

Google Scholar & Other Scholarly Search Engines

With the sheer volume of information now available on the Web it makes sense to use specialist search engines, where possible, to restrict your results to those which are most relevant to your needs. As different search engines use different indexing policies, some automatic and some using human input, it is advisable not to rely too heavily on only one search engine. Google is a popular search engine, but in the case of university researchers and students Google Scholar is a more appropriate starting point, although researchers may wish to start with specialist subscription databases; see the section on 'Other scholarly search engines' below.

Google Scholar is Google's academic search engine, aimed at students and researchers in universities. It is targeted at higher education and so is a better choice than Google itself as it excludes many irrelevant or inappropriate WebPages (such as commercial sites and those aimed at school children). This makes it easier to find material relevant to university learning and research whilst using the familiar Google interface. The main focus of Google Scholar is journal articles, but it indexes other types of publications as well, for example theses, books, preprints and technical reports. It must be remembered however that Google Scholar is still in beta testing so it is not a fully developed service, and the policy on what is indexed is not clear.

The advanced search on Google Scholar allows you to refine your search to find the most relevant articles on your research topic. You can search for articles with all your keywords (diabetes AND treatment), any of your keywords (UK OR United Kingdom) or search for an exact phrase (climate change). You can also restrict your search to only article title, journal title, broad subject area (e.g. Engineering or Medicine) or date, as well as look for articles by particular authors.

Finding full text

There are links to full-text journal articles in Google Scholar, but many of these articles need to be paid for unless the Library has a subscription to the journal in which they are published or they are in an Open Access repository. The University of Birmingham Library has created links in Google Scholar to enable you to get the full-text of articles from the electronic journals that we subscribe to. There are four routes to finding the full text of documents:

- If you see the [FullText!@BHAM](#) link after the title it means we have a subscription. Clicking on this link will take you to a menu which may give you several choices of platforms for the full text. Click on the 'Go' button to get to the full text.

- A [FindIt!@BHAM](#) link amongst the links at the end of the record means that Google Scholar is not aware of a University of Birmingham Library subscription but will check to see if there is one.
- If the Library does not subscribe to the journal in which the article is published, you may still be able to see a free version of the paper if it is in an Open Access repository (a place where research material is stored and whose contents are freely available to everyone). However this may be a pre-publication version (known as a preprint). To locate such free articles you will need to click on the link to other versions (e.g. [all 3 versions »](#)) which occurs after the title if present.
- If there is no subscription and no free version of the article, it is possible that we have a print copy of the journal. To find out if we do you need to search for the title of the journal in the Library Catalogue at <http://libcat.bham.ac.uk>

NB You will only see the [FullText!@BHAM](#) and [FindIt!@BHAM](#) links if you are using either a computer on-campus or the proxy server. Instructions for setting up the free proxy server on your home computer can be found at <http://www.helpdesk.bham.ac.uk/eresources/offcampus.shtml>

You should be able to get a summary, called an abstract, for articles where we have no subscription to the journal; this should give you enough information to decide if it is worth

tracking down the original. To track down articles we do not have access to at Birmingham you can either visit another university library (<http://www.library.bham.ac.uk/using/borrowing/>) or have it delivered to Birmingham from the British Library using the inter-library loan service (<http://www.library.bham.ac.uk/using/borrowing/interlibraryloans.shtml>). Please note that there is a small fee for the latter service (currently £6.50) unless your department is prepared to pay.

Where there is not [FullText!@BHAM](#) or [FindIt!@BHAM](#) link in the Google Scholar record, this means the item is not a journal article but some other form of publication, such as a conference paper, book etc. You will therefore need to check the Library Catalogue and eLibrary to see if the Library has a copy of the publication. If not, you can get other forms of publications on inter-library loan (see above) or from other libraries.

Google Scholar is a good starting point for your research because:

- It is easy to use.
- It uses the Google interface which is familiar to most people.
- It searches only sites which contain scholarly works, although it is not clear how it defines this.
- It is a large database, containing many different resources, so it is easy to find something quickly.

- You can import references from Google Scholar into reference management packages like Endnote or Reference Manager. However, this does not always work as well as it might and there are other databases, such as Web of Science, (<http://wok.mimas.ac.uk>) where this process is more reliable.
- It searches Open Access repositories which means you can find free versions of articles.
- It may be better at finding 'grey literature' such as reports, which are not indexed in the subscription databases found on the eLibrary.
- 'Ian Andrew Smith' as well as 'IA Smith'.
- It is not possible to search the indexes of the database to check spellings or the number of hits for a particular keyword.
- It is not clear what Google Scholar's coverage is in terms of dates, sources, and frequency of updating etc.
- It is not even in its coverage of disciplines, for example science, technology and medicine are covered more comprehensively than business and the humanities.
- It is better at finding more common material, that is heavily used, but less successful at finding obscure or unusual material that can be of importance to researchers. This is due to the algorithms used in the relevance ranking of the results.

Google Scholar should not be the only resource discovery tool you use because:

- It gives the impression of wider coverage than is actually the case. Some important publishers of academic journals are not included.
- Publishers are reluctant to make their content freely available which restricts the scope of Google Scholar..
- Google is a free service and uses software to index material rather than using people. This leads to inconsistencies in indexing, e.g. in the way authors are indexed. To search for Ian Andrew Smith you would therefore need to search for 'I Smith', 'Ian A. Smith',
- It is not possible to sort your results by date, author or journal name which many other databases allow.
- Google Scholar primarily indexes electronically available material, so a researcher runs the risk of missing material only published in hard copy.
- Google Scholar is currently only a beta (or testing) service


Other scholarly search engines.

The Library pays for a large number of databases, many of which are abstracting and indexing databases (also known as bibliographic

databases) which are essentially search engines for finding published research in the form of journal articles, conference papers, reports, theses, etc. Some of the databases, like Web of Science, are multi-disciplinary (including arts and humanities despite the name), whereas others like Anthropology Plus are very subject-specific. Some contain only the bibliographic details of a publication, (that is the details which enable you to locate the original item, e.g. in the case of a journal article the journal name, article title, author(s), volume, page numbers, etc). There are often links to full-text where the Library pays for (i.e. subscribes to) the journal. However some databases allow full-text access to all the documents they contains (known as full-text databases), such as British Standards Online

To find bibliographic databases in your subject area use the eLibrary www.elibrary.bham.ac.uk Choose the Find Resources tab, on the top blue menu, then the 'Browse by Subject' tab above the search box and then choose your subject from the left-hand column and then any subset from the <http://www.library.bham.ac.uk/searching/guides/subjectguides.shtml>

Because the suppliers of these databases charge libraries for access to these they pay great attention to the consistency and quality of the data they contain, and have developed sophisticated search engines to help you extract the most useful information

for your research. right-hand column. Click Go to get a list of databases; the  icon gives further information.

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further information. More information can be found in the Subject Guides at <http://www.library.bham.ac.uk/searching/guides/subjectguides.shtml>

If you are looking for quality WebPages rather than journal articles the best search engine to use is Intute (www.intute.ac.uk) because although this is a free site cataloguing websites in many disciplines, all the websites are evaluated by subject specialists for use in higher education. Databases like Intute that catalogue WebPages are often called Subject Gateways.

We therefore recommend that you use some of these databases to find publications for your research, as well as Google Scholar.

If you would like further help carrying out your literature search please contact the subject specialist for your discipline. A list of subject specialists can be found at <http://www.library.bham.ac.uk/searching/subjectsupport/>

All Library Services documents are available in other formats, please contact Library Services on 0121 414 5828 or www.library.bham.ac.uk/help/ask.shtml for information

G.04 – LN – 17/09/2008