


Research Guides



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Scholarly Metrics

Tags: [altmetrics](#), [citation](#), [citation_search](#), [cited_references](#), [impact_factor](#), [journal_ranking](#), [promotion](#), [tenure](#), [web_of_science](#)

This page describes the various means of searching for cited and citing references, measures of influence and impact, altmetrics and bibliometrics.

Basics | **Conducting Your Search** | [Cited Reference Analytics](#) | [Altmetrics](#) | [Author Profiles](#)

Basics | [Print Page](#)

Search: [This Guide](#) [Search](#)

Tracking Cited References

Cited references are the articles, books, and other resources listed in a bibliography, a "Works Cited" list, or in a "References" list. Cited references are useful for finding additional articles and books on a topic, for identifying the top researchers in a field, and for promotion and tenure decisions.

Databases tracking cited references make it possible to follow the instances where an author has been cited. This technique may be useful to:

- Track the research of an individual
- Track the history of a research idea
- Locate current research based on earlier research
- Find out how many times and where a publication is being cited
- Find out who is citing a particular source
- Find out how a particular research topic is being used to support other research and to analyze its impact

Take the iLearn Workshop!

ILEARN WORKSHOPS @ UALBANY LIBRARIES

Come to one of our [iLearn sessions](#) for faculty and graduate students on **Maximizing your Research Impact**.

Academics who publish (or hope to publish) scholarly research find measuring the impact and influence of their work helps others understand its value within one's department, institution, even throughout the discipline. In this workshop, learn how to generate unique author identifiers using ORCID and Researcher ID, and how they are used. Discover indicators such as the Journal Impact Factor, the h-index, and altmetrics, and their significance. We will also discuss issues like choosing the best journal for your research, and scholarly networking through tools such as Mendeley. The workshop length is 1 hour. The workshop is held in LI B14. See the [iLearn registration page](#) for details.

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Overview of Citation Metrics

BASIC CITATION METRICS: AN OVERVIEW

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What's the Difference Between All of These Tools?

[Research Impact and Visibility Guide from Utrecht University Libraries](#)

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Essential Concepts of Scholarly Metrics

Altmetrics: a new form of measuring scholarly impact based on web-based and social media sources which can show influence and impact.

Bibliometrics: The variety of metrics available based on cited reference data to measure scholarly output, impact, relevance and ranking. Analytics include citation count, impact factor, SNIP, h-index, e-index, and a wide variety of related measurements.

Citation Analysis: the process of tracing various patterns of scholarly behavior through analyzing the cited and/or citing references of a body of work. This could be done on an individual article, author, journal, institution, or other group.

Citation Count: The number of times an article, author, journal, institution, etc. has been cited. It is very difficult to locate every single time something or someone has been cited. Commonly accepted citation counts come from Web of Science. Each source which provides citation counts draws from a different base of resources and therefore the results may differ between Web of Science and Google Scholar, for example.

Citation Evaluation: Simply identifying the number of times someone or something has been cited does not account for certain citation patterns. For example, an author may have one or two articles early in his or her career that have very high citation counts, but later articles have substantially fewer. Another author may have a relatively steady number of citations for each article throughout his or her career.

Journal Ranking: There are a number of metrics that seek to measure the influence of a journal based on how it is being cited in other works. One such metric is the Journal Impact Factor. It should be emphasized that the ranking of a journal is not necessarily a reflection of a single specific article within the journal.

Effective Strategies for Increasing Citation Frequency

Journal Reputation and Impact: publishing a paper in a journal based on disciplinary reputation or with a high impact factor is the most well known way of getting your paper cited. But there are many other things a scholar can do to promote his or her work and make it easy for others to find.

Utilize Open Access Tools: Open Access journals tend to be cited more than non open access. Deposit your paper in a repository such as Scholars Archive here on campus or a disciplinary repository. Share your detailed research data in a repository.

Standardize Identifying Info: try to use

the same name throughout your career as well as the name of your affiliated institution. Using common "official" names will allow for consistency and easy retrieval of your work by author or affiliation.

Bring Colleagues on Board: team-authored articles are cited more frequently, as does publishing with international authors. Working cross-or inter-disciplinarily helps as well.

Beef Up That Paper: use more references, publish a longer paper. Also papers which are published elsewhere after having been rejected are cited more frequently.

Beyond Peer-Reviewed Original Research: Write a review paper. Present a working paper. Write and disseminate web-based tutorials on your topic.

Search Optimization: use keywords in the abstract and assign them to the manuscript. Use descriptive titles that utilize the obvious terms searchers would use to look for your topic, avoiding questions in the title. Select a journal that is indexed in the key library databases for your field.

Market Yourself: create a key phrase that describes your research career and use it. Update your professional web page and publication lists frequently. Link to your latest and greatest article in your professional email signature file.

Utilize Social Media: Use author profiles such as ResearcherID and ORCID. Contribute to Wikipedia, start a blog and/or podcast, join academic social media sites.

From: Ebrahim, N.A., et al. (2013). Effective strategies for increasing citation frequency. *International Education Studies*, 6(11):93-99. DOI:5539/ies.v6n11p93

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Quality Factors & Caveats

Journal Prestige: There are basically two approaches to assessing journal prestige: (1) Perception/ranking of the journals by experts in the field, and (2) Journal ranking metrics providing analysis of citation rates. Other factors, such as journal submission and acceptance rates are also sometimes considered. Consult your [Subject Librarian](#) for assistance in this area.

"Good" Metric Scores (citation count, h-index, journal impact factor, journal ranking, etc.): Due to the varying citation rates from discipline to discipline, and even from specialty to specialty within a discipline, it is not possible to give a blanket statement regarding "good" metrics.

Caveats: There are many reasons why an author will cite previous research in his or her paper, and not all are an endorsement of the previous research. Self-citation, disagreeing or contradicting previous findings, and other motivations may not accurately reflect the influence of that work. This holds true for altmetrics counts as well.

For more information see: Leydesdorff, L. (2007) Caveats for the use of citation indicators in research and journal evaluations. *Journal of the Association for Information Science and Technology*, 59(2): 278-287. DOI: 10.1002/asi.20743

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Citation Research

How to find citation counts for your publications and how to find journal rankings such as impact factors.

Last Updated: Apr 9, 2015 | URL: <http://libguides.asu.edu/citation> | [Print Guide](#) | [RSS Updates](#) | [Email Alerts](#)

OverviewArticle Citation CountsNon-article Citation CountsAltmetricsJournal RankingsTerms and Definitions

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Introduction

This guide is designed to bring tools, information, sources and tutorials on citation research together in one place. The field of bibliometrics is increasingly being used to evaluate the impact of a scholar's work (citation counts and altmetrics) or to determine the importance of a journal within a particular field (impact factor). We'll show you how to find bibliometric data and how to use it appropriately.

Getting Started

If you are looking for ...	See ...
How many times your article has been cited	Article Citation Counts
How many times your book, conference paper, dissertation or patent has been cited	Non-article Citation Counts
How many times your publications have been downloaded or mentioned in social media	Altmetrics
Who is citing your articles	Article Citation Counts
Who is citing your book, conference paper, dissertation or patent	Non-article Citation Counts
Your H-index	Article Citation Counts: <ul style="list-style-type: none">• Web of Science-->Analysis by Author• Google Scholar-->Software & Programs
A journal's impact factor	Journal Rankings
A journal's H-index	Alternative Sources for Journal Rankings
Explanations of citation research concepts and terminology	Terms & Definitions

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Introduction to Guide

This guide introduces resources that describe, utilize, and support the current research landscape.

Considerations of the roles of author, content, sources, impact, reputation, rankings, and benchmarking are increasingly important in analyzing contributions to the research life cycle.

Information here is organized by the different methods of impact that the research landscape is defined by:

[Author Impact](#)

[Article Impact](#)

[Journal/Source Impact](#)

[Institutional Impact](#)

Tools are promoted that can be used to engage in research metrics. Since the landscape is constantly changing, [Emerging Metrics](#) are also explored. For basic information on the Science Information Lifecycle visit this [tutorial](#).

[Comments \(0\)](#)

Research Impacts Using Metrics



Research impact is a measure of the significance and importance of academic work within a scholarly community.

Bibliometrics are the use of quantitative tools to study publications and other written material.

Citation metrics focus on the statistical patterns and measurements of citations.

Citation analysis can be used as a quantifiable measure of academic output and research impact, which can help inform decisions on publication, promotion, and tenure.

Altmetrics is increasingly becoming an alternative and important method of measuring the impact of scholarly and other output and allows for social media tracking by various indicators such as number of tweets, blog posts, likes, bookmarks, etc. and are more timely wider-ranging measures of how people—both other researchers and the general public have demonstrated interest in an individual's work and contributions.

This guide is designed to help faculty members, graduate students and librarians use and understand the citation analysis tools available to us. At UCI, there is access to some of the major resources used for citation metrics, for example to obtain an Impact Factor (IF) you could consult the following tools -- Web of Science, Journal Citation Reports and Google Scholar. Descriptions of and guides to these tools can be accessed using the above drop-down menu, organized according to need.

Tools and methods of citation analysis are used to determine:

- How many times a publication or author has been cited
- Who is citing a publication or author
- A journal's impact factor (relative importance in a field or discipline)
- An author's published output ranking in a field or discipline.

Because of the limitations of each method, it is important to use multiple methods, sources, and tools to get a fuller and more complete analysis. Increasingly, the research community is studying how to assess the value of cooperation and collaboration among colleagues, scholars and scientists, with barriers being reduced and geography more global. New metrics and values will likely emerge through different sources, to complement and extend already existing methods and products.

[Comments \(0\)](#)

Recommended Methods

Some recommended methods of research impact and citation metrics are detailed in the pages of this guide:

[Web of Science Citation Report](#) (Author Impact)

[Google Scholar Author Profile](#) (Author Impact)

[H-Index](#) (Author Impact)

[Altmetrics](#) (Article Impact)

[Web of Science Cited Reference Search](#) (Article Impact)

[Journal Citation Reports Impact Factor \(IF\)](#) (Journal Impact)

[Eigenfactor](#) (Journal Impact)


[Comments \(0\)](#)

Limitations

Limitations of citation metrics:

- Current cause of concern articulated by scientists in [this article](#) about the role of impact factors in determining merits of science and scientists

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Acknowledgements

This Guide was initially prepared by Laine Thielstrom (thielstrom@gmail.com) during her Library School internship at the San Jose State University Graduate School of Library & Information Science, and was conducted at the University of California, Irvine Libraries in Fall 2012. Additional revision to the guide was done after consultation with Laura Bowring Mullen, Rutgers University Libraries.

[Comments \(0\)](#)

- Errors on citing papers can lead to separate entries and missed counts.
- Author and institutional naming inconsistencies can lead to separate entries and missed counts.
- Different databases use different sources to generate data and some are more comprehensive than others.
- Tools are skewed towards the STEM (science, technology, engineering and medicine) communities of scholars.
- Citations do not measure the number of readings of a work.
- Citations are not the only indicators of the importance of a work.

Comments (0)

DORA

The [San Francisco Declaration on Research Assessment \(DORA\)](#) has generated a lot of discussion since it was launched by the American Society for Cell Biology in December 2012.

- [Additional comments from Science, theBUZZ](#)

Comments (0)

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Impact Metrics and Scholarly Attribution

Discover your research impact, manage attribution of your research works, and search citations.

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[Institutional Impact](#)

[Emerging Metrics](#)

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Guide Introduction

The goal of this guide is to assist faculty members, research staff, and graduate students in understanding how to use impact metrics tools currently available.

Considerations need to be made in regards to the role that the author, content, source, impact, ranking, and benchmark have on the research cycle.

Four main areas can be used to determine the impact of research:

[Author Impact](#)

[Article Impact](#)

[Journal/Source Impact](#)

[Institutional Impact](#)

Limitations on Impact Factors

With any statistical measurement, there will always be limitations of the data. Things to keep in mind:

- Errors on citations can lead to multiple entries and missed citations.
- Author and institutional naming inconsistencies can lead to multiple entries and missed citations.
- Different databases use different sources to generate data. Some databases are more comprehensive than others.
- These tools are highly skewed toward STEM (science, technology, engineering, medicine) scholars.
- Citations do not measure the number of times a work has been read or accessed.
- Citations are not and should not be the only indicator of the importance of a work.

The San Francisco Declaration on Research Assessment (DORA), run by the American Society for Cell Biology, has partnered with editors and publishers to ask the scientific community to stop misusing impact factors as a metric to judge scientific output.

- [San Francisco DORA Homepage](#)
- [DORA Editorial Article in Molecular Biology of the Cell](#)

Determining Impact from Metrics



Research impact is a measure of the significance and importance of academic work within a scholarly community.

Bibliometrics are the use of quantitative tools to study publications and other written material.

Citation metrics focus on the statistical patterns and measurements of citations.

Citation analysis can be used as a quantifiable measure of academic output and research impact, which can help inform decisions on publication, promotion, and tenure.

Altmetrics is increasingly becoming an alternative and important method of measuring the impact of scholarly output and allows for social media tracking by various indicators such as number of tweets, blog posts, likes, bookmarks, etc. and are more timely wider-ranging measures of how people—both other researchers and the general public have demonstrated interested in an individual's work and contributions.


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Because of the limitations of each method, it is important to use multiple methods, sources, and tools to get a fuller and more complete analysis. Increasingly, the research community is studying how to assess the value of cooperation and collaboration among colleagues, scholars and scientists, with barriers being reduced and geography more global. New metrics and values will likely emerge through different sources, to complement and extend already existing methods and products.

Image credit: <http://altmetrics.org/>



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Enhance Your Research Impact: Intro

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[Journal Impact](#)
[Author Impact](#)
[Citation Impact](#)
[Altmetrics](#)
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What is Research Impact?

"Research impact is the demonstrable contribution that excellent research makes to society and the economy. It embraces all the diverse ways that research-related skills benefit individuals, organisations and nations."

- Research Councils UK (RCUK)

Why is Research Impact Important?

It is important that researchers know their impact as it can help:

- Support applications for tenure or promotion;
- justify requests for grants and other funding;
- quantify, and determine how their research is being used;
- identify other researchers or institutions that are using their work; and
- identify other researchers, and potential collaborators, in their field.

Using This Guide

Journal Impact: Journal Metrics, such as Impact Factor, can help track citation patterns within journals and determine which journals are highly-cited.

Author Impact: Tools to help measure the impact and productivity of a researcher.

Citation Impact: Tips for cited reference searching, which can be used to determine if an article, book, journal, or particular author has been cited by another work.

Altmetrics: New metrics to help researchers measure their impact from papers, data sets, websites, blog posts, and more.

Where Should I Publish?: Resources to help researchers determine in which journals to publish.

Duke Pubs: Data about Duke Medicine research publications.

More Resources: Tips, as well as links to guides and resources, to help you enhance your research impact.

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Information and resources for helping scholars assess and improve the impact of their research and scholarship.

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Journal Impact

Publication venues

Publishing in Open Access journals

ORCID (Open Researcher and Contributor ID)

What is Impact?

Traditionally, and especially in the sciences, impact has been measured by the number of times a particular article is cited in other comparable publications, or more broadly by the "impact factor" of the journal in which an article appears. While the ability to demonstrate impact can still be an important tool in the promotion and tenure process, complementary or "alternative metrics" for measuring disciplinary impact using formal and informal communications are also becoming more common. These "altmetrics" provide rich, evolving, and diverse methods to point to other kinds of impact, for example impact on the global scholarly community or the general public. The ability to measure impact is often enhanced by free and open access to scholarly publications.

Further reading

"Using bibliometrics in evaluating research." This guide to bibliometrics by Thompson Reuters gives a good overview of impact measures, and provides 10 rules for useful and realistic publication and citation analysis:
http://wokinfo.com/media/mtrp/UsingBibliometricsinEval_WP.pdf

Greenberg, Marc L. "Joan Smiths of the World, Disunite!" Blog post: <http://slavist-semistrunnik.blogspot.com/2013/08/joan-smiths-of-world-disunite.html>


A Recipe for Visibility

Professor *Marc Greenberg* and *Ada Emmett* (Head, Office of Scholarly Communication & Copyright) have shared this "recipe" in recent presentations to faculty and students:

Know your rights with regards to copyright and keep as many as you can. *Timothy K. Armstrong: An Introduction to Publication Agreements for Authors*

- Work with **KU ScholarWorks**: a digital repository at KU which curates your work, makes it openly available, and it tracks usage.
- Register with **ORCID** and claim your electronically visible research, differentiate it from others' publications with the same or similar names. ([see more](#))
- Claim an **Academia.edu** page and link there to your papers in KU ScholarWorks. Academia.edu also connects you to the global community of scholars in your areas of interest.
- Claim and make public your **GoogleScholar** page. Edit it to weed out duplicates and works mistakenly attributed to you. Keep track of your *h*-index (the number *h* of your works cited *h* or more times).

For More Information Please Contact:



Ada Emmett

Email Me

Contact:

Schulenburg Office of Scholarly Communication and Copyright

Watson Library room 450

785-864-8831

What are bibliometrics?

Bibliometrics are ways to measure the impact or influence of an article, journal, or researcher. In one way or another, most bibliometric measures look at how frequently that article, journal, or researcher is cited. Some of the greatest advantages to using bibliometrics are:

- helping researchers figure out where to publish
- finding the most important journals in a field

Greenberg, Marc L. "Not Waving But Drowning." Blog post: <http://slavist-semistrunnik.blogspot.com/2013/08/not-waving-but-drowning.html>

Lin, Jennifer and Martin Fenner. "Article-Level Metrics – Learning to Walk, Run & Do Algebra." Blog post: <http://tinyurl.com/jw248vo>

Tanenbaum, Greg. 2013. Article-Level Metrics. A SPARC Primer. <http://sparc.arl.org/sites/default/files/sparc-alm-primer.pdf>

Types of Article Level Metrics

- **Usage** - How many downloads? Where downloaded?

Example:: [KU ScholarWorks](#)

- **Captures** - How many bookmarks, shares (CiteULike, [Mendeley](#))

Example: How many "reads" an item In Mendeley has

- **Mentions** - Mentions in non-academic media (news stories, Wikipedia, etc.)

Example: [Altmetric](#)

- **Social media** - Facebook, LinkedIn, Twitter shares

Example: [Altmetric](#)

- **Citations** - Classic metric for "impact"

Example: [GoogleScholar](#), [GoogleScholar Metrics](#)

- guiding students to the most important papers on a topic

- learning about the impact of a paper, researcher, or department

There are many different ways to measure impact, and new ways to view impact are being created now to match changes in research, publishing, and technology. The methods described here are some of the most commonly used.

While each bibliometric measure provides a lot of information, keep in mind that no one measure is thorough enough to fully describe value of a paper, journal, or researcher.

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An introduction to different research impact metrics and tools for author disambiguation.

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Introduction

A variety of metrics have been developed over the years to assess research impact for distinct scholarly purposes. They have different foci and their adoption rates vary. As more scholars turn to digital media to discuss research and share resources, new measures have been brought up to account for the online interactions in hopes that research impact can be assessed more thoroughly.



This guide provides an introduction to commonly used research metrics as well as recently developed ones. As Bollen, Van de Sompel, Chute, and Hagberg note in their study, "the notion of scientific impact is a multi-dimensional construct that can not be adequately measured by any single indicator, although some measures are more suitable than others." Researchers may want to consider the pros and cons of different metrics and use a combination of them as appropriate for assessment.

Comments (0)

Discussions of Impact Metrics

Research Impact Assessment: An Overview
This is a brief introduction to different approaches to impact assessment.

Metrics: A Profusion of Measures
This article discusses the "metrics explosion" and provides a [field guide to metrics](#).

The Maze of Impact Metrics
This editorial in Nature points out that research impact assessment "must take into account the effects of emphasizing particular measures — and be open about their methods."

A Principal Component Analysis of 39 Scientific Impact Measures
This is an analysis of how accurately and completely new measures express research impact.

Citation Statistics
This is a report about the use and misuse of citation data in the assessment of scientific research.

Final Impact: What Factors Really Matter?
Below is the video of a panel discussion about appropriate ways to gauge the importance and influence of scholarly publications.



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Liaisons

Author impact: [Robert Shapiro](#)

Journal-level metrics: [Jan Carver](#)

Altmetrics and article-level metrics: [Adrian Ho](#)

Comments (0)


Online Tutorial

Measure your Research Impact offers an [online tutorial](#) that introduces viewers to citation metrics. It also includes [videos](#) and other materials for teaching this topic.



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- SJR (SCImago Journal Rank)
- SNIP (Source Normalized Impact per Paper)
- Google Scholar Journal Metrics

Contact Us

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Welcome to UM Libraries



Welcome to UMD Libraries!

- Looking for impact factors, journal rankings, or who has cited your articles?
- Wondering what altmetrics are and how to find them?
- Going up for promotion and need help to tell the impact story of your scholarly work?


Get the answers from this guide!

Image: The Evolution
This guide was inspired by our faculty and students and content creation was derived from the wonderful LibGuides Community within SpringShare.

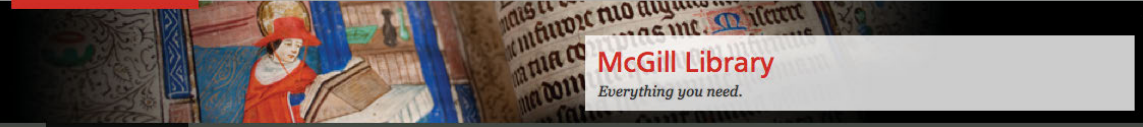
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Impact measurements

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Profiles & persistent identifiers

Contact us if you'd like help with any of the resources on this page or if you'd like help **creating your own researcher profiles and persistent digital identifiers**. These can be included in email signatures, webpages, grant applications, resumes, etc.

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- [ResearcherID](#)
This ID is found in [Web of Science](#) from Thomson Reuters. It displays citation metrics, including your h-index ([example](#)).
- [Scopus Author Identifier](#)
Each author in [Scopus](#) is automatically assigned a unique number but you should check that your's is up-to-date. It displays citation metrics, including your h-index, and includes a visual author identifier ([example](#)).
- [My Citations](#) in Google Scholar
My Citations automatically updates publications and citations from Google Scholar. It displays citation metrics, including your h-index ([example](#)).
- [ResearchGate](#)
Creating a profile on ResearchGate may help you stay connected to other researchers in your field but it also offers a score based on your contributions, interactions, and reputation ([example](#)).
- [Academia.edu](#)
You can follow other researchers in your field and it also offers analytics on your profile and on your individual papers.
- [ImpactStory](#)
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Scholarly Metrics

This Guide offers an overview of scholarly metrics and the tools you can use to find them.

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[Google Scholar](#)
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What are Scholarly Metrics?

Scholarly metrics are a way for the impact of an article, author, or journal to be measured quantitatively. There are [different methods](#) used in order to calculate a scholarly impact with the intent that these works will be judged solely on impact to the field as opposed to using criteria without universal standards.

There has been much debate about the use of impact factors in academia. Many academics feel that scholarly metrics place too much emphasis on the quantity of work as opposed to the quality of the work being produced. Another aspect of this debate is the thought that it pressures authors to publish "hot-topic" articles in only the most "impactful" journals as opposed to producing and experimenting with more original work. The use of [altmetrics](#) has also added fuel to this debate as many believe the mention of articles/presentations through the social web should be included in the review of their scholarly impact. See the [Further Reading](#) section below for more information on this debate.

What resources are available and what do they do?

	Author Level	Article Level	Journal Level	Additional
Web of Science				
Author Search	x			
Citation Mapper		x		
Cited Reference Search		x		
Journal Citation Reports			x	
Essential Science Indicators	x	x	x	departments, countries, hot papers
Scopus				
Altmetric for Scopus		x		
Author Evaluator	x			
Citation Overview		x		
Journal Analyzer			x	
Scimago			x	countries, maps
Google Scholar				
Citations	x	x		
Metrics			x	
Other Resources				
ImpactStory	x	x		
PLOS		x		

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What are some limitations of Scholarly Metrics



Comments (0)

Further Reading

- Adler, R., Ewing, J., & Taylor, P. (2008). Citation statistics: A report from the IMU in cooperation with the ICIAM and the IMS. Berlin: International Mathematical Union.
- Arnold, D. N. (2008). Integrity under attack: the state of scholarly publishing. [Talk of the Society editorial] SIAM News, 42 (10).
Discusses some issues associated with using scholarly metrics to define impact within a field.
- Bar-Ilan, J. (2008). Which h-index? - A comparison of WoS, Scopus and Google Scholar. Scientometrics, 74(2), 257-271.
- Browman, H. I., & Stergiou, K. I. (Eds.). (2008). Use and misuse of bibliometrics indices in evaluating scholarly performance [Special Issue]. Ethics in Science and Environmental Politics, 8(1), entire issue.
- Buéla-Casal, G. (2012). What do the scientists think about the impact factor?. Scientometrics, 92(2), 281-292.
- Hirsch, J. E. (2005). An index to quantify an individual's scientific research output. Proceedings of the National Academy of Sciences of the United States of America, 102(46), 16569 - 16572.
- Jacso, P. (2008). Testing the calculation of a realistic h-index in Google Scholar, Scopus, and Web of Science for F. W. Lancaster. Library Trends, 56(4), 784-815.
This reviews three of the main scholarly metrics tools (Google Scholar, Scopus, and Web of Science) and delves into the functionality of them.
- Jacso, P. (2012). Using google scholar for journal impact factors and the h-index in nationwide publishing assessments in academia -- siren songs and air-raid sirens. Online Information Review, 36(3), 462-478.
This article delves into issues with sources for Google Scholar and creation of metadata.
- Kaiser, J. (2013, May 16). In 'Insurrection,' Scientists, Editors Call for Abandoning Journal Impact Factors. Science Insider.
- Marnett, A. (2010, Oct 20). H-Index: What It Is and How to Find Yours. Benchfly.
- Notess, G. R. (2013). Searching for scholars. Online Searcher, 37(1), 61-64.



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Measure Your Research Impact: Introduction

Learn how to measure the impact of your research.

- [Introduction](#)
- [Journal Impact](#)
- [Author Impact](#)
- [Author Identifiers & Profiles](#)
- [Altmetrics](#)
- [Article Level Metrics](#)
- [Where to Publish](#)

In This Guide

Learn how to assess the impact of your research

- [Journal Impact](#)
- [Author Impact](#)
- [Author Identifiers](#)
- [Altmetrics](#)
- [Where to Publish](#)

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The Health and Natural Sciences Team is composed of librarians from the Health Sciences and Kenan Science Libraries.

What is Research Impact?

Research impact is the demonstrable contribution that excellent research makes to academia, society and the economy:

- **Academic impact** : Contribution to academic advances, across and within disciplines, in understanding, methods, theory and application
- **Societal impact**: Benefit to individuals, organizations and nations by enhancing quality of life, health and creative output, and increasing the effectiveness of public services and policy
- **Economic impact**: Attracting investment, wealth creation, enhanced national and global competitiveness

The above statements were adapted from the [Research Councils UK](#).

There are several reasons to measure your research impact:







- Application for promotion or tenure
- Quantify return on research investment for grant renewals and progress reports
- Future funding requests
- Identify who is using your work and confirm that it is appropriately credited
- Identify collaborators within or outside of your discipline

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Citation Searching and Bibliometric Measures: Home

A discussion on topics such as the h-index, Eigenfactor, Impact Factor, Journal Citation Reports, and other tools.

[Home](#) -
 [Citation Searching](#) -
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 [Retrieving Citation Counts](#) -

Law of Scattering

80% of the citations come from about 20% of the journals cited, identifying a core list for a local journal collection.

- Chung, H. (2007)
Evaluating academic journals using impact factor and local citation score. The Journal of Academic Librarianship, 33(3), 393-402. doi: 10.1016/j.acalib.2007.01.016

What is Bibliometrics?

- The branch of library science concerned with the application of mathematical and statistical analysis to bibliography; the statistical analysis of books, articles, or other publications. ("bibliometrics, n.". OED Online. December 2011. Oxford University Press.)
- In other words...data about publications, or citation frequency.
- Scientometrics is the branch of information science concerned with the application of bibliometrics to the study of the spread of scientific ideas; the bibliometric analysis of science. ("scientometrics, n.". OED Online. December 2011. Oxford University Press.)

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Sample Bibliometric Map

Eigenfactor Social Science Citation Relationships 2004

(click on image to enlarge)



Thomson Reuters (ISI Web of Knowledge)

Why is this important?

A student asks you "What are the best journals in the field of Anthropology?"

A professor asks you "Who is citing my articles? How many times have I been cited?"

A student asks you "How do I know this article is important?"

A professor asks you "Which journal should I publish in?"

Bibliometrics effects:

- People
- Journal collections
- Research Funding
- Tenure
- Expertise status in the field
- Finding others in the field/subject area (using citation searching)

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For Librarians

An Open Access toolkit to support bibliometrics training and awareness offered by four Irish academic libraries (Dublin City University, Dublin Institute of Technology, National University of Ireland, Maynooth, and University College Dublin) and funded by the Irish National Digital Learning Resources (NDLR).

All materials are available under Creative Commons license, enabling you to select, edit and re-package them to suit your local needs.

- [MyRI \(My Research Impact\)](#)

New Directions for Altmetrics

New research is being done to define 'altmetrics' that also define a researcher's impact. The method of communication can vary but is outside of the traditional journal article.

The University of Pittsburgh has partnered with Plum Analytics to provide alternative methods of measuring research output. We are pioneering this effort.

- [Pitt-Plum Analytics Press Announcement](#)
University of Pittsburgh becomes the first institution to adopt Plum Analytics to provide other metrics for research output.
- [Altmetrics in the wild: Using social media to explore scholarly impact](#)
By Jason Priem, Heather A. Piwowar, Bradley M. Hemminger.

"In growing numbers, scholars are integrating social media tools like blogs, Twitter, and Mendeley into their professional communications. The online, public nature of these tools exposes and reifies scholarly processes once hidden and ephemeral. Metrics based on this activities could inform broader, faster measures of impact, complementing traditional citation metrics."

- [Scholars Seek Better Ways to Track Impact Online](#)
By Jennifer Howard in the Chronicle of Higher Education, January 29, 2012

"An approach called altmetrics—short for alternative metrics—aims to measure Web-driven scholarly interactions, such as how often research is tweeted, blogged about, or bookmarked."

- [Citation by Citation, New Maps Chart Hot Research and Scholarship's Hidden Terrain](#)
By Jennifer Howard in the Chronicle of Higher Education, September 11, 2011

"Imagine a Google Maps of scholarship, a set of tools sophisticated enough to help researchers locate hot research, spot hidden connections to other fields, and even identify new disciplines as they emerge in the sprawling terrain of scholarly communication."

Handout

Here is a printable synopsis of the major concepts discussed in this guide.

- [Citation Searching and Bibliometric Measures](#)

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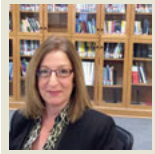
Citation analysis is a quantifiable measure of academic output and may help inform decisions on promotion and tenure. This guide is designed to help faculty members and librarians use and understand the tools available to us. We are fortunate to have access to the top paid resources used for citation metrics – Web of Science, Scopus and Journal Citation Reports.

We need to be aware of the limitations and incongruities of citation metrics. The databases referenced above, and including Google Scholar, do not correct errors in citing papers. This means that one paper may be cited many different ways and appear as separate entries in these tools. Also, author and institutional naming inconsistencies complicate these analyses.

Comparisons between these tools should be avoided. The databases use different sources to generate data and some are more comprehensive than others. In addition, the literature suggests that these tools are skewed towards the STM (science, technical and medical) community of scholars.

The recommended methods for citation analyses are detailed this guide. Another useful metric is the h-index which can be generated in both Web of Science and Scopus. The h-index is defined as:

A scientist has index h if h of [his/her] N_p papers have at least h citations each, and the other ($N_p - h$) papers have at most h citations each.


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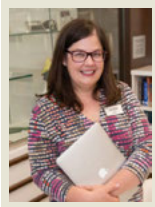
ORCID - Open Researcher ID - is an initiative to provide researchers and scholars with a persistent, unique identifier. This will enable individuals to get recognized for all their scholarly output, in both established and emerging media. With broad-based support from publishers, academic institutions, and funders, ORCID registration and services are free to individuals. Sign up here: <http://about.orcid.org/>.

Comparison across Databases

Useful data can be found in each tool but direct comparisons across databases are problematic. These resources use different pools of data, date ranges and may interpret citations differently. Correct attribution of authorship can also cause reporting errors. Take control of your scholarly output - check your author profiles and register for an ORCID ID.

	Times cited	H-Index
Scopus	135	7
Web of Science	85	11
Google Scholar	279	10

This chart illustrates reporting differences. Exercising as much consistency as possible, the same author was profiled (11/2012) in each resource. The varied results are displayed above.

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