

# Getting and understanding different metrics from Web of Science

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# Reliable metrics require reliable data

#### What data?

The reliability of all analysis is directly linked to the quality and curation of the data you will use.

The Web of Science Core Collection is a trusted, high quality collection of journals, books and conference proceedings

Disciplinary and geographical coverage has to be balanced and should be a true reflection of the research community publication activities.

Sources are carefully selected by our editorial team, and decisions are made by our expert in-house editors, with no affiliations to publishing houses or research institutes.

For the last 60 years, bibliographic metadata (all authors, affiliations, cited references, etc.) has been meticulously captured with the same policy, across the entire archive. This eliminate gaps issues and ensures the stability of the data throughout the years.

**Quality Criteria Impact Criteria** ISSN Scholarly Content Editorial Board ✓ Comparative Compostition Citation Analysis Journal Title Article Titles and Article Abstracts in English Validity of Statements ✓ Author Citation Journal Publisher Analysis Bibliographic Information in Roman Script Peer Review URL (online ✓ EBM Citation Clarity of Language ✓ Content Relevance journals) Analysis Content Access Timeliness and/or Publication Volume Grant Support Details ✓ Content ✓ Adherence to Presence of Peer Website Functionality/Journal Format Significance Review Policy Community Standards Presence of Ethics Statements Author Distribution Contact Details Editorial Affiliation Details Appropriate Citations Author Affiliation Details to the Literature Successful outcomes

Unsuccessful outcomes

Submission cannot be completed

Starts editorial triage

1. Initial Triage

Re-submission welcome as soon as issues have been resolved Failed editorial triage

Starts editorial evaluation

2. Editorial Triage

Re-submission welcome as soon as issues have been resolved

Failed editorial quality evaluation

Enters ESCI and is

evaluated for impact

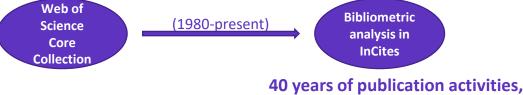
3. Editorial Evaluation

Re-submission subject to embargo of at least two years Failed editorial impact evaluation

Enters SCIE/SSCI/AHCI

Entry/continued coverage in ESCI

Re-evaluation subject to embargo of at least two years



with full cited references and consistent bibliographic metadata



#### **Bibliometrics – Importance of data and metadata**

Need to rely on validated and complete data, as well as systematically captured metadata leading to accurate analysis helping to make informed and meaningful decisions.



	Complete capture of PUBLICATIONS	Complete capture of CITED REFERENCES	Complete capture of ADDRESSES	Complete capture of AUTHORS
COUNTRY Analysis	$\checkmark$			<b>V</b>
DISCIPLINE Analysis		lacktriangledown	$\checkmark$	₹
UNIVERSITY Analysis	$\checkmark$	$\checkmark$	$\checkmark$	V
AUTHOR Analysis	$\checkmark$	$\checkmark$	$\checkmark$	<b>V</b>
COLLABORATION Analysis		lacktriangledown		V





#### **Data and Metadata Capture**

#### **Indexing Cover-to-Cover**

Every issue of any covered journal is indexed with no content gaps.

Every item of any published issue is indexed (all contributions within a given journal are included).

#### **Indexing Authors & Affiliations**

All authors in a published paper are captured and receive "full credit", whether listed first or last in the publication.

All affiliations (institutions) in a published paper are captured, regardless of the quantity.

#### **Indexing Cited References**

Articles can be listed in WoS-CC in two ways: as a "source" article and as a "cited reference".

Every cited reference is indexed whether it refers to a covered source or to a source that is not covered.





Associated Data

By: Ripke, S (Ripke, Stephan)<sup>[1,2]</sup>; Neale, BM (Neale, Benjamin M.)<sup>[1,2,3,4]</sup>; Corvin, A (Corvin, Aiden)<sup>[5]</sup>; Walters, JTR (Walters, James T. R.)<sup>[6]</sup>; Farh, KH (Farh, Kai-How)<sup>[1]</sup>; Holmans, PA (Holmans, Peter A.)<sup>[6,7]</sup>; Lee, P (Lee, Phil)<sup>[1,2,4]</sup>; Bulik-Sullivan, B (Bulik-Sullivan, Brendan)<sup>[1,2]</sup>; Collier, DA (Collier, David A.)<sup>[8,9]</sup>; Huang, HL (Huang, Hailiang)<sup>[1,3]</sup>...More

Group Author(s): Psychiat Genomics Consortium; Psychosis Endophenotypes Int Conso; Wellcome Trust Case-Control Consor

doi:10.1038/nature13595

c loci

# All authors and bibliographic information Myin-dermieys, mez So, Hon-Cheong Jablensky, Assen Authors and nce Research 1-1100-2014

Abstract
Schizophrenia is a highly heritable disorder. Genetic risk is conferred by a large number of alleled detected by genome-wide association studies. Here we report a multi-stage schizophrenia geno controls. We identify 128 independent associations spanning 108 conservatively defined loci that previously reported. Associations were enriched among genes expressed in brain, providing bio potential to provide entirely new insights into aetiology, but associations at DRD2 and several genolecules of known and potential therapeutic relevance to schizophrenia, and are consistent we genes expressed in brain, associations were enriched among genes expressed in tissues that have speculated link between the immune system and schizophrenia.

was conducted using imputed marker dosages and principal components (PCs) to control for population stratification. The results were combined using an inverse-variance weighted fixed effects model™. After quality control (imputation INFO score ≈ 0.6, MAF ≈ 0.01, and successfully imputed in ≈ 20 samples), we considered around 9.5 million variants.

Keywords KeyWords Plus:

Sigurdsson, Engilbert

Agerbo, Esben

All affiliations and addresses

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A-2645-2012

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- [4] Massachusetts Gen Hosp, Psychiat & Neurodev Genet Unit, Boston, MA 02114 USA
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- [6] Cardiff Univ, Sch Med, MRC Ctr Neuropsychiat Genet & Genom, Inst Psychol Med & Cl
- [7] Cardiff Univ, Natl Ctr Mental Hlth, Cardiff CF24 4HQ, S Glam, Wales
- ⊕ [8] Eli Lilly & Co Ltd, Erl Wood Manor, Windlesham GU20 6PH, Surrey, England

#### Funding

#### **Funding Agency**

United States Dep National Institutes NIH National Insti

View funding text

#### **Citation Network**

In Web of Science Core Collection

**3,168** 



Times Cited

Create Citation Alert

All Times Cited Counts

3.206 in All Databases

See more counts

**50** 

Cited References

View Related Records

Associated Data: 1

View the data associated with this record (from Data Citation Index)



All funding sources (2008) manually captured

JLY 2014 | VOL. 511 | NATURE | 421

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# IMPORTANT: Systematically associate the publications with their institutions (unification) and their authors (ResearchID / ORCID)

#### UNIFICATION

CGB UNIV ANTWERP

Organization Name:	Add	UNIVERSITY OF ANTWERP	Add	UNIV ANTWERP VIB			]
Other Names: UN		LIMIT/EDUTY OF ANTWERD, LIMIT/ANTWERD, LIMIT/EDUTET, AN		UNIV ANTWERP ZIEKENHUIS	Add	UNIV	INSTELLINGEN ANTWERPEN
		UNIVERSITY OF ANTWERP; UNIV ANTWERP; UNIVERSITEIT AN	Add	UNIV ANTWERPE	Add	UNIV	INSTILLING ANTWERP
Address:		GRATIEKAPELSTRAAT ,ANTWERP, BELGIUM ,BE-2000	Add	UNIV ANTWERPEN	Add	UNIV	KLIN ANTWERP
			Add	UNIV ANTWERPEN CDE	Add	UNIV	KLIN ANTWERPEN
Website:		http://www.ua.ac.be/main.aspx?o=*UA&n=1	Add	UNIV ANTWERPEN CGB	Add	UNIV	KLINIKUM ANTWERPEN
Name Variants:	Add	ACAD HOSP ANTWERP	Add	UNIV ANTWERPEN HOSP	Add	UNIV	PULM MED ANTWERP
Name variants.	Add	ACAD HOSP ANTWERF  ACAD SURG CTR STUIVENBERG	Add	UNIV ANTWERPEN INSTELLING	Add	UNIV	RADIOTHERAPY ANTWERP URA
	Add	ACAD SURG CTR STOIVENBERG	Add	UNIV ANTWERPEN RIJKSUNIV	Add	UNIV	SPITALS ANTWERPEN
	Add	AKAD ZIEKENHUIS ANTWERP	Add	UNIV ANTWERPEN RUCA	Add	UNIV	'UA
	Add	AKAD ZIEKENHUIS ANTWERPEN	Add	UNIV ANTWERPEN UA	Add	UNIV	UNIV ANTWERP HOSP
	Add	AKAD ZIEKENHUIS ANTWERPENT	Add	UNIV ANTWERPEN UA CDE	Add	UNIV	UNIV HOSP ANTWERP
	Add	ANTWERP STATE UNIV	Add	UNIV ANTWERPEN UIA	Add	UNIV	UNIV ZIEKENHUIS ANTWERPEN
	Add	ANTWERP STATE UNIV CTR	Add	UNIV ANTWERPEN VIB	Add	UNIV	ZIECKENHUIS ANTWERPEN
	Add	ANTWERP UNIV	Add	UNIV ANTWERPM	Add	UNIV	ZIEKENHAUS ANTWERPEN
	Add	ANTWERP UNIV HOSP	Add	UNIV ANTWERPUIA	Add	UNIV	ZIEKENHUIS ANTWERP
	Add	ANTWERP UNIV HOSP MED CTR	Add	UNIV ANVERS	Add	UNIV	ZIEKENHUIS ANTWERPEN
	Add	ANTWERP UNIV HOSP MED SCH	Add	UNIV ANWERP VIB	Add	UNIV	ZIEKENHUIS ANTWERPWN
	Add	ANTWERP UNIV HOSP UIA UZA	Add	UNIV CENT ANTWERPEN	Add	UNIV	ZIEKENUIS ANTWERPEN
	Add	ANTWERP UNIV HOSP UZA	Add	UNIV CENT ANTWERPEN RUCA	Add	UNIV	ZIEKNHUIS ANTWERPEN
	Add	ANTWERPEN UNIV	Add	UNIV CENTRUM ANTWERP	Add	UNIV	ZIENKENHUIS ANTWERPEN
	Add	ANTWERPEN UNIV HOSP	Add	UNIV CENTRUM ANTWERPEN	Add	UNIV	ZIIEKENHUIS ANTWERPEN
	Add	ANTWERPES UNIV HOSP	Add	UNIV CENTRUM ANTWERPEN RUCA			
	Add	BELGIUM UNIV ANTWERP	Add	UNIV CENTRUM GERIATRIE ANTWER	PEN		_



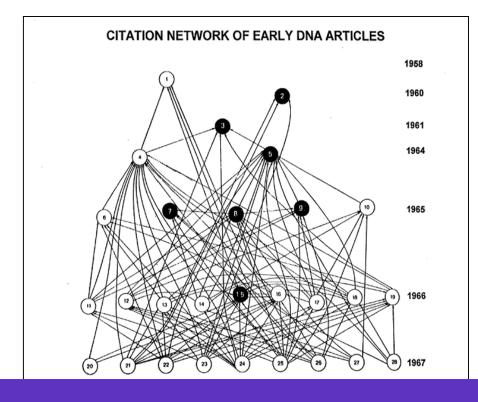


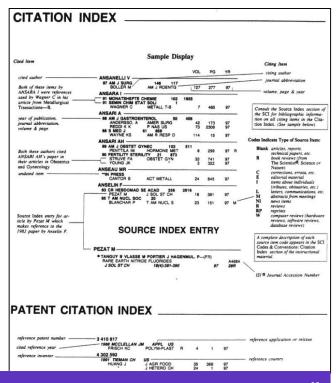
# **Explore Citations in the Web of Science**



### **The Citation Network**







**Dr. Eugene Garfield** 

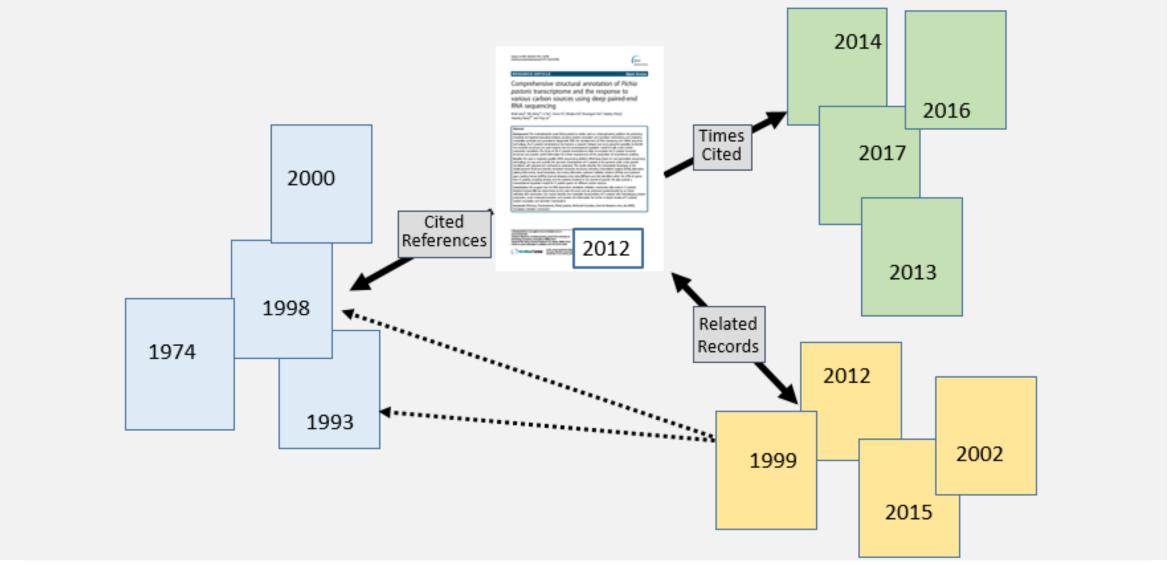
1955 "ASSOCIATION OF IDEAS INDEX"

#### **Citation Indexes for Science**

A New Dimension in Documentation through Association of Ideas <a href="http://garfield.library.upenn.edu/papers/science1955.pdf">http://garfield.library.upenn.edu/papers/science1955.pdf</a>



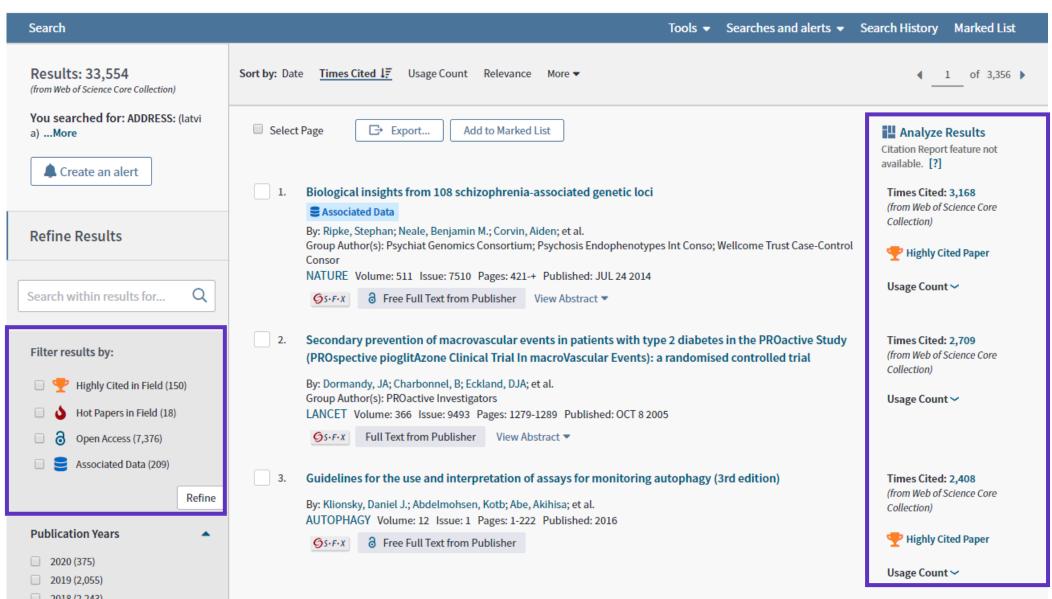
# **The Citation Network**





# Citation Network Web of Science





#### **Citation Network**





## **Usage Count**

By: Kita, A (Kita, Alban)<sup>[1]</sup>; Cavalagli, N (Cavalagli, Nicola)<sup>[1]</sup>; Ubertini, F (Ubertini, Filippo)<sup>[1]</sup>

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

Volume: 120 Pages: 180-202 DOI: 10.1016/j.ymssp.2018.10.021

Published: APR 1 2019 **Document Type:** Article **View Journal Impact** 

#### Abstract

In recent years, the development of long-term structural health monitoring systems for preventive conservation of historic monumental buildings is receiving a growing trend of scientific interest. Nevertheless, the damage detection effectiveness of these systems is still debated, especially in respect to complex masonry palaces where both local and global failure mechanisms can be activated, whereby the majority of the documented successful applications are limited to masonry towers. In particular, one major issue that needs to be solved in order to derive damage sensitive features is associated to the removal of the effects of changes in environmental conditions and, primarily, of ambient temperature, from static and dynamic signatures. This paper aims to contribute to improving knowledge in this field, by investigating temperature effects on static and dynamic response of an iconic Italian monumental palace: the Consoli Palace in Gubbio. With the purpose of early detecting earthquake-induced damages, as well as damages caused by material degradation associated to awkward environmental conditions, a simple low-cost mixed static and dynamic long-term structural health monitoring system has been installed on the Palace by the authors in July 2017. After discussing surveys, ambient vibration tests, diagnostic investigations, numerical modeling and model calibration of the Palace, the analysis of the first year of monitoring data is presented. This analysis shows that, differently from what observed in other literature works on historic masonry towers, the natural frequencies of the Palace show a marked and sometimes non-linear decreasing trend with increasing ambient temperature, that can be effectively removed through linear statistical filtering provided that dynamic regression models, using past values of predictors, are used. On the other side, the evolution of the amplitudes of two major cracks monitored within the building also shows a marked linear decreasing transfer with increasing embient temperature. These results are magningful towards the use of manifesting date for eccessing the initial

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In Web of Science Core Collection

Times Cited



Create Citation Alert

Cited References

View Related Records

#### **Use in Web of Science**

Web of Science Usage Count

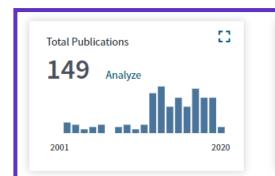
Last 180 Days

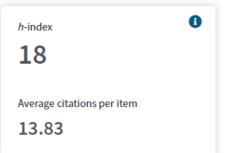
Since 2013

Learn more



# **Creating a Citation Report**

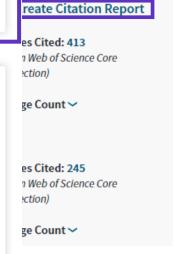


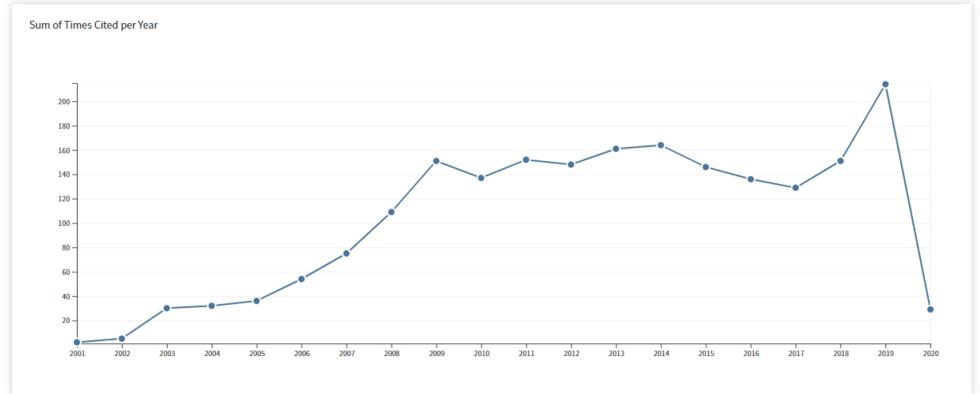






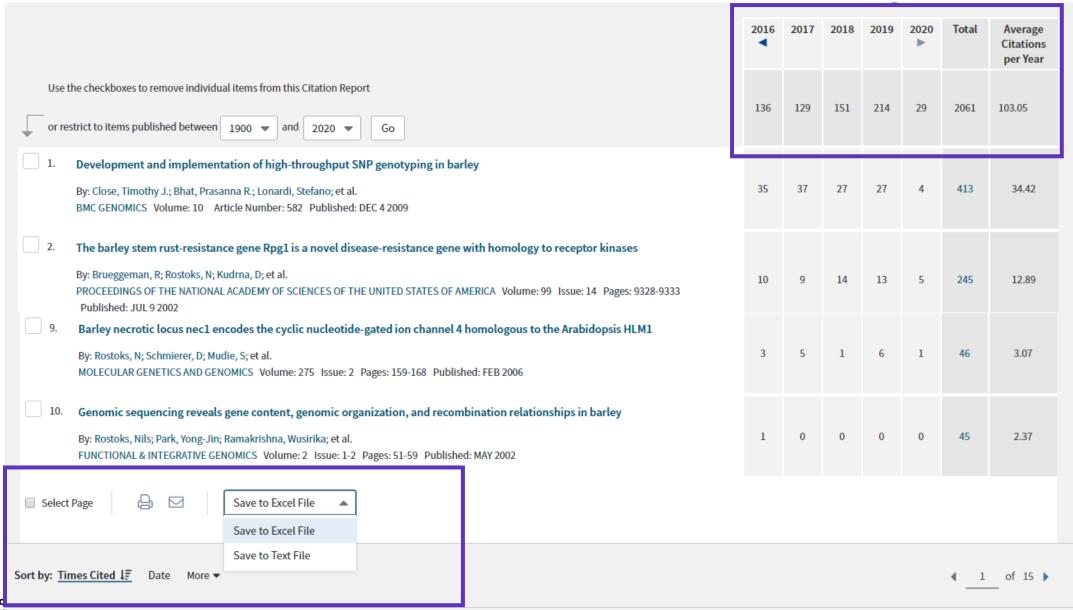




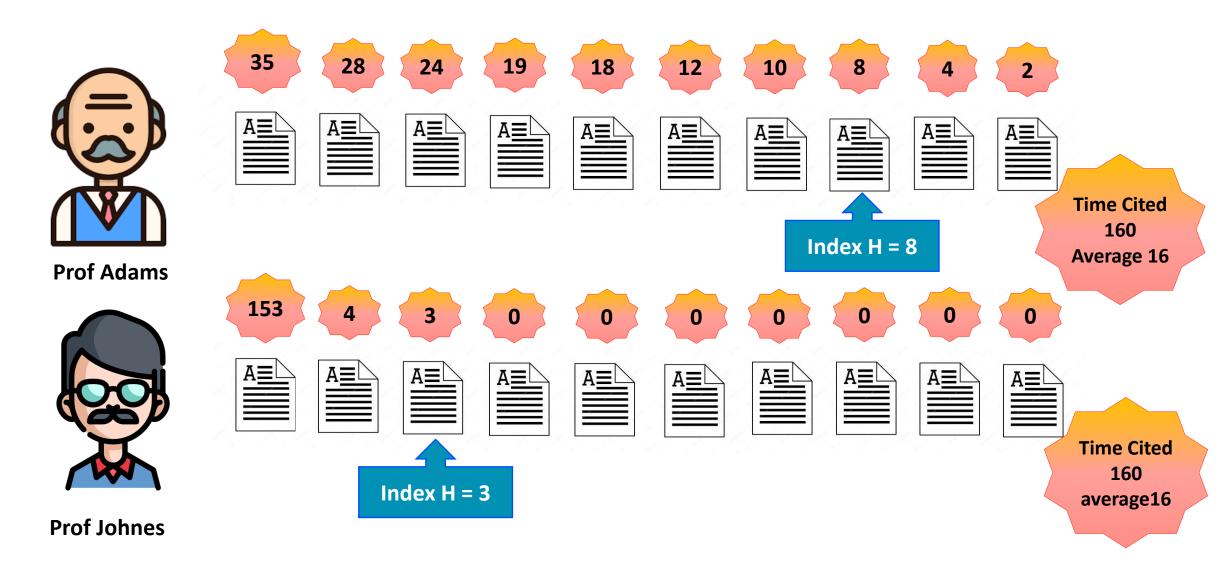




## **Citation Report**



## **H-Index**



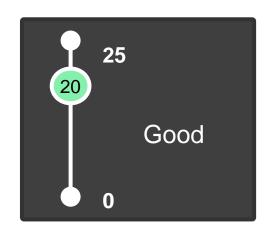


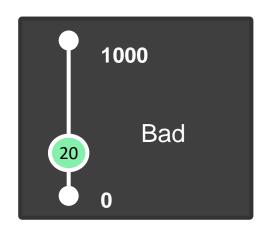
# **Need of normalization**



# **Context** is everything







INDICATORS MUST BE PUT INTO CONTEXT TO BE USEFUL: CATEGORY, JOURNAL, PEERS, GLOBAL

- ► NORMALIZED INDICATORS for relative performance comparisons
- PERCENTILES where does it fall in the range of values?
- **BENCHMARKS** how does it compare with a group or globally?



# Normalization puts data into context

Business Biology

Law Oncology
Respiratory System

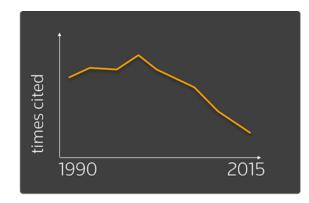
Agronomy

Substance Abuse

#### CATEGORY

citation patterns differ by subject category

e.g. nanotechnology vs law



#### TIME

citations accumulate over time and at different rates depending on article age and category

e.g. new articles may accumulate citations quickly, older ones more slowly or not at all



#### DOCUMENT TYPE

citations differ by document type within a journal

e.g. reviews are generally more heavily cited than articles, and editorials, book reviews etc. may go uncited



# **Normalization at Paper Level**

## Category



How many citations should I expect from my papers? How do my papers perform in my field? How do other researchers perform in my field?

Average of citations received by an article published in 2012 in the Management category.

Indicator of performance in the Management category for this Article published in 2006: If>1, performs higher than average If<1, performs lower than average.

Article Title	Authors	Source	Research Area	Volume	Issue	Pages	Publication Date	Times Cited ▼	Journal Expected Citations	Category Expected Citations	Journal Normalized Citation Impact	Category Normalized Citation Impact	Percentile in Subject Area	Journal Impact Factor
Toward a Theory of Coordinating: Creating Coordinating Mechanisms in	Jarzabkowski, Paula A.; Le, Jane K.; Feldman, Martha S.	ORGANIZATION SCIENCE	MANAGEMENT	23	4	907-927	2012	43	21.88	7.34	1.97	5.86	1.97	3.36

Times Cited/Category Expected Citations = 43/7.34 = 5.86

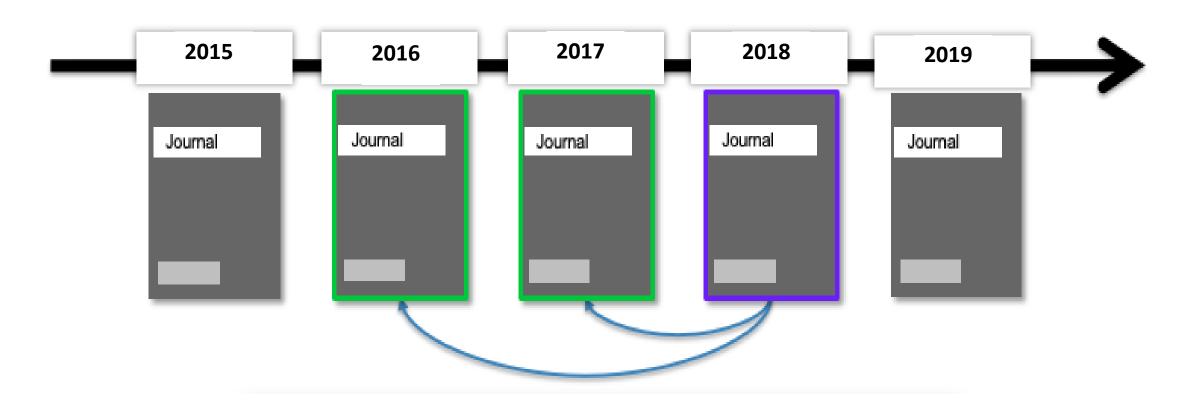


# **Explore Citations in Journal Citation Reports**



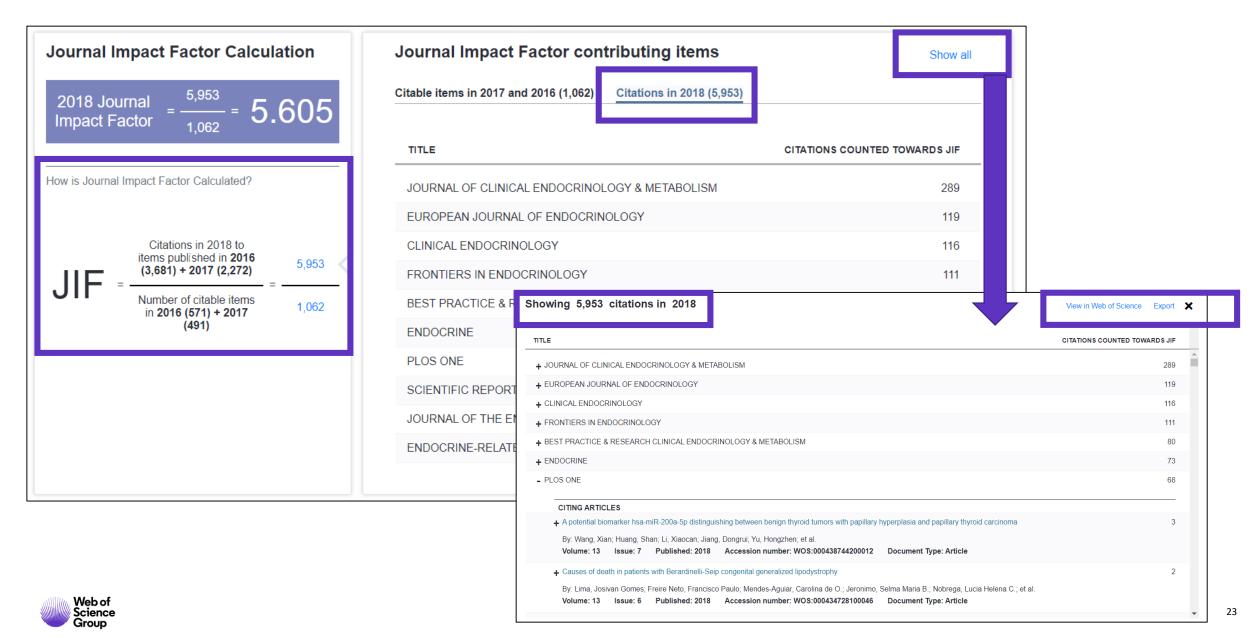
# Refresher: how is the Journal Impact Factor calculated?

2018 Impact Factor = Ratio of citations from 2018 to papers published in 2016 and 2017





# **Explore the citations of a journal**



# Journal Intelligence

#### JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM

ISSN: 0021-972X
eISSN: 1945-7197
ENDOCRINE SOC

2017

2055 L ST NW, SUITE 600, WASHINGTON, DC 20036

USA

Current Year

Go to Journal Table of Contents Go to Ulrich's Printable Version

All Years

TITLES

ISO: J. Clin. Endocrinol. Metab. JCR Abbrev: J CLIN ENDOCR METAB

**CATEGORIES** 

ENDOCRINOLOGY & METABOLISM - SCIE

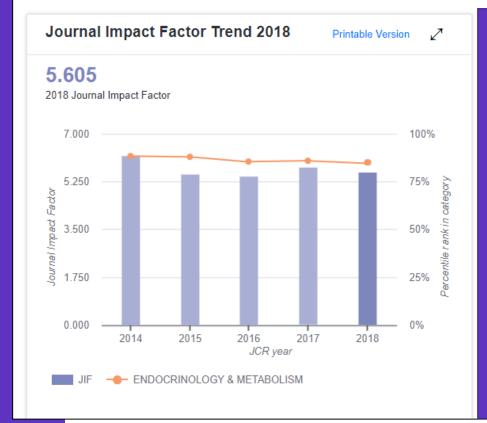
LANGUAGES

English

PUBLICATION FREQUENCY

12 issues/year

The data in the two graphs below and in the Journal Impact Factor calculation panels represent citation activity in 2018 to items published in the journal in the prior two years. They detail the components of the Journal Impact Factor. Use the "All Years" tab to access key metrics and additional data for the current year and all prior years for this journal.



#### **Context is everything**

- Journal Impact Factor for a specific year
- Percentile/Ranking for a specific year and within a Category

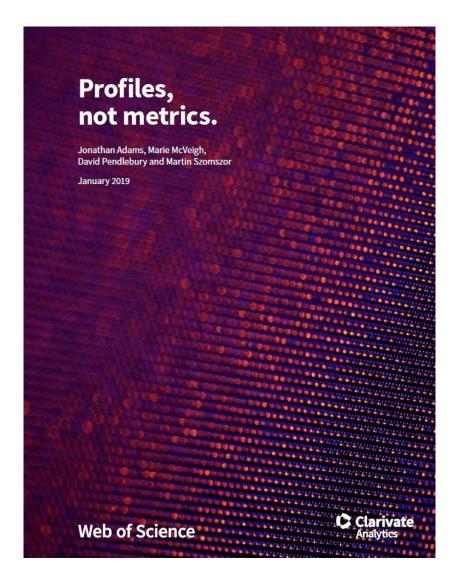
JCR Impact Factor											
JCR	ENDOCRINOLOGY & METABOLISM										
Year ▼	Rank	Quartile	JIF Percentile								
2018	22/145	Q1	85.172								
2017	20/142	Q1	86.268								
2016	20/138	Q1	85.870								
2015	16/133	Q1	88.346								
2014	15/128	Q1	88.672								
2013	13/124	Q1	89.919								
2012	13/122	Q1	89.754								
2011	15/122	Q1	88.115								
2010	13/116	Q1	89.224								
2009	10/105	Q1	90.952								
2008	11/93	Q1	88.710								



# Going beyond single metric for assessment



# **ISI January 2019 Report**



#### **Beyond single-point metrics**

In this report, we draw attention to the information that is lost when data about researchers and their institutions are squeezed into a simplified metric or league table.

We look at four familiar types of analysis that can obscure real research performance when misused and we describe four alternative visualizations that unpack the richer information that lies beneath each headline indicator and that support sound, responsible research management.

https://clarivate.com/webofsciencegroup/solutions/isi-reports/



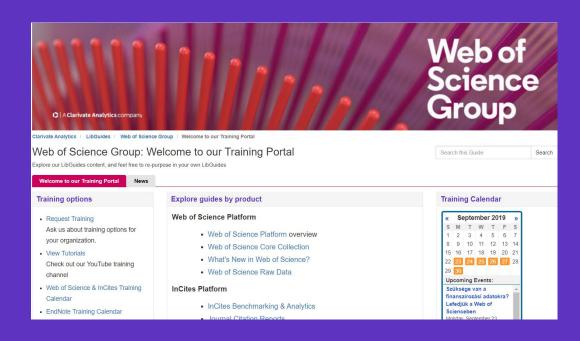
Want more resources, tips and guidance to help you research smarter?

Sign up for our newsletter at webofsciencegroup.com

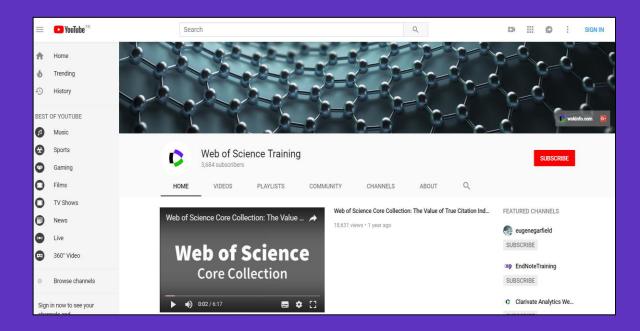


# **More information**

Clarivate Libguides
<a href="http://clarivate.libguides.com/home">http://clarivate.libguides.com/home</a>



Web of Science You Tube Channel https://www.youtube.com/user/WoSTraining







# Thank you!

#### Marcin Kapczynski

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