Letters

Letters to the editor can be sent to Physics World, Dirac House, Temple Back, Bristol BS1 6BE, UK, or to pwld@iop.org. Please include your address and a telephone number. Letters should be no more than 500 words and may be edited.

Debating the future of physics publishing

In reference to your debate on the future of open access (OA) publishing (January pp22–23) it is important to distinguish between two different approaches, sometimes called “gold” OA and “green” OA. In the former a journal charges nothing for reader access, at least to its electronic version, while in the latter the journal charges for subscriptions but allows authors to deposit copies of their papers in freely accessible archives.

Gold OA is currently being advocated by Rüdiger Voss and others at CERN. Viewed, however, from beyond the confines of a huge, well-funded particle-physics laboratory, this model may not be in the best interests of the research community. If the objective really is to provide universal access to scientific research, rather than merely to find ways to reduce journal subscription costs, green OA can achieve this quite adequately, without transferring the cost burden to researchers.

Journals must generate revenue by one or more of the following mechanisms: subscription charges, direct support from public or institutional grants, advertising revenues, or page charges to authors. In most areas of physics, direct grants to publishers or advertising revenue are not adequately available, so the choice boils down to either “subscriber pays” or “author pays”. Relying solely on revenue from paper subscriptions while offering electronic versions for free is not a viable business model, since most libraries would simply cancel their paper subscriptions. Gold OA journals therefore have little choice but to transfer the cost burden from subscribers to authors.

However, this would adversely affect most researchers. While in experimental particle physics the extra cost may be only 1–2% of research funding, in other areas, such as theoretical and mathematical physics, it could be as high as 10–15%. Researchers without access to substantial research support, such as those in developing countries, would be particularly penalized by such page charges. And although some public funding agencies have said that they are in favour of OA, none has indicated a willingness to increase its total funding to cover such extra expenses.

There is also a mistaken notion that gold OA is more cost-effective because electronic papers are much cheaper to produce and distribute, but this has more to do with advances in technology than with the OA model. Moreover, the cost savings could be beneficially applied to reducing subscription rates for green OA journals, making them more viable. It is also wrong to expect that savings from libraries cancelling paper subscriptions will somehow be passed directly to researchers as compensation for the extra costs imposed on them; the sources of such funding are generally completely distinct. Finally, the scientific quality of journals switching to the author-pays model may be adversely affected.

Given current resources, a large-scale switch to gold OA is thus not in the interests of the research community. The ideal of open access can largely be achieved, however, simply by encouraging deposit of all publications in freely accessible archives. Although such archives do not peer review papers or guarantee to preserve them in the long term, these functions will still be available if the archives exist in parallel with them.

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Your contributors to the open-access debate ignored the viewpoint of the most important interest group: the public, who fund the whole edifice of scientific research. The taxpayer is entitled to see reports on all projects that have been funded with public money, and such reports should be easily available without selection or modification by referees or anyone else. There is no reason, say, why research papers should not publish reviews of published papers for all to see, in the same way that people publish their opinions of consumer products on websites that have grown up for the purpose. There is also, of course, no reason why research communities should not find ways to select and recognize the work that they consider best. But this should not entail science acting as a priesthood that decides which truths to release to the public.

Richard Reeves
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I do not think that the end of written manuscripts and the dawning of e-mails is necessarily a bad thing (January p15).

Firstly, I do print out most of my important e-mails and keep them in paper form, since at present this is the medium with the longest lifetime and best compatibility. The messages that remain as electrons are the usual garbage communications that would probably go in the bin anyway if they had written on paper.

Secondly, the placement of important historical letters, such as the Heisenberg communications, on the Web makes them easily accessible to millions of people – something that would have been totally unthinkable in the “good old days” of pen and paper. I thus consider the shift from paper to electrons a major improvement, and it is up to us to decide whether our letters remain for posterity or not.

Basil Polychronopoulos
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On reading about the rise in the use of citation analysis by Lokman I Meho (January pp32–36), it occurred to me that such analyses take no account of the practical value of published work. A paper that finds valuable application in industry, for instance, may never receive any related citations because the application work is usually never published. Citation analysis is hence rather a narcissistic activity, and will tend to reward purely academic activities over those that have application value. Is that what we want?

John Chubb
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Lokman I Meho responds:

Although most citations found in books, journal articles, conference papers and other literature are indeed references to published materials, up to 15% of these are technical/commercial reports, manuals, specification documents, etc. This so-called grey literature, which includes dissertations and theses, is particularly cited in those journal articles relevant to scientific and industrial developments that influence decision making. The amount of grey literature varies greatly from one field to another (e.g. it is greater in aeronautics than in biology), but access to it is being greatly enhanced, thanks to the Web.

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