

Comment

Science festivals: do they succeed in reaching beyond the ‘already engaged’?

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ABSTRACT: The cultural phenomenon of ‘science festivals’ is ever expanding throughout the world, as universities, city and regional governments, and science engagement professionals alike embrace the concept of a focused ‘celebration’ of science. In the past however science festivals have been criticized for neglecting underrepresented audiences. This special issue explores the extent to which current science festivals have managed to engage with diverse publics, and identifies the key challenges facing the future of science festivals, most notably the need for deeper research into the impacts of science festivals.

KEYWORDS: Science festival, Science fair, Informal science learning

Science festivals are a global phenomenon, and their numbers appear to be growing throughout the world [1, 2]. They vary dramatically in size and scope, though are recognizable by their celebratory atmosphere, the engagement of non-specialists with scientific content, and their transient nature, thereby providing a brief concentrated and high profile focus on science engagement within the local city or region [1, 3, 4]. In a previous review of global science festivals led by the author it was shown that almost all science festivals contain at least some element of evaluation, albeit usually focused on immediate and self-reported visitor outcomes [1]. Such evidence suggests that key audiences include families with children and school students, and visitors often report being driven to participate by a desire to ‘learn something’ or a general interest in science [3–5]. Indeed, in line with other science engagement activities such as museums and science centres [6], science festivals have in the past been criticized for ‘preaching to the converted’: attendees have tended to be well educated, with little ethnic or socio-economic diversity [3–5]. However, there are signs that this might be changing: some recent festivals have been initiated in direct response to socio-cultural challenges (for example the 2005 riots in French suburbs) [7].

This set of commentaries reviews the current state of play with regards to science festivals. The authors invited to contribute were deliberately chosen to represent a wide variety of science festival involvement, and, in light of the above, were specifically asked to comment on the diversity of their audiences and the likely impacts achieved. A further area of focus relates to identified challenges within the present science festivals climate.

Two contributions (Wiehe and Riise & Alfonsi) come from over-arching networks of science festivals and related events based in America and Europe respectively. Wiehe

presents insights identified from the US-based Science Festivals Alliance, including a summary of key findings from perhaps the only multi-modal study of science festivals to date that included a special focus on the impacts for returning attendees [8]. The evidence is that modern science festivals are an opportunity for engaging more diverse audiences than is possible through many other forms of science engagement, and that they provide a burst of focused effort, resulting in a much higher impact than is possible through a series of unconnected individual events. Taking advantage of the slightly longer historical presence of science festivals within Europe, Riise & Alfonsi trace the development of the ‘role’ of science events (such as science festivals), as evidenced through the activities of the European Science Events Association, Eusea. Mapping closely to the wider science communication landscape, such events within Europe have moved from merely ‘informing’ their audiences to ‘engaging’ them and more recently taking on a much stronger socio-political role, including the use of ‘unusual places’ to engage broader audiences.

The other three papers are each contributed by individual festivals representing very different environments, audiences and contexts. Chen provides an overview of one of the largest and longest-running modern science festivals in the world. Started in 1982, the Thai National Science Fair (TNSF) is a large-scale annual event reaching around a million visitors per year. Through high profile thematic exhibitions and using famous young actors as publicity ambassadors the TNSF attracts a broad range of participants, with the initial experience often being so successful that school visitors return for a repeat visit, bringing their (otherwise disinterested) family and friends with them. King describes a similarly popular and high profile event in Trinidad and Tobago, the Sci-TechKnoFest, which reaches over 55,000 people every two years. Again there is a relatively strong focus on school students from a range of backgrounds. In contrast, Dowell reports on the successes of Einstein’s Garden, a space for engaging visitors with science from within a very different sort of festival model — that of the UK-based Green Man music festival. In this case the audience is very clearly not primarily motivated by science, both due to the event’s location (within a music festival) and due to the novel and creative nature of the activities on offer.

What can we conclude from these efforts? Firstly, that science festivals are a diverse phenomenon. No two science festivals are the same, and no two people’s experiences of a science festival are likely to match. One of the key characteristics — and indeed benefits — of a science festival is the opportunity to provide a flexible and personal experience, giving visitors the power to identify their own individual ‘path’ to engaging with the scientific content. Creative use of existing social or community activities can provide a huge boost to the involvement of non-traditional audiences [9], for example at sports events (Wiehe), arts and cultural festivals (Dowell) or public spaces such as shopping malls, train stations and parks (Riise & Alfonsi). As noted by some of the authors here, it can however be necessary to deliberately signpost adult-specific events, in order to overcome perceptions that the activities are only for children. Effective collaboration is also essential to success — whether this is for the purposes of developing and delivering novel and wide-ranging content, to ensuring a raised profile, to achieving policy leadership and support

at relevant levels of government. The direct involvement of STEM (Science, Technology, Engineering and Mathematics) professionals in engaging with visitors is also crucial, and has been identified through many of the articles here (and elsewhere) as being a key factor in achieving visitor impacts (see for example [4, 9]). Yet whilst most of the authors here speculate that such impacts are profound, they also recognize that the evidence to support such claims is scant. There is a resounding call for deeper research into the impacts of science festivals, both in terms of how such impacts differ from other similar STEM engagement activities, as well as identifying what (if any) longer-term changes occur.

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