



Resources and tools for bibliographic research

Scientific communication and research evaluation



Index

- ❖ What is Bibliometrics?
- ❖ Journal Ranking Tools
 - Impact Factor
- ❖ Bibliometrics for individual's research impact
 - H-index



What is Bibliometrics?

Measures of a scientific writer's influence is called bibliometrics

Research impact can be measured in many ways, from simple counts (i.e. publications count, amount of research income, number of patents and licenses obtained) to more sophisticated mathematical equations



What is Bibliometrics?

The most well-known bibliometrics tools are:

- Ranking tools typically applied to journals (**JCR journal impact factor**, **SCOPUS SNIP**, **SCImago SJR**, PubFocus JR, etc.)
- **H-index or Hirsch index**, typically applied to authors



Journal Ranking Tools

- There are many tools used for journal rankings
- Each tool uses different metrics to rank journals
- Each tool has different journal coverage
- Journal metrics should only be compared accross the same discipline or subdiscipline

At present, none of the journal ranking tools adequately categorise multidisciplinary journals



IMPACT FACTOR (IF)

Journal Citation Reports (JCR) °°

is a subscription ISI product that calculates and publishes the annual impact factors for journals

The **Impact factor (IF)**, proposed by Eugene Garfield (ISI-Thomson), is a ratio between citations and recent citable items published

°° University of Padova has access to JCR back to 2000



What is a Journal Impact Factor?

The impact factor of a journal is the average number of citations received in a year by articles published in a journal in the previous 2 years, e.g. a journal's JIF for the year 2011 :

$$\frac{\text{Year 2011 citations to 2010+2009 articles}}{\text{Total no. of articles published in 2010+2009}} = \text{JIF}$$

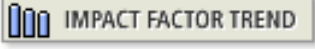


IF - SOME CRITICISMS (1)

- ❖ There are many journals not included in the *ISI* citation indexes (no Impact Factor)
- ❖ Some subject areas accept and assimilate new research rapidly, e.g., biotechnology versus pure mathematics research (introduced 5-Year Impact Factor)
- ❖ Journal Impact factors cannot assess the quality of individual articles in a journal
- ❖ A small percentage of articles from a small subset of journals are highly cited. This small percentage accounts for a large proportion of the total citations
- ❖ Review articles and review journals may be cited more frequently than items which contain new concepts or research



IF - SOME CRITICISMS (2)

- ❖ Non-English language journals are less accessible to researchers worldwide and therefore may be cited less
- ❖ Editorials, letters, new items and meeting abstracts are usually not included in article counts
- ❖ Title changes effect the impact factor. JCR does not unify the old and new titles for minor title change is minor and if the title position in alphabetic order does not change
- ❖ No correction for Self-citation influence
A Journal Self Cites table was recently introduced – values not covered in Impact Factor Trend graph 



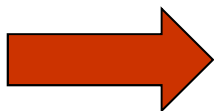
other Journal Ranking Tools

SCOPUS SNIP

more information: <http://www.journalindicators.com>

Freely available tools

- **SCImago SJR**
- **Eigenfactor.org** (also included in JCR-ISI, years 2007 and later)
- **Google Scholar + Harzing's Publish or Perish (PoP)**
- **PubFocus (<http://www.pubfocus.org/>)**



For more information
<http://www.cab.unipd.it/node/1103>



Bibliometrics for assessment of individual's research

A huge variety of metrics have been developed to help assess the output of researchers

The **H-index** was proposed by Jorge Hirsch in 2005 and has become the most popular for assessing the output of individuals



What is an H-index?

The general definition is:

“A scientist has index h if h of his or her N_p papers have at least h citations each and the other $(N_p - h)$ papers have $\leq h$ citations each...”

(Hirsch, J. E., 2005)

N_p - number of papers published over n years



Databases for H-index Calculation

Web of Science

Included in ISI WOK subscription-based product. There is the search option “Author Finder”. Possibility to register for *My ResearcherID* to get bibliometric data

SCOPUS

A subscription-based database of Elsevier. It only includes citations after 1996. There is the search option “Author search”

Google Scholar

There is a search option for “Author name field” in the Advanced search form. *Google Scholar* only provides citation counts for individual articles, not for an author's entire career

Google Scholar plus Publish or Perish (PoP)

Free software program. It works with Google Scholar data to produce metrics for published material.



Web of Science

Advantages	Disadvantages
Excellent depth of coverage** (from 1900 to present for some journals) ** our subscription start from 1990	Coverage not as wide as Scopus (about 11,500 journals)
First database to incorporate the H-index	Better coverage for sciences than arts and humanities
Possibility to exclude self citation	No monographs
Recently included conference proceedings	Poor facilities for finding and distinguishing between authors New 2011: The “ Distinct Author Sets ” feature for the Author Finder Search option. It shows sets of papers likely written by the same person



SCOPUS

Advantages	Disadvantages
Wide coverage, more than 17,000 journal titles, 350 book series and 3.7 million conference papers from proceedings and journals, patents and web pages	Depth of coverage not so satisfying; many journals are only covered for the last 5 years
Very strong coverage of science and technology journals	Poor coverage of arts and humanities
More European content and more languages other than English (compared to ISI)	Scopus documents published after 1995 considered for H-index calculation
Tools for author disambiguation and Possibility to exclude self citation	Citations to pre-1995 articles in articles published after 1995 NOT INCLUDED in H-index calculation
H-index automatically generated	



GOOGLE SCHOLAR

Advantages	Disadvantages
Materials not indexed by other citations databases (academic websites, grey literature, pre-prints, theses, many conference proceedings, etc.)	H-index not automatically generated (need integration by software PoP, or other tools)
Books from the Google Books project included	Not provided list of journals (peer-reviewed or otherwise) and timescale covered
FREE ALTERNATIVE to fee-based citation databases, like Scopus and Web of Science (WoS)	Some suspect material covered, e.g. course reading lists, student projects etc.
Better coverage for Social Sciences, Arts and Humanities and Business, Administration, Finance and Economics, Engineering, Computer science and Mathematics	Citation counts often inflated and duplicates of the same article (pre- and post-prints) included
	No possibility to exclude self citation and no facilities for distinguishing between authors with the same initials



Bibliometrics toolkit for Google Scholar

Publish or Perish (PoP)

- ✓ Free downloadable software that retrieves and analyzes academic citations. It works with Google Scholar raw data to produce metrics for published material
- ✓ It's the best options for researchers not well represented in the other tools. But the result list should be checked for errors, in order to deselect false hits
- ✓ PoP results can be copied in Excel or saved as text file for further analysis

Scholarometer

- ✓ A new browser add-on for Firefox or Chrome
- ✓ Offers options to select name forms and remove or merge articles

Impact analysis

- Impact analysis
- Impact analysis
- Citation search
- Query center
- Browser

System maintenance

- For updates

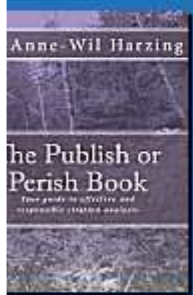
Resources

- Contents
- New
- Information
- Harzing's Publish or Perish home page
- Harzing's Publish or Perish FAQ
- Harzing's Publish or Perish Book

Harzing's Publish or Perish (Amazon)

You are using the book to learn more about your own research. That's great! But if you are not one of others, this book will help you with all the tools you need to be successful."

Open in browser...



Author impact analysis - Perform a citation analysis for one or more authors

Author's name:

Exclude these names:

Year of publication between: and:

- Biology, Life Sciences, Environmental Science
- Business, Administration, Finance, Economics
- Chemistry and Materials Science
- Engineering, Computer Science, Mathematics
- Medicine, Pharmacology, Veterinary Science
- Physics, Astronomy, Planetary Science
- Social Sciences, Arts, Humanities

Buttons:

Results

Papers:	46	Cites/paper:	2.48	h-index:	7	AWCR:	16.22
Citations:	114	Cites/author:	24.27	g-index:	8	AW-index:	4.03
Years:	22	Papers/author:	11.33	hc-index:	4	AWCRpA:	3.09
Cites/year:	5.18	Authors/paper:	4.37	hI-index:	1.36	e-index:	3.87
				hI,norm:	2	hm-index:	3.25

	Cites	Per year	Rank	Authors	Title	Year	Publication
<input checked="" type="checkbox"/>	13	3.25	1	..., P Brun, S Etteri, ...	Cyclic AMP in rat ileum: evidence for ...	2008	Gastroenterology
<input checked="" type="checkbox"/>	10	0.50	2	P Dorigo, RM Gaion, ...	Antagonism towards endogenous ad...	1992	... : The Vascular System
<input checked="" type="checkbox"/>	9	0.69	5	..., F Frausin, R Ver...	Involvement of P1 receptors in the e...	1999	Biochemical pharmacology
<input checked="" type="checkbox"/>	9	1.50	3	..., C Bolego, C Pinn...	Potential pro-inflammatory action of ...	2006	Nutrition, metabolism ...
<input checked="" type="checkbox"/>	9	3.00	4	..., C Meda, A Krust...	Distinct Roles of Estrogen Receptor-...	2009	... of Pharmacology and ...
<input checked="" type="checkbox"/>	7	0.54	7	..., F Frausin, R Ver...	Amplification of the Cyclic AMP Resp...	1999	Journal of Pharmacology ...
<input checked="" type="checkbox"/>	7	0.32	6	P Dorigo, RM Gaion...	Involvement of purine compounds in...	1990	Cardiovascular Drugs and ...
<input checked="" type="checkbox"/>	7	1.17	8	..., V Pelosi, R Baett...	Raloxifene elicits combined rapid vas...	2006	... of Pharmacology and ...
<input checked="" type="checkbox"/>	6	0.40	9	P Dorigo, D Fraccar...	New inotropic agents: Milrinone anal...	1997	... : The Vascular System
<input checked="" type="checkbox"/>	6	0.29	10	P Dorigo, RM Gaion, ...	An analysis of the mechanism of the ...	1991	British journal of ...
<input checked="" type="checkbox"/>	5	0.28	11	AM Grion, RM Gaion...	Interferon-alpha. Results of a phar...	1994	La Clinica ...
<input checked="" type="checkbox"/>	4	0.40	14	..., A Orsini, M Salo...	Difference in mortality after hip fract...	2002	Clinical and applied ...
<input checked="" type="checkbox"/>	4	0.18	15	P Dorigo, RM Gaion, ...	Comparison between the cardiac eff...	1990	... Drugs and Therapy
<input checked="" type="checkbox"/>	4	0.20	12	..., P Belluco, L Corr...	Vasodilatory activity of etozoline in r...	1992	... et de thérapie
<input checked="" type="checkbox"/>	4	0.36	13	..., F Allerberger, G...	Effects of daily oral administration of...	2001	Pharmacological ...
<input checked="" type="checkbox"/>	3	1.50	17	..., E Boscaro, C Ag...	Selective estrogen receptor- α agoni...	2010	The FASEB Journal
<input checked="" type="checkbox"/>	3	1.00	16	C Bolego, C Buccell...	Critical role of COX-1 in prostacyclin ...	2009	The FASEB Journal
<input checked="" type="checkbox"/>	1	0.05	19	..., RM Gaion	Use of HPLC for the study of prosta...	1990	Pharmacological research
<input checked="" type="checkbox"/>	1	0.05	18	..., P Belluco, L Corr...	Mechanism of the vasodilating action...	1990	... et de thérapie
<input checked="" type="checkbox"/>	1	0.05	42	P Belluco, RM Gaion...	Quercetin and vascular spasm	1993	Pharmacological research
<input checked="" type="checkbox"/>	1	0.50	20	..., I Castagliuolo, R...	Control of enteric neuromuscular fun...	2010	British journal of ...

Buttons:



autore:"RM Gaion" - Google Scholar ...

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autore:"RM Gaion"

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Redo the above query as: Quoted author name Word matching

Risultati 1 - 10 di circa 115. (0,08 sec)

Simple Interface. Go to the **Advanced Analysis interface** from [here](#).

Impact indices:

(Plain values)

Citations selected: 165 **h-index:** >10 **g-index:** >10 **e-index:** - **delta-h:** - **delta-g:** -. Data in this page might be insufficient for computing h-index and g-index.

(Normalized per co-authorship)

Citations selected: 70.6 **h-index:** 4.0 **g-index:** 8.0 **e-index:** 5.0 **delta-h:** 0.3 **delta-g:** 12.6

Insufficient data in this page. Try to ask Scholar for 100 results by clicking [here](#).

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[P Dorigo, RM Gaion, P Belluco...](#) - Journal of medicinal ..., 1993

P. Dorigo, R. M. Gaion, P. Belluco, D. Fraccarollo, I. Maragno, G. Bombierij F. Benetollo, L. Mosti, and F. Orsinil Department of Pharmacology, University of Padova, Largo E. Meneghetti, 2, 35131 Padova, Italy, Institute of Pharmaceutical Chemistry, University of ...

[Citato da 27](#) - [Articoli correlati](#) - [Cerca con AIRE](#) - [ACNP Posseduto Biblioteche](#) - [Tutte e 3 le versioni](#)

[Low-and medium-dose diltiazem in chronic atrial fibrillation: comparison with digoxin and correlation with drug plasma levels](#)

[I Maragno, G Santostasi, RM Gaion, M Trento...](#) - American heart ..., 1988



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