SpotOn: Science policy, outreach, and tools online

3 November 2018, London, UK

SpotOn 2018, held at The Francis Crick Institute in London, offered a day of brief presentations that captured the current state of play of the open science and open data movement.

Stephen Curry (Imperial College London, UK) began the first session with "Opportunities and Challenges in Open Research". He said that achieving cultural change in academia is difficult because the focus on journal prestige and impact factors is deeply entrenched. This process favours novel and positive results, incentives fraud, and results in researchers developing a hero complex. As some of the solutions to this problem, Curry presented the San Francisco Declaration on Research Assessment (DORA) and preprints, which he praised for their non-branded nature.

Jenny Molloy (University of Cambridge, UK) said that access to open data often depends on tools. Experimental science uses tools that are expensive, proprietary, and difficult to customise and maintain. Open-source, community-built tools allow more efficient use of knowledge and local solutions. Molloy reminded us that open does not always mean accessible, and introduced the Global Open Science Hardware Roadmap (http://openhardware.science/) that outlines all challenges and opportunities for this movement.

Gary Fuller (King's College London, UK) shared the ways in which open data from London Air—25-year project to measure London's air pollution—have been used.

Rachel Burley (BMC) presented a publisher's perspective of open peer review. She said that it is possible to run large-scale mandatory open peer review, but it does take reviewers longer than blinded peer review (187 mins for open vs 150 mins for blinded) and fewer peer reviewers agree to open than to double-blind review (42% and 60%, respectively).

Louise Bowler (Alan Turing Institute, UK) shared three examples of the institute's Research Champion Programme to make fully reproducible science (Github.com/alan-turing-institute/ReproducibleResearchResources).

"Metadata is a love note to the future" said Alan Hyndman (FigShare). He took a swift tour through the principles of FAIR (findable, accessible, interoperable, reusable) data sharing (https://www.nature.com/articles/sdata201618), and described how FigShare can be used to share the data this way.

Iain Hrynaszkiewicz (Springer Nature) said that more transparency is needed around published research and offered practical steps that publishers can take: from more consistent journal policies on data sharing, to improved objectivity of peer review process, and ensuring a wide enough variety of journals. The openness begins with realistic steps — for example, making references or data sharing statement available in front of the paywall.

Amanda Bartell (Crossref) said that a key element missing from online data that support an article is the peer review data. She described how registering peer review opens up the black box of publishing and how peer review metadata gives a fuller picture of the evolution of knowledge.

Fiona Frame (University of York, UK) shared her experience as a peer reviewer of a global biotech company. Much like an academic gives a critical assessment of a research paper, Frame and two other reviewers critically assessed the company—each from their own point of view and with their own interests. Frame said that the potential benefits of this type of building bridges between scientists and companies include mutual appreciation and transparent communication.

Máté Pálfy (Company of Biologists) gave an overview of preLights (https://prelights.biologists.com/)—a community of early-career and mid-career scientists who write digests with key takeaways to help readers to wade through the new sea of preprints.

Chris Street (University of Huddersfield, UK) gave a lesson on spotting lies and the science of lie detection. The interactive session involved the audience asking questions of two potential liars to deduce which of the two were lying. We learnt that the "tells" often thought to be indicative of lying (eye contact, body language) are not accurate, and we are more likely to catch a lie in the content of the speech.

Elodie Chabrol showed how Pint of Science gets the laboratory to the people, and the way in which this community engagement event has grown in number of events, cities, countries and attendees since its establishment in 2013.

Journalist Alok Jha is disrupting the process of reporting science to tell stories that are transparent and trustworthy. In The Guardian's newest journalistic experiment, they will engage the public in focus group-like sessions to understand what the public do and do not know about gene editing, and use that information to direct editorial decisions.

In one of the final parallel sessions, the Diversity in Science presenters gave the audience lots to take away and act on. Yolanda Ohene (University College London, UK) explained that the Minorities in STEM network supports and promotes the work of ethnic minority backgrounds. Matthew Young (University of Nottingham, UK), explained that the Pride in STEM network provides a voice and support network for LGBT+ scientists and engineers from around the world. Siena Castellon, creator of Quantum Leap Mentoring, asked that neurodiversity be identified and nurtured.

The panel discussions that punctuated the day were dynamic and the afternoon breakout session kept the audience engaged until it was time for cupcakes and prosecco. By presenting us with current state of play, SpotOn18 showed us the many ways in which we—and our workplaces—can contribute to the open science and open data movement.

Ashley Cooper
The Lancet, UK
ashley.cooper@lancet.com