

Birthday precedings

As some of the new 'web 2.0'-enabled publishing ventures mature, we take stock of their utility to the community

Nature Precedings is one year old. We summarized the aim of this prepublication document-sharing platform in our July 2007 editorial. In essence, *Nature Precedings* builds on the concept of the preprint server long established in the physical sciences (most notably arXiv). The freely accessible site allows rapid posting of unpublished (and unreviewed) manuscripts, conference posters and slide presentations. Entries are subject-tagged, searchable and citable. Postings are screened by curators for scientific legitimacy, plagiarism and scope (encompassing biology and chemistry, and excluding the physical sciences and clinical medicine), but not peer-reviewed for novelty or data quality; instead, commenting and voting by readers is encouraged.

Postings go live within a couple of days and the main aim is to facilitate rapid and unrestricted access to nascent scientific information. Indeed, conference contributors are strongly encouraged to post their presentations on the site to share their findings with the whole community. Importantly, although documents are assigned identifiers (DOIs, or 'handles' for preprint manuscripts), this does not prevent subsequent publication in most peer-reviewed journals (including this one), however some journals do not allow posting of peer-reviewed and edited manuscripts.

The immediate question for most cell biologists is whether posting material is worth the risk of being scooped — a concern that already dissuades many from presenting unpublished research at conferences. The physical sciences are not without their competitive races (just remember low temperature physics), so why is this apparently not an issue there? One reason is that many projects require extensive equipment and collaborations, effectively preventing a quick replication of data. Moreover, arXiv is widely read by the community, so everyone would be acutely aware of blatant copycats. Indeed, the preprint server provides researchers with a rapid (days versus months at journals) 'time-stamp' for data and ideas. Interestingly, papers previously posted on arXiv tend to be better read and cited. Physicists relish another advantage: insightful comments help shape a project before submission for publication. In our experience, cell biologists tend to rely on the peer-review process for feedback, leading to frustrating additional rounds of review and even rejection.

So, is *Nature Precedings* being used? In this first year, thousands of users have posted 378 manuscripts, most of which would be classified as preprint, 50 posters and 39 slide presentations; 88 are classified as molecular- and 17 as developmental biology. Commenting has been slow to catch on, with only 179 comments on 75 documents. At this stage, at least 10% of the preprints have subsequently been published formally and there have only been a couple of instances where a posting compromised publication. Notably, formal citations to *Nature Precedings* entries can be counted on two hands.

Clearly, many cell biologists are still wary of preprint servers. However, consider posting solid data from your laboratory that is not likely to be published in traditional journals because they are confirmatory or negative. Well-controlled negative data are immensely useful to your colleagues, so why not document your work in a citable form on a preprint server?

PLoS ONE is another open-access service facilitating commenting and voting (see July 2007 Editorial), although incisive reader input remains rare. In contrast to *Nature Precedings*, *PLoS ONE* is an online journal that aims to provide rapid publication of original research after peer-review by an editorial board member and often an outside expert. Notably, the journal selects articles for scientific rigour, but not for conceptual advance. As with *Nature Precedings*, it publishes confirmatory and negative data. *PLoS ONE* receives about 350 submissions a month and publishes around 200, according to managing editor Peter Binfield. With almost 2,500 papers to date (323 tagged as molecular biology and 467 cell biology) the journal is thriving, although the advantages over the more selective journals will undoubtedly continue to stir debate on the blogosphere.

Further reading: Connotea.org/user/ncb/tag/natureprecedings

Signalling links

Our papers now link directly to relevant Molecule Page database entries at the Signaling Gateway

Some readers may have noticed accession codes (A000000) after gene or protein names in some NCB papers (for example, see pages 825 and 837 of this issue). These codes represent unique identifiers that link to a relevant Molecule Page (MP) database entry. This database was set up more than five years ago with the aim of providing a one-stop resource for all relevant and validated information about mammalian signalling molecules. Signalling is defined in a broad sense and currently, the database contains around 4,000 entries. These contain information that is updated frequently from several key databases, such as GenBank, TrEMBL and SwissProt, which provide an overview of gene and protein structure, homologues, motifs and interactions. A growing subset of entries (currently about 10%) contains much more detailed free text information that summarizes the relevant published data for a given signalling molecule. The information is entered by selected experts and subjected to a rigorous peer-review and editorial process. The entries represent authoritative, comprehensive, accessible and citable overviews for a specific signalling component. All information is supported by citations and entries will be regularly updated. The database aims to facilitate systems-level research and therefore the free text information is supplemented by systematic highly structured information that captures all biochemical states and functions of a molecule. These data interlink signalling molecules and allow navigation of the ever more complex signalling web. As such, the MPs are a valuable asset at a time when the concept of linear pathways is breaking down in favour of complex networks that better reflect the reality of most systems.

The interested reader can link directly to the relevant MP using the accession number provided in the text or at the end of the paper. The database is primarily mammalian but contains information on orthologues and we aim to provide links from evolutionarily conserved non-mammalian signalling molecules. The MP database is a free service run by UCSD and NPG, and relies on input from expert authors and referees. Why not apply to contribute — become a molecule biographer and add a high-tech publication to your curriculum vitae! Don't be deterred by the complexity; as Einstein said, 'Things should be made as simple as possible, but not any simpler.'