

## Scientific web search



To search for information in every day life we normally use **general search engines** such as Google or Bing. These search engines only search the so called **Visible Web** (Surface Web) which contains generally accessible websites and information.

However, the **Invisible Web** (Deep Web) comprises far more information than can be found with a general search engine. To find deep web information (e.g. library catalogue or database entries, documents from institutional repositories, password blocked information etc.) that are relevant for academic purposes, there are specialized **academic search engines** available.

### Advantages and disadvantages of academic search engines

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Search the Invisible Web</li><li>• Find scientifically relevant documents</li><li>• In some cases specialization in a specific field of research</li><li>• In some cases cooperation with academic publishing services</li><li>• Relevance ranking takes into account aspects of scientometrics / bibliometrics</li><li>• Promotion of Open Access publications</li></ul>	<ul style="list-style-type: none"><li>• Limited search options</li><li>• In some cases incorrect processing of Boolean queries</li><li>• Search results can be incomplete / inexact</li><li>• No distinction of publications of different quality</li></ul>

Academic search engines are suitable to get a **first overview** on a topic and can be a valuable **additional source** for literature search. However, academic search engines cannot replace the specialized subject databases that offer the possibility of a systematic and highly structured literature search.

In this document we present you a selection of academic search engines. If you wish to read more on scientific web search and academic search engines see:

<http://sprint.informationwissenschaft.ch> (German, French)

<http://www.recherchieren-im-internet.ch> (German)

## Google Scholar

<http://scholar.google.ch>

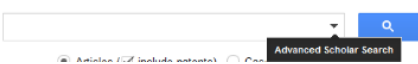


Google Scholar is Google's specialized search engine for scientific information. With Google Scholar you find for example documents from institutional repositories from universities and research institutions, journal articles etc.

Scope	Language	Document types	Cooperation
Worldwide	Content: primarily in English Interface: available in about 40 different languages	Journal articles, conference proceedings, preprints, research reports, thesis, books etc.	Various contracts with publishers (e. g. Wiley, Elsevier, Nature Publishing Group, Springer etc.) and academic societies (e. g. Association for Computing Machinery (ACM), Institute of Electrical and Electronics Engineers (IEEE) etc.)

### Search options

**Simple search:** The simple search function with one search field where you can enter your search terms and combine them with Boolean Operators (AND, OR, NOT) is standard.

**Advanced search:** 

The advanced search function supports the combination of search terms with different search fields and the limitation of your search, e.g. by author's name, by period of time or by journal title.

### Result list

The list of search results is sorted by relevance but it is not known, which criteria are relevant for this ranking. Among others, citation analysis, full text availability and the origin of the documents are probably taken into account. It is possible to change the order of results and sort them by date of publication.

If a search result refers to a book, a citation without full text or to a document of a specific file format this is indicated in front of the document's title:  
[BOOK], [CITATION], [PDF]

Usually there is a direct link to the document's full text or to the website that lists the citation. However, it is also possible that there are only basic bibliographic information available.

Among others, Google Scholar shows you the following information on each search result:

**Cited by:** this link shows you articles citing your result

**Related articles:** this link shows you similar documents

**Web of science:** this link shows you which of your results are listed in the database Web of Science

**Cite:** this link shows you how to correctly cite the publication

### Advantages and disadvantages of Google Scholar

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Search interface is easy to handle</li> <li>• Searches a wide range of sources</li> <li>• Freely available full texts</li> <li>• Interdisciplinary approach</li> </ul>	<ul style="list-style-type: none"> <li>• Boolean operators are not always processed correctly</li> <li>• Limited search options</li> <li>• Intransparent relevance ranking</li> <li>• Unmanageable number of results</li> </ul>

## BASE

<https://www.base-search.net/>



BASE (Bielefeld Academic Search Engine) is an academic search engine specialized in open access publications that searches an index of about 75 million documents. 70 % of these documents are freely available on the internet.

Scope	Language	Document types	Cooperation
Worldwide with a focus on Western Europe	Content: various languages Interface: Available in German, English, Spanish and Polish	Texts, images, maps, audios, videos	Cooperation with various German libraries and library networks

### Search options

**Basic Search:** The basic search function offers one search field and it is possible to search the entire document or only the author, title or subject field. If you enter more than one search term they will be automatically combined with the Boolean Operator AND. To search for term A or term B, enter (A B). To exclude term B from your search enter A -B.

**Advanced Search:** The advanced search function offers different search fields to combine the search terms and it is possible to search the entire document or only the author, title or subject field. Furthermore, you can limit your search to a specific document type (e. g. books, articles, reports, theses, videos, images etc.) or to a specific period of time.

### Result list

The search results can be sorted by relevance, author, title or date. To further refine your results, the following criteria are available: author, subject, year of publication, language, document type etc. You find the link to the document's full text via the title of the result.

### Advantages and disadvantages of BASE

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Various search options</li> <li>• Interdisciplinary approach</li> <li>• Freely available full texts</li> <li>• List of sources is available</li> </ul>	<ul style="list-style-type: none"> <li>• Search within the document's full text is not available</li> <li>• Publications that have to be paid for are not covered</li> </ul>

## Selection of some other academic search engines

Search engine	Description	URL
CiteSeer <sup>x</sup>	CiteSeer <sup>x</sup> searches an index of about 720'000 documents and is specialized in the field of information science and technology.	<a href="http://citeseerx.ist.psu.edu">http://citeseerx.ist.psu.edu</a>
Microsoft Academic Search	Microsoft's academic search engine is specialized in the search for research results and reports and searches according to the provider an index of several million publications.	<a href="http://academic.research.microsoft.com/">http://academic.research.microsoft.com/</a>
OAlster	OAlster was developed by the University of Michigan to offer an easy access to open access publications. More than 1'500 partner institutions make their publications available via OAlster.	<a href="http://oaister.worldcat.org/">http://oaister.worldcat.org/</a>
WorldWideScience	WorldWideScience is an international service of the US Office of Scientific and Technical Information (OSTI). Via WorldWideScience you can search 95 databases. The focus is on research reports of government-sponsored projects.	<a href="http://worldwidescience.org/">http://worldwidescience.org/</a>