

# Sex & Bugs & Rock 'n Roll – getting creative about public engagement

Emma J. Sayer<sup>1</sup>, Helen C. Featherstone<sup>2</sup>, William D. Gosling<sup>1</sup>, and the BES Roadies\*

<sup>1</sup> Department of Environment, Earth and Ecosystems, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK

<sup>2</sup> Research and Knowledge Transfer, University of Exeter, Rennes Drive, Exeter, EX4 4RN, UK

**Public engagement is widely recognized as a key priority for achieving societal support for research. We spotlight creativity in public engagement as a way of reaching wider audiences and incentivising researcher involvement, demonstrating some of the possibilities with a recent initiative to engage the public with ecology at music festivals.**

## Public engagement with ecology and evolution

Public Engagement (PE) is an umbrella term, which covers a wide variety of activities serving many different agendas. These include justifying the use of ‘taxpayer’ money for research, increasing research impact, identifying research priorities, encouraging discussion about controversial issues, promoting science as a career, broadening the scope of research, and stimulating public behaviour around scientific issues. Effective public outreach contributes to measures of research impact, which has helped to legitimize scientists committing time towards PE and a number of funding bodies now incorporate requirements for ‘stakeholder engagement’ into the criteria for grant proposals [1]. Timely and effective PE can be crucial for the transition of science into policy [2] and dialogue with different sectors of society is essential for identifying and addressing public priorities on contentious topics [3]. For example, PE has played a key role in facilitating discussions of evolution *vs.* creationism in the USA [4], and catalysing societal action on environmental issues [2].

Researchers can benefit greatly from new perspectives and novel avenues of investigation arising from interactions with non-scientists [1] and public involvement can greatly increase the scope of projects, e.g., using citizen

science data [5]. Last but not least, science is also part of our cultural endeavour; according to a recent survey in the UK, the public wants to interact with scientists and people are dissatisfied with how little they can engage with science (see: <http://www.ipsos-mori.com/Assets/Docs/Polls/sri-pas-2011-main-report.pdf>). Thus, PE can play an important role in furthering the research agenda, attracting people to science and generating public support.

We now need to address two major challenges to increase the scope and success of PE activities. First, despite growing evidence that PE can increase academic output [6], many scientists are hesitant to participate, perceiving PE as an extra time commitment for which they are unprepared, or as too difficult for their particular subject area [6,7]. This can result in PE activities that are narrow, reactionary and developed reluctantly in response to external pressure, e.g., from institutions and funding bodies [1]. Second, to maximize the effectiveness of PE we need to find ways of reaching a wider range of different audiences, including those with little interest in science [8]. This can be achieved by moving outside of formal contexts such as lectures [4,6] into more relaxed settings, which can promote informal learning and create a sense that science can be personally relevant, rewarding and enjoyable [9]. Here, ‘incidental exposure’ – finding ways to gain people’s attention where they would not expect to meet scientists and are not actively looking for information on science – can encourage participation from wider, more diverse and otherwise inattentive audiences [4,8]. Curiosity, appeal of the activity, and experience of the context can all play a role in stimulating interest for science and research [10]. Hence, being creative about PE, using alternate forms of communication and different settings, may help to incentivize researcher involvement, reach broader audiences, and foster public fascination for science.

## Sex & Bugs & Rock 'n Roll

Using different settings for PE activities and staging events where the public would not expect to encounter science can introduce an element of surprise and novelty, allowing scientists to share their fascination for research in a relaxed atmosphere [8,9]. Leisure settings such as music festivals are ideal for reaching new audiences because they represent relaxed, well-populated but non-habitual environments where people are open to novel experiences [9]. We used a creative approach to PE at music festivals during summer 2013 with *Sex & Bugs & Rock 'n Roll*, an initiative to raise awareness of ecological research during the centenary year of the British Ecological Society.

Corresponding author: Sayer, E.J. ([emma.sayer@open.ac.uk](mailto:emma.sayer@open.ac.uk)).

\*Members of the organizing team: Frazer Bird-Matthews (Department of Environment, Earth and Ecosystems, The Open University, Milton Keynes, UK, MK7 6AA); Sarah C. Pierce (Department of Life Sciences, Imperial College London, Silwood Park Campus, UK, SL5 7PY); Matthew S. Heard (Centre for Ecology and Hydrology Wallingford, UK, OX10 8BB). Festival volunteers: Hannah Griffiths, Tom Walker, Iain J. Gould, Catherine Baxendale (Lancaster Environment Centre, Lancaster University, Lancaster, UK, LA1 4YQ); Peter Fawdon, Leanne Gunn, Kate Salmon, Sophie Dixon (Department of Environment, Earth and Ecosystems, The Open University, Milton Keynes, UK, MK7 6AA); Holly Rogers (Academy of Medical Sciences, London, UK, W1B 1QH); Alexe Rose (The Greensand Trust, Maulden Wood, Haynes West End, UK, MK45 3QT); Sarah Dalesman (Biosciences, University of Exeter, Exeter, UK, EX4 4QD); Thea Powell (Orangutan Foundation, London, UK, NW1 4RP).

0169-5347/\$ – see front matter

© 2013 Elsevier Ltd. All rights reserved. <http://dx.doi.org/10.1016/j.tree.2013.12.008>



TRENDS in Ecology &amp; Evolution

**Figure 1.** Science busking outside the Sex & Bugs & Rock 'n Roll stall. Ecologists engage festival-goers of all ages with fun, interactive 'busks' and invite them to visit the stall at Wychwood Festival, UK, June 2013.

By varying the format, content and depth of activities, PE events can accommodate the needs of a broad range of audiences. *Sex & Bugs & Rock 'n Roll* consisted of an eye-catching stall hosting activities and displays related to different aspects of ecology: a live bumblebee colony in an observation hive prompted conversations about pollinator-friendly gardening and bee decline; species identification was promoted with 'bug hunts' around the festival sites and a game in which visitors could key themselves out as different species; the importance of microbes in the environment was introduced by inviting visitors to have swabs of their clothes cultured on agar plates to find out how 'gross' their festival kit was. 'Science busks' were performed outside the stall as an effective way of drawing in passers-by. Science busks are short, interactive games and demonstrations related to specific subjects that are designed to pique people's curiosity and create a sense of fun and enjoyment (Figure 1).

The novelty of the stall, the high-quality designs and the entertainment value of activities were essential for attracting visitors who were otherwise unlikely to engage with science [4,8,9]. Once drawn in by curiosity, many visitors who had initially professed to have little or no interest in ecology participated in other activities and took the opportunity to engage with researchers. A relaxed environment and entertaining activities can also promote informal learning [6,9], which played an important role in encouraging participants to return to the stall and recommend activities to friends and family. By making learning fun and personally relevant, while demonstrating how easy it is to find relevant information, our activities provided an incentive to visitors with a prior interest in ecology to take that interest further [2,9].

Effective PE requires the direct input and involvement of researchers because the most effective way to reach non-traditional audiences is face-to-face [4]. However, adequate preparation and good facilitation are key components for ensuring the quality of interactions with visitors [6]. The concept and activities for *'Sex & Bugs'* were therefore developed by research-active ecologists in collaboration

with a science communication professional. The involvement of a science communicator with PE expertise was key for facilitating training, evaluating the success of events, and developing activities to target broad audiences [2,6]. The importance of having scientists on the ground to deliver the activities was underlined by the overwhelmingly positive response when participants discovered that the *'Sex & Bugs'* team members were research-active, with visitors congratulating the researchers for 'getting out there' and making themselves more approachable.

Clearly, the commitment and attitude of the researchers will shape the communication process and affect the success of the PE events they deliver [7]. The willingness of scientists to engage with the public depends largely on how positively the activities are perceived and the individuals' confidence in their ability to deliver the events [6,7]. Consequently, institutional support, adequate training and enjoyment of the activities are essential for encouraging more scientists to engage with the public [2,7,8]. In our case, training sessions before the events boosted the team members' confidence and all the researchers involved in *'Sex & Bugs'* found this first experience of delivering PE activities in a leisure setting to be an extremely positive one.

Finally, PE activities need to be developed with the skills and interests of the scientists in mind [6]. However, it is worthy of note that our activities linked to broad ecological themes and most of the team did not work on related research topics. Despite this, team members were frequently asked about their own research, which demonstrates that enjoyable activities can create an opening to start conversations about unrelated research areas and events do not necessarily need to focus on specific topics. Hence, scientists who find it difficult to develop PE activities for their field [6,7] can participate in more broadly themed events and still increase the impact and dissemination of their research.

### Concluding remarks

Activities such as *Sex & Bugs & Rock 'n Roll* demonstrate that by working with science communicators, researchers can generate and deliver entertaining PE activities, which stimulate research-centred dialogue. By creating relaxed, informal environments, scientists can attract diverse groups of visitors and make the research-active team members more approachable. As our experience has shown, the combination of these factors can result in a large proportion of in-depth conversations about ecological research, a high level of interest across a broad audience, and generate satisfaction among visitors, team members and funders alike.

This is just one example of being creative about engaging the public with research. Although festivals will not be the event of choice for many scientists, there are numerous other ways of engaging wider audiences outside of a traditional science setting, be it in person, online or using printed media. We simply need to be more creative about getting research to the people - instead of expecting them to come to us.

### Acknowledgments

*Sex & Bugs & Rock 'n Roll* was funded and supported by the British Ecological Society, to whom we are very grateful, with in-kind support

from iSpot.org, Agralan Ltd. and The Field Studies Council UK. Special thanks goes to G.M. Mace, A.P. Beckerman, J. Hodgkinson, A. Everard, A. Crowden, R. English, J.H. Sayer, R.H. Holliman, and the festival organisers.

#### References

- 1 Watermeyer, R. (2012) From engagement to impact? Articulating the public value of academic research. *Tertiary Educ. Manage.* 18, 115–130
- 2 Groffman, P.M. *et al.* (2010) Restarting the conversation: challenges at the interface between ecology and society. *Front. Ecol. Environ.* 8, 284–291
- 3 Taylor, P.L. (2007) Rules of engagement. *Nature* 450, 163–164
- 4 Nisbet, M.C. and Scheuffele, D.A. (2009) What's next for science communication? Promising directions and lingering distractions. *Am. J. Bot.* 96, 1767–1778
- 5 Silvertown, J. (2009) A new dawn for citizen science. *Trends Ecol. Evol.* 24, 467–471
- 6 Wilkinson, C. *et al.* (2011) “Oh yes, robots! People like robots; the robot people should do something”: perspectives and prospects in public engagement with robotics. *Sci. Commun.* 33, 367–397
- 7 Davies, S.R. (2008) Constructing communication. Talking to scientists about talking to the public. *Sci. Commun.* 29, 413–434
- 8 Bubela, T. *et al.* (2009) Science communication reconsidered. *Nat. Biotechnol.* 27, 514–518
- 9 Bultitude, K. and Sardo, M. (2012) Leisure and pleasure: science events in unusual locations. *Int. J. Sci. Educ.* 34, 2775–2795
- 10 Stekolschik, G. *et al.* (2010) Does the public communication of science influence scientific vocation? Results of a national survey. *Public Understand. Sci.* 19, 625–637