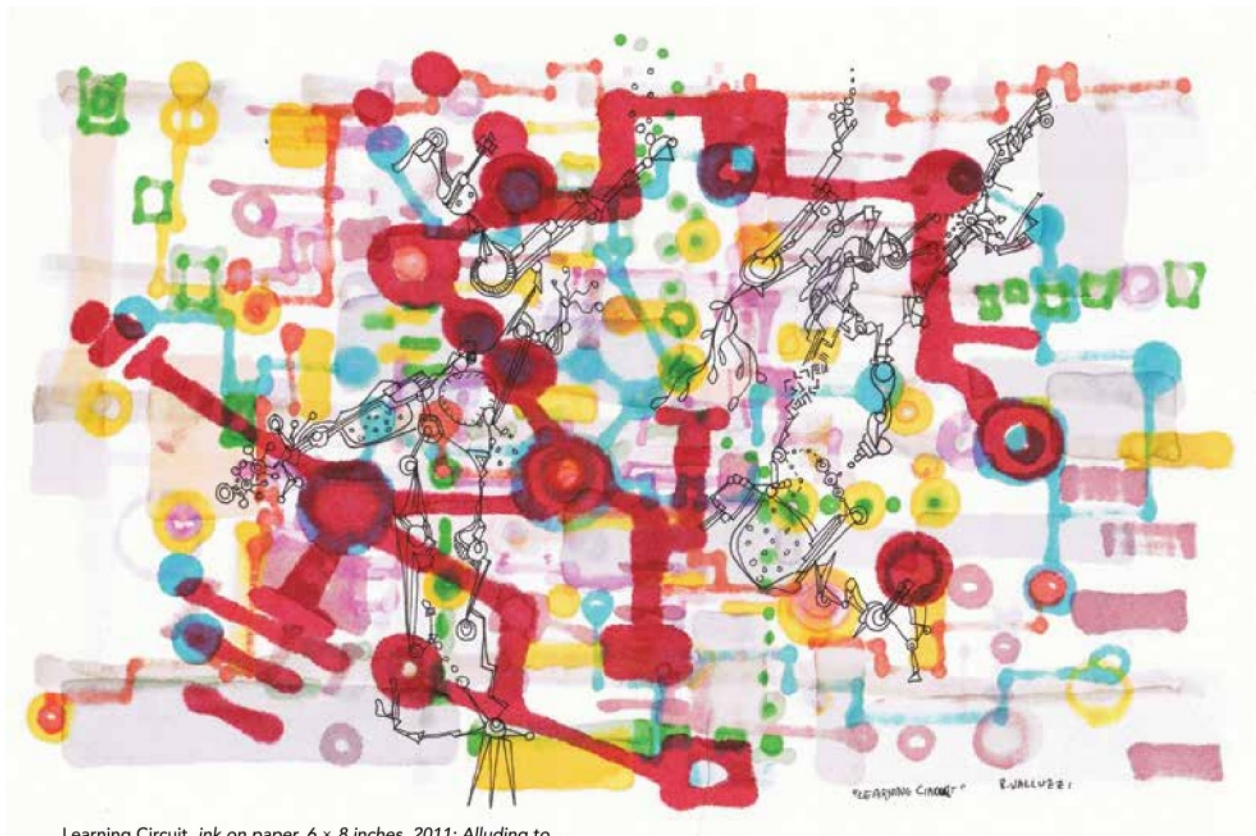
ComSciCon attendees were invited to submit the written work they produced during the Write-a-thon to one of ComSciCon's partner publications, including print magazines, web journals, and blogs. Ten of these pieces have already been accepted for publication.

Alice Alpert (MIT, Oceanography) <i>"Climate codes: learning from past experience"</i>	Natural History Magazine
Breanna Binder (University of Washington, Astronomy) <i>"Marshalling Our Superpowers: Scientists must find their voice in debates over funding cuts to basic research"</i>	Harvard GSAS Bulletin
Anny Chung (University of New Mexico, Ecology) <i>"Ground truths: think twice before stepping off the beaten path"</i>	Natural History Magazine
Jesse Dunietz (Carnegie Mellon, Computer Science) Quantum Computing Disentangled: A Look behind the D-Wave Buzz	Scientific American (Guest Blog)
Clare Fieseler (UNC-Chapel Hill, Ecology) <i>"The case of the stranded salamander: can a small, slimy mascot soften the South's climate qualms?"</i>	Natural History Magazine
Karna Gowda (Northwestern, Mathematics) Tigers in the desert: the mysteries of vegetation patterns	Scientific American (Guest Blog)
Grace Lindsay (Columbia, Neuroscience) "I don't know if I'm a scientist:" the problem with archetypes	Scientific American (Guest Blog)
Katie McGill (Cornell, Physics) Communicating Science 2013	Nature ConferenceCast Blog
Megan Krench (MIT, Cognitive Science) New Supreme Court decision rules that cDNA is patentable — what it means for research and genetic testing	Scientific American (Guest Blog)
Meredith Rawls (New Mexico State University, Astronomy) Bringing distance education to the lab	Astronomy Magazine
Noelle Van Ee (University of Miami, Marine Geology) <i>"Speed dating: can geologists predict how fast climate can change?"</i>	Natural History Magazine

This twelve page spread featuring four articles written by ComsciCon attendees appeared in the July/August print edition of Natural History Magazine. A portion of this magazine spread is reproduced below:

Science Storytellers: The Next Generation

ART BY REGINA VALLUZZI



Learning Circuit, ink on paper, 6 × 8 inches, 2011: Alluding to experiments that began in the 1980s to model simple cognitive processes in both hardware and software, a starting pattern or circuit is overlaid to suggest fuzzy insights and emergent properties.

THIS PAST JUNE, FIFTY GRADUATE students in science and engineering, chosen from more than 700 applicants, converged on Cambridge, Massachusetts, for a working conference called Communicating Science 2013 (ComSciCon13). The goal of the three-day workshop was to help equip young scientists from across the country to serve as ambassadors to the public for their fields. They were joined by experts in communicating science from the realms of journalism, education, filmmaking,

and even theater. The students and professionals discussed how to convey complex technical concepts to diverse audiences. Each student also drafted an original article on a chosen topic and got feedback on the piece from his or her peers and from the experts. ComSciCon13 was organized by a committee of graduate students from the Harvard University Department of Astronomy, the Massachusetts Institute of Technology (MIT) Department of Chemistry, and the University of Colorado

at Boulder Department of Astrophysical and Planetary Sciences. The workshop was sponsored by Harvard University, MIT, and the Microsoft Corporation, and was the first of what it is hoped will be an annual event.

Natural History is pleased to encourage the project by bringing our readers a sampling of the essays, with profiles of their writers. Communicating science is what we are all about. For more information on ComSciCon visit www.comscicon.com.

Climate Codes

LEARNING FROM PAST EXPERIENCE

BY ALICE ALPERT

I COULDN'T TEAR MY EYES AWAY from the image. The two lines wiggling across my computer screen matched almost perfectly. I called my housemates to come look at the most beautiful thing I had seen that day: a key to paleoclimate. The changes in the chemistry of the coral skeleton as it grew over the past twenty years rose and fell with almost exactly the same peaks and dips as the water temperatures recorded during the same time period. I was looking at the two lines together because although scientists know that corals change their chemistry based on changes in water temperature, we need to establish the precise relationship between the two in order to look further back into the past. That's important because if scientists can understand what temperatures were like in ancient times, we can better anticipate future climate change.

The temperature of the seawater flowing past the coral day after day affects how much strontium is incorporated into its skeleton as it grows. The warmer the water is, the less strontium ends up in the skeleton. It's like how the widths of tree rings are related to temperature and moisture. For thousands of years corals have been encoding the temperature of water into the solid material of their skeletons without using thermometers. This process is magical to me, like a secret code that scientists can use to translate the language of coral skeletons back into information about water temperature in the past. Imagine the way a camera takes a

snapshot, transforming the light from a single moment into something physical and enduring. Paleoclimate records like those in corals are continuous snapshots of climate conditions on Earth.

There are a lot of secret codes in addition to corals that we can use to find out about Earth's historical climate. Trees, ice, cave formations, and shells can all contain records of what climate conditions were like in the past. For example, they can tell us about temperature, what gases were in the atmosphere, how much total ice there was on Earth, and how wet or dry the climate was. The age of these records ranges from centuries to millions of years; sometimes we look at information about even the past few decades to help us understand how climate is changing now.

The chemistry of shells in layers of sediment from different depths within the seafloor has revealed the cyclical nature and specific periodicity of the ice ages that covered much of the Northern Hemisphere. Gas bubbles in ancient ice are little time capsules that have allowed us to determine that over time, global temperatures are closely tied to the atmospheric concentration of carbon dioxide. To put this into an even larger context, organic molecules in mud from the ocean floor have told us that the present concentration of carbon dioxide in the atmosphere is the highest it has been in the past 5 million years.

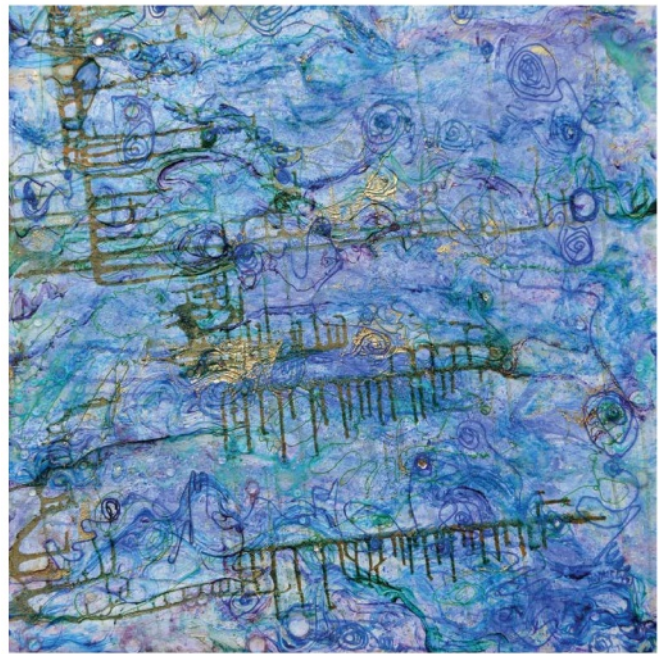
This information about the past is essential to help

us understand the shifts we are currently observing in climate. Has this happened before? Yes, and scientists can see that in the past, rises in carbon dioxide in the atmosphere have caused temperatures to increase. However, now the cause is different: human activity. There are still many unanswered questions about how the climate system could respond to these changes. Only the past can tell us, and scientists have the secret code.

ALICE ALPERT: “The Communicating Science workshop encouraged me to think specifically about what fascinates me about my field and what drives me to do science. In my writing piece I tried to convey my enthusiasm and continual wonder at what we can learn about the natural world. One challenge for me was making statements about a technique or con-



cept that are factually true without becoming caught up in the details of ever-present controversies. It’s a balance between clarity and oversimplification. Focusing on the message and the audience helped me strike a balance with which to communicate how remarkable paleoclimatology is.” Alice Alpert is a PhD student in the MIT-Woods Hole Oceanographic Institution Joint Program in Oceanography, where she studies coral reefs and ocean currents in a changing climate. As president and cofounder of the Broader Impacts Group (www.whoi.edu/website/big), she develops innovative strategies to engage the public with science. Following her graduate studies, Alpert hopes to pursue a career linking scientific research and decision makers to create effective policies to address climate change.



Life Engine, acrylic with retroreflective glass spheres on canvas, 30 × 36 inches, 2012. Incorporating patterns of retroreflectors, the work embodies musings on the water cycle and the central role water plays in the biosphere and in regulating processes on the surface of the planet.

The ComSciCon alumni community

ComSciCon'13 attendees have maintained connections with their fellow workshop attendees throughout the summer. Some attendees are collaborating formally on new student-driven outreach organizations (see page at right), and others are engaging in discussions on Facebook and Twitter and sharing job opportunities on LinkedIn.

twitter

#comscon

Scitable @Scitable 7 Aug
New ConferenceCast "Communicating Science 2013" by @physicskatie [VIDEO] nature.com/scitable/blog/ #comscon #scitable youtube.com/watch?v=J0IRKs

ComSciCon 2013
Last week I got to attend ComSciCon 2013, the Communicating Science Conference for Graduate Students. Find out more at these links: ComSciCon website: http://...

Jonathan Lawson @clearsci 7 Aug
Mid-week @scitable #confc pickme up. Conference videoing & science communication @ #comscon w/ The Physics Factor. ... goo.gl/RH9bbE

Meredith Rawls @merdiff 22 Jul
In case you missed it this AM: I wrote an article at #comscon, and it got published online in @AstronomyMag! cs.astronomy.com/asy/b/astronom...

facebook

ComSciCon 2013 Alumni

ComSciCon 2013 Alumni About Events Photos Files

RECENT POSTS

Ian Yue
NASA is hiring an "Editor" to work at their headquarters in DC. This job is *specifically recruiting* recently graduated students, so don't miss out on your opportunity to apply!

Kathryn McGill
SciShow on YouTube is looking for writers: http://jobs.nerdfighteria.com/display.php?position=scishow_writer

Megan Harberts
Here is a part time job offering for mentoring students for this project to work with families. Check out the list of cities if you are interested! http://sfbay.craigslist.org/sby/npj/3945398581.html

Carrie McDoughnuts
Hi guys,
I've been thinking about ways to start a successful blog similar to AstroBites, and I realized that oceanography, like astronomy, is a relatively specific yet interdisciplinary field that effectively captures the public imagination. I think starting an "Ocean Bites" (anybody have a better idea for a name?) could be really promising, and maybe much less daunting than something in a more general field. Additionally, because



in

Search for people, jobs, companies, and more...

Home Profile Network Jobs Interests

ComSciCon
Discussions Members Promotions Jobs Search Manage More...

Most Popular Discussions

Job Postings on the ComSciCon LinkedIn Page
Hi all! I will be posting all further job postings in the "Jobs Discussion" section under the "Jobs" tab. I would encourage you to all ...
posted 7 days ago

Susanna Kohler 6 days ago • Thanks, Ian!

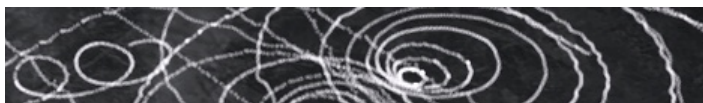
Like Comment Follow More

Launching new student collaborations

The final, "technical" session of ComSciCon started with a presentation by Astrobites co-founder Nathan Sanders on how Astrobites, the "literature digest" for undergraduates in Astrophysics, was launched and how it is operated today. Attendees then discussed with their peers how a 'bites site would work in their fields — what unique cultural, technical, or philosophical challenges would they encounter? Within weeks, many of these attendees had banded together to form their own Astrobites spin-off projects.

GeoSciBites <http://geoscibites.com/>

GeoSciBites was the first Astrobites spin-off to be launched during ComSciCon'13 — the blog was set up even before the sessions had concluded. Founded by ComSciCon'13 attendees Anna Wargula (MIT), Jareth Holt (MIT), Mandy Liesch (NC State), and Noelle Van Ee (University of Miami), GeoSciBites will cover research in the geological sciences using a unique approach. Monday posts are reserved for climate science, Tuesdays for rock geology, Wednesdays for water issues, Thursdays for soil science, and Fridays for links to other sources.



particlebites <http://particlebites.com/>

Founded by ComSciCon'13 attendee Flip Tanedo (Cornell), particlebites will cover the latest publications in particle and high energy physics. Flip will bring his years of experience as a blogger covering the physics underlying the experiments at CERN's Large Hadron Collider for the website Quantum Diaries to his work writing for and managing particlebites.

oceanbites <http://oceanbites.org/>

Oceanbites is the newest Astrobites spin-off founded from ComSciCon'13. First announced on the ComSciCon Facebook group by attendee Carrie McDonough (University of Rhode Island), oceanbites covers research in the oceanographic sciences. Carrie brings the experience from her own Ph.D. research in chemical contamination of surface waters and as an environmental consultant to her writing for oceanbites, and has built a team of contributors with similar.

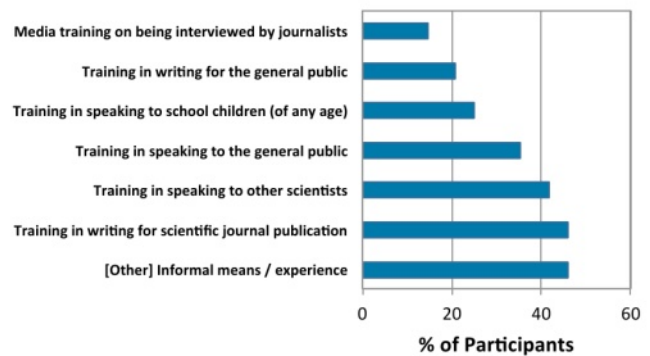


ComSciCon'13 Evaluation

University of Colorado at Boulder Ph.D. student, Astrobites leader, and ComSciCon organizer Susanna Kohler is preparing a comprehensive evaluation of the ComSciCon program and its effects on the workshop participants as part of her thesis work. Results from her work are previewed below.

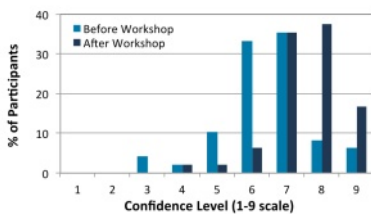
Illustrating the need for professional development programming in science communication for graduate students, only 1 in 6 ComSciCon participants had received previous training in interacting with the media, and less than half had received training in writing or speaking to the general public or for scientific audiences. ComSciCon participants were selected for their exceptional experience in science communication; among the general graduate student population, we can expect these numbers to be even lower.

Participants' Previous Training

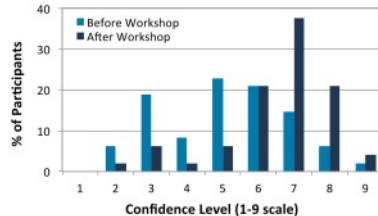


The self-reported confidence of ComSciCon participants in communicating with the public, communicating with scientists, and submitting their writing to publications increased markedly after their workshop experience.

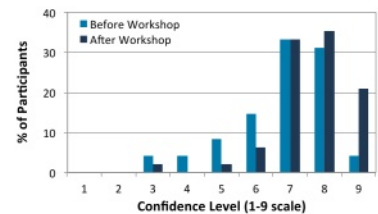
Participants' confidence in their ability to communicate with scientists



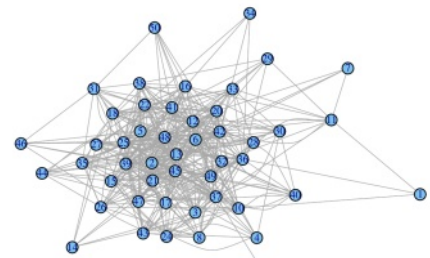
Participants' confidence submitting an article to a popular science publication



Participants' confidence in their ability to communicate with the public



Our extensive surveying of ComSciCon participants leaves a variety of additional avenues for future analysis. Each participant was asked to indicate which speakers and attendees they had met and interacted with during the workshop, allowing us to develop social network analyses like the network graph at right.



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Harvard GSAS @HarvardGSAS
 Fantastic conference tomorrow on science communication, organized by PhD students who run @astrobites comscicon.com/home #ComSciCon
 Details



Meredith Rawls @merdiff
 I cannot overemphasize how **amazing** every #comscicon attendee is. Everyone is involved in an awesome thing, and knows about 5 others.
 Expand

Testimony from ComSciCon attendees

"It was absolutely amazing. I had high expectations coming in, but the actual event far exceeded them."

"[We heard] in the very first session that scientists often erroneously assume that communicating science to the public is just about explaining the scientific content accessibly. In fact, you have to enrich that content, not just simplify it, by adding controversies, background, personal stories, politics, and so on."

"Hearing about science communication in theory is all well and (very) good but having to put it in practice made it much more real."

"One of the major take-aways for me is that there are more career paths and more ways to communicate science than I ever imagined."

"The most memorable thing to me was just how amazing all of the attendees were. Everyone was super engaged and really 'brought it' for the question parts of the panels."

"I thought I more or less knew [how to engage] a non-scientific audience, but the insights of Courtney Humphries and Emily Lakdawalla were really a splash of cold water in my face... I had a lot of misconceptions and now I know I can do so much better."

"I opened up the NY Times Science section today and found that I now read the articles much more carefully to learn about the writing. I think this eye for 'science communication' is something that I'll carry with me for a long time--- not just the tips that I learned, but the idea that I should be trying to learn how other writers communicate."

"ComSciCon 2013 was an amazing experience. I'm impressed beyond expression at the superlative work of the organizing committee. They enticed amazing experts to teach the attendees very valuable lessons. The attendees themselves comprised one of the most active and passionate groups of people I've ever met. I fervently hope that there will be many more ComSciCons."

Thank You, ComSciCon Supporters!



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ComSciCon13



Communicating Science 2013

A Workshop for Graduate Students

