



 THE ART OF
ENGAGEMENT
2018

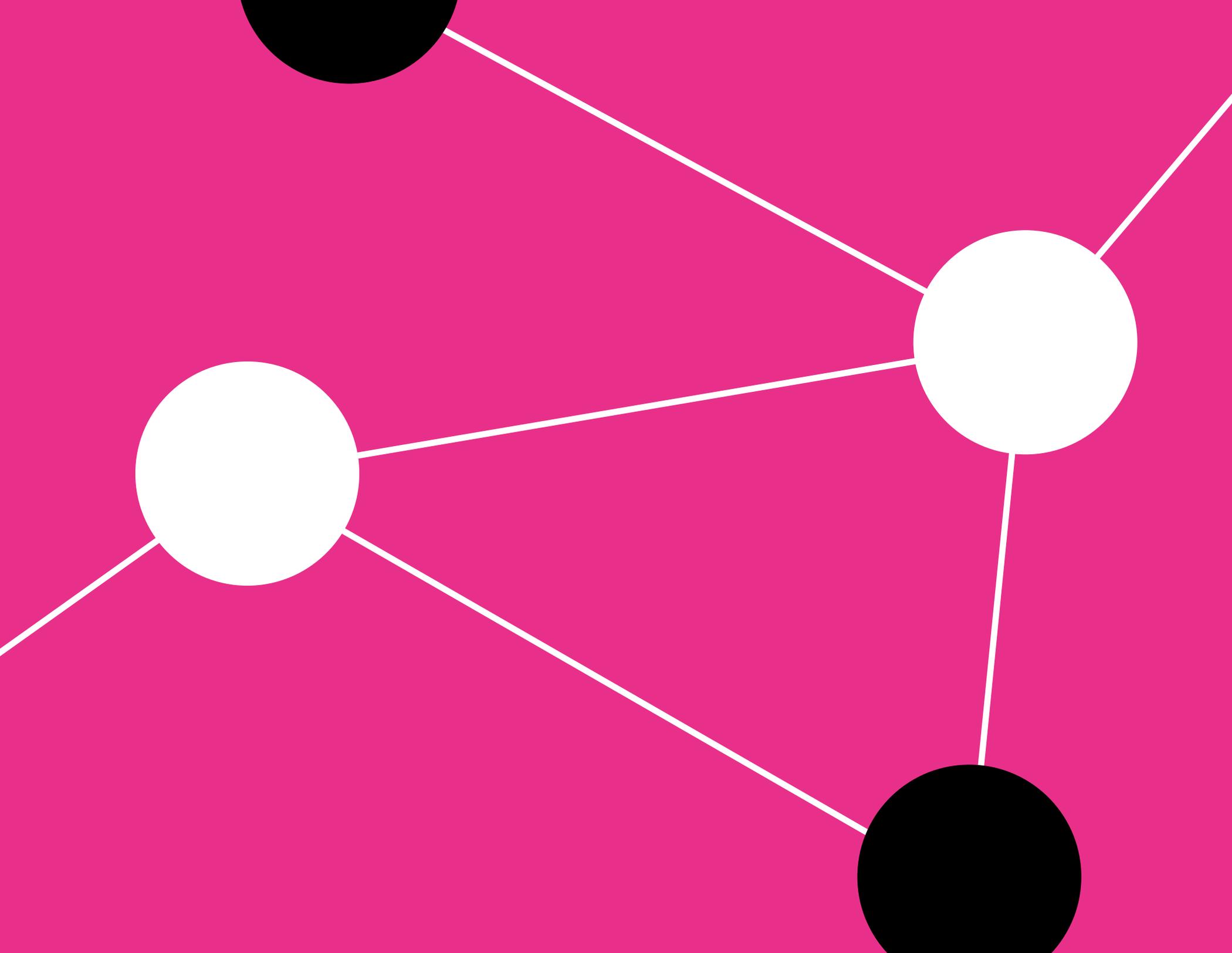


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Watch highlights from
GS2018 online at:

► bit.ly/2H8Pb1f





EXECUTIVE SUMMARY

On November, 3, 2018, Guerilla Science convened GS2018 at the Pratt Institute in Brooklyn, New York. The purpose of the gathering, presented as a conference “for creatives who love science and scientists who love to create,” was to connect artists and scientists with those working at the intersection between art and science. Some questions we wanted to explore as we brought these communities together were: Why do we do this work? How do we do this work? What inspires us? More importantly, how can we support each other’s practice, especially when it comes to bridging diverse communities?

Over 150 professionals across a wide spectrum of creative and technical disciplines participated in conversations about how activism, social justice, performance, interactive theater, and design interface with science’s role in society. The day included a diverse program of panels, workshops, experiences, networking exercises and four plenary sessions.

Our primary takeaways echoed much of what is already known about best practices in creating transdisciplinary programs in the science and the arts: the importance of self-reflectance and emotion; the need, and desire, for both disciplines to create works where each brings real value; and the power of system-wide support in creating new works. What really defined the day was the appetite of the attendees for more of these types of gatherings.



INTRODUCTION

Science is imperfect and can sometimes be biased in ways many scientists and scientific institutions prefer not to admit. Still, as a process it prioritizes dispassionate examination of facts and data. Because of this, scientists interested in communicating with the public sometimes fail to see the value of personal experience in connecting with an audience. They fail to appreciate the role of a strong (or even biased) perspective in telling a good story. They fail to recognize the power of emotion when trying to draw an audience's attention.

Art, on the other hand, deals in emotion. It exists in order to make people feel something. It helps human beings express feelings and ideas that can sometimes be difficult to put into words. It is subjective. It can be controversial. Not everyone agrees what art even *is*. Yet many will acknowledge the importance of the arts to society. The arts help us create purpose and meaning. They can help us process difficult emotions. They can connect people through shared experience and help situate ideas in a context that provides personal relevance to audiences.

Although the benefits of the arts in society have been discussed widely and frequently (McCarthy, 2004¹), there still exists significant skepticism about the value of integrating art and science, especially within learning contexts.

1. McCarthy, Kevin F., Elizabeth Heneghan Ondaatje, Laura Zakaras, and Arthur Brooks, *Gifts of the Muse: Reframing the Debate About the Benefits of the Arts*. Santa Monica, CA: RAND Corporation, 2004. <https://www.rand.org/pubs/monographs/MG218.html>.

Combining art and science in the modern age has been done with varying degrees of success. There is no consistent culture of practice around integrated art science collaborations. While a community of science communicators have increasingly recognized the importance of the arts in the practice of public engagement with science, the approach is often to use art in the service of communicating scientific knowledge or insight, rather than as an integrated partner in the search for truth and meaning.

Moreover, there is a lack of cultural interaction between artists and scientists. Scientists endeavoring to incorporate art into their public engagement activities may not know where to find artists to work with. The same goes for artists who seek to incorporate science into their work.

This suggests, perhaps ironically, that integrated science-art program design is itself more of an art than a science. It is in response to this—a lack of practically-oriented approaches to supporting a community of practitioners who are eagerly exploring this space of science, art, society and culture—that we convened GS2018.

We have noticed that some of the best science-oriented art doesn't necessarily set out with the explicit goal of public engagement in mind—think of Björk's musical album *Biophilia*, the avant-garde animal sex video series *Green Porno* created by Isabella Rossellini, or the book-turned-film *Hidden Figures* by Margot Lee Shetterly. These are works that came from ingenious artists whose work organically integrates science. How can we manifest more work like this in the world? One way is to create opportunities for scientists

and artists to meet. There are too few opportunities where professionals interested in cross disciplinary collaboration can learn about each other's work. Many science communication conferences focus on how art can serve science communication goals, but less on how to produce works where art and science are on equal footing.

We believe the most inspiring art, and surprising scientific breakthroughs, result from pushing boundaries. At GS2018 we wanted to push beyond the traditional boundaries of science communication and public engagement with science. As a result, we invited a diverse set of presenters, including performers, designers, advertisers and activists who work completely outside of the public engagement with science sector. Many key presenters do not share Guerilla Science's mission to revolutionize how audiences connect with science. But we felt that they had something valuable to share with the science communication community.

We hope that GS2018 offered participants exposure to new ideas, lessons learned from success and failure, unique networking opportunities, feelings of inspiration, and above all: fun. We were honored to have been joined by many talented participants, friends and strangers who answered our invitation to meet on one cold, windy Saturday in November at the Pratt Institute in Brooklyn.

THE DEFICIT MODEL

Over the last 20 years, a new practice known as “public engagement with science” has emerged. This practice prescribes a move away from scientists “talking at” audiences about the benefits of science, to “speaking with” audiences. This framework, with its connections to models of participatory democracy, sees the public as having a vital role in deciding where and how scientific knowledge is sought, its applications, and the priorities of science. Previously, when scientists left the lab to connect with society, it was a didactic process of teaching and disseminating information. This mode, known as the “deficit model” of science communication, attributes a lack of public support for science as coming from a position of scientific ignorance, and that the remedy for this lack of support is to disseminate knowledge from those who have it (scientists) to those who do not (the public). The deficit model concept as a subject to be critiqued was introduced in educational contexts in 1968 by Paulo Freire in *Pedagogy of the Oppressed*. In the book he proposed a new relationship between teacher, student, and society. Rather than the student being an empty “piggy bank” to be filled, student and teacher work together to “co- create” knowledge.

GUERRILLA SCIENCE CELEBRATES 10 YEARS

In the summer of 2018, Guerilla Science celebrated its 10th anniversary. A decade before, a few like-minded friends came together to present scientific talks in an unusual place—a music festival in a muddy field in the English countryside. Since then, Guerilla Science has become a global collective of more than 300 scientists, artists, producers, and designers passionate about bringing science to the public in unusual ways. At that first gathering, our goals were simple. First, we wanted to entertain and inspire festival attendees. Second, we wanted them to walk away with the feeling that science was radically different from what they had been taught in school. We wanted to show them that science can be messy, weird, and fun, and that scientists can be charming and complicated. These motivations—to show a different side of science—have driven the work we’ve done for the past ten years. Since that muddy summer weekend in 2008, we’ve produced countless strange and fun experiences for hundreds of thousands of people in both the UK and the US. While our methods, approaches, and locations have varied a great deal, our fundamental goals have not. We are delighted to celebrate ten years of still being around in a world that can be challenging for a mission-driven organization. Through funding ups and downs, staff changes, major life events, and moves across the world, we’ve remained committed to our mission—to revolutionize how people experience science.



OBJECTIVES

“Scientists and artists are the world’s great noticers.
Their job is simply to notice what other people cannot.”

– Frank Oppenheimer, physicist and founder of the Exploratorium

The GS2018 program was structured around the creative work that inspires Guerilla Science the most, providing a glance inside our collective mind. The meeting was for practitioners: people who *do, make,* and *create* public works around science and/or art, society, and culture. We wanted participants to learn about things they had never encountered before, and we wanted the day to be active and fun. Our objective, in focusing the meeting on this group, was to support what we saw as an energized nascent community striving to achieve a critical mass.

The plenary sessions included a line up of people rarely seen at gatherings of science communicators, drawing from the fields of underground culture, activism, immersive theater, and marketing. We opened with William Etundi, Jr., an activist who has organized some of the largest and strangest happenings in New York City. He was followed by Robyne Walker Murphy, an artist and activist who uses community art projects to drive social change. In the afternoon we heard from Alison Kobayashi, a performance artist who has developed one of the most meticulously researched and innovative theater productions in recent memory. Bonnie Siegler, a veteran ad agency owner with a long list of celebrity clients, rounded out the day with a crash course in how to work with design professionals.

In smaller interactive workshop sessions, participants got some deeper exposure to the ideas and methods that drive the work that Guerilla Science does. Mike Wasilewski from the Frank Collective agency introduced attendees to branding. Nadja Oertelet of the science communication company Massive helped people understand storytelling techniques using different forms of media. Marissa Nielsen-Pincus of Third Rail Projects provided an introduction to immersive theater. Robyne Walker Murphy asked people to challenge their own assumptions and biases through a collective art project. Stephen Duncombe and Steve Lambert of the Center for Artistic Activism led a simulation exercise exploring the concept of utopia. A group of New York nightlife programmers—Kate Downey of Caveat, Matt Wasowski of Nerd Nite, and Nate Dorr of Imagine Science Films—fielded pitches for science-inspired entertainment and art projects. Julio Terra of Kickstarter guided attendees through the ins and outs of crowdfunding, and a panel of more traditional scicomm funders—Greg Boustead of the Simons Foundation, Sonia Epstein of Museum of the Moving Image, and Daniel Wright of the Pratt Institute—talked about fundraising. The BioBus, a mobile laboratory that brings scientific experimentation to communities all over New York City, set up a microscope for attendees during breaks.



In designing this program, we hoped it would be appealing to artists, scientists, and science communicators alike, recognizing that each community has different needs. Artists may be looking to learn more about interesting science, and to meet scientists who can consult on their art projects. Scientists may be looking for advice on how to communicate better, get basic introduction to design thinking, or encounter inspiring art. Science communicators may be looking for the latest trends in science and/or art and communication design, share past experiences with their fellow professional communicators, or find out about innovative scicomm projects they’d never heard of.

CONFERENCE AGENDA



NOVEMBER 3

A conference for creatives who love science and scientists who love to create.



MORNING



AFTERNOON





WHO PARTICIPATED?

Based on surveys completed after the conference, among self-reported identities, there was an even split between creative professionals and science communicators (44%), along with 32% of respondents sharing that they consider themselves scientists. 32% of respondents chose more than one identity. There was a nearly even number of respondents who shared that they were motivated to attend GS2018 to “seek inspiration or learning about innovative ways to do science communication” (48%), “network with other professionals” (48%), and “seek inspiration or learning about bridging/connecting art and science” (44%). Many noted that they valued having a space that allowed for multiple professional identities, as well as the opportunity to interact with others who are in similar positions along the art-science spectrum. The greatest perceived value was the networking opportunities and new connections made to support their work.

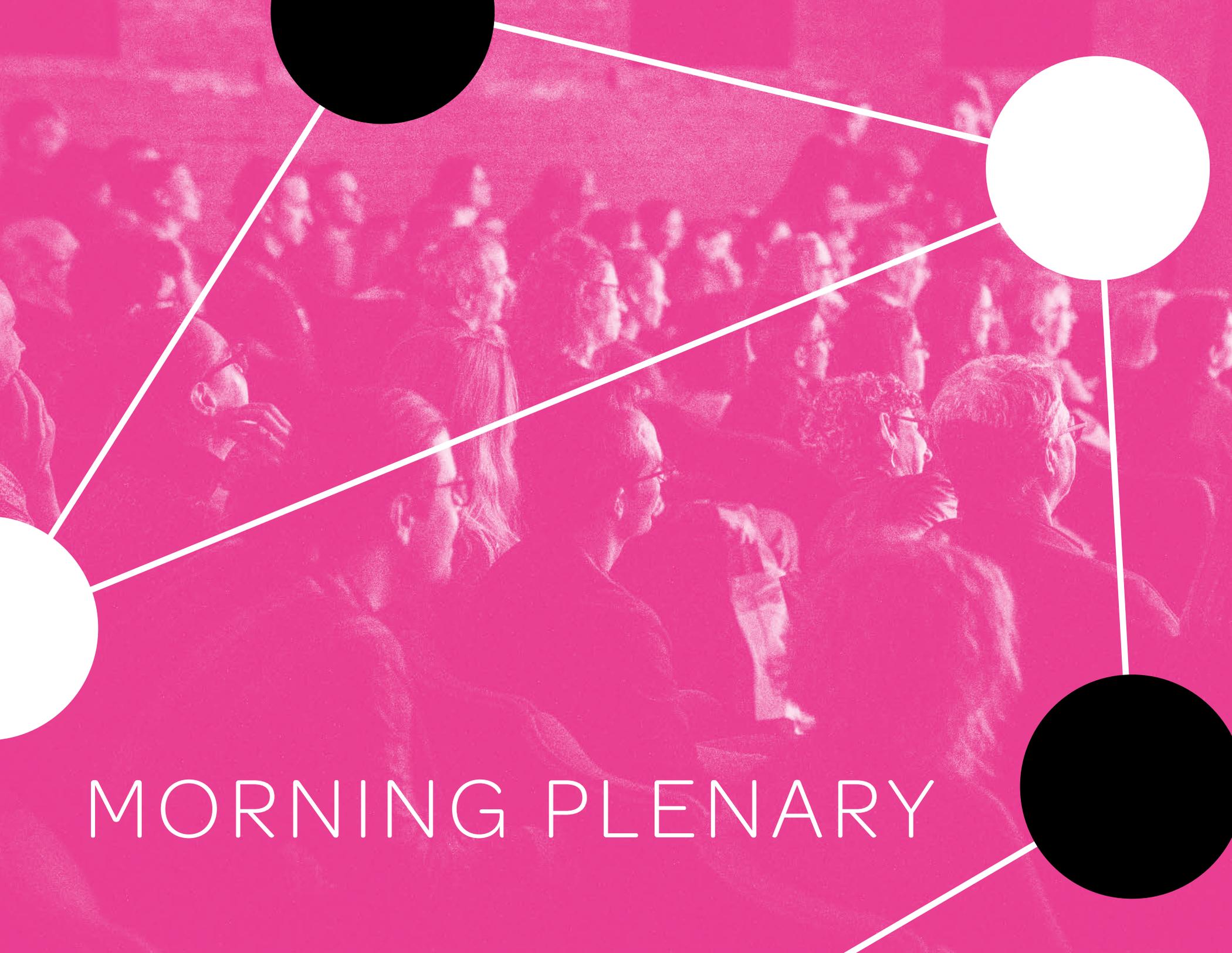
Some participants were die-hard “groupies” that followed every move of Guerilla Science. Others were big fans of one of the many talented performers who were presenting. A few people described themselves as “artists”—people who use art for activism and social justice. There was a scientist who studies monkeys and also performs stand-up comedy, educators that work at science museums, a playwright developing a piece about Einstein’s daughter, a professional rapper, and people working in theater as performers and producers. Perhaps a common element for all attendees, no matter their background or motivation for attending, was a devotion to curiosity and inquiry, and to engage and connect with audiences.





ART & SCIENCE ON EQUAL FOOTING

Guerilla Science is one of the many groups that integrate science and/or engineering into a cultural or artistic framework. Others (recent and contemporary) include the Experiments in Art and Technology (E.A.T.) group at Bell Labs, the Exploratorium, Science Gallery, the Wellcome Trust, MIT Media Lab, Ars Electronica, Waag, LACMA's original, and rejuvenated, Art + Technology Lab, Eyebeam, the Sloan Foundation's program for Public Understanding of Science, the journal Leonardo, and the emergence of the STE(A)M educational model, developed at the Rhode Island School of Design.



MORNING PLENARY



MARK ROSIN

During his opening statements, Guerilla Science director Mark Rosin shared a personal story connected to the importance of medical research and pushed participants to reach beyond the walls of the science choir. He noted how science engagement and learning opportunities, especially for those outside of school or other institutional settings, are largely voluntary activities that self-select for those already interested in science.

Watch Mark's remarks online at:

▶ bit.ly/2MHvFq4

“We have a responsibility to recognize that some of the institutional and cultural edifices that we have created do not speak to everyone, and it is our responsibility to design experiences and learning opportunities that connect with all people.”

“THIS IS HOW WE TOUCH THE WORLD” WILLIAM ETUNDI, JR.

Following Mark was William Etundi, Jr., who has been described as an “impresario of the underground.” Although he is a lifelong science enthusiast, he works in spaces far removed from the formal “walls of science.” As a social justice activist turned art curator turned underground party organizer, he believes that spaces of celebration such as parties, festivals, and other public gatherings have a unique ability to transform people and connect them with each other. People are relaxed and more open to new experiences at such spaces. Etundi’s passion for science began as a child when he had the opportunity to hold a real human brain in his hand at school. “From that moment forward, I understood that the world is something that you can learn about and understand,” he said.

Etundi invited GS2018 attendees to share with each other their own early memories of their first encounter with science. These early personal experiences, which several people presented to the whole group, illuminated the diverse reasons attendees found themselves drawn to science, whether they were a scientist, artist, or science communicator. One person experienced awe in looking at the stars at an early age, while another had been puzzled by the way their skin wrinkled in the bathtub. Another had had a crush on their physics teacher in high school. This exercise demonstrated the diverse, meaningful, and very personal ways that GS2018 participants connect with science.

Watch William’s remarks online at:

► bit.ly/2H3UI8H





“ARE YOU READY TO BE RADICAL?”

ROBYNE WALKER MURPHY

The morning session continued with Robyne Walker Murphy, Executive Director of the Groundswell Community Mural Project, who said her work is driven by a personal mission to make the world a better place for her son. She uses art as a tool for social justice and activism. She called on the participants to “get radical” and remember that the real meaning of the word is to get to the *root* of a problem. “Radical” conversations about diversity, inclusion, race, class, and social travesties such as killings of unarmed African-Americans by police officers are a necessary component of social change. “People want to talk about diversity and inclusion but they don’t want to talk about why it’s not diverse and why people don’t feel included in the first place,” she said.

Drawing on *The Pedagogy of the Oppressed* by Brazilian educational/political theorist Paulo Freire, Robyne said—“We all need to think about our role as oppressors and what we can do to create spaces where people are actually seen, given power, and given more than just a seat at the table.”

Watch Robyne’s remarks online at:

▶ bit.ly/2ZN25CY



WORKSHOPS

WORKSHOP

INTRODUCTION TO IMMERSIVE THEATER



The Brooklyn-based theater company Third Rail Projects is best known for its continuously sold out show *Then She Fell*, inspired by the life of Lewis Carroll. The show takes place on three floors in an old church in Williamsburg, repurposed as an abandoned psychiatric ward where a tiny audience of just fifteen people are invited to discover a winding story through encounters with strange hospital residents. Marissa Nielsen-Pincus, associate artistic director and the original “Alice” herself, guided workshop participants through a series of exercises that revealed the intensity of immersive productions. An average night as a *Then She Fell* performer is an exploration of self-discovery and human empathy. “Before we can really engage in interacting with anyone else, we’ve got to know where we are and where we’re coming from,” she noted. The focus of the work she does as a performer is exploring and understanding the subtle interactions and action / reaction between herself and audience members, who the performers are in constant physical dialogue with through eye contact and close proximity. “Take in how it feels to have some move towards you without having

any control of what they’re doing,” she instructed during one of the partner exercises. Being present as a performer in productions with heavy audience interaction takes a lot of self-awareness and an ability to be comfortable with uncertainty.

“When we’re performing with a live audience, we don’t get to do a workshop with them beforehand to figure out how they want to be approached or how they want to be communicated with. But we can be attentive to what we’re feeling, and then we can pay attention to what we see,” she explained.

“Before we can really engage in interacting with anyone else, we’ve got to know where we are.”

WORKSHOP

RADICAL PRACTICE: CRITICAL QUESTIONING THROUGH CREATIVE MAPPING



In Robyne Walker-Murphy's workshop, she pushed the participants to "go beyond active listening (which can still be about you), and eliminate affirmations such as 'yes' and 'ah ha,' and just hold space for someone else to tell their story." Participants practiced this skill by partnering up and sharing an oppressive classroom or workplace experience.

"Sometimes when you're listening to someone you're not really listening. You're just maybe focused on your own nervousness, or you're worrying about how you're being seen," she said. "Think about how can you just be in the space and receive someone's story and thank them for sharing their story," she suggested. Robyne also challenged attendees to think about the reasons behind their desire to do public engagement work.

"If you're a leader, your job really is to serve. And it's to be a humble servant. Sometimes, people get excited. They think, 'Wow, I'm helping these people that need me so much.' And that's not about the people. That's about you," she observed.

Robyne noted the role of empathy in constructing a dialogue with audiences, and involving them intimately in the construction of the story you're interested in co-creating. "In doing that it's important to understand what's about them and what's simply about you," she said.

"Eliminate affirmations such as 'yes' and 'aha,' and just hold space for someone else to tell their story."

WORKSHOP

KNOW YOUR MEDIUM



In the *Know Your Medium* Workshop, media entrepreneur Nadja Oertelt discussed the challenges of creating a space of empowerment for people to connect with science. Having worked with hundreds of scientists who aspire to be better science communicators, she described how the popular idea that a science communicator's role is to fill someone up with knowledge is a huge limitation of the field.

"Working with a lot of scientists, it's actually the first thing we have to break in them," she said. It's always a point of friction, because they know a lot of stuff. But they don't understand that the people they're engaging with also know a lot of stuff," she said.

Many scientists forget to create a dialogue with their audience because the story they want to tell is so important to them. "It is hard to be quiet when you have so much to say," Nadja noted.

In addition to being a good listener, you must have vulnerability to build trust and intimacy with audiences, she explained. Scientists have "been trained within an inch of their lives to get rid of ambiguity, subjectivity, and empathy," she said. She helped participants practice being vulnerable by sharing stories of personal failures. By sharing a failure, you create connection and empathy—foundational elements of great storytelling. "The storyteller needs to open themselves up to you," Nadja said, no matter the medium in which you choose to tell your story.

"It is hard to be quiet
when you have so
much to say."

WORKSHOP

SCIENCE ENTERTAINMENT PITCH SESSION

In the Science Entertainment Pitch session, three programmers spoke about the role of science content in the work they curate. They all seek to attract audiences looking for ways to spend their leisure time in New York City, where competition is incredibly stiff.

Nate Dorr, a programmer at the Imagine Science Film Festival, looks for projects that utilize the platform of film in innovative ways. In addition to soliciting science fiction films, animation, and documentaries to showcase, they invite scientists to submit films based on their work. “We will get films from scientists where it’s literally just their data converted into a film form,” he said. This serves to present science in a new context, which can lead to surprising insights. The festival’s *Symbiosis* competition pairs up scientists and filmmakers who are given just one week to create a brand new film. “We had dancers interpreting the pollution of various sites around Brooklyn, a film about layers of interacting parasite systems, a kitschy film about a dystopian science company, and a lab drama set in the future,” Nate said. The festival is a place where you can watch traditional plant documentaries alongside experimental fiction films.

At Caveat, a nightlife venue in the Lower East Side of Manhattan, Kate Downey produces live entertainment inspired by science but also other academic fields you don’t normally associate with a night out on the town. “All of our shows have two things in common:

you leave a little bit smarter and a little bit drunker,” she explained. “We see ourselves as a really experimental place,” she said. “There’s not a lot of places in New York that you can try out new ways of hybridizing comedy and music and science and history,” she said.

One show they host is Nerd Nite, which features a cast of rotating writers, comedians, scientists, academics and amateur enthusiasts who present 20 minute presentations that pair esoteric topics with humour and drinking. Almost anyone who is passionate about a subject can talk at Nerd Nite, says host Matt Wasowski. “The presentation should be fun yet informative. They should not be slick. They should use language that’s sort of funny and silly. You can swear. You can talk about sex. You can use ridiculous metaphors and analogies,” Matt explained.

“You can swear. You can talk about sex. You can use ridiculous metaphors and analogies.”

WORKSHOP

IMAGINING UTOPIA



Stephen Duncombe, an activist and professor of media and culture at NYU, and Steve Lambert, an artist and professor at SUNY Purchase, are founders of the Center for Artistic Activism. They are on a mission to infuse creativity into activism, and activism into creativity. “Activists are very good at telling what’s wrong, they’re not as good at saying, ‘This is the world we want to live in,’” said Steve.

The two Steves led 40 people to imagine utopia in a workshop focused on identifying impossible solutions to big problems. The primary exercise was deceptively simple. Steve D asked the group to identify global problems. The group rapidly generated dozens of threats to the planet. Focusing on one of these problems—the need to stop global temperature increase at 1.5 degrees centigrade—teams were asked to identify ten solutions to this problem. There was one caveat—seven of those solutions had to be “impossible,” and the last three solutions could be deemed as “possible.”

The exercise helped the group realize two things. First, it is much easier to identify problems. They were able to identify dozens of problems in a very short period of time, yet the process of generating solutions was much slower. Second, It becomes more fun, more creative, and easier to generate new ideas when you have a short amount of time to identify “impossible” solutions.

The Steves highlighted that whether you’re an activist or scientist, it’s important to free yourself to have dumb ideas. “Having dumb ideas increases the number of ideas you generate,” Steve explained. “Those ideas are actually the germination of really, really smart ideas,” he said.

ARTISTIC ACTIVISM

Art Activism is a dynamic practice combining the creative power of the arts to move us emotionally with the strategic planning of activism for social change. The goal of activism is action to create an *Effect*. Art, on the other hand, tends not to have such a clear target and its value often lies in providing us perspective and new ways to envision our world. Art is an expression that generates *Affect*. Activism moves the material world, while Art moves the heart, body and soul. The two are complementary. Social change doesn’t just happen, it happens because people decide to make change. People change their minds and act accordingly because they are personally moved to do so by emotionally powerful stimuli.

Acknowledging that the political landscape is also a cultural landscape opens up new terrain to work upon. Whereas art tends to be limited to museums and galleries, and activism to street demonstrations and state houses, artistic activism takes place in town squares and shopping malls, on billboards or through social media...as well as galleries and state houses. The goal is not to force compliance, which art can never do, but to persuade by creating moving experiences that prompt people to question the world as it is, imagine a world as it could be, and join together to make that new world real. <https://c4aa.org/>

WORKSHOP

BRANDING AND IDENTITY: SCIENCE NEEDS A STRATEGY



Mike Wasilewski, co-founder and chief creative officer at Frank Collective, helps businesses solve problems creatively using visual and verbal communication packaged as an organization's brand. In his session, *Branding and Identity: Science Needs a Strategy*, he demonstrated the power of brand by showing a picture of a plain, white, short-sleeved t-shirt. Participants discussed how perceptions and assumptions of that simple product changed as Mike changed the logo from Gap, to Nike, to Louis Vuitton. "Brand is not graphic design only. It is not just for selling things. Brand is not marketing. Brand is inspiration," Mike explained. Creating a "brand" and visual way of communicating for the science you practice, or the scientific idea you want to get across, can dramatically alter the way people perceive what you do.

ORGANIZATION POSITIONING STATEMENTS

According to branding and marketing expert Mike Wasilewski, one of the first things an organization should do to create its brand is to develop a positioning statement. Over weeks and months, organizations should complete, revisit, talk through, and share with colleagues outside their industry versions of the concepts below. Although this positioning statement is never something that is shown to the public, it is foundational to developing a brand.

I'm/We are the only [**what are you**]
for [**who you're talking to**]
that/by [**how you're unique**]
because we believe [**people should care about this**].

To provide examples, Mike reverse-engineered two successful positioning statements.

Charity Water is the only **non-profit relief organization**
for **developing communities**
that **provides access to clean water**
because **we believe water changes everything**.

Nike is the only **performance sports brand**
for **all athletes**
that **supports your athletic greatness**
because we believe **everyone's an athlete**.

WORKSHOP

FUNDING SCIENCE COMMUNICATION



One barrier to entry for integrated art science collaborations can be financial. Fortunately there are a growing number of organizations interested in funding innovative work at the intersection of art and science. Session moderator Bronwyn Bevan, a learning scientist, knows what it is like to write proposals, receive grants, and get rejection letters. Bronwyn guided the *Funding Science Communication* discussion between three professionals involved in distributing funds for science engagement work. Panelists included Greg Boustead, Program Director at Simons Foundation Science Sandbox, Sonia Epstein of the Museum of Moving Image and former Senior Program Associate at the Alfred P. Sloan Foundation, and Daniel Wright, Pratt Institute math professor and director of Pratt's STEAMplant initiative. Each of these professionals leads programs with unique strategic priorities, funding capacities, and application procedures. They all agreed that a funding rejection is not a sign that your work is lacking, it is just a mismatch between your work and the strategic goals of the funder.

TOP TIPS FROM THE PANEL

- ▶ When a foundation doesn't accept unsolicited proposals, the best thing you can do is "show up, network, and get noticed."
- ▶ Be sure to read the foundation guidelines.
- ▶ In some cases, it can be a good idea to talk directly to a program officer to learn more about their priorities and how they do and don't overlap with your work. Keep in mind however, it is not possible for funders to respond to every email and phone call.
- ▶ It really won't work to try to "shoehorn" your program to match a funder's strategic priorities.
- ▶ If you are asked, start with a "Letter of Intent" (also called an LOI). The funders don't want you to spend time on preparing a full proposal if your work does not align with their priorities.
- ▶ Clearly state the total program budget and the specific ask from the foundation.
- ▶ Be sure to show how your project can be sustainable in the long term.
- ▶ Make sure your project advances science engagement. Using beakers, technology, or electronics is not enough.
- ▶ Think about program benefits rather than features. What is the impact you need to create and how is your work going to move that needle? Lead the foundation to understand how your work creates the bigger outcomes and impacts that we need for a better society.
- ▶ If you are small and new, think about a partner that will benefit from your work and already has established relationships with the foundation.

SCIENCE SANDBOX

Science Sandbox believes that society is stronger when more people engage in things like evidence-based reasoning. Science Sandbox supports creative science outreach efforts to "unlock scientific thinking." They are specifically focused on science "not-for-me's," and communities that feel left out by traditional modes of science engagement.

Science Sandbox funding falls into three categories:

- ▶ Informal learning such as after school programs like the *Billion Oyster Project* in New York
- ▶ Live public events such as Pioneer Works, experimental theater, and conferences such as this GS2018
- ▶ Media projects such as *Gonads* by Radio Lab or documentary films funded directly or through a partnership with Sundance Institute

The program seeks to catalyze the development of innovative, creative ideas and organizations. Science Sandbox supports programs at various stages, from pilot programs to longer-term grants averaging 3-5 years. The idea is to help organizations leverage Science Sandbox support into support from other funders in the science engagement space.

Science Sandbox does not accept unsolicited proposals. The staff network to find projects that align with the program strategy. The first step is Sandbox staff request a LOI. If a project gets to the full proposal stage, program staff will have completed significant vetting to evaluate if the project has strategic alignment with the foundation.

WORKSHOP

FUNDING SCIENCE COMMUNICATION

SLOAN FOUNDATION

The movie *Hidden Figures* tells the true story of four African-American female engineers who were pivotal to John Glenn's 1962 launch into orbit. In *The Imitation Game*, Oscar-nominated actor Benedict Cumberbatch showed how Alan Turing used brilliant mathematics to break German wartime codes. Millions of people across the world now know these science stories thanks to support from the Sloan Foundation Public Understanding of Science program. The program funds film, theater, radio, television, books, and new media that integrates science into storytelling with the aim of giving people a keener appreciation for the increasingly scientific and technological world in which we live.

In some cases, Sloan supports individual artists to create specific science-related work. For example, Sloan supported writer Benjamin Ehrlich to write *The Brain That Discovered Itself*, a book about Santiago Ramon y Cajal, the father of neuroscience. Jeffrey Hecht received \$33,000 to research and write a book about laser weapons. In 2000, Sloan issued a \$500,000 commission to the Manhattan Theater Club to develop and produce science and technology plays with established playwrights, and has since awarded multiple commissions each year.

Sloan has funding partnerships with six university film schools as well as the Sundance Film Institute, the Tribeca Film Institute, SFFILM, the Athena Film Festival, the Black List, and Film Independent. Sloan can fund individual writers and artists directly as it did for the creation of the book *Hidden Figures*. For Sloan, it is critical to get the science right. If the project creator does not have a science background, it is important to demonstrate that the project has respected science

advisors. Program Directors will review smaller projects directly. For larger initiatives, Sloan will engage external reviewers before a project elevates to final decision by the Foundation's board of directors.

PRATT STEAMPLANT

The Pratt Institute STEAMplant Center supports interdisciplinary collaboration between creative and investigative disciplines. STEAMplant encompasses all elements of science, technology, engineering, arts, and math (STEAM) disciplines. Born from Pratt's mission to act as a living laboratory for craft and creativity, STEAMplant's two programs serve the institute and greater New York City communities. STEAMplant fellows receive access to the institute's array of creative and technical facilities. Funded projects can receive up to \$7,500 in support, as well as the potential for press and exhibition opportunities.

The breadth of STEAMplant projects demonstrates the interdisciplinary potential of the initiative. The program pairs chemistry, astronomy, electronics, ecology, and other scientific disciplines with a variety of creative fields including art history and preservation, game design, sculpture, installation art, architecture, and creative writing.

On average there are a dozen projects underway at a given time. One such project is *Song Searching*, a collaboration between Sirovich Family Student Fellow Ami Cai and Pratt faculty members Christopher Jensen, Basem Aly, and Jennifer Telesca. Their project asks the question: "What would it feel like to be a humpback whale experiencing today's increasingly human-dominated world?" This central question is explored through the creation of a video game designed to give players the experience of being a

humpback whale in its natural environment. Grounded in scientific and sociocultural research, a beta version of the *Song Searching* game is currently under development.

PARTIAL LIST OF FUNDING BODIES THAT PRIORITIZE SCIENCE ENGAGEMENT

PRIVATE FOUNDATIONS

- ▶ Science Sandbox - Simons Foundation
- ▶ Alfred P. Sloan Foundation
- ▶ Templeton Foundation
- ▶ Wellcome Trust
- ▶ Rita Allen Foundation
- ▶ Kavli Foundation
- ▶ Gordon and Betty Moore Foundation
- ▶ David and Lucile Packard Foundation

GOVERNMENT

- ▶ National Aeronautics and Space Administration (NASA)
- ▶ National Endowment of the Arts
- ▶ National Science Foundation (e.g. Science Learning+, Advancing Informal STEM Learning - AISL, and the broader impacts components of scientific research grants)

OTHER

- ▶ Residency programs at the interface of art, technology and science, for example Pratt's STEAMplant program, Eyebeam's residency program, and Leonardo/Djerassi's Scientific Delerium Madness residency
- ▶ Nearly all of the professional societies have small grant programs (for example, American Association for the Advancement of Science, American Geological Society, American Physical Society, American Chemical Society, and others)
- ▶ Fundraising platforms such as Kickstarter and Indiegogo
- ▶ High networth individuals and small family foundations

WORKSHOP

CROWDFUNDING WITH KICKSTARTER



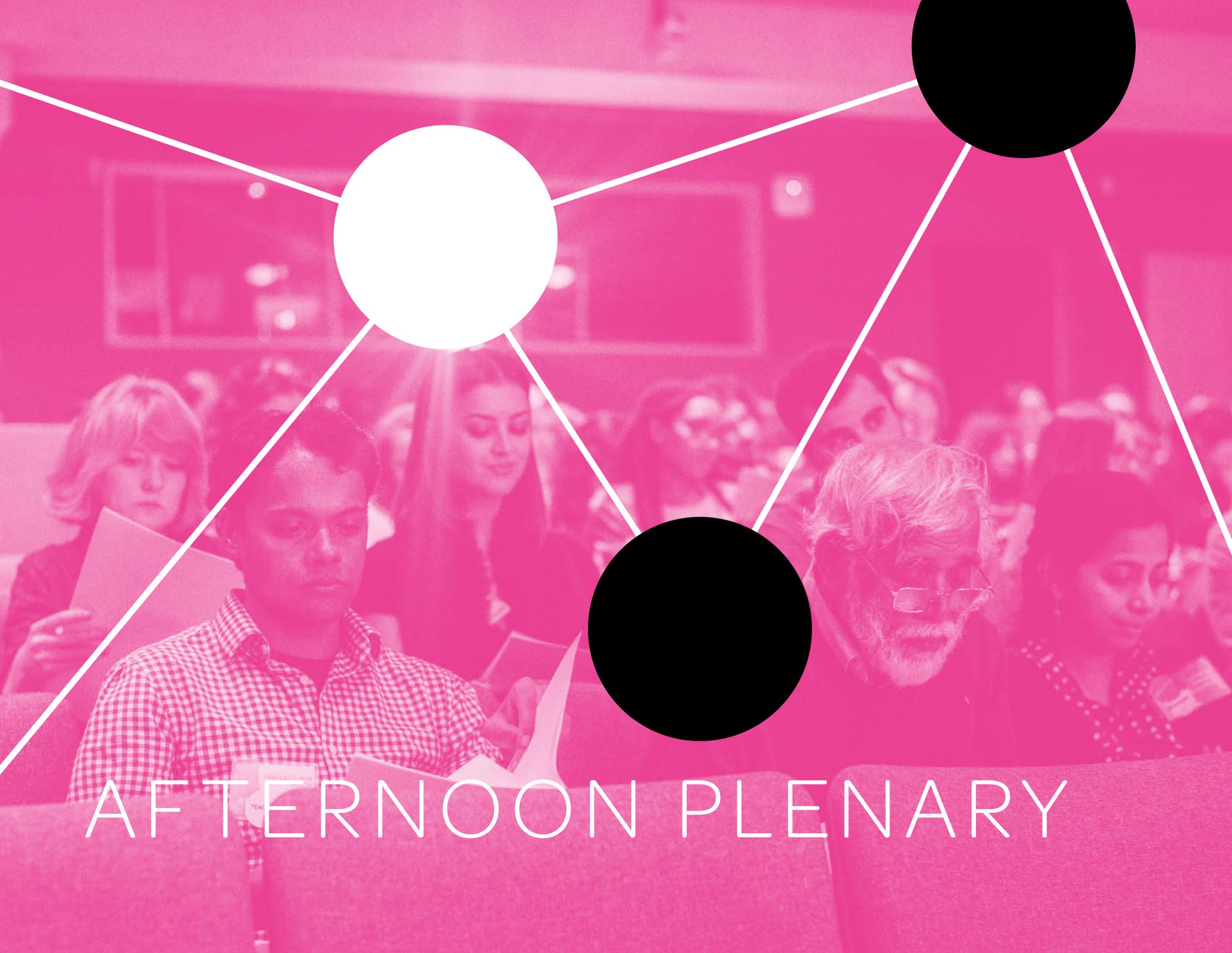
Another approach to finding money for your project is crowdfunding. Kickstarter is one of the best known platforms. Founded by an artist, music journalist, and designer, they've generated \$4 billion in pledges for 150,000 projects led by 15 million people worldwide since 2009.

Kickstarter's guiding principles are simple: create something to share with others, align with one of the 15 categories, and present work honestly. There is no specific category for science-oriented projects, and science typically lives between several categories such as technology, education, or performance. Foldscope is an example of a successful science product—the project raised almost \$400,000 to fund affordable microscopes for classrooms, particularly in developing countries where access to expensive scientific equipment is often limited.



Kickstarter projects generally include some kind of material incentive for supporters and it is not possible to raise money for a charity. Supporters give to Kickstarter projects because they care about the project, not because they are looking for a long-term financial reward. The vast majority of successful funding targets are between \$1,000 to \$10,000 dollars. As a result, Kickstarter typically is a small part of a bigger budget. In fact, many see Kickstarter as a marketing opportunity, a storytelling tool, and a way to build community. "Rewards" for supporters range from email and website acknowledgements, to their name on a plaque by the final product, to t-shirts or embossed medallions, to experiences that allow backers to get involved.

A strong project page and product video is the best way to attract potential supporters. Supporters value learning about the people behind the project, and the process to create it. Supporters like to get updates several times a week during the campaign and occasional updates after projects reach the funding goal. This way supporters feel they are part of the community and part of the team. Although it takes energy and effort to keep in regular communication with your supporters, it's essential if you're interested in building a community around the project that you've launched.



AFTERNOON PLENARY

DOWN THE RABBIT HOLE: IMAGINATION AND RESEARCH BEHIND *SAY SOMETHING BUNNY*

ALISON S.M. KOBAYASHI

Alison S.M. Kobayashi is an interdisciplinary artist who reveals hidden stories from found objects. Her current project, *Say Something Bunny*, is a two-and-a-half hour, one-woman show in which she gives a stunning demonstration of the power of paying attention. To create the show, Alison investigated the lives of one New York family by listening over and over again to a 1950s audio “wire recording” that was purchased from an estate sale in the mid naughts. While most people would have thrown the nearly unintelligible recording away after listening to it for a few seconds, Alison stuck with it until she understood it completely. Her collaborator Christopher Allen is founder of an organization called Union Docs, a Center for Documentary Art, where filmmakers and other media producers experiment with making art with the detritus of people’s lives.

Alison immersed the audience in a ten-minute segment of her interactive performance, and shared the process of researching and creating her art. Over six years she listened to the audio hundreds of times to make sense of each character in both the foreground and background of space. “It was this constant back and forth between listening, deep listening, and then researching, listening to it again, researching. It really was about becoming more familiar with the family and almost becoming part of the family and kind of intimate with how each person sounds,” she said. One participant shared: “I was floored by Alison’s ability to piece together a story of this family using research and... make art of it.”

Say Something Bunny is normally performed with a small audience of less than twenty people. Each person is assigned a “role” in the story, which provides them with a visceral connection to it. At the end, Alison gives away buttons to participants that say, “I was _____,” depending on who the person “played” during the performance. No one is required to speak, only to follow along with a script as audio plays, and to watch as Alison performs certain segments. This fosters a connection to the material while not putting too much pressure on the audience. Alison also provides subtle ways to connect with her audience throughout the performance. Record jackets in the foyer of the theater provide hints of the reveals that will come later on. These details can enhance the understanding of the narrative in different ways and stimulate connections in the audience’s imagination. “We really tried to plant information in various forms for the audience member to absorb at their own speed. It’s not doing anyone any good to dumb things down. You can make art that’s clever and fun and playful and humorous and people will get it if they want to,” said Alison. She noted the challenge of translating the obsession you have for something for your audience. “It’s really about learning how to tell the story of your own enthusiasm and joy of a project to the audience. And if you’re able to do that in a passionate way, I think that they really will be able to connect to the story and understand and appreciate something as much as you,” she said.



“HOW TO GET WHAT YOU WANT FROM CREATIVE PEOPLE”

BONNIE SIEGLER

Bonnie Siegler, founder of the design studio Eight and a Half, provided GS2018 participants with some key insights into how the minds of designers work in her session *How to Get What You Want from Creative People*. She shared how her focus on creative perfection, which started at a young age with an obsession with the design of record albums, *Mad Magazine* covers, and network television logos, can tangle a relationship between a client and designer. Many creative professionals share her passion for details that other people just don't see or think about.

Bonnie wrote the book *Dear Client* to help clients get the best work out of creative people so they can solve their business and design problems. Bonnie's foundational advice is to trust the process and trust the creative partners. "At the end of the day, it's also about the human connection between the creative and the client. So, if the client is open and enthusiastic, the creative will be too," she observed.

Bonnie said at the outset of the project it is important to create a clear understanding of the problem you are trying to solve and your primary objectives: "if you have more than three priorities, you don't have any," she explained. Then give the creative team room to

solve the problem. When you provide feedback on drafts, share what you see and refrain from providing specific direction for how to manipulate the drafts into a final product. "Using statements such as 'I notice' and 'I wonder' creates collaboration, cooperation and a constructive, creative dialogue rather than a combative one."

Clarity and leadership on the decision making process is also essential. Help the creative team understand the project budget and who will make final decisions, even if it will be your wife or the boss' daughter. Avoid the mediocrity that can result from committee decision making. "Great work is achieved by someone with a strong vision or an original idea, and the leadership skills necessary to convince others to go on that journey with them. That journey should not pass through a focus group room," she said. According to legendary *Esquire* magazine art director, George Lois, "Great ideas can't be tested. Only mediocre ideas can be tested." These are among the 66 rules that appear in Bonnie's book *Dear Client*.

Watch Bonnie's remarks online at:

▶ bit.ly/2YQAeVe



LESSONS

LESSONS

It is impossible to comprehensively list all of the magical little epiphanies that occurred at GS2018. We structured the day around the professions that we find ourselves returning to time and again in our work—entertainment, design, performance, and art. We invited people who shared our passion for art and science. And we hoped for the best.

Several themes emerged throughout the day. There was a lot of discussion about the importance of empathy and active listening. Things got surprisingly personal, in ways that were challenging but also validating. There was a lot of discussion about storytelling. What follows is a summary of what we learned.

1 BE SELF-REFLECTIVE

A major goal of public engagement with science is to reach beyond the “walls of science,” beyond the institutions that practice science, and beyond the “science choir,” to enter into dialogue with people who don’t seek out science. This requires moving beyond the “deficit model” of science communication, which attributes a lack of public support for science as coming from a position of scientific ignorance. In order to move away from the deficit model, which many public engagement with science professionals seem to agree is necessary, scientists must become more self-reflective, and think about why certain people don’t feel included in the practice of science in the first place.



2 BE VULNERABLE

Everyone loves a good yarn, and telling engrossing stories is an excellent way to engage the public with science. Good storytelling requires being vulnerable. Being vulnerable is hard, especially for many scientists whose professional reputations depend on projecting objectivity. Acknowledging failure, and opening up emotionally, while difficult, is an important tool in empathy-building.

3 DON'T BE AFRAID OF ADVERTISING

While some people may find the practice of marketing or advertising distasteful when it comes to mission-driven work like public engagement with science, there are many lessons that scientists and science communicators can learn from advertising professionals. Advertisers are expert communicators with a deep understanding of human emotion, and there are benefits to approaching a public engagement campaign the way you might approach a professional ad campaign. Few scientists understand the power of branding in communicating the work that they do. The result is a brand that has been projected onto scientists—white lab coat, nerdy glasses—by people who may not have a real understanding or connection to who scientists are as people. The more that scientists understand design and advertising, the more successful they will be at telling their own stories to the public.

4 FIND THE RIGHT TYPE OF SUPPORT

Knowing how to “sell” the work you do to the public, whether it’s scientifically or artistically rooted, is as important as knowing how to sell it to the organizations or people willing to compensate you for it. It’s important to not only have a clear vision for your project, know what your goals are, and who your audience is, but to understand why a particular organization (or individual, if you’re crowdfunding), is a match for the work that you do. Many pitches fail because of an individual’s lack of understanding of the person they are pitching to. Sometimes the fit (or lack of) is in tone, style, target audience, or general goal. Sometimes it’s just timing. Don’t give up. If you’re passionate enough about the work you’re doing, you’ll find an outlet for it.

5 WE SHOULD DO THIS MORE OFTEN

Many GS2018 participants were excited and inspired to be in the same building with others who share their passion for art, science, and everything in between, and expressed the desire to continue the conversation after the meeting ended.

Here are some highlights.

“There are more people than I imagined interested in communicating science with the broader public.”

“Great to be around so many different types of people with different skills all looking into how to spread a scientific message.”

“An inspiring community of artists and scientists co-creating.”



“There are a lot of professionals in the science field struggling to find new ways of connecting science to people.”

“I loved seeing and hearing about the ways in which experiences were being created, whether that was in science or not.”

A big value for GS2018 participants seemed to be the opportunity to connect with others. There seems to be a big appetite for these types of gatherings, and fewer of them than people would like.

In the end the program didn't perfectly serve every single attendee. Although we sought to connect artists and scientists, many participants were already hybrids of both, already actively working at the intersection of art and science. In our endless efforts to engage with members of the public who may not view themselves as science-interested, we may be blind to the similar challenges of engaging with non-arts-interested scientists, or non-science-interested artists. Those people, by definition, were probably not at GS2018, since it was explicitly a gathering for people who see themselves as trans disciplinary.



CONCLUSION

While our goal was to create a conference that was appealing to artists, scientists, science communicators, and everything in between, it was the “in between” that we were probably the most successful at serving. Many participants sought out GS2018 because it seemed to speak to their identity as someone who exists on the spectrum of an artist scientist. The greatest benefit of the conference seemed to be to connect folks who have similar aspirations to do work that integrates art and science.



ABOUT THE AUTHORS



OLIVIA KOSKI

Olivia Koski is an Emmy-nominated producer with extensive experience in digital and live storytelling. She began her career as a laser engineer before moving to New York to become a journalist. As a senior producer at the award-winning *Atavist* magazine, she crafted dozens of interactive longform multimedia journalism pieces. As head of operations at Guerilla Science, she builds and manages teams that deliver imaginative live immersive experiences to connect the public with science. She is co-author of *Vacation Guide to the Solar System*.



MARK ROSIN, PHD

Mark Rosin is an associate professor of mathematics at the Pratt Institute of Art and Design. He began his career studying the wonders of space plasma before discovering the magical ways in which science, art, and culture can intersect. Mark is the winner of the Early Career Award for Public Engagement with Science from the American Association for the Advancement of Science and an Ashoka Foundation Emerging Innovator. He is co-founder and director of Guerilla Science.



PATTY DEBENHAM, PHD

Patty Debenham is a strategy consultant with 20 years of experience developing and implementing evidence-based strategies to solve large complex problems. Patty helps nonprofit organizations and foundations understand shifting landscapes, tell their stories, integrate expert knowledge into work teams, and create cross sector partnerships.

SPEAKER BIOS



WILLIAM ETUNDI, JR.

William Etundi Jr. has dedicated his life to creating experiences that touch the world. His productions, which mix social commentary, art, and public spectacle, have been experienced by over 100,000 guests from the Brooklyn underground, to Art Basel Miami to the Louvre to the White House. He is founder of *SeeMe*, an international artist network with over 1 million members, and *You Are So Lucky*, one of the most sought-after tickets in New York City. *The New York Times* has proclaimed him “an impresario of the underground.”



STEPHEN DUNCOMBE, PHD

Stephen has over two decades of experience as both a teacher and an organizer. With a PhD in Sociology from the City University of New York, he is currently a Professor of Media and Culture at New York University. He co-founded the Lower East Side Collective and was a lead organizer in the international direct action group Reclaim the Streets. He is the author and editor of six books, an open-source web-based edition of Thomas More’s *Utopia*, and writes on culture and politics for a wide range of scholarly and popular publications.



STEVE LAMBERT

Steve Lambert’s father, a former Franciscan monk, and mother, an ex-Dominican nun, imbued the values of dedication, study, poverty, and service to others – qualities which prepared him for life as an artist. For Lambert, art is a bridge that connects uncommon, idealistic, or even radical ideas with everyday life. He is currently Associate Professor of New Media at SUNY Purchase. Steve has advanced degrees from a reputable art school and respected state university, and dropped out of high school in 1993.



DANIEL WRIGHT, PHD

Daniel Wright is an associate professor of Math and Science and STEAMplant Coordinator at Pratt Institute. As a STEAMplant faculty member, he is interested in creative collaborations that involve the physics of light, sound, and music, the science of environmental sustainability, mathematical aspects of social justice issues, and promotion of numeracy.



BRONWYN BEVAN, PHD

Bronwyn Bevan works with educational practitioners, and other researchers, to explore questions around what counts as learning, particularly in science and related STEM fields, and mostly in informal settings (after-school, public square, digital platforms, etc.). Her research is guided by the theoretical and empirical work of Vygotsky, Bronfenbrenner, and Freire. She has a PhD in Urban Education from the Graduate Center, CUNY. Prior to joining the University of Washington, Bronwyn worked for almost 25 years at the Exploratorium in San Francisco.



SONIA EPSTEIN

Sonia Epstein works at the intersection of science and culture as the Executive Editor of Sloan Science & Film at Museum of the Moving Image. She produces all content for the Museum’s website scienceandfilm.org and manages activities related to the Sloan Science & Film initiative at the Museum. Sonia curates the ongoing film series *Science on Screen*, which pairs rarely shown films with discussions between scientists and filmmakers. Formerly, Sonia was a Senior Program Associate at the Alfred P. Sloan Foundation.

SPEAKER BIOS



GREG BOUSTEAD

With a background in neuroscience, film, and journalism, Greg Boustead brings sophisticated science content to general audiences, across many platforms. In 2015, he helped launch Science Sandbox, a Simons Foundation initiative dedicated to inspiring a deeper interest in science, especially among those who don't think of themselves as science enthusiasts.



MARISSA NIELSEN-PINCUS

Marissa Nielsen-Pincus is a performing artist, teacher, and founding member and Associate Artistic Director of Third Rail Projects. Since 2001, she has been a collaborating artist on Third Rail's creative processes nationally and internationally. Marissa teaches performance skills regularly in NYC, as well as nationally and internationally. She is also a certified Body-Mind Centering® Practitioner.



BONNIE SIEGLER

Bonnie Siegler is founder of the design studio Eight and a Half. Recent clients include *The New Yorker*, Participant Media, Late Night with Seth Meyers, HBO, Brooklyn Public Library, The Criterion Collection, Random House, and The Frank Lloyd Wright Foundation. Before Eight and a Half, Bonnie cofounded design studio Number 17 with partner Emily Oberman. She is the author of *Dear Client*.



JULIO TERRA

Julio Terra leads the Design and Technology Communities team at Kickstarter. His team works closely with creators and organizations from these communities, helping them build community and raise funds in support of their work. Before joining Kickstarter, Julio produced interactive installations at the LAB at Rockwell Group and developed global marketing programs for technology companies. He holds an MPS from NYU's Interactive Telecommunications Program.



CHRISTOPHER ALLEN

Christopher is the Founder and Executive Artistic Director of Union Docs, a documentary arts collaborative in Brooklyn. The collaborative projects he initiated — including *Living Los Sures*, *Just to Get By*, *Documenting Mythologies*, and *Yellow Arrow* — unite the creative efforts of hundreds of artists, documentary makers and communities. He directed the early interactive documentary *Capitol of Punk*, exhibited at the Museum of Modern Art. In 2014 and 2016, *Brooklyn Magazine* named him one of the most influential people in Brooklyn culture.



ALISON KOBAYASHI

Alison S. M. Kobayashi is an award-winning interdisciplinary artist whose hybrid work mixes documentary and fiction through video, performance, installation, interactive and illustration. Her hit one woman show, *Say Something Bunny*, has been sold-out for 16 months straight and lauded by *The New York Times*, *Vogue*, *Time Out New York*, and many more. She was born in Mississauga, Ontario and is based in Toronto and Brooklyn, NY where she is the Director of Special Projects at UnionDocs.



ROBYNE WALKER MURPHY

Robyne is a nationally recognized art and social justice educator and administrator, and Executive Director at Groundswell, New York City's premier organization dedicated to advancing the practice of public artmaking. Previous to her position at Groundswell, Robyne served as director of membership development and engagement at the National Guild for Community Arts Education, working closely with a national network of community arts organizations. Robyne obtained her MFA in acting from the University of Washington's Professional Actor Training Program. She resides in Brooklyn, New York with her husband, Tarik Murphy and her son, Ras.

SPEAKER BIOS



MIKE WASILEWSKI

Mike Wasilewski, the Founding Partner and CCO of Frank Collective, is a Brooklyn based multi-media creative director and design educator who works with the world's most innovative brands. Specializing in both creating and redefining brands, Michael has experience at some of New York's top creative agencies. As a founding partner of Frank Collective, Michael leads a team of dedicated creatives on brand creation and development for brands such as Blue Apron, Coach, Mini, Jameson, C.Wonder, Poppin, and Google. He currently lives in Brooklyn with his wife where he constantly instagrams pictures of his beagle-mix, Lorenzo.



KATE DOWNEY

Kate's mission is to make you fall in love with things you thought were boring. She's worked with the Public Theater, New York City Opera, and been a renegade tour guide with Museum Hack at the Metropolitan Museum of Art. As Co-Founder and Creative Director at Caveat, she heads up Caveat's original programming and curates the venue's shows.



NATE DORR

Nate Dorr is a photographer, filmmaker, and neuroscientist. Before turning towards film, he operated a rodent behavioral phenotyping lab at Mount Sinai for eight years, and kept equally busy photographing concerts for *Impose Magazine* and exploring New York's overlooked neighborhoods and architectural history. His photography often focuses on passed-over areas that fall unnoticed between the more recognized, an interest that applies equally to the liminal filmmaking spaces between science and art, and between documentary and narrative. Prior to taking over curation of the *Imagine Science Film Festival* in 2013, he programmed the Short and Experimental categories for the *Brooklyn Film Festival*.



MATT WASOWSKI

Matt is the Big Boss and local NYC host of the global presentation series, *Nerd Nite*, which he grew from two cities in 2006 to more than 125 today. He is also the Content Director of mega-conferences such as *New York Comic Con Presents*, *BookExpo* and *BookCon*, and *Star Trek Mission*. He's a former professor and journalist, a published author of a snarky book about sports, a die-hard Cleveland sports fan (sigh), a husband of a historian, and often sneaks away from Brooklyn to hike in canyons, on mountains, and across the lovely trails of our country's western national parks.



NADJA OERTELT

Nadja Oertelt is the CEO and co-founder of *Massive*, a media company that gives science a voice. She is a former research scientist, science media producer and documentary filmmaker. She has worked as a researcher in labs at MIT, Harvard, and Cambridge University, and worked as a producer at *Mashable* and *Buzzfeed*. Her work elucidating science for the public has been published in *The Atlantic*, *Vox*, and *Vice*. She worked at *HarvardX* for almost four years producing one of the first Harvard massive open online courses, *The Fundamentals of Neuroscience*, for over 200,000 international science enthusiasts and learners.



SARAH WEISBERG

Sarah Weisberg, M.Sci., is *BioBus* Chief Scientist & Executive Vice President. *BioBus* is a New York City-based non-profit whose mission is to help minority, female, and low-income K-12 and college students discover, explore, and pursue science. Sarah first climbed on board the *BioBus* mobile lab in 2010 after completing a Master's of Science degree in Cell Biology at the Weizmann Institute of Science in Israel. Sarah graduated *Magna Cum Laude*, *Phi Beta Kappa* from Harvard College with a degree in Biology and Linguistics. Sarah is also the current Chair of the Board of the *Mobile Lab Coalition*.

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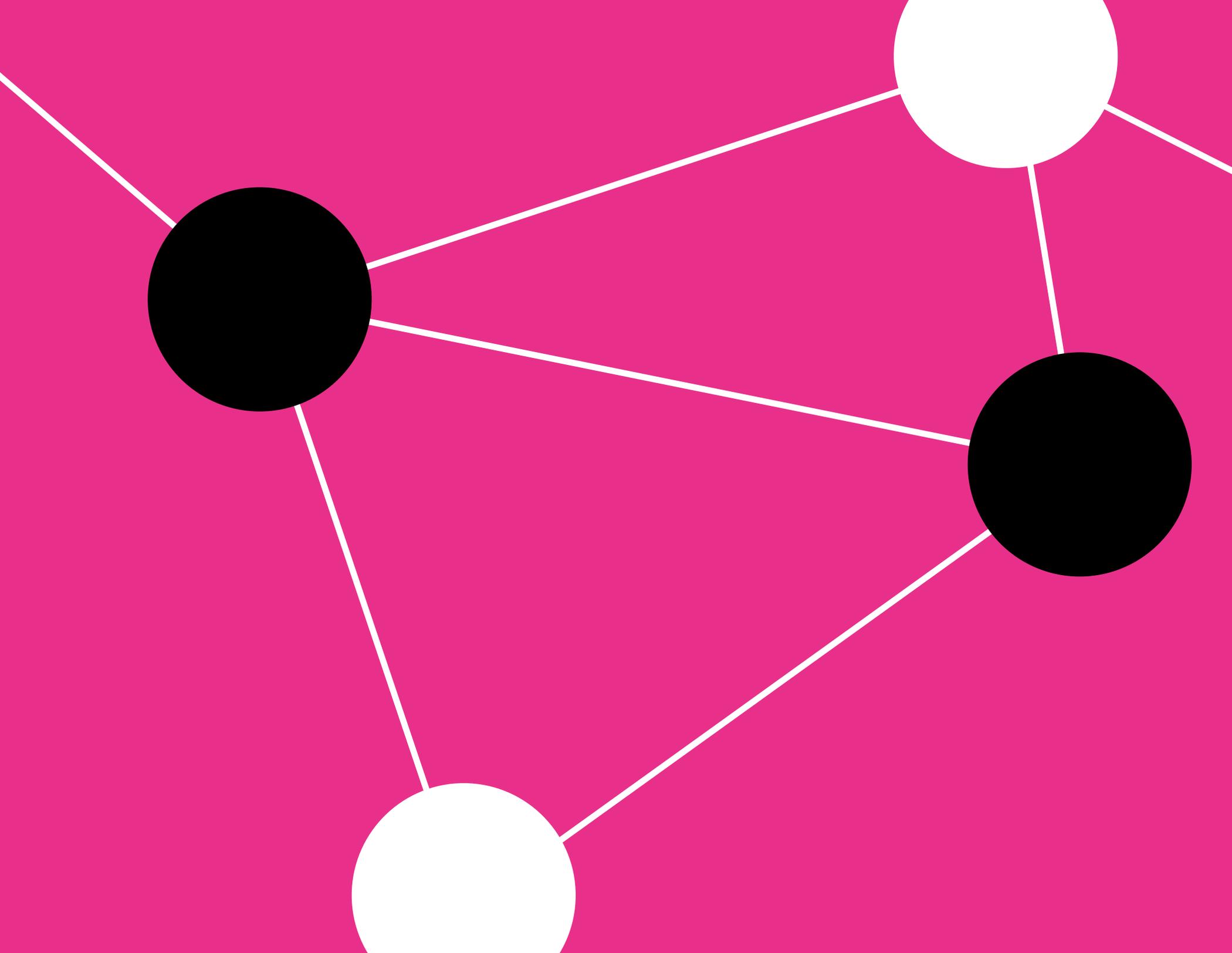
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ABOUT GS



GUERRILLA
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Founded in 2008, Guerilla Science is on a mission to revolutionize how people connect with science through transformative experiences. We believe in a world in which everyone feels that science belongs to them and where science is celebrated as an intrinsic part of human culture.





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