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**INSIDE: JOIN THE LIVE PUBLIC SCIENCE EVENTS PARTY**  
PLUS: SERVING AND ENGAGING THE PUBLIC AT THE SMITHSONIAN,  
THE LATINO EXPERIENCE IN MUSEUMS, AND MORE

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# JOIN THE LIVE PUBLIC SCIENCE EVENTS PARTY

*By Ben Wiehe and Julie Fooshee*

Tens of thousands of families filter into a major league baseball stadium for a science festival main event. On the other coast, tens of thousands attending a regular season baseball game find science activities on the stadium concourse and a robot throwing out the first pitch. A few blocks away in a crowded, sunlit market, a science street performer wows crowds of shoppers gathered on the sidewalk. Far from the city, smoke mingles with dust over the science tent in the tailgating lot of the homecoming football game; drumming punctuates the conversations in the science tent at a massive powwow; and delighted screams from carnival rides provide a backdrop for the tinkering tent at the county fair. As evening falls, a science center transforms its kid-friendly galleries into a raucous, science-themed nightclub. An actual nightclub roars with laughter as participants share their favorite science-themed outfits in a ridiculously nerdy dry t-shirt contest. The crowd on a packed harbor cruise boat quiets down for a moment to better hear a scientist and comedian duo. And a pub in a small town suddenly becomes noisy as an invigorating group discussion with a scientist comes to a close and patrons turn excitedly towards each other.

Something extraordinary is going on out there. Live, in-person events are kicking off across the country. They are about science, or STEM, but in some ways they represent fundamentally different kinds of experiences than many have come to expect from informal learning experiences. They are often aggressive in their use of meaningful, non-traditional venues and are inherently audience-

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centered in their design. Sometimes they can be playful to the point of seeming frivolous; but if the medium is the message, the message is that a science experience can be a social experience.

## LIVE EVENTS: EVEN MORE RELEVANT IN THE DIGITAL AGE

Live, in-person events in general are as relevant as ever. A large majority of the population in the United States regularly attends live events, and at least half of all Americans purchase an average of five tickets for events every year (U.S. Live Event Attendance Study, 2014). Events play a special role in people's lives in large part because they are social experiences, and this holds true in a world suffused with social media. Even always-online millennials recognize that attending live events "helps them connect better with their friends, their community, and people around the world" (Herstand, 2014).

There is something special about live events, and this has not been lost on other industries. For example, corporate consumer brands are increasing their year-on-year investment in live marketing events because they fill unique strategic niches, including "deeper customer involvement," and "identifying and developing influential brand ambassadors" (Event Marketing Institute, 2015). Recent analyses of political campaigns show that live events are singularly effective at inspiring action and "offer important connection points that can only be achieved in-person" (Carufel, 2016). Live events have potential to fill analogous strategic



niches for the field of informal science learning.

In 2015, the Science Live initiative convened 111 practitioners and researchers in the U.S. and U.K. to consider the current landscape of live, in-person public science events.<sup>1</sup> This article summarizes some of the findings from the final Science Live report, available at [www.livescienceevents.org](http://www.livescienceevents.org).

### SCIENCE EXPERIENCES IN SOCIAL SETTINGS

The defining hallmark of Science Events—live, in-person, public events with an explicit science and technology focus—is that they are designed to engage the public with science in a face-to-face social context, and that social context is at least as meaningful as the messages and content delivered. This primary emphasis on a successful social experience distinguishes Science Events from other informal science learning experiences. For example, a science demonstration by museum education staff may have many of the elements of a Science Event (a live audience, etc.), but is explicitly focused on science content delivery over social interaction.

Science Events may not be new, but the sheer volume of activity is. Science Events are now taking place on a grand scale, with many thousands of events involving many millions of participants every year in the United States alone. By its nature this activity is wildly creative and innovative, and the public now has such a broad and rapidly evolving range of Science Events to choose from that it is a significant challenge to summarize and document them all (Wiehe, 2014; Bultitude, 2011; EUSEA, 2005).

The Science Live convenings were designed to ensure that a cross section of different Science Event practitioners participated. With full acknowledgement that this is only a sampling of the ecosystem out there, Science Live broke practitioners into five discreet categories of Events:

- Science Festivals
  - o Massively collaborative, often multi-day, community based events that celebrate science.
  - o Example: Atlanta Science Festival
- Dialogue Events
  - o Inclusive group conversations around science topics.
  - o Example: Science Cafes
- Stage Shows
  - o Scripted or unscripted performances and presentations.
  - o Example: You're the Expert
- Facility-Based Events
  - o Events in purpose-built facilities, such as universities or museums.
  - o Example: MIT Museum Soap Box Series

- Pop Up Events
  - o Appearances integrated into settings where people are already gathering.
  - o Example: Just Add Science

As unique as each Science Event can be, these various forms have much in common. They are often—though not always—situated outside of traditional learning environments and enjoy the flexibility to stage programming in venues that are accessible and relevant to specific target audiences (Goodman, 2013). They often serve as easy, and sometimes developmental, points of access for the direct involvement of scientists and engineers in public outreach (Goodman, 2011). Events often rely on collaborative partnerships, which can lead to new relationships and activate community gatekeepers that may not have previously been considered STEM stakeholders. Regardless of scope or scale, Science Events share many practical production challenges, which is why many Science Event organizers are able to identify with each other. Finally, the emphasis on a social experience produces unique kinds of interactions, and published evaluations of Science Events have just begun to demonstrate a range of distinct impacts from Events (Wiehe, 2014; Goodman, 2013; Jensen, 2012; Fogg-Rogers, 2011).

### SOME SCIENCE EVENT OPPORTUNITIES PRESENTED IN THE SCIENCE LIVE REPORT

The extraordinary flexibility of live events means that most Science Event organizers are accustomed to adapting events to be accessible and meaningful to specific target audiences, whether those audiences are “new” to science or not. Events can effectively leap over socio-cultural obstacles because they can easily be designed to embrace new ways of doing things, including the use of new venues,



*Figure 1: “The Morgue the Merrier: the Science of the Living Dead” was an event held at the Laurel Hill Cemetery as part of the Philadelphia Science Festival in 2013. The event posed the questions: Just what does it mean to be dead? And if there ever was a “zombie” virus, what would happen to our brains? How would we protect ourselves? Photo courtesy of Philadelphia Science Festival.*

new framings, and new collaborators. For Events designed to reach new audiences, evaluations show that they can successfully involve people that do not regularly participate in other informal science learning settings.

Contrary to the common “one-and-done” perception of events, most Science Event organizers know that live events are powerful tools for building long-term relationships with communities. Showing up in-person when and where it works best for an audience can go a long way for building trust. Co-creating events with community collaborators goes even further to forge enduring ties: “By leaving your facility you have to let go of some of your identity as a science-based institution and recognize that your audience may not share your values and that it may be actually completely foreign to them. That completely determines how you deliver your programming, and that is hard: it requires thoughtful partnership, value adjustments, self-reflection, seeing your audience as an equal partner. People doing off-site events really get this. Maybe some of the resistance to leaving a facility is that it is hard to do, requires humility, and requires recognizing that the way we do things in our facilities may not be the best way to do it for audiences outside of the building.”<sup>2</sup>

Building long-term relationships of trust with new audiences by co-creating programs requires science institutions to relinquish a degree of control over final products. Live events provide the chance for that kind of experimentation, by allowing institutions to produce activities off-site and with minimal branding if desired. Some organizations simply use events to test how topics, content, and specific presenters are received. Others use events as an outlet

for creative risk taking that allows for the development of programs that are outside of the institution’s usual comfort zone.

Science Events are often built around collaboration with a community member, and as a result of this visible involvement those collaborators can become ambassadors that take ownership of your science learning mission. These community members—whether they are a bartender or schoolteacher, an artist or a business owner, a well-connected individual or a company with local brand loyalty—may also serve as valuable community gatekeepers, providing access to and credibility with target audiences.

Importantly, anyone can produce a Science Event. It is possible to create some events on a shoe-string. For this reason, many individuals with little or no institutional support become involved in science communication via event production. The low bar to entry for organizing a Science Event holds significant promise for the diversification of the larger field of informal science learning.

“A few decades ago it would have been securely employed professionals [at this meeting], but now there are many others in the room that are entrepreneurs trying to create something from nothing, and the field is more innovative, but much less secure, and subject to suffering the losses of a small start up. Some of these are quite tender shoots! We need to make sure they are fed and watered.”<sup>3</sup>

Tens of thousands of scientists, engineers, and other STEM practitioners get involved in live events every year in the U.S. and U.K. The do-it-now, one-time-only quality of



*Figure 2: Cybermentor Thundercloud Parade at Beakernight, the largest single event of the five days of Beakerhead.  
Photo by Trevor Lalonde.*

events makes them ideal for recruiting experts to participate directly in public outreach. For experts looking to get better at communicating their work, Science Events provide instant audience feedback and irreplaceable practice.

Sharing a social setting with a scientist is often what audiences are most enthusiastic about, and it is not uncommon for a Science Event to provide someone with their first meaningful interaction with a STEM practitioner. Remarkably third party evaluation has shown that the chance to have an interaction with a STEM practitioner is the greatest predictor for positive learning outcomes for event attendees.

“Events are a chance for scientists to figure out that output really doesn’t matter. What you say specifically, even if you say it as carefully as you can, doesn’t matter. What matters is input, what your audience is taking in. And there are lots of ways to get to correct input.”<sup>4</sup>

### SCIENCE EVENTS AS EMERGING SECTOR

The field of informal science learning is comprised of many sectors: after school programs, science center exhibitions and programs, television and film, science writing, social media initiatives are among the most prominent. Each of these sectors is understood to make unique contributions, present unique opportunities, and require unique support. Given what we have learned from Science Live, it may now be useful to consider Science Events as its own sector.

To be considered as a sector, it seems that we ought to be able to at least point confidently at the activity we’re referring to. The Science Live project was a first attempt to look at the “ecology” of Science Events in the U.S. and U.K., but presenting an accurate account of how these ecologies are changing over time is a daunting task. There is no current tracking mechanism for collecting information about public science activity across different formats, so much goes unreported. For activity that is tracked, numbers are usually self-reported, and the method for capturing those numbers varies by event organizer. Even with more accurate tracking, numerical data rarely captures the true output of events. It’s easy to say that an initiative served 1,000 people, but in what way were they served? Did they simply pass by? Dwell for five minutes, or for an hour? Does dwell time matter when each type of event mandates a different type of interaction and a different way of measuring impact?

It may be more useful to recognize that each of the sectors that comprise the informal science learning field represents a particular craft, a group of practitioners that share a set of production skills and expertise. This conception of Science Events as a sector resonated strongly with

Science Live participants.

Many people have been active with Science Events for decades, but until recently it was uncommon for Science Event production to be someone’s primary point of involvement in science communication. Two developments have changed this landscape in recent years: the grassroots spread of low-budget event formats that any enthusiast can organize regardless of institutional backing, and the contemporaneous emergence of large-scale initiatives that employ full-time staff dedicated solely to Science Events. The combination of these seemingly opposite developments has resulted in a large, loosely connected group of practitioners that may only be said to occupy the informal science learning field because of their role in producing live events. When these practitioners discuss topics that overlap with informal science learning, it is through their perspective as event organizers.

The practical concerns of Science Event practitioners loom large. It is hard to hide when an event is not working, and this holds true even if the cause—like the weather—is beyond your control. It is also difficult for Science Event practitioners to find the time and space to be critically reflective. Just as a chef at dinner rush is too busy in the kitchen to observe the dining room, event organizers are usually busiest exactly when the products of their labor are underway. Applause is always taken as an indicator of success, but what empowers one group may alienate others, and it can be difficult for organizers who are entrenched within an event to recognize subtler dynamics at play. By taking Science Events seriously as a sector, we may open up the space for event organizers to have the meaningful, critical reflection about their events that they are seeking.

As newly emerging sector, Science Events is admittedly a messy category: the protagonists—Science Event practitioners—span a tremendous range of professionalization, institutional support, resources, skills, experience, intentionality, and connection to the informal science learning field. However, recognizing Science Events as a distinct category of activity may help mitigate the unique challenges Event organizers often face. Some Event practitioners struggle to define the work they do. Events are frequently dismissed as little more than one-off interventions or simply parties. As a career track, there is very little support for Science Event organizers. Science Live participants gave voice to this issue on a personal level:

“I feel like I am doing everything on my own, and just fell into this.”

“This career path is so nebulous, there is no track, it’s exhausting.”



“Year one is definitely the hardest, but in year two there is enormous pressure to reproduce.”

“In our work, to be going on for five years is venerable.”

“The kind of roles that we have around this table didn’t exist when we stumbled across whatever it is we do. That is why it is difficult to carve out a career path. [We all want greater support] and fundamentally what we are seeing is a symptom of the fact that the roles that we have didn’t exist 15 years ago.”

As we move forward as a larger field, you may find it worth reconsidering the Science Event work you and your colleagues are already involved in. Perhaps it time to take Science Events a bit more seriously. If you’re ready to do so, we humbly suggest that you join us this June in Madison, Wisconsin, for the next meeting of the International Public Science Events Conference ([www.sciencefestivals.org/conference](http://www.sciencefestivals.org/conference)).

## END NOTES

[1] The Science Live project was made possible by the Science Learning Plus funding scheme. Much of the findings and text included in this article can also be found in the final report of the Science Live project, available at [www.livescienceevents.org](http://www.livescienceevents.org). The Science Live report’s authors include: John Durant, Nicola Buckley, Dane Comerford, Laura Fogg-Rogers, Julie Fooshee, Bruce Lewenstein, and Ben Wiehe.

[2] <https://livescienceevents.files.wordpress.com/2016/02/2016-science-live-landscape-survey.pdf>, page 16.

[3] <https://livescienceevents.files.wordpress.com/2016/02/2016-science-live-landscape-survey.pdf>, page 20.

[4] <https://livescienceevents.files.wordpress.com/2016/02/2016-science-live-landscape-survey.pdf>, page 24.

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# THE INFORMAL LEARNING REVIEW

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## ON THE COVER:

*Tens of thousands of scientists, engineers, and other STEM practitioners get involved in live events every year in the U.S. and U.K., including science festivals, live stage events, and pop up events. The do-it-now, one-time-only quality of events makes them ideal for recruiting experts to participate directly in public outreach.*

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