

## Filling the Gaps: exploring researchers communication experiences

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**Emma Weitkamp**

### **Abstract**

This issue sees the publication of several papers that contribute to our understanding of the challenges faced by researchers in communicating about their research, adding richness to our understanding of practices and policies in Zimbabwe as well as amongst non-Anglophone speakers working in Australia. The potential of incorporating documentary filmmaking tools and techniques into open science projects raises interesting questions about subjectivity, data and the collaboration skills needed for today's scientists.

### **Keywords**

Professionalism, professional development and training in science communication; Science communication in the developing world

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This issue of *JCOM* sees several contributions that explore researchers' experiences of engaging the public with their research. These papers consider this experience from a range of perspectives and geographical regions, offering a greater richness to our understanding of the experiences of scientists undertaking public engagement. The research builds on past surveys that have explored the motivations and barriers faced by scientists, for example in the UK [The Royal Society, 2006; TNS BMRB, 2015] and cross national comparison studies, such as Bentley and Kyvik's [2011] study of popular science publishing amongst researchers in 13 countries. Other work in this area has considered specific groups of scientists, such as Dudo's [2013] exploration of the activities of biomedical scientists.

Nevertheless, past work has left gaps in our understanding, particularly around the issues faced by those from some developing countries [Massarani, 2015]. In this issue of *JCOM*, Ndlovu, Joubert and Boshoff [2016] present findings from a survey carried out amongst researchers in Zimbabwe. The study suggests that there is relatively little appetite amongst these researchers for communication with the public; interestingly they found the lowest levels of public engagement (public, policymakers or media) in the Faculty of Medicine, an area with potential relevance to public health and policy agendas. Across all subject areas, nearly two-thirds of respondents felt that science communication aimed at the public was optional. The study highlights a range of barriers to communication faced by these researchers: lack of skill in public communication (80% find it difficult to explain research in language that they think the public would understand); lack of time; lack of incentives (a perception that public engagement is not rewarded, whereas academic publications are); a perception of a lack of public understanding of

science (which makes it difficult to engage the public with science). Ndlovu, Joubert and Boshoff [2016] conclude that many of the scientists in their study adopt one-way communication channels when they do communicate with the public and generally hold views more akin to those in the public understanding of science or deficit model paradigm. While Ndlovu, Joubert and Boshoff [2016] suggest that training and university support for and leadership direction to prioritise public engagement may help overcome some of these barriers, they also note barriers less commonly seen in previous studies, such as a lack of a stable research funding environment and a degree of self-censorship in cases where research might be perceived to be politically sensitive.

Also published this month is a study exploring the experiences of non-native English speakers working in Australian universities [Huttner-Koros and Perera, 2016]. Huttner-Koros and Perera [2016] point out that English acts as both a facilitator and gatekeeper in the exchange of scientific information; most scientific research is published in English and most international conferences occur at least partly in English. Thus proficiency in written and spoken English is required for success on the international scientific scene; *JCOM* has sought to remove this barrier by accepting manuscripts in languages other than English where possible. But the issue for Huttner-Koros & Perera goes beyond the issue of access and facility (i.e. that scientists need a certain facility with the language to gain an international profile), to consider how the use of English shapes scientific culture. They conclude that the English hegemony in science may influence the self-perceptions of researchers from other linguistic communities, even when they work in an English speaking environment. Thus non-anglophone scientists 'may struggle to maintain a professional identity congruent with an Anglophone scientist' [Huttner-Koros and Perera, 2016, p. 16].

The conference report presented by Wang and Liu [2016] presents an interesting counterpoint, highlighting the diversity of attendees at the recent Public Communication of Science and Technology meeting, held in Istanbul in April 2016. While the conference review does not discuss the challenges of communicating in a second (or subsequent) language, it does highlight the diversity of researchers interested in the field, with attendees at the conference representing 52 countries. Although Wang and Liu [2016] note the dominance of contributions from Europe and North America, they are optimistic that the field is diversifying, arguing from their analysis that 'the difference between developed countries and developing countries is gradually narrowing, and the regional distribution of PCST research is becoming more diversified'. (p. 3) The distinctions between developed and developing countries are blurring in the field of science communication too, with organisations such as Redpop in Latin American driving the development of high quality science communication research and practice. Wang and Liu also point out that the diversity of backgrounds and research traditions evident at the PCST meeting goes some way to addressing the need, also highlighted by Huttner-Koros and Perera [2016] for greater cultural diversity to be reflected in the body of knowledge that comprises science communication research, suggesting that 'different economic, political and cultural backgrounds have a significant influence on the theory, method and practice of science popularization and communication' (p. 4).

These contributions contribute to an ongoing interest within the *JCOM* community to learn more about the experiences of scientists communicating science in developing countries, or using new and emerging approaches (such as blogging and social media). Martiny, Pedersen and Birkegaard [2016] tackle this by looking at the challenges inherent in the open science movement, also in this issue of *JCOM*. Martiny, Pedersen and Birkegaard [2016] argue that there are three challenges that researchers using an open science model face: communication, collaboration and culture. The communication challenge is one of recognition; scientists are generally recognised for their contributions to peer-reviewed academic journals, but these are not generally available to the public, nor written to be accessible to a broad audience. They ask: If the public communication that could be embedded in an open science programme is not rewarded, what is the motivation to undertake it? From a collaboration perspective, Martiny, Pedersen and Birkegaard [2016] suggest that open science means learning new ways of collaborating and the use of new tools (e.g. online tools) that scientists are not trained to use (and incidentally are constantly changing). These together lead to the third challenge, that of culture change: to really take advantage of open science, they argue, science culture needs to change. In their paper, they explore the potential role of documentary filmmakers both in the research and communication process associated with open science, exploring particularly the ways in which documentary filmmaking might facilitate collaboration and communication. Two case studies are used to highlight ways in which documentary films might facilitate open science. They highlight a number of benefits, but also point to challenges for scientist. For example, as regards collaboration in open science projects, Martiny, Pedersen and Birkegaard [2016] suggest that ‘collaborative skills need to be added to the repertoire of scientific skills so as to avoid ‘openwashing’ the knowledge process.’ (p. 11) They also note that their approach requires a shift in the way we think about data, with scientists needing to become familiar with first person (rather than ‘objective’) data, a perspective that would be familiar to many science and technology studies scholars.

I hope that these, and the other papers published in this issue of *JCOM* will prove thought provoking. I would encourage the community to share their views on these and other papers published in *JCOM* on the *JCOM* Facebook page ([facebook.com/jcom.sissa.it](https://facebook.com/jcom.sissa.it)), where we are seeking to create an interactive community interested in science communication research and practice. We hope that such a facility will enable our readers to share their views on the paper we publish (in effect to contribute to the peer-review system for the journal). We also welcome letters and responses from readers to material published in the journal. Please do contribute to the community: *JCOM* is a collaborative venture.

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## Author

Dr. Emma Weitkamp is an Associate Professor in Science Communication at the University of the West of England, Bristol where she teaches on an MSc in Science Communication and provides training in science communication for practitioners and Ph.D. students. Emma is also Editor in Chief of *JCOM*.  
E-mail: [emma.weitkamp@uwe.ac.uk](mailto:emma.weitkamp@uwe.ac.uk).

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