



# Citation & Journal Impact Analysis

Several University Library article databases may be used to gather citation data and journal impact factors. Find them at [library.otago.ac.nz](http://library.otago.ac.nz) under Research.


## Citation metrics

### Web of Science and Scopus

*Web of Science* and *Scopus* are the two major databases used to calculate the number of citations made to an author's work based on the body of journals indexed by that database. Books, book chapters, and conference proceedings are excluded. The biggest difference between these two databases is date range. *Web of Science* records go back to 1900. *Scopus* contains records from 1960 but offers citation information only for articles published after 1996.

Metric	Web of Science?	Scopus?
Number of items published by an author per year	yes	yes
Number of citations to an author's work per year	yes	yes
Sum total of times that author's work has been cited	yes	yes
Average number of citations per item	yes	no
H-index	yes	yes
Unique author identification number assigned	no	yes

Using *Web of Science*: To begin, click on **Author Finder**.

- Follow the steps in **Author Finder**: Search by last name and first initial; then select name variants, author subject area(s), and institutional affiliations.
- View a citation correctly attributed to the author. Click on the author's name in the record to display all citations believed to be by that author.
- Select (and add to "Marked List") the records for correctly attributed papers in order to create a final **Results List**. From this list, click  [Create Citation Report](#) to view the average number of citations per year for individual papers. The Citation Report presents publications from the past 20 years in a graph with the sum of times cited, average citations per item, and the author's h-index.

The Cited Reference Search feature lets you search for articles in *Web of Science* that include a particular author or specific reference in their cited references. The resulting articles have lists of references where you can find a specific item or items attributed to a specific author. However, these reference lists may include items that are not fully indexed in *Web of Science*. This means that they are not linked to full records in the database or to full-text and are not included in citation metrics such as h-indexes.

For example, a book which a particular author has written or contributed to may be listed as a cited reference; but because *Web of Science* does not index books or chapters, that item is not included in *Web of Science* citation counts.

Using *Scopus*: To begin, click on **Author Search**.

SCOPUS

Search Sources Analytics My Alerts My List My Profile

Did you know these [Scopus facts ...](#)

Basic Search **Author Search** Affiliation Search Advanced Search


Search for:  in Article Title, Abstract, Keywords

E.g., "heart attack" AND stress

AND  in Article Title, Abstract, Keywords

Search Tips

Search Clear

- Follow the **Author Search** steps. Search by last name plus first name or initial.
- From the list of **Author Results**, identify the most likely match—there may be more than one. Click **Details** by individual names (when available) for information that may confirm the author's identity. This will include the author's unique identifier.
- When one or more authors are selected, you can view a list of documents attributed to the author(s). The list can be refined by source title, subject area, and other criteria.
- Select items that are correctly attributed, then click  to generate a citation report for those items. This report can be exported into an Excel spreadsheet. This report includes the h-index.

### *GoogleScholar Citations Gadget*

<http://code.google.com/p/citations-gadget/>

This gadget queries *GoogleScholar* and provides the number of citations to a particular author's work. It provides a total citation count, total number of cited publications and J.E. Hirsch's h-index.

## Eigenfactor metrics

The Eigenfactor Score ranks a journal by its impact based on a proprietary modified eigenvector centrality algorithm developed by [two biologists and an economist](#). This is the same type of algorithm used in the *Google* PageRank function. This measurement expresses the centrality of a given journal in a network where a set of journals are linked by citations to and from each of them. Centrality is determined by how many citations a journal receives and how well-connected those referring journals are. Hence the value of a journal is measured by how often researchers are directed to articles within it.

There is also an Article Influence Score based on Eigenfactor metrics that is comparable to the journal impact factor developed by Thomson-Reuters. The Article Influence Score measures a journal by how many citations are made per article to the articles within it. The Article Influence Score differs from the impact factor in several ways: it adjusts for differences in citation patterns across disciplines; it counts citations over a five-year window; and it does not include self-citations.

Eigenfactor Score and Article Influence Score data are freely available at [www.eigenfactor.org](http://www.eigenfactor.org). The Thomson-Reuters *Journal Citation Reports* database also reports Eigenfactor metrics.

## H-index

The h-index, developed by [physicist J. E. Hirsch](#), aims to measure a researcher's impact based on the cumulative number of citations his or her work has received. An author's h-index is the greatest number of papers by that author that have at least that same number of citations. *Web of Science* and *Scopus* both indicate an h-index as part of their citation analysis functions. The h-index in each may differ slightly because of variations in publications indexed by the databases. The University's "Advice to Staff on the Preparation of Evidence Portfolios for the Performance-Based Research Fund Quality Evaluation" (revised April 2008) specifies that *Web of Science* be used as the source for the h-index.

## Journal analysis

(1) *Journal Citation Reports* [Library database]

*JCR*, published by Thomson Reuters, indicates a particular journal's impact factor. The impact factor, a concept developed by Thomson, is based on the

number of times a publication's articles are cited during the two years previous to a given "journal year." The current journal year for this database is 2008. *JCR* provides a standard impact factor, a 5-year impact factor, and an immediacy index (i.e. the number of times a journal is cited within the year published).

(2) *Scopus Journal Analyzer* [part of a Library database]  
*Scopus* offers an "Analytics" tool for journals. You can build a chart comparing several journal titles and the number of citations they received.

(3) *SCImago Journal and Country Rank* ([www.scimagojr.com](http://www.scimagojr.com))  
This freely accessible tool uses data provided by *Scopus* and offers a rank indicator based on the Google PageRank algorithm.

(4) *JournalRanking* ([www.journal-ranking.com](http://www.journal-ranking.com))  
This free resource provides yet another methodology for ranking journals.

## Personal research profile

*ResearcherID*, from the *Web of Science* producers, is a free web site where researchers can register for a unique ID number and build a public research profile. Create publication lists generated by *Web of Science* and upload additional publications as well. See [www.researcherid.com](http://www.researcherid.com) for more information.

## Research trends and competitive data

### *ScienceWatch.com*

This is another Thomson Reuters product; it presents free information from their *Essential Science Indicators* database (to which the Library does not subscribe). Data include emerging research topics, "hot new papers," and rising stars (people and countries), and impact rankings for journals and institutions.

## Want more?

For more information or assistance, please contact your Divisional liaison librarians.