

# Innovations in Reference Management

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Earlier today I attended the fabulous Innovations in Reference Management workshop in Birmingham organized by Owen Stephens from Open University. Owen has written some blog posts summarizing the sessions almost in real time. You also find a good number of interesting tweets under the hashtag #irm10. My presentation was called Trends in Reference Management:

I started my presentation by giving a brief historical perspective on how reference management has evolved during the past 25 years. It seems as if many users today use reference managers the same way as users did in 1992 (when this review of Endnote was written): a database of (mostly) journal articles installed on your desktop computer that can fetch references directly from online databases (in 1992 we had Endlink and the Z39.50 protocol for that) and that inserts bibliographies into Microsoft Word. It is odd that many seemingly old problems still exist today:

- Digital Object Identifiers (DOIs) were introduced in 2000, and many journals not only are using them, but also exist only as electronic versions. Nevertheless most citation styles still use volumes, issues and page numbers instead of the DOI. And some journals and online databases (e.g. PubMed) still don't display the DOI prominently, but rather use their own numbering scheme.
- Most reference managers allow sharing of reference in private or public groups. We have collaborative writing tools (Google Docs, Zoho Writer, Adobe Buzzword, and now even Microsoft Office Live Workspace) since at least 2006, but I think that no reference manager supports them beyond a simple copy and past function.
- Almost all journal articles can be downloaded as PDF files, but users are still confused what they are allowed to do with these PDFs. Many publishers don't even allow redistribution of these PDFs within an institution (e.g. for a journal club), something that is probably often ignored. These problems obviously don't exist for Open Access publications, but it again gets complicated with those publishers that use a Creative Commons Noncommercial license. And to the best of my knowledge, no reference manager is providing copyright information for its references.

## **Mobile Applications for Reference Management**

In the next part of my presentation I briefly talked about some of the mobile applications handling scientific journal articles (Nature, PLoS Medicine, NEJM and Scopus for iPhone and PLoS Reader and Papers for iPad) that have been released in the last few months. The small screen of mobile phones makes it difficult to read scientific papers (especially the tables and figures). The best use case is probably the scanning of journal table of contents or search alerts with bookmarking of interesting papers for later reading. In other words, a perfect job for a RSS reader synchronized with the desktop.

The iPad is a very different story, as for me it is a very good device for reading a scientific paper – better than a desktop computer and even better than a printout if you don't have a color printer. And Papers for iPad is the perfect software for this use case, especially if you also own Papers for Mac and can simply transfer all your PDF files complete with reference information to the iPad.

## **ORCID**

I then moved on to give a brief introduction to the ORCID initiative (most of my slides were kindly provided by Geoff Bilder and Howard Ratner). Open Researcher & Contributor ID aims to provide a universal unique identifier for researchers. Past approaches have not gained universal acceptance because they were restricted to a particular discipline (e.g. RePEc), country (e.g. Names Project) or were started by a single private company (e.g. Scopus Author Identifier). ORCID is a broad initiative with already more than 100 participating organizations. ORCID was announced in December 2009, and the initiative is currently working hard to first incorporate as a non-profit organization and then launch a first public prototype (based on the ResearcherID software). Both milestones are planned for later this year.

Reference managers will of course benefit from a widely accepted author identifier, e.g. by making it much easier to find all publications from a particular author. ORCID can also be used to track other scientific contributions, e.g. peer review, blog posts, presentations or primary research datasets. Reference managers could also track (some of) these contributions by researchers.