

Notes on researching scientific information

Previously I was a doctoral student and researcher in the psychology department at the University of Sheffield. Now I'm a researcher for Child of Our Time in Specialist Factual (White City). I thought, perhaps that what I know about searching for scientific information might be useful for those who haven't worked in academic research. So here we go...

Assuming you know nothing except what it is you want to find out about, the first thing to do is choose a good search engine. If you want to know just the scientific state-of-play on a topic then **don't use Google**. It's a great search engine, but you'll get too much nonsense - especially if you're trying to find scientific information on something with high popular interest, such as 'parenting' or 'nutrition'. Something like scirus.com will turn up results which are only from more scientifically respectable websites. Scirus.com simultaneously searches the web and academic journals, and you can look at the results combined or separately.

Ultimately you will want to read what has been published in peer-reviewed academic journals. Publication here is the ultimate standard of scientific knowledge. Even peer-reviewed journals vary in reliability (from my own field you can guarantee that something from *Trends in Cognitive Sciences* will be useful, for example, whereas something from *Perceptual and Motor Skills* will probably be unfounded speculation with dodgy experimental data). The only real way to find out is to speak to a working researcher in the field. And the way to find one of them is to see who has published recently on the topic. So, back to choice of search engine:

Unfortunately most scientific search engines cost money. The BBC has subscribed to one run by the British Library, [Inside Web](http://insideweb.com). You can also use [Medline](http://medline.gov), which is free. Medline focuses on biomedical research, but also contains journals that publish on other topics like physics, chemistry and psychology as well as the major journals that cover scientific research in general (*Proceedings of the National Academy of Science*, *Nature* and *Science*). Your search will turn up papers and abstracts, which will often be all you need to read to get the answer to a specific question. Inside Web doesn't give you abstracts when you do a search, so you are left trying to guess if the paper is any good just from the title.

All scientific archiving services, such as these, are incomplete. No service will index 100% of relevant scientific journals, although all should index the main ones for the fields it claims to cover (personally I found Inside Web pretty useless for information on academic psychology).

If you were given a choice, you would subscribe to [Web of Knowledge](http://www.kluweronline.com) (WoK) a vast, easy to use, search engine which is the standard in many academic institutions.

One good way to quickly identify a good paper to get is to add '+ "review"' into your search. A review paper is one summarising the current state of knowledge in the field and if you've happened upon a topic there's a good chance that someone has already written an introduction to it in a journal. Some journals (often beginning with titles like '*Trends in...*', '*Annual Review of...*' or '*Current Opinion in...*') only publish review articles.

Make sure you know what syntax the search engine uses. Does "child time" look for documents combining the keywords "child" and "time" or only documents containing the exact phrase "child time"? Google will do the former, many search engines will do the latter.

News searches on [Neon](#) are good for starting to research a topic. However, you are more likely to find things that sound interesting, rather than totally reliable scientific information. NEON also has full text of New Scientist which has a bit more depth than your average newspaper article, but not by much (apologies for obvious academic snobbery at this point. If you are working in a field you realise that nearly everything in New Scientist about your area of work is between two and ten years old, although it's always presented as new).

If you decide you want to read a scientific paper (and most of the time this is probably unnecessary), there are several ways of getting it. You can download some for free (it is worth checking the journal homepage to see if they have any free download offers), or you can buy it (via Inside Web or your search engine's document delivery service).

Or you can simply email the author whose name comes first in the list of authors and ask for a copy of that paper. Most academics will probably be ridiculously flattered that you want to read their work and so will be happy to oblige. An email headed 'paper request' will often help (giving electronic and postal address). You don't need to say too much about why you want it, it's standard practice to send off-prints of your papers to interested parties.

Most students and researchers at Universities will have access to their library's electronic journal subscriptions – meaning that they can have papers delivered in PDF form for free. If you have any friends in University and you really want a paper that was published after about 1996 (when journals began to get their act together with electronic archives) they can probably get it for you with just a few clicks.

One final way of getting hold of papers is to find the first author's university homepage and see if they have put up a copy, or something similar. It's not uncommon. Also, many authors will publish many papers making essentially the same point. Unless you are getting unhealthily involved in the field you probably do not need to know the depth from all that an author has published on a topic. One paper will probably tell you what you wanted to know.

That's it, I think. I'd be interested to hear from anyone else who has good tips or opinions on researching science and/or on what I've said here. My email is tom.stafford@bbc.co.uk and I have a website for my non-BBC life at www.idiolect.org.uk