

# **Altmètriques: mesurar l'activitat de recerca a les xarxes socials**

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# Sumari

1. Introducció
2. Avaluació de les publicacions
3. Altmètriques
4. Conclusions
5. Bibliografia

# 1 Introducció









- Autors i publicacions
- Avaluació
- Xarxes socials

# 1.1 Què fan els autors?

- Autor del s. XX
  - Publica un article de revista o capítol de llibre (i no fa res més).
- Autor del s. XXI
  - Publica un article o capítol de llibre.
  - El posa en accés obert.
  - El difon a les xarxes socials, al seu blog personal, etc. (Fa de *community manager*).

# 1.2 Xarxes socials

- Xarxes socials acadèmiques.
  - Especialitzades en informació científica.
- Xarxes socials continguts de recerca.
  - També difonen continguts de recerca.

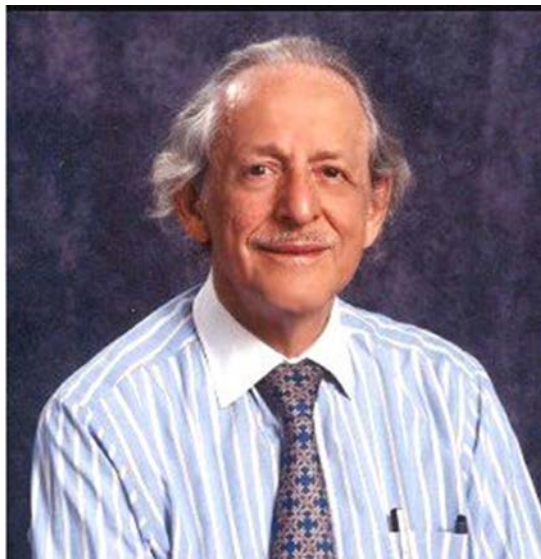
	
	
	
	

# 1.3 Avaluació

- Com es pot mesurar el ressò o la influència que té una publicació científica?
- Indicadors quantitativs per valorar l'impacte d'una publicació :
  - Citacions
  - Usos
  - Presència a les xarxes socials

# 2 Avaluació de les publicacions

- Base per a l'avaluació de la qualitat de la producció científica: la citació del treball.



- Creat per E. Garfield.

## Citation Indexes for Science

A New Dimension in Documentation  
through Association of Ideas

Eugene Garfield

"The uncritical citation of disputed data by a writer, whether it be deliberate or not, is a serious matter. Of course, knowingly propagandizing unsubstantiated claims is particularly abhorrent, but just as many naive students may be swayed by unfounded assertions presented by a writer who is unaware of the criticisms. Buried in scholarly journals, critical notes are increasingly likely to be overlooked with the passage of time, while the studies to which they pertain, having been reported more widely, are apt to be rediscovered." (1)

In this paper I propose a bibliographic system for science literature that can eliminate the uncritical citation of fraudulent, incomplete, or obsolete data by making it possible for the conscientious scholar to be aware of criticisms of earlier papers. It is too much to expect a research worker to spend an inordinate amount of time searching for the bibliographic descendants of antecedent papers. It would not be excessive to demand that the thorough scholar check all papers that have cited or criticized such papers, if they could be located quickly. The citation index makes this check practicable. Even if there were no other use for a citation index than that of minimizing the citation of poor data, the index would be well worth the effort required to compile it.

This paper considers the possible utility of a citation index that offers a new

approach to subject control of the literature of science. By virtue of its different construction, it tends to bring together material that would never be collated by the usual subject indexing. It is best described as an association-of-ideas index, and it gives the reader as much leeway as he requires. Suggestiveness through association-of-ideas is offered by conventional subject indexes but only within the limits of a particular subject heading.

If one considers the book as the macro unit of thought and the periodical article the micro unit of thought, then the citation index in some respects deals in the submicro or molecular unit of thought. It is here that most indexes are inadequate, because the scientist is quite often concerned with a particular idea rather than with a complete concept. "Thought" indexes can be extremely useful if they are properly conceived and developed.

In the literature-searching process, indexes play only a small, although significant, part. Those who seek comprehensive indexes to the literature of science fail to point out that such indexes, although they may be desirable, will provide only a better starting point than the one provided in the selective indexes at present available. One of the basic difficulties is to build subject indexes that can anticipate the infinite number of possible approaches the scientist may require. Proponents of classified indexes may suggest that classification is the solution to this problem, but this is by no means the

...ent upon a subject analysis of individual articles and, at best, offer us better consistency of indexing rather than greater specificity or multiplicity in the subject approach. Similarly, terminology is important, but even an ideal standardization of terminology and nomenclature will not solve the problem of subject analysis.

What seems to be needed, then, in addition to better and more comprehensive indexes, alphabetical and classified, are new types of bibliographic tools that can help to span the gap between the subject approach of those who create documents—that is, authors—and the subject approach of the scientist who seeks information.

Since 1873 the legal profession has been provided with an invaluable research tool known as *Shepard's Citations*, published by Shepard's Citations, Inc., Colorado Springs, Colo. (2). A citation index is published for court cases in the 48 states as well as for cases in Federal courts. Briefly, the Shepard citation system is a listing of individual American court cases, each case being followed by a complete history, written in a simple code. Under each case is given a record of the publications that have referred to the case, the other court decisions that have affected the case, and any other references that may be of value to the lawyer. This type of listing is particularly important to the lawyer, because, in law, much is based on precedent.

Citation indexes depend on a simple system of coding entries, one that requires minimum space and facilitates the gathering together of a great volume of material. However, a code is not absolutely necessary if one chooses to compile a systematic listing of individual cases or reports, with a complete bibliographic history of each of them. Thus, it would be possible to list all pertinent references under each case with sufficient com-

Mr. Garfield is a documentation consultant with offices at 1530 Spring Garden St., Philadelphia 1, Pa.

# 2.1 Instruments de mesura

- **Impacte (de la revista)**
  - És el quocient entre les cites rebudes per una revista en dos (FI) o tres (SJR) anys i el nombre d'articles publicats en aquest mateix període.

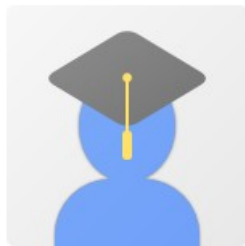
The screenshot shows the Scimago Journal & Country Rank interface. The search filters are set to 'Medicine', 'All subject categories', 'All regions / countries', 'All types', and '2015'. The table below displays the top journals based on SJR.

Title	Type	↓ SJR	H index	Total Docs. (2015)	Total Docs. (3years)	Total Refs.	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc.	
1 <a href="#">Annual Review of Immunology</a>	journal	32.720 Q1	254	26	74	5684	2937	74	35.72	218.62	
2 <a href="#">Nature Reviews Genetics</a>	journal	32.615 Q1	267	157	676	6584	8171	212	36.13	41.94	
3 <a href="#">CA - A Cancer Journal for Clinicians</a>	journal	32.242 Q1	117	43	139	3741	8650	117	80.54	87.00	



# 2.1 Instruments de mesura (ii)

- Índex h (d'un autor)
  - Mesura la trajectòria d'un autor
  - Un investigador té un índex 7 quan té més de 7 treballs que han rebut 7 cites



Roderic Guigo

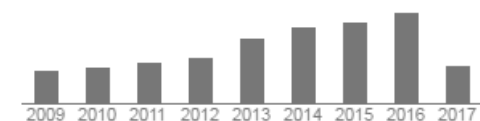
Segueix

Professor of Bioinformatics, Center for Genomic Regulation, Universitat Pompeu Fabra  
Computational Biology  
Correu electrònic verificat a crg.cat

Títol	1-20	Citada per	Any
<a href="#">The sequence of the human genome</a>	JC Venter, MD Adams, EW Myers, PW Li, RJ Mural, GG Sutton, HO Smith, ... science 291 (5507), 1304-1351	14594	2001
<a href="#">Initial sequencing and comparative analysis of the mouse genome</a>	AT Chinwalla, LL Cook, KD Delehaunty, GA Fewell, LA Fulton, RS Fulton, ... Nature 420 (6915), 520-562	6002	2002

Google Acadèmic

Índexs de cites	Totes	Des de 2012
Cites	68995	37885
Índex h	84	70
Índex i10	169	151



## 2.2 Valoració

- A favor
  - Fàcil de calcular
  - Dada quantitativa
  - Objectivitat
- Crítiques:
  - Les revistes anglòfones estan molt més representades.
  - Assigna a tots els articles el factor d'impacte de la revista.
  - El període de càlcul FI és molt curt.

## 2.2 Valoració (ii)

- Criticat especialment en Humanitats
- Cada disciplina té els seus hàbits de publicació (articles o llibres) i de citació
  - Humanitats i Ciències socials: llibres
  - Ciències experimentals i salut: articles

## 2.3 Altres sistemes

- Hi ha altres sistemes quantitativs per a la valoració de l'impacte d'un text acadèmic.
- Ús
  - Quantes persones em "llegeixen"?
  - Nombre de lectures i descàrregues.
- Difusió a les xarxes socials
  - Quantes persones em comparteixen?
  - Nombre de redifusions, cites, likes, etc.

# 3 Què són les al·tmetriques?

- Se'n comença a parlar el 2010.
- “Altmetrics is the creation and study of new metrics based on the Social Web for analyzing, and informing scholarship”.  
(altmetrics.org)
- Analitzen els continguts de la web social per oferir mètriques complementàries de difusió de les publicacions científiques.

# 3 Què són les al·tmetriques? (ii)

- Què mesuren
  - Immediatesa
  - Visibilitat a les xarxes socials
- Indicadors
  - Nombre de redifusions (retuits, etc.)
  - Comentaris
  - Mencions (likes), etc.
- Diversos editors i portals estan incorporant aquesta informació.
  - PLOS, ResearchGate, Scopus, Nature, etc.

# 3 Què són les al·tmetriques? (iii)


- Alternatives?
  - Més aviat s'han de qualificar com a mètriques complementàries.
- Article-metrics
  - Centren el seu focus en l'article (i no pas en la revista).

## 3.1 El cas de PLOS

- Utilitza el sistema Article Level Metrics (des de 2009).
- Centrat en l'article.
- Sense ànim de lucre.
- Les dades les proveeix el mateix editor.
- Inclou no només estadístiques de presència a la xarxa sinó també citacions i dades d'ús.





# Article Level Metrics (PLOS)



[plos.org](#)
[create account](#)
[sign in](#)

[Publish](#)
[About](#)
[Browse](#)

[advanced search](#)

 OPEN ACCESS
  PEER-REVIEWED  
 RESEARCH ARTICLE

## The Genomic Ancestry of Individuals from Different Geographical Regions of Brazil Is More Uniform Than Expected

Sérgio D. J. Pena , Giuliano Di Pietro, Mateus Fuchshuber-Moraes, Julia Pasqualini Genro, Mara H. Hutz, Fernanda de Souza Gomes Kehdy, Fabiana Kohlrausch, Luiz Alexandre Viana Magno, Raquel Carvalho Montenegro, Manoel Odorico Moraes, Maria Elisabete Amaral de Moraes, Milene Raiol de Moraes, Éliada B. Ojopi, [ ... ], Guilherme Suarez-Kurtz

[\[ view all \]](#)

Published: February 16, 2011 • <https://doi.org/10.1371/journal.pone.0017063>

178 Save	224 Citation
30,053 View	12 Share


Article	Authors	Metrics	Comments	Related Content
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- Abstract
- Introduction
- Results
- Discussion
- Materials and Methods
- Supporting Information
- Author Contributions

### Abstract

Based on pre-DNA racial/color methodology, clinical and pharmacological trials have traditionally considered the different geographical regions of Brazil as being very heterogeneous. We wished to ascertain how such diversity of regional color categories correlated with ancestry. Using a panel of 40 validated ancestry-informative insertion-deletion DNA polymorphisms we estimated individually the European, African and Amerindian ancestry components of 934 self-categorized White, Brown or Black Brazilians from the four most populous regions of the Country. We unraveled great ancestral diversity between and within the

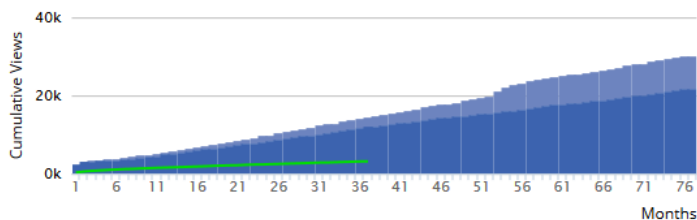
 Check for updates  
 ADVERTISEMENT

  
**Interdisciplinary**

# Article Level Metrics (PLOS) (ii)

## Viewed ?

Total Article Views	HTML Page Views	PDF Downloads	XML Downloads	Totals
<b>30,053</b>	PLOS 19,877	1,845	62	<b>21,784</b>
Feb 16, 2011 (publication date) through Jun 06, 2017 *	PMC 7,483	786	n.a.	<b>8,269</b>
	Totals 27,360	2,631	62	<b>30,053</b>
9.62 % of article views led to PDF downloads				



■ Compare average usage for articles published in 2011 in the subject area: ?

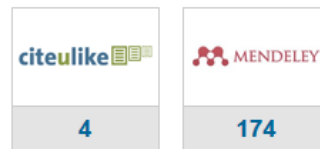
Genetics  | [Show reference set](#)

\*Although we update our data on a daily basis, there may be a 48-hour delay before the most recent numbers are available. PMC data is posted on a monthly basis and will be made available once received.

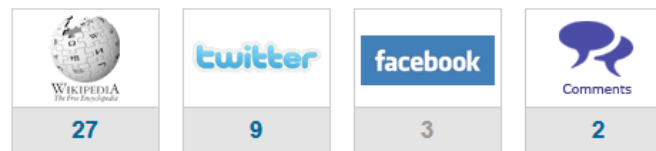
## Cited ?



## Saved ?



## Discussed ?



Information on PLOS Article-Level Metrics  
 Questions or concerns about usage data? [Please let us know.](#)

# 3.2 Scopus

Scopus

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PLoS ONE

Volume 6, Issue 2, 2011, Article number e17063

[Open Access](#)

The **genomic ancestry** of **individuals** from different geographical regions of Brazil is more uniform than expected (Article)

Pena, S.D.J.<sup>a</sup> ✉, di Pietro, G.<sup>b</sup>, Fuchshuber-Moraes, M.<sup>c</sup>, Genro, J.P.<sup>d</sup>, Hutz, M.H.<sup>d</sup>, Kehdy, F.S.G.<sup>a</sup>, Kohlrausch, F.<sup>c</sup>, Magno, L.A.V.<sup>e</sup>, Montenegro, R.C.<sup>f</sup>, Moraes, M.O.<sup>f</sup>, de Moraes, M.E.A.<sup>f</sup>, de Moraes, M.R.<sup>g</sup>, Ojopi, E.B.<sup>h</sup>, Perini, J.A.<sup>c</sup>, Racciopi, C.<sup>a</sup>, Ribeiro-dos-Santos, A.K.C.<sup>g</sup>, Rios-Santos, F.<sup>b</sup>, Romano-Silva, M.A.<sup>e</sup>, Sortica, V.A.<sup>d</sup>, Suarez-Kurtz, G.<sup>c</sup>

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<sup>b</sup>Departamento de Ciências da Saúde, Universidade Estadual de Santa Cruz, Ilhéus, Brazil

<sup>c</sup>Coordenação de Pesquisa/Divisão de Farmacologia, Instituto Nacional do Câncer, Rio de Janeiro, Brazil

[View additional affiliations](#) ▾

Metrics ⓘ

[View all metrics](#) >

224



Citations

99th Percentile

15.13



Field-Weighted  
Citation Impact

166



Mendeley  
Readers

98th Percentile

22



Mentions on  
Wikipedia

12



Tweets

99th Percentile

# 3.2 Scopus (ii)

The genomic ancestry of individuals from different geographical regions of Brazil is more uniform than expected [Back to article](#)  
(2011) PLoS ONE, 6(2), art. no. e17063,

Overview

Citations

Scholarly Activity  
Mendeley, CiteULike, etc.

Scholarly Commentary  
Blogs, Reviews, Wikipedia, etc.

Mass Media

Social Activity  
Twitter, Facebook, etc.

## Overview

Citation Count

224

Cited by in Scopus



Field-Weighted Citation Impact

15.13



Citation Benchmarking

99th percentile

Compared to Agricultural and Biological Sciences articles of the same age and document type



Mendeley

166 Readers



Wikipedia

22 Mentions



Twitter

12 Tweets



# 3.2 Scopus (iii)

The genomic ancestry of individuals from different geographical regions of Brazil is more uniform than expected [Back to article](#)  
(2011) PLoS ONE, 6(2), art. no. e17063,

Overview

Citations

**Scholarly Activity**

Mendeley, CiteULike, etc.

Scholarly Commentary

Blogs, Reviews, Wikipedia, etc.

Mass Media

Social Activity

Twitter, Facebook, etc.

## Scholarly Activity

**170 readers from 2 sources**

Indirect measurement of activity by people using scholarly platforms such as Mendeley and CiteULike.

Mendeley



**166** Readers

[Save to Mendeley](#)

CiteULike



**4** Saves

## Mendeley Reader demographics

[View publication in Mendeley](#)

### By discipline



[View all](#)

### By academic status



[View all](#)



## 3.3 Nature

- Puntuació basada en l'atenció online de l'article.
  - Xarxes socials
  - Presència als mitjans.
- Cada color és un tipus d'atenció.
- Es dona també una contextualització (en relació a articles d'una edat similar)

# 3.3 Nature (ii)

**nature** International weekly journal of science [Advanced search](#)

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video | For Authors

Archive > Volume 528 > Issue 7583 > Articles > Article > Article metrics

Article metrics for:



## Genome-wide patterns of selection in 230 ancient Eurasians

Iain Mathieson, Iosif Lazaridis, Nadin Rohland, Swapan Mallick, Nick Patterson, Songül Alpaslan Roodenberg, Eadaoin Harney, Kristin Stewardson, Daniel Fernandes, Mario Novak, Kendra Sirak, Cristina Gamba, Eppie R. Jones, Bastien Llamas, Stanislav Dryomov, Joseph Pickrell, Juan Luis Arsuaga, José María Bermúdez de Castro, Eudald Carbonell, Fokke Gerritsen, Aleksandr Khokhlov, Pavel Kuznetsov, Marina Lozano, Harald Meller, Oleg Mochalov *et al.*

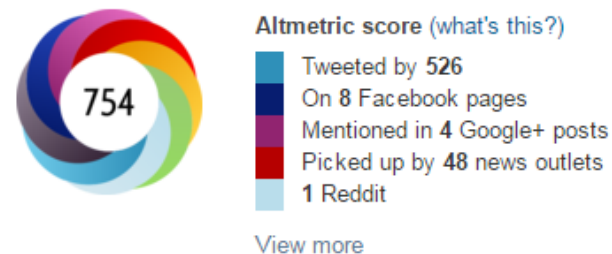
*Nature* 528, 499–503 (24 December 2015) | doi:10.1038/nature16152

Last updated: 7 June 2017 17:12:16 EDT

### Total citations



### Online attention



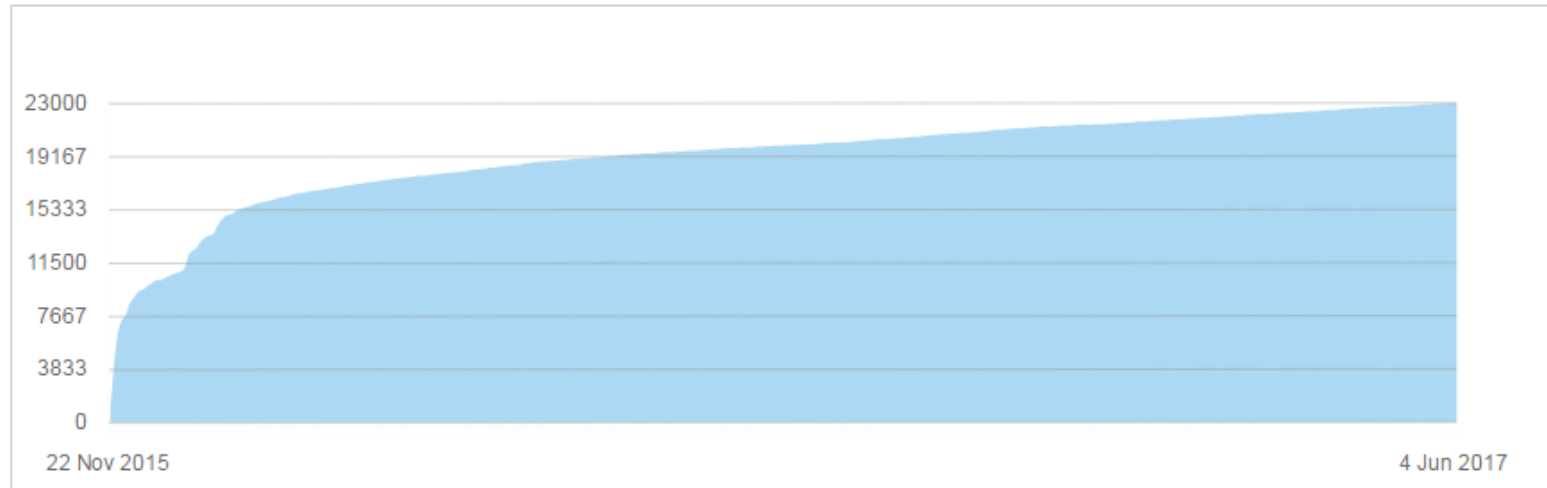
This Altmetric score means that the article is:

- in the 99 percentile (ranked 157th) of the 291,069 tracked articles of a similar age in all journals

# 3.3 Nature (iii)

## Page views

23,453



## Mentions in news, blogs & Google+

News articles (48)

Scientific blogs (30)

Google+ posts (4)

[Skąd się wzięli Europejczycy?](#)

Gazeta Wyborcza

[Farming's in their dna - technology org](#)

Technology.org

[Nu kan forskere aflæse menneskets evolution i fossilt dna](#)

Videnskab.dk

[How europeans became tall and fair-skinned 8,500 years ago](#)

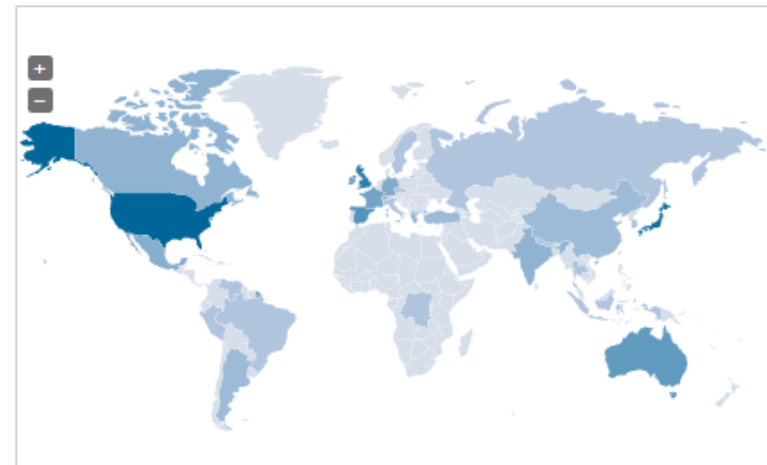
Quartz

[Ancient genomes reveal natural selection in action](#)

EurekAlert!

[How europeans became tall and fair-skinned 8,500 years ago](#)

## Twitter demographics





## 3.4 ResearchGate

- Puntuació (RG Score)
- Índex h
- Influència (RG Reach)
  - Directa (seguidors, coautors, col·laboradors, etc.)
  - Indirecta (seguidors dels coautors, dels col·laboradors, dels projectes, etc.).

# 3.4 ResearchGate (ii)



Valentin Fuster id 53.70

Mount Sinai Hospital, New York City · Mount Sinai Heart C...

Follow

Overview

Contributions

Info

Scores

Research interests

RG Score ⓘ  
**53.70**



Breakdown:

- 99.75% Publications
- 0% Answers
- 0% Questions
- 0.25% Followers

Percentile:

Valentin Fuster's score is higher than 97.5% of ResearchGate members'.



*h*-index ⓘ  
**102**

*h*-index  
**98**

excluding self-citations

Top *h* cited research:

ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction: a report of the American Coll...

Article · Sep 2004 · Circulation

Follow

See more

RG Reach ⓘ  
**58,776**

Researchers



Mouse over to see more details

● 1,371  
Direct Reach

● 57,405  
Indirect Reach

Improve your reach by helping your co-authors find their work and confirm authorship on ResearchGate.

View co-authors

## 3.5 Aplicacions per mesurar-ho

- ImpactStory



- Altmetric



- PLUM



# 3.5.1 Comparativa (Melero, 2015)

**TABLE 1.** Sources used for the aggregation of information data by the four Article-Level Metrics (ALM) tools described in this article (*ALM-PLoS*, *Altmetrics*, *ImpactStory*, *Plum Analytics*). Sources can be broken down in 5 categories usage, captures, mentions, social media, and citations (10).

Article- /metrics level tool	Coverage	Main categories of sources for aggregation of information			
		Usage	Citations	Captures	Social Media
<i>ALM-PLoS</i>	Papers from PLOS	PLOS and PubMed Central	PubMed Central, Scopus, ISI Web of Science, and CrossRef	CiteULike, Mendeley, Reddit, Google+, Stumble Upon Connotea	Twitter, Facebook, Google Blogs, Researchblogging.org, Nature Blogs
<i>Altmetric</i>	Scholarly articles	PubMed, Arxiv or pages containing a DOI	Scopus, Web of Science CrossRef	CiteULike, Mendeley	Twitter, Facebook, Blogs, YouTube, Google +, Pinterest, Wikipedia, Weibo users, Redditors
<i>ImpactStory</i>	All the research products (Journal articles, blog posts, datasets, and software...)	PLOS, PubMed, ArXiv, slideshare, vimeo, youtube, Dryad package views, figshare views, webpages (from Impactstory), ScienceSeeker, ORCID)	Scopus, Web of Knowledge, Highwire, Google Scholar Citations, Pubmed	CiteULike, Mendeley, CrossRef, Vimeo, Figshare, Github, Slideshare, Youtube, Delicious	Twitter, Facebook, Blogs, Figshare, Wikipedia, Vimeo, Youtube, Slideshare, Delicious, GitHub
<i>Plum Analytics</i>	Journal articles, books, videos, presentations, conference proceedings, datasets, source code	EBSCO, PLOS, bit.ly, Facebook, GitHub, Dryad, Figshare, Slideshare, Institutional Repositories, WorldCat.	CrossRef, PubMed Central, Scopus, USPTO	CiteULike, Delicious, Slideshare, YouTube, GitHub, Goodreads, Mendeley, Vimeo	Facebook, Reddit, Slideshare, Vimeo, YouTube, GitHub, StackExchange, Wikipedia, SourceForge, Research Blogging, Science Seeker, Amazon, Google Plus, Twitter via DataSift

## 3.6 Valoració (a favor)

- Mesuren incidència més enllà dels cercles acadèmics.
- Es poden aplicar a tot tipus de document.
- Els resultats són immediats (no cal esperar el valor anual del FI o SJR).

## 3.6 Valoració (en contra)

- Els indicadors s'han de recollir de manera molt ràpida perquè, a vegades, desapareixen.
- Difícils de comparar entre sí.
  - Què val més un retweet o un “m'agrada”?
- Dificultats en la normalització i homogeneïtat en la recollida de dades.
- Pot ser que diferents eines de mesura ofereixin resultats diferents.
  - P.e. ImpactStory / Altmetrics

# 4 Conclusions

- Paper del científic deprés de la publicació.
  - Posar en accés obert
  - Difusió xarxes socials i acadèmiques.
- Indicadors per valorar l'impacte de la publicació :
  - Citacions
  - Ús
  - Presència a les xarxes

# 4 Conclusions (ii)

- Altmètriques
  - Mesuren l'impacte social
  - No són alternatives, sino més aviat complementàries
  - Estan en fase de consolidació però tindran recorregut.
- Cal centrar l'anàlisi en l'article
  - Article Level Metrics



# 5 Bibliografía

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Moltes gràcies per la vostra atenció

