



# President's Column

**Peter Taylor\***

After completing two years in the position, I will step down as President of the Australian Mathematical Society at this year's annual meeting in Ballarat. After that, I hold the position of Outgoing President for a year, before a new Incoming President starts in 2013.

The obvious thing would be to populate this, my final column as President, with a review of the things that have happened during my tenure. However, I have decided to leave that to my President's report for the AGM, and devote this column to an issue that I think will be of vital importance to research mathematicians, and indeed the research community more generally, over the next few years — the 'Open Access' publishing movement, defined in Wikipedia as 'The practice of providing unrestricted access via the Internet to peer-reviewed scholarly journal articles'.

Open Access publishing is already the norm in the medical sciences. The United States National Institutes of Health (<http://publicaccess.nih.gov>) and our own National Health and Medical Research Council ([www.nhmrc.gov.au/grants/policy/dissemination-research-findings](http://www.nhmrc.gov.au/grants/policy/dissemination-research-findings)) mandate that publications arising from their funding must be made freely available, at least after 12 months.

I'll start by declaring a few conflicts of interest. I am one of the trustees of the Applied Probability Trust, which publishes *Advances in Applied Probability* and the *Journal of Applied Probability* from Sheffield in the UK and I am also on the editorial board of these two journals. I am the Editor-in-Chief of the Taylor and Francis journal *Stochastic Models* and on the editorial board of the Springer journal *Queueing Systems*. Also, as President of the AustMS, I have a vital interest in its three research journals, the *Journal of the Australian Mathematical Society*, the *Bulletin of the Australian Mathematical Society* and the *ANZIAM Journal*.

The UK Government has recently released the 'Finch Report' titled *Accessibility, sustainability, excellence: how to expand access to research publications* which deals with the issue of providing Open Access to research findings. It can be found at [www.researchinfonet.org/publish/finch](http://www.researchinfonet.org/publish/finch).

The first part of the Executive Summary states

This report tackles the important question of how to achieve better, faster access to research publications for anyone who wants to read or use them. It has been produced by an independent working group made up of representatives of universities, research funders, learned societies, publishers, and libraries. The group's remit has been to examine how to expand access to the peer-reviewed publications that arise from research undertaken both in the UK and in the rest of the world; and to propose a programme of action to that end.

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We have concentrated on journals which publish research results and findings. Virtually all are now published online, and they increasingly include sophisticated navigation, linking and interactive services. Making them freely accessible at the point of use, with minimal if any limitations on how they can be used, offers the potential to reap the full social, economic and cultural benefits that can come from research.

Our aim has been to identify key goals and guiding principles in a period of transition towards wider access. We have sought ways both to accelerate that transition and also to sustain what is valuable in a complex ecology with many different agents and stakeholders. The future development of an effective research communications system is too important to leave to chance. Shifts to enable more people to have ready access to more of the results of research will bring many benefits. But realising those benefits in a sustainable way will require co-ordinated action by funders, universities, researchers, libraries, publishers and others involved in the publication and dissemination of quality-assured research findings.

So, at least in the UK, an influential report has recommended unequivocally that Open Access publishing is the way to go. The Open Access movement has also received impetus from within the mathematical sciences community via the boycott of Elsevier journals (see <http://thecostofknowledge.com>).

I've been doing a bit of thinking about Open Access publishing in my various capacities listed earlier. Some general observations that I would make are:

- It is probably true that at least some commercial publishers have been charging excessive prices for their journals.
- The natural unit that researchers usually wish to access is the paper, not the issue of a journal. In fact, the reason that we have journal issues at all is a function of the fact that papers traditionally had to be delivered bound together in hard copy.
- There is no longer any good reason to deliver academic journals in hard copy form.
- Nevertheless, journals still provide value to the research community via the refereeing and copy-editing functions. Both of these functions will have value into the future, especially in this era of quantitative measurement of research.

If a journal that was previously published in hard copy made the decision to move to electronic-only publishing, its costs should decrease because it would no longer have to pay for printing and distribution. (In the Applied Probability Trust, we think that the costs would reduce by about a third.) This should allow journal publishers to reduce subscription costs, or at least keep them at current levels for a long time. That being said, even in an electronic-only world, publishers will still incur costs. These costs need to be paid by someone. The traditional model is a 'Reader Pays' model. The Open Access movement puts forward an 'Author Pays' model. Indeed, I'd suggest that the Open Access movement would be more honest if it actually used the terminology 'Author Pays'.

The Finch Report seems to envisage a regime where universities contribute to publishing costs not by paying journal subscription charges via their libraries, but by paying author page charges for academics when they publish, via some other mechanism. Clearly there would be substantial transition costs incurred in moving to such a system, something that is acknowledged in the Finch Report, but I think that we should ask how such a system would work in the steady state.

My intuitive thoughts are that the incentives in such a system are in the wrong place. There is a temptation for editors to accept papers based upon authors' willingness/ability to pay, rather than just paper quality, and an obvious worry is that authors who are not financially supported will have difficulty in publishing their work. Also, as someone who has quite a lot of experience in university politics, I worry about a situation where publication of research becomes a cost for a university. I suspect that the temptation for university administrators to manipulate the situation will be irresistible.

I discussed these matters with one of my colleagues from the Department of Economics at The University of Melbourne, and he sent me a paper: 'The pricing of academic journals: a two-sided market perspective' by Doh-Shin Jeon and Jean-Charles Rochet, which appeared in the *American Economic Journal: Microeconomics* 2 (May 2010): 222–255.

I found this rather mathematical paper very interesting to read. It proposes a model for academic publishing under which the 'socially-optimal solution' is indeed provided by an Author Pays model (indeed, it makes the case that it could be good even to pay people to read journal papers). However, it goes on to analyse a (more realistic) model under which journals pursue their own interest either in terms of the total utility of their readers or their own impact, and concludes that there is an incentive for them to accept low-quality papers.

There are a couple of obvious modifications that can be made to Jeon and Rochet's model that I think it would be interesting to pursue. In general, I'd like to see more debate and a better understanding by the whole academic community of the consequences of alternative models for the publication of research. One idea that I have had, in conjunction with the Australian Mathematical Sciences Institute, is to hold a forum on this issue later in the year. Pending this, I would be very interested to hear any comments that readers may wish to make.



Peter Taylor became the inaugural Professor of Operations Research at The University of Melbourne in 2003 and held the position of Head of Department from 2005 to 2010. His research interests lie in the field of applied probability, with particular emphasis on applications in telecommunications, biological modelling and healthcare. Recently he has become interested in the interaction of stochastic modelling with optimisation and optimal control under conditions of uncertainty.