

# Einführung und Grundlagen der Bibliometrie

28.5.24

Gary Seitz

# Programm

1. Bibliometrie: Begriff und Anwendungen
2. Analysen basierend auf Zitationen  
Populäre bibliometrische Indikatoren:
  - Journal Impact Factor
  - h-Index
3. Analysen thematischer Suchen
4. Anwendungen in Google Scholar und Altmetrics

# 1. Begriff und Anwendungen

## Begriff

“... the application of **mathematical and statistical methods** to books and other **media of communication**.”

(Pritchard, 1969)

“**Bibliometrie ist die Anwendung quantitativer Methoden zur Analyse und Beschreibung von Publikationsprozessen und deren Impact oder Resonanz.** Bezogen auf den wissenschaftlichen Publikationsoutput spricht man von Bibliometrie. ...

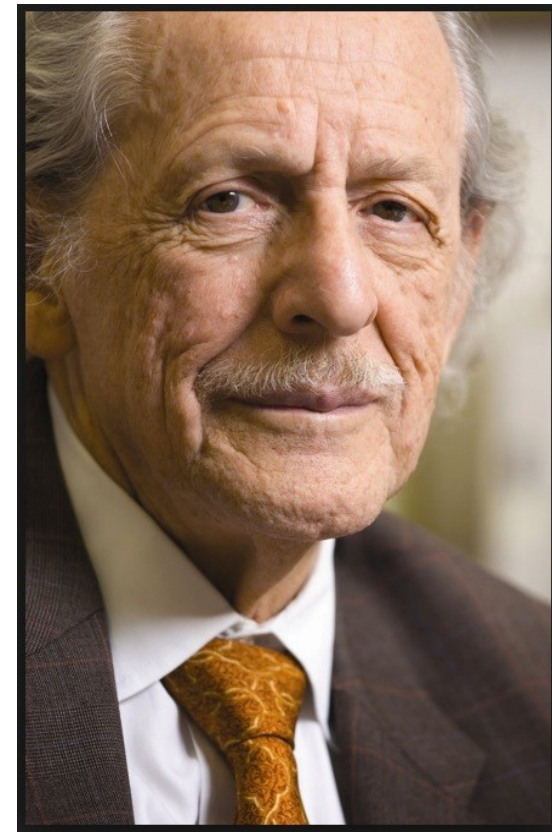
Beschreibung der Universitätsbibliothek Wien, Team Abteilung für Bibliometrie und Publikationsstrategien. Über Bibliometrie.  
[https://bibliothek.univie.ac.at/bibliometrie/uber\\_bibliometrie.html](https://bibliothek.univie.ac.at/bibliometrie/uber_bibliometrie.html) (Abgerufen 01.05.2021)

## Anwendungen

- Misst den wissenschaftlichen Output und die Resonanz von wissenschaftlichen Publikationen.
- Hilft, die **Reputation einer Person, Forschungsgruppe oder Institution** nachzuweisen.
- Dient als **Entscheidungshilfe** für Institutionen bei Mittelzuweisung, Personalangelegenheiten, Förderkriterien.
- Kann Entwicklungen und Trends von Forschungsgebieten aufzeigen.
- Hilft, internationale Kollaborations- und Kooperationsmöglichkeiten zu identifizieren und Forschungsnetzwerke aufzuzeigen.
- ...und kann Bibliotheken als Grundlage für die Erwerbung von Monografien, Zeitschriften und Datenbanken dienen.

## Ursprung der heutigen Bibliometrie ??

- Eugene Garfield (\*16 Sept. 1925, New York)
- Garfield (1955). Citation Indexes for Science.
- Publikation des Science Citation Index (zuerst 1963).
- 1976: Publikation des Journal Citation Report (JCR) mit Hinweis auf den Journal Impact Factor (JIF).
- E.Garfield (10.8.2011 in NZZ): *It has always irritated me that the SCI is used to evaluate average scientists. I have always stressed that it is not suitable for this purpose.*



**Tools für bibliometrische Analysen**

- Web of Science
- Master Journal List
- Publons
- InCites Benchmarking & Analytics
- Journal Citation Reports™
- Essential Science Indicators**
- Reference Manager
- EndNote
- EndNote Click

- Web of Science
- Master Journal List
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DOCUMENTS

Topic

+ Add row

- All Databases
- Web of Science Core Collection**
- BIOSIS Citation Index
- BIOSIS Previews
- Current Contents Connect
- Data Citation Index
- Derwent Innovations Index
- KCI-Korean Journal Database
- MEDLINE®
- Russian Science Citation Index

**Web of Science Core Collection** (1900-present)

Search the world's leading scholarly journals, books, and proceedings in the sciences, social sciences, and arts and humanities and navigate the full citation network.

- All cited references for all publications are fully indexed and searchable.
- Search across all authors and all author affiliations.
- Track citation activity with Citation Alerts.
- See citation activity and trends graphically with Citation Report.
- Use Analyze Results to identify trends and publication patterns.

Data updated 2022-04-02

Search

Dokumente

Zeitschriften




Scopus

## Start exploring

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 Documents  Authors  Researcher Discovery <sup>Pilot</sup>  Affiliations [Search tips ?](#)

Search within  
Article title, Abstract, Keywords  Search documents \*

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## 2. Analysen basierend auf Zitationen

- a) Populäre bibliometrische Indikatoren
  - **Journal Impact Factor**
  - h-Index
  
- b) Autorenidentifikation

## Journal Impact Factor (JIF)

$$\text{JIF 2022} = \frac{\text{Anz. Zitationen im 2022 der im Journal publizierten Dokumente in 2020 + 2021}}{\text{Anz. "Citable Items" (Articles, Reviews, Proceedings Papers) in 2020 + 2021}}$$

⇒ Ein Impact Factor von 3.9 (JIF 2022 von Scientometrics) bedeutet, dass die in den Jahren 2020 und 2021 in Scientometrics publizierten Artikel im Jahr 2022 durchschnittlich ca. 3.9 Mal zitiert wurden.

Die Zahl muss immer in Relation zu anderen Zeitschriften des Fachgebiets gesetzt werden (Journal Ranking)! Keine Qualitätsaussage über einen einzelnen Artikel.

## Kritik am Journal Impact Factor

- Unterschiedliche Dokumenttypen im Zähler (**Dokumente**) und Nenner ("**Citable Items**")
  - **Dokumente:** Articles, Reviews, Proceedings Papers, Notes, Editorial Notes, Letters, etc.
  - **Citable Items:** Articles, Reviews, Proceedings Papers
- Zitierfenster von zwei Jahren ist für viele Fachgebiete zu kurz.
  - Fachgebiete mit schnellen Zitationsraten bevorzugt (→ 5 Year IF)
- JIF nur in Relation zur Fachkategorie anwenden! Aber auch innerhalb der Fachkategorie sind die Unterschiede gross. (Beispiel Umweltwissenschaften)
- Selbstzitationen können das Journal-Ranking stark beeinflussen. (→ IF without Journal Self Cites)
- Zeitschriftenauswahl in WoS Core Collection:
  - Web of Science Journal Evaluation Process and Selection Criteria  
<https://clarivate.com/webofsciencegroup/journal-evaluation-process-and-selection-criteria/>

## "Verbesserungen"

- **Five-Year Impact Factor**
  - JIF mit 5-Jahres-Fenster
- **Journal Impact Factor without Journal Self Cites**
  - JIF ohne Selbstzitationen
- **Eigenfactor Score**
  - 5-Jahres-Fenster
  - Eigenzitate der Zeitschrift werden nicht gezählt
  - Eigenfactor bewertet Zitationen aus hochzitierten Journals höher
  - Summe der Eigenfactor Scores über alle Zeitschriften beträgt 100 %

# Scopus Source I

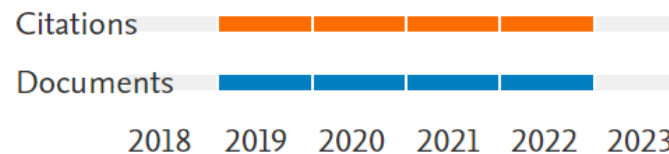
## CiteScore

Berechnung analog zum Journal Impact Factor, wobei **dieselben Dokumenttypen in Zähler und Nenner** einbezogen werden

4-Jahres-Zitierfenster

### CiteScore 2022 methodology

CiteScore 2022 counts the citations received in 2019-2022 to articles, reviews, conference papers, book chapters and data papers published in 2019-2022, and divides this by the number of publications published in 2019-2022.



"The CiteScore numerator and denominator both include the same five document types (articles, reviews, conference papers, book chapters, and data papers) for consistency. This approach gives a more complete picture of citation impact and makes manipulation of the calculation more difficult.

Articles-in-press are indexed in Scopus for some publishers, but are not included in the CiteScore calculation.

[https://service.elsevier.com/app/answers/detail/a\\_id/14880/supporthub/scopus/](https://service.elsevier.com/app/answers/detail/a_id/14880/supporthub/scopus/)

## Journal Metrics in Scopus

### **SJR (SCImago Journal Rank)**

- Bewertet wie der Eigenfactor Zitationen aus hochzitierten Journals höher
- Inspiriert vom Google PageRank Algorithmus
- 2-Jahres-Zitationsfenster

### **SNIP (Source Normalized Impact per Paper in Scopus)**

- Werte sind normalisiert, sodass sie über die Fachgebiete vergleichbar sind
- Berücksichtigt Zitationspotential in einem Feld (Häufigkeit und Schnelligkeit der Zitationen, Abdeckungsgrad des Felds durch die Scopus-Datenbank)
- 4-Jahres-Zitationsfenster



- |                                  |                                  |
|----------------------------------|----------------------------------|
| Web of Science                   | Web of Science                   |
| Master Journal List              | Master Journal List              |
| Publons                          | Publons                          |
| InCites Benchmarking & Analytics | InCites Benchmarking & Analytics |
| Journal Citation Reports™        | <b>Journal Citation Reports™</b> |
| Essential Science Indicators     | Essential Science Indicators     |
| Reference Manager                | Reference Manager                |
| EndNote                          | EndNote                          |
| EndNote Click                    | EndNote Click                    |

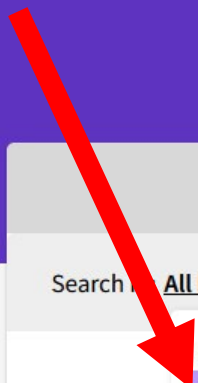


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DOCUMENTS RESEARCHERS

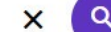
Search  **All Databases** ^ Collections: All ▾

<p>DOCUME</p> <p>Topic</p> <p>+ Add row</p>	<ul style="list-style-type: none"><li>All Databases</li><li><b>Web of Science Core Collection</b></li><li>BIOSIS Citation Index</li><li>BIOSIS Previews</li><li>Current Contents Connect</li><li>Data Citation Index</li><li>Derwent Innovations Index</li><li>KCI-Korean Journal Database</li><li>MEDLINE®</li><li>Russian Science Citation Index</li></ul>	<p><b>Web of Science Core Collection (1900-present)</b></p> <p>Search the world's leading scholarly journals, books, and proceedings in the sciences, social sciences, and arts and humanities and navigate the full citation network.</p> <ul style="list-style-type: none"><li>All cited references for all publications are fully indexed and searchable.</li><li>Search across all authors and all author affiliations.</li><li>Track citation activity with Citation Alerts.</li><li>See citation activity and trends graphically with Citation Report.</li><li>Use Analyze Results to identify trends and</li></ul> <p>Data updated 2022-04-02</p> <p>Search</p>
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Scientometrics



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JCR Year  
2022

Favorite Export

# SCIENTOMETRICS

ISSN

0138-9130

EISSN

1588-2861

JCR ABBREVIATION

SCIENTOMETRICS

ISO ABBREVIATION

Scientometrics

## Journal information

EDITION

Social Sciences Citation Index (SSCI)

Science Citation Index Expanded  
(SCIE)

CATEGORY

INFORMATION SCIENCE & LIBRARY  
SCIENCE - SSCI

COMPUTER SCIENCE,  
INTERDISCIPLINARY APPLICATIONS -  
SCIE

LANGUAGES

English

REGION

NETHERLANDS

1ST ELECTRONIC JCR YEAR

1997

## Publisher information

PUBLISHER

SPRINGER

ADDRESS

VAN GODEWIJCKSTRAAT  
30, 3311 GZ  
DORDRECHT,  
NETHERLANDS

PUBLICATION FREQUENCY

12 issues/year



# Journal Impact Factor

The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. In the case of academic evaluation for tenure, it is inappropriate to use a journal-level metric as a proxy measure for individual researchers, institutions, or articles. [Learn more](#)

2022 JOURNAL IMPACT FACTOR

**3.9**

[View calculation](#)

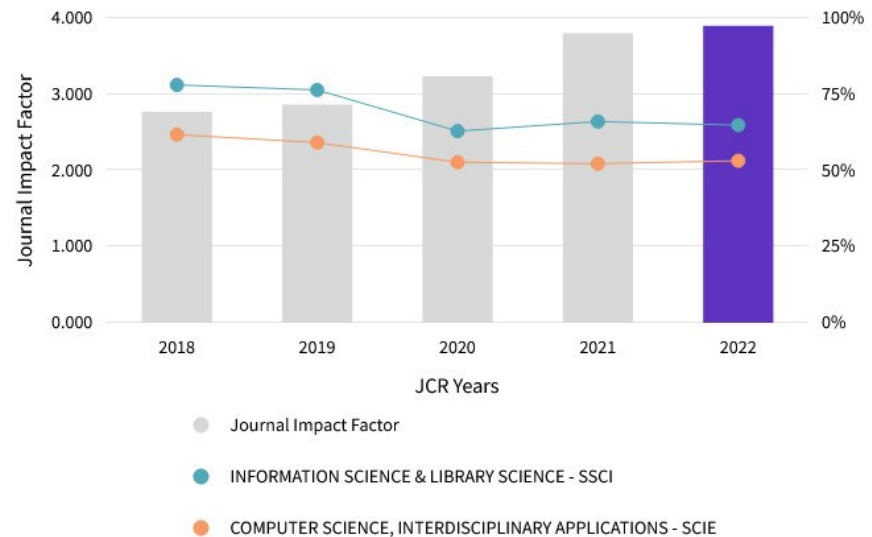
**Calculation**

Journal Impact Factor™ is calculated using the following metrics:

$$\frac{\text{Citations in 2022 to items published in 2020 (2,058) + 2021 (1,191)}}{\text{Number of citable items in 2020 (456) + 2021 (375)}} = \frac{3,249}{831} = 3.9$$

## Journal Impact Factor Trend 2022

[Export](#)



[View all years](#)

## Journal Impact Factor contributing items

[Export](#)

	Citable items (831)	Citing Sources (961)
TITLE	CITATION COUNT	
The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis	118	
A tale of two databases: the use of Web of Science and Scopus in academic papers	106	
Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' COCI: a multidisciplinary comparis...	98	
Publication patterns' changes due to the COVID-19 pandemic: a longitudinal and short-term scientometric analysis	32	
International collaboration during the COVID-19 crisis: autumn 2020 developments	30	
Preliminary analysis of COVID-19 academic information patterns: a call for open science in the times of closed borders	29	
How scientific research reacts to international public health emergencies: a global analysis of response patterns	27	
'Are principals instructional leaders yet?' A science map of the knowledge base on instructional leadership, 1940-2018	24	



# Citation distribution

The Citation Distribution shows the frequency with which items published in the year or two years prior were cited in the JCR data year (i.e., the component of the calculation of the JIF). The graph has similar functionality as the JIF Trend graph, including hover-over data descriptions for each data point, and an interactive legend where each data element's legend can be used as a toggle. You can view Articles, Reviews, or Non-Citable (other) items to the JIF numerator. [Learn more](#)

ARTICLE CITATION MEDIAN

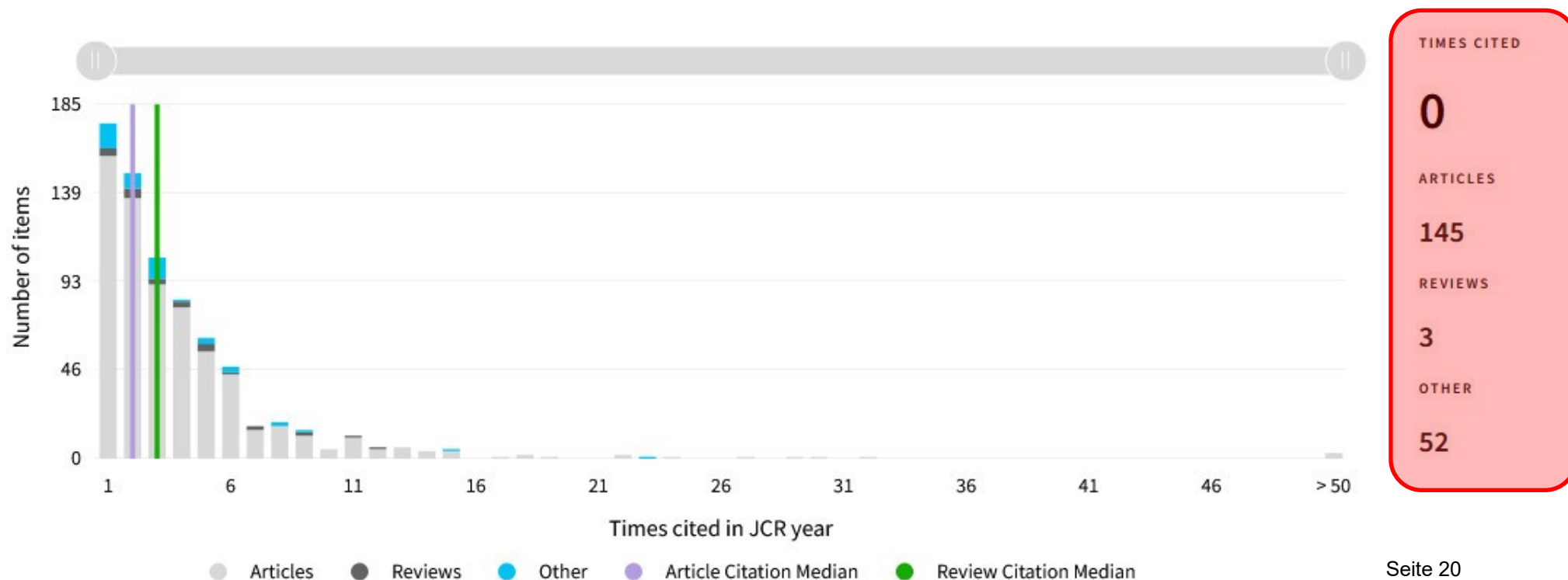
2

REVIEW CITATION MEDIAN

3

UNLINKED CITATIONS

54



# The world's leading journals and publisher-neutral data

Journal name/abbreviation, ISSN/eISSN, category, publisher, country/region



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Publishers



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# Journal Citation Reports™

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## 254 categories

See all 21 Groups

Journal name/abbreviation, ISSN/eISSN, category, publisher, country/region



Export

Customize

Filter

Category	Group	Edition	# of journals	Citable Items	Total Citations	Median impact factor
EDUCATION & EDUCATIONAL RESEARCH	Multidisciplinary; Social Sciences, General	ESCI	473	18,954	172,796	N/A
ECONOMICS	Economics & Business; Social Sciences, General	SSCI	382	27,847	1,613,324	2.045
MATERIALS SCIENCE, MULTIDISCIPLINARY	Materials Science; Multidisciplinary	SCIE	346	169,440	7,246,761	3.786
MATHEMATICS	Mathematics	SCIE	333	36,491	726,095	0.963
BIOCHEMISTRY & MOLECULAR BIOLOGY	Biology & Biochemistry; Chemistry	SCIE	297	81,562	5,450,719	4.212
HISTORY	History & Archaeology	AHCI	289	7,809	86,543	N/A
PHARMACOLOGY & PHARMACY	Biology & Biochemistry; Chemistry; Clinical Medicine	SCIE	279	59,278	2,577,993	3.580
ENVIRONMENTAL SCIENCES	Biology & Biochemistry; Multidisciplinary	SCIE	279	126,235	4,590,153	3.692





Filter

### Citation Index

Filter on specific editions of the Web of Science Core Collection. By default, all are selected.

- Science Citation Index Expanded (SCIE)
- Social Science Citation Index (SSCI)
- Arts & Humanities Citation Index (AHCI)
- Emerging Sources Citation Index (ESCI)

Reset Apply

Filter

### Browse categories by group

- Categories (58)
- Citation Indexes
- JCR Year

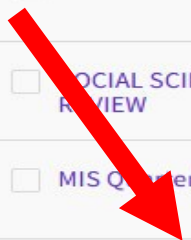
Reset Apply

### Search categories (Web of Science)

Search

- Cultural Studies
- Demography
- Development Studies
- Economics
- Education & Educational Research
- Education, Special
- Environmental Studies
- Ergonomics
- Ethics
- Ethnic Studies
- Family Studies
- Geography
- Gerontology
- Green & Sustainable Science & Technology
- Health Policy & Services
- History
- History & Philosophy Of Science
- History Of Social Sciences
- Hospitality, Leisure, Sport & Tourism
- Industrial Relations & Labor
- Information Science & Library Science
- International Relations
- Law
- Psychology, Biological
- Psychology, Clinical
- Psychology, Developmental
- Psychology, Educational
- Psychology, Experimental
- Psychology, Mathematical
- Psychology, Multidisciplinary
- Psychology, Psychoanalysis
- Psychology, Social
- Public Administration
- Public, Environmental & Occupational Health
- Regional & Urban Planning
- Rehabilitation
- Social Issues
- Social Sciences, Biomedical
- Social Sciences, Interdisciplinary
- Social Sciences, Mathematical Methods
- Social Work
- Sociology
- Substance Abuse
- Transportation
- Urban Studies
- Womens Studies

Journal name	ISSN	eISSN	Category	Total Citations	2022 JIF	JIF Quartile	2022 JCI	% of OA Gold
<input type="checkbox"/> Information Technology for Development	0268-1102	1554-0170	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	1,554	4.8	Q2	1.24	15.50 %
<input type="checkbox"/> Journal of Global Information Management	1062-7375	1533-7995	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	1,414	4.7	Q2	1.20	90.56 %
<input type="checkbox"/> Information Technology & People	0959-3845	1758-5813	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	3,104	4.4	Q2	1.28	6.48 %
<input type="checkbox"/> JOURNAL OF HEALTH COMMUNICATION	1081-0730	1087-0415	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	6,850	4.4	Q2	1.21	7.60 %
<input type="checkbox"/> International Journal of Computer-Supported Collaborative Learning	1556-1607	1556-1615	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	1,166	4.3	Q2	1.85	37.93 %
<input type="checkbox"/> Profesional de la Informacion	1386-6710	1699-2407	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	2,530	4.2	Q2	1.12	18.40 %
<input type="checkbox"/> SOCIAL SCIENCE COMPUTER REVIEW	0894-4393	1552-8286	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	3,645	4.1	Q2	1.41	16.72 %
<input type="checkbox"/> MIS Quarterly Executive	1540-1960	1540-1979	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	1,449	4.1	Q2	1.20	0.00 %
<input type="checkbox"/> SCIENTOMETRICS	0138-9130	1588-2861	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	20,613	3.9	Q2	0.86	26.71 %
<input type="checkbox"/> Health Information and Libraries Journal	1471-1834	1471-1842	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	2,032	3.8	Q2	1.01	15.44 %
<input type="checkbox"/> Journal of Informetrics	1751-1577	1875-5879	INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI	6,482	3.7	Q2	1.01	24.75 %



## Rank by Journal Impact Factor





Journals within a category are sorted in descending order by Journal Impact Factor (JIF) resulting in the Category Ranking below. A separate rank is shown for each category in which the journal is listed in JCR. Data for the most recent year is presented at the top of the list, with other years shown in reverse chronological order. [Learn more](#)

EDITION  
Science Citation Index Expanded (SCIE)

CATEGORY

COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS

**52/110**





JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE	
2022	52/110	Q2	53.2	
2021	54/112	Q2	52.23	
2020	53/111	Q2	52.70	
2019	45/109	Q2	59.17	

EDITION  
Social Sciences Citation Index (SSCI)

CATEGORY

INFORMATION SCIENCE & LIBRARY SCIENCE

**30/84**

JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE	
2022	30/84	Q2	64.9	
2021	29/84	Q2	66.07	
2020	32/85	Q2	62.94	
2019	21/87	Q1	76.44	





## Sources

Title



Enter title

Find sources



### Improved Citescore

We have updated the CiteScore methodology to ensure a more robust, stable and comprehensive metric which provides an indication of research impact, earlier. The updated methodology will be applied to the calculation of CiteScore, as well as retroactively for all previous CiteScore years (ie. 2018, 2017, 2016...). The previous CiteScore values have been removed and are no longer available.

[View CiteScore methodology.](#)

### Filter refine list

Apply

Clear filters

### Display options

Display only Open Access journals

Counts for 4-year timeframe

No minimum selected

Minimum citations

Minimum documents

Citescore highest quartile

Show only titles in top 10 percent

1st quartile

2nd quartile

3rd quartile

4th quartile

44,034 results

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All

[Export to Excel](#)

[Save to source list](#)

View metrics for year: 2021

	Source title ↓	CiteScore ↓	Highest percentile ↓	Citations 2018-21 ↓	Documents 2018-21 ↓	% Cited ↓
<input type="checkbox"/> 1	Ca-A Cancer Journal for Clinicians (opens in a new window)	716.2	99% 1/360 Oncology	76'632	107	91
<input type="checkbox"/> 2	Nature Reviews Molecular Cell Biology (opens in a new window)	140.9	99% 1/386 Molecular Biology	28'743	204	90
<input type="checkbox"/> 3	The Lancet (opens in a new window)	115.3	99% 1/826 General Medicine	198'711	1'723	76
<input type="checkbox"/> 4	New England Journal of Medicine (opens in a new window)	110.5	99% 2/826 General Medicine	261'485	2'367	85

## Sources

Enter title

methodology to ensure a more robust, stable and comprehensive metric which provides an indication of research impact, earlier. The updated methodology will be applied to the calculation of CiteScore, as well as retroactively for all previous CiteScore years (i.e. 2018, 2017, 2016...). The previous CiteScore values have been removed and are no longer available.

[View CiteScore methodology.](#)

### Filter refine list

### Display options

Display only Open Access journals

Counts for 4-year timeframe

No minimum selected

Minimum citations

Minimum documents

Citescore highest quartile

Show only titles in top 10 percent

1 result

[Download Scopus Source List](#) [Learn more about Scopus Source List](#)

All

View metrics for year: 2020

	Source title ↓	CiteScore ↓	Highest percentile ↓	Citations 2017-20 ↓	Documents 2017-20 ↓	% Cited ↓
<input type="checkbox"/> 1	Scientometrics	5.2	95% 13/260 General Social Sciences	7'079	1'349	76

[Top of page](#)

Scientometrics

## Source details

[Feedback >](#) [Compare sources >](#)

### Scientometrics

Scopus coverage years: from 1978 to Present

Publisher: Akademiai Kiado

ISSN: 0138-9130 E-ISSN: 1588-2861

Subject area: [Social Sciences: General Social Sciences](#) [Social Sciences: Library and Information Sciences](#) [Computer Science: Computer Science Applications](#)

Source type: Journal

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CiteScore 2022	6.0	<a href="#">i</a>
SJR 2022	1.019	<a href="#">i</a>
SNIP 2022	1.520	<a href="#">i</a>

[CiteScore](#) [CiteScore rank & trend](#) [Scopus content coverage](#)

**i** Improved CiteScore methodology x  
CiteScore 2022 counts the citations received in 2019-2022 to articles, reviews, conference papers, book chapters and data papers published in 2019-2022, and divides this by the number of publications published in 2019-2022. [Learn more >](#)

CiteScore 2022 v  
**6.0** =  $\frac{8'321 \text{ Citations 2019 - 2022}}{1'383 \text{ Documents 2019 - 2022}}$   
Calculated on 05 May, 2023

CiteScoreTracker 2023 [i](#)  
**7.2** =  $\frac{9'926 \text{ Citations to date}}{1'378 \text{ Documents to date}}$   
Last updated on 05 April, 2024 - Updated monthly

CiteScore rank 2022 [i](#)

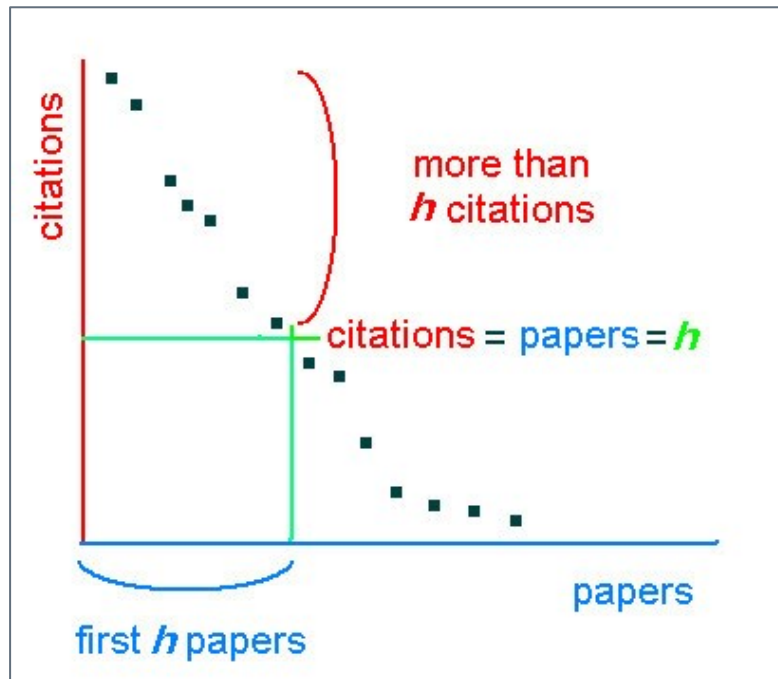
Category	Rank	Percentile
Social Sciences		
└ General Social Sciences	#18/262	<div style="width: 93%;"></div> 93rd
Social Sciences		
└ Library and Information Sciences	#33/266	<div style="width: 87%;"></div> 87th
Computer Science		
└ Computer Science Applications	#207/792	<div style="width: 73%;"></div> 73rd

## 2. Analysen basierend auf Zitationen

- a) Populäre bibliometrische Indikatoren
- **h-Index**
  - Journal Impact Factor


## h-Index (Hirsch-Index)

- Auch Hirsch-Faktor, Hirsch-Koeffizient oder h-Zahl
- Wurde 2005 vom argentinischen Physiker **Jorge E. Hirsch** vorgeschlagen, um die wissenschaftliche Leistung eines Autors zu bewerten.
- Mass zum Vergleich der **Lebenszeitleistung** von Forschern



Ein h-Index von 10 bedeutet zum Beispiel, dass 10 Veröffentlichungen eines Wissenschaftlers mindestens 10 Mal zitiert wurden.

## Ermittlung des h-Indexes am Beispiel von Prof. Christian Berndt in Scopus

Author *h*-index : 15 [View \*h\*-graph ?](#) Sort on: Citation count (descending) 

Page  Remove

Documents	Citations	<2018	2018	2019	2020	2021	2022	Subtotal	>2022	Total
	Total	492	102	79	113	147	48	489	0	981
<input type="checkbox"/> 1 Geographies of circulation and exchange: Constructions of ma...	2009	96	21	7	13	22	4	67		163
<input type="checkbox"/> 2 Spatial proximity effects and regional equity gaps In the ve...	2005	63	6	10	8	11	4	39		102
<input type="checkbox"/> 3 Geographies of markets: Materials, morals and monsters In mo...	2011	47	12	3	7	13	2	37		84
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<input type="checkbox"/> 5 Performative regional (dis)integration: Transnational market...	2011	29	10	8	8	6	1	33		62
<input type="checkbox"/> 6 Behavioural economics, experimentalism and the marketization...	2015	9	7	11	11	15	7	51		60
<input type="checkbox"/> 7 Venture capital programmes In the UK and Germany: In what se...	2005	47	4	2	1	2		9		56
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<input type="checkbox"/> 12 Assembling market b/orders: Violence, dispossession, and eco...	2013	14	9	2	2	2	2	17		31
<input type="checkbox"/> 13 The rescaling of labour regulation In Germany: From national...	2000	21				1		1		22
<input type="checkbox"/> 14 [Institutions, regulation and geography, Institutionen, regu...	1999	21						0		21
<input type="checkbox"/> 15 Ruhr firms between dynamic change and structural persistence...	1998	18		1				1		19
<input type="checkbox"/> 16 [A market that cares. How transnational care agencies legiti...	2014	1	3	3	3	4		13		14
<input type="checkbox"/> 17 Struggling for the Moral Market: Economic Knowledge, Diverse...	2019				3	6	3	12		12
<input type="checkbox"/> 18 [Cultural geographies of economies, Kulturelle Geographien d...	2005	12						0		12
<input type="checkbox"/> 19 El Paso del Norte... modernization utopias, othering and man...	2003	11		1				1		12
<input type="checkbox"/> 20 [Labour geography: Towards an Inter-disciplinary research ag...	2002	9						0		9

15 Veröffentlichungen  
wurden mindestens  
15 Mal zitiert

## Quantitative Bewertung von Wissenschaftlern

- Anzahl Publikationen
- Wie oft wurde ein Wissenschaftler zitiert  
(mit/ohne Selbstzitationen self citations)
- h-Index

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# Autoren Profil



**Bernhard Schmid** ✓

(Schmid, Bernhard)

Highly Cited Researcher Top peer reviewer  
University of Zurich

Web of Science ResearcherID: C-8625-2009

Published names Schmid, Bernhard Schmid, B SCHMID, B Schmid, B.

Published Organizations Research Center Julich, Peking University, University of Zurich [Show more](#)

Subject Categories Environmental Sciences & Ecology; Plant Sciences; Science & Technology - Other Topics; Evolutionary Biology; Forestry

Awards  
Highly Cited Researcher in the field of Cross-Field - 2019  
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Plant diversity and community age stabilize ecosystem multifunctionality  
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Times  
Cited

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Compartment Electrolyzer  
[Rutjens, Bastian](#); [von Foerster, Konstantin](#); (...); [Eichel, Ru'diger-A.](#)  
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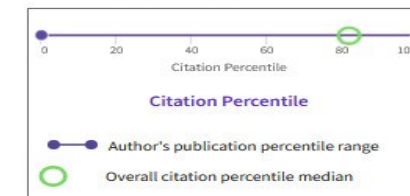
498 Total documents  
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449 Web of Science Core Collection publications  
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Web of Science Core Collection metrics

97 H-Index	449 Publications
44,012 Sum of Times Cited	27,999 Citing Articles
23 Sum of Times Cited by Patents	23 Citing Patents

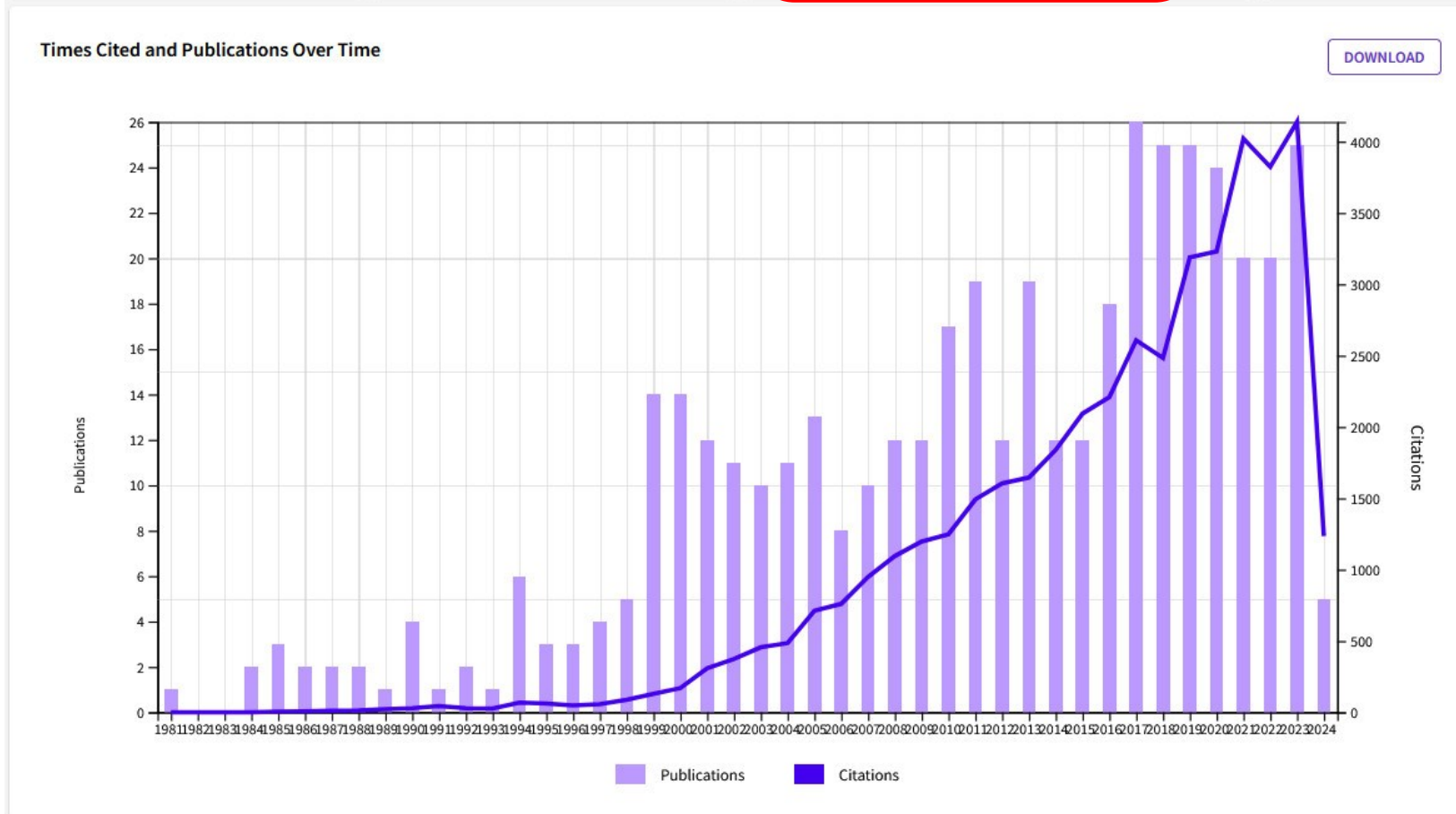
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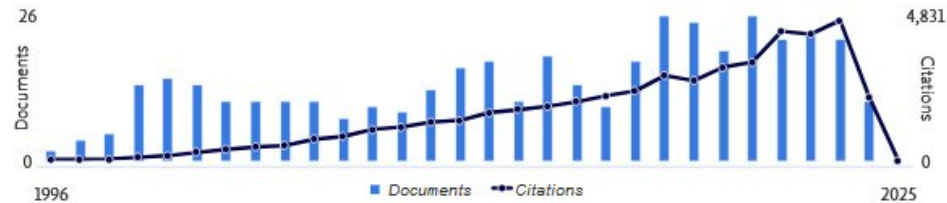
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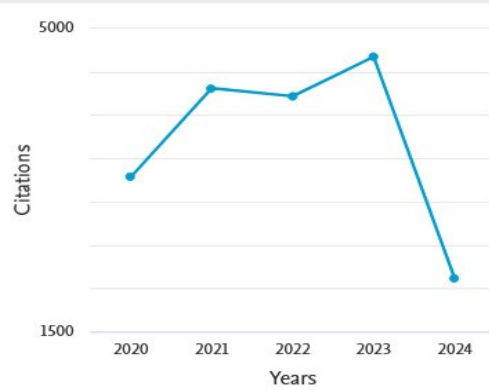
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<input type="checkbox"/> 2 Cultivar mixtures increase crop yields and temporal yield st...	2024							0		0
<input type="checkbox"/> 3 The functional diversity-productivity relationship of woody ...	2024							0		0
<input type="checkbox"/> 4 Functional dissimilarity in mixed forests promotes stem radl...	2024						1	1		1

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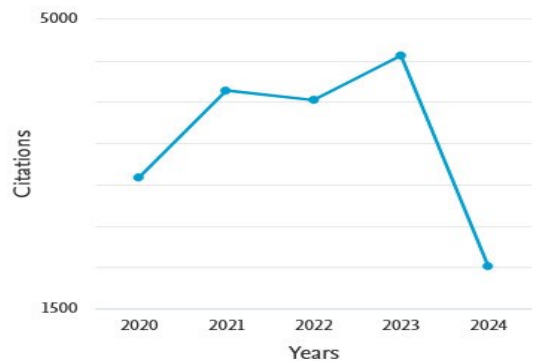
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<input type="checkbox"/> 1 Effects of plant diversity on productivity strengthen over t...	2024							0		0
<input type="checkbox"/> 2 Cultivar mixtures increase crop yields and temporal yield st...	2024							0		0
<input type="checkbox"/> 3 The functional diversity-productivity relationship of woody ...	2024							0		0
<input type="checkbox"/> 4 Functional dissimilarity in mixed forests promotes stem radi...	2024						1	1		1
<input type="checkbox"/> 5 Plant diversity and community age stabilize ecosystem multif...	2024							0		0

Passt den h-Index an

Ohne Selbstzitationen

## Vorteile des h-index

- Robuster Faktor
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  - "bestraft" Autoren, die wenig zitiert/nicht zitiert werden, aber viel veröffentlichen
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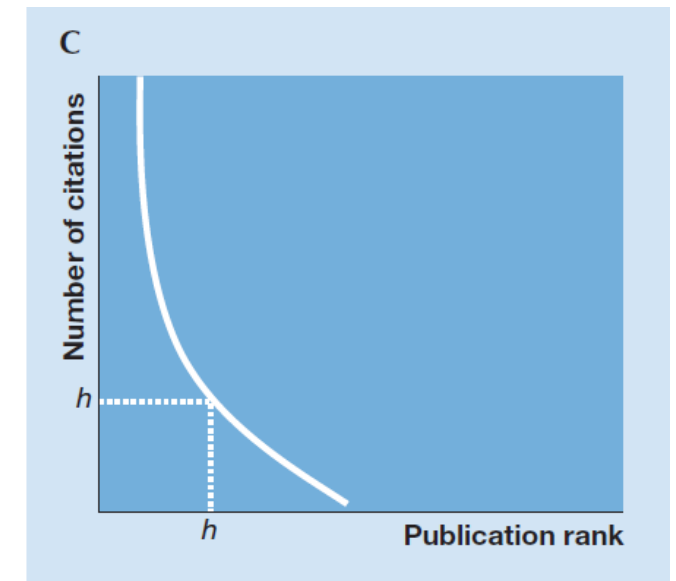
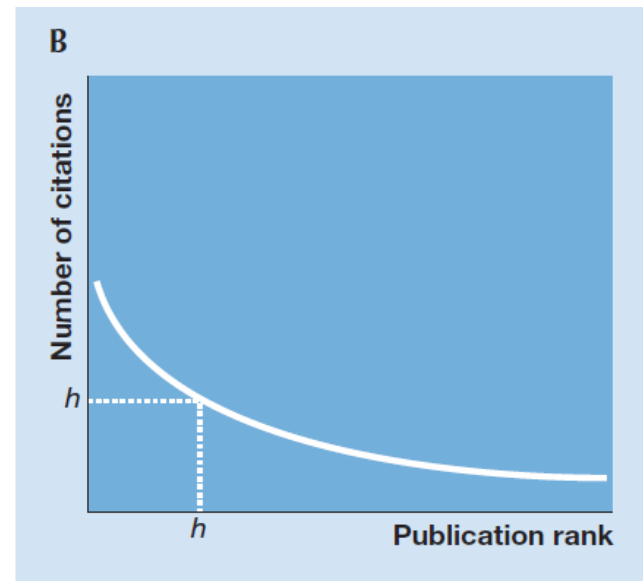
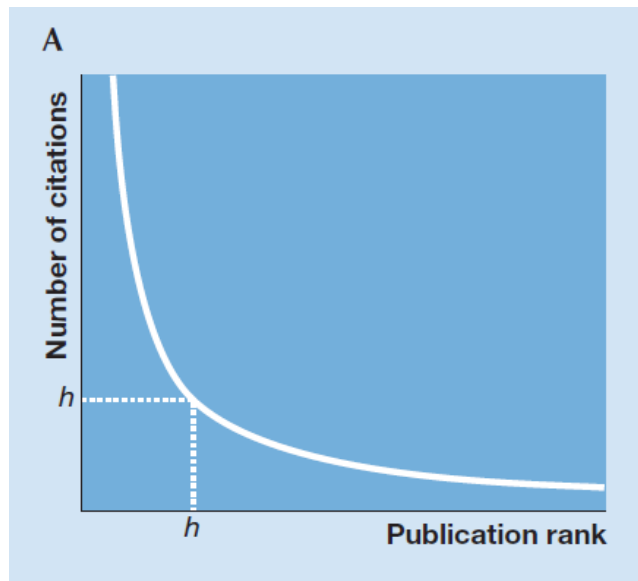
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- 'bahnbrechende' Arbeit wird nicht gebührend gewürdigt
- Beeinflusst durch die Länge der Laufbahn
  - m-Quotient (Hirsch, 2005):  $h\text{-Index} / \text{Anzahl der Jahre seit der ersten Veröffentlichung}$ .
  - Zeitgenössischer h-Index (Sidiropoulos et al., 2007): neu veröffentlicht mehr gewichtet
- Keine "h-index Standards"
- Vergleiche nur innerhalb der gleichen Disziplin!  
(je nach Forschungsgebiet)



## h-Graph

Gleicher h-Index hat nicht unbedingt die gleiche Bedeutung



*Graphiken von Sven Hug, lic. phil., ehemaliger wissenschaftlicher Mitarbeiter der Evaluationsstelle UZH*

⇒ h-Graph in Scopus nützlich

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## Ergebnisse einer thematischen Suche analysieren

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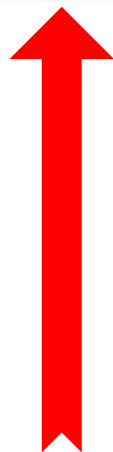
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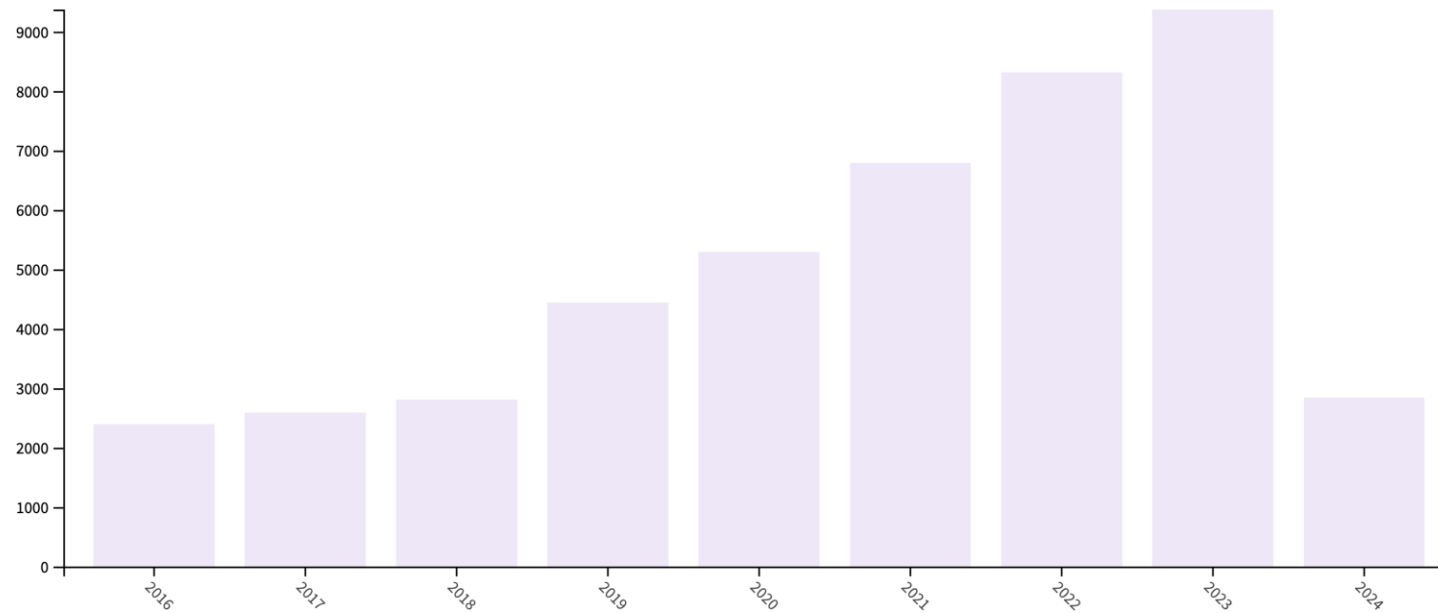
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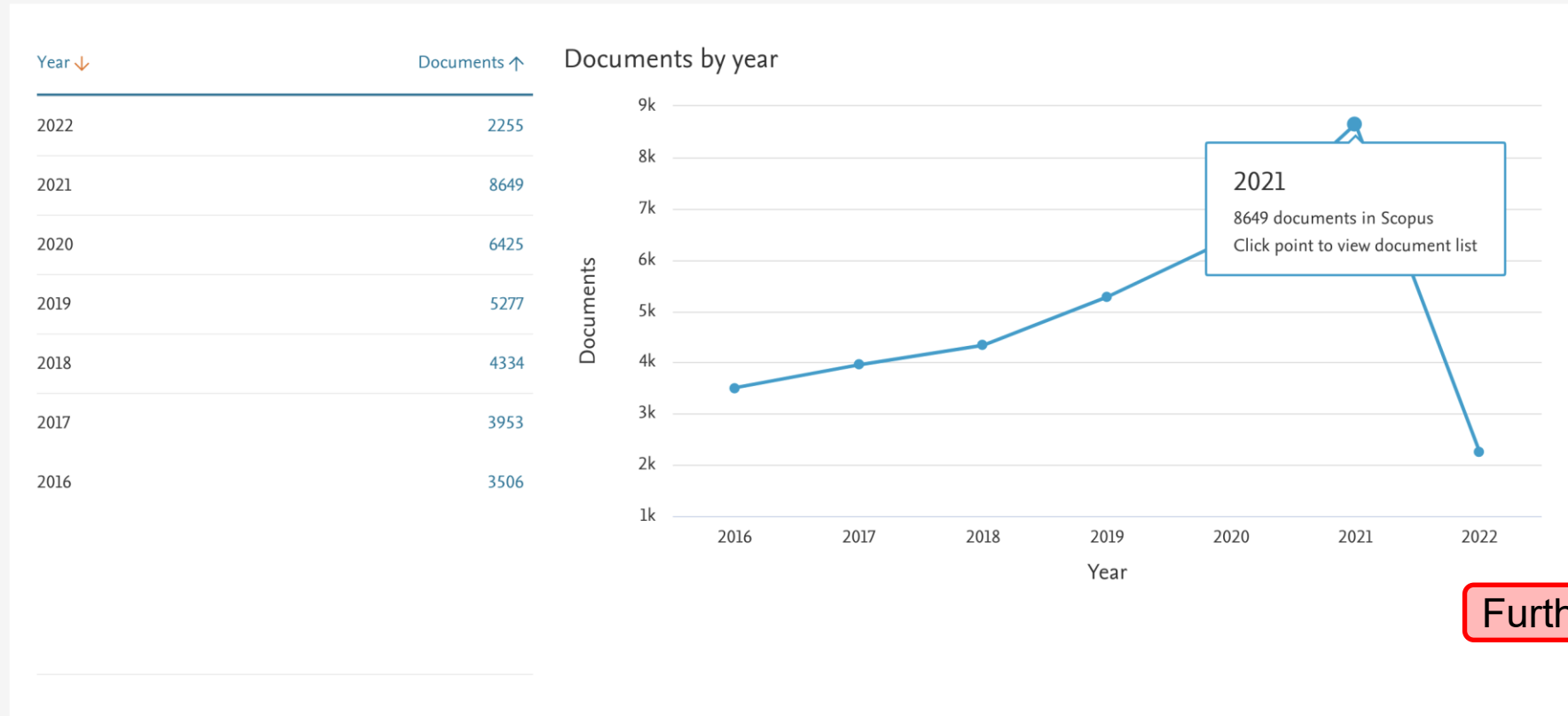
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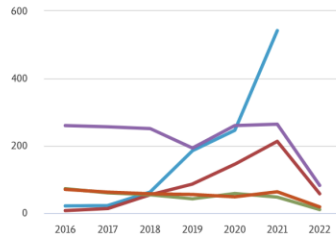


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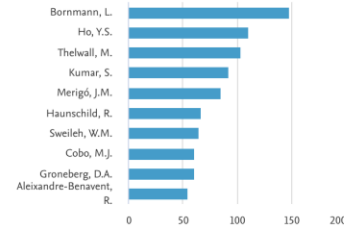


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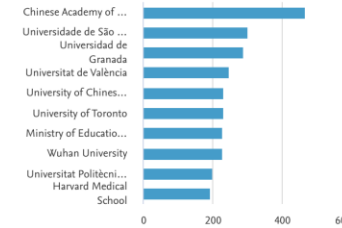
Documents per year by source



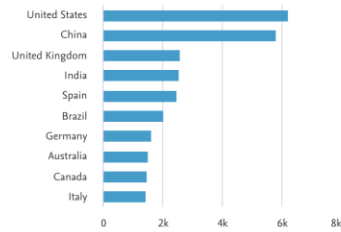
Documents by author



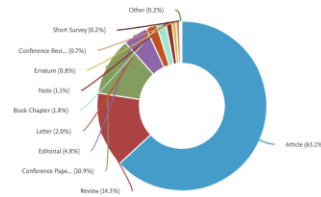
Documents by affiliation



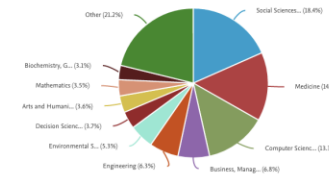
Documents by country/territory



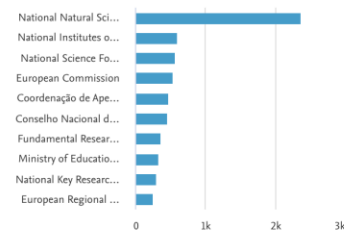
Documents by type



Documents by subject area

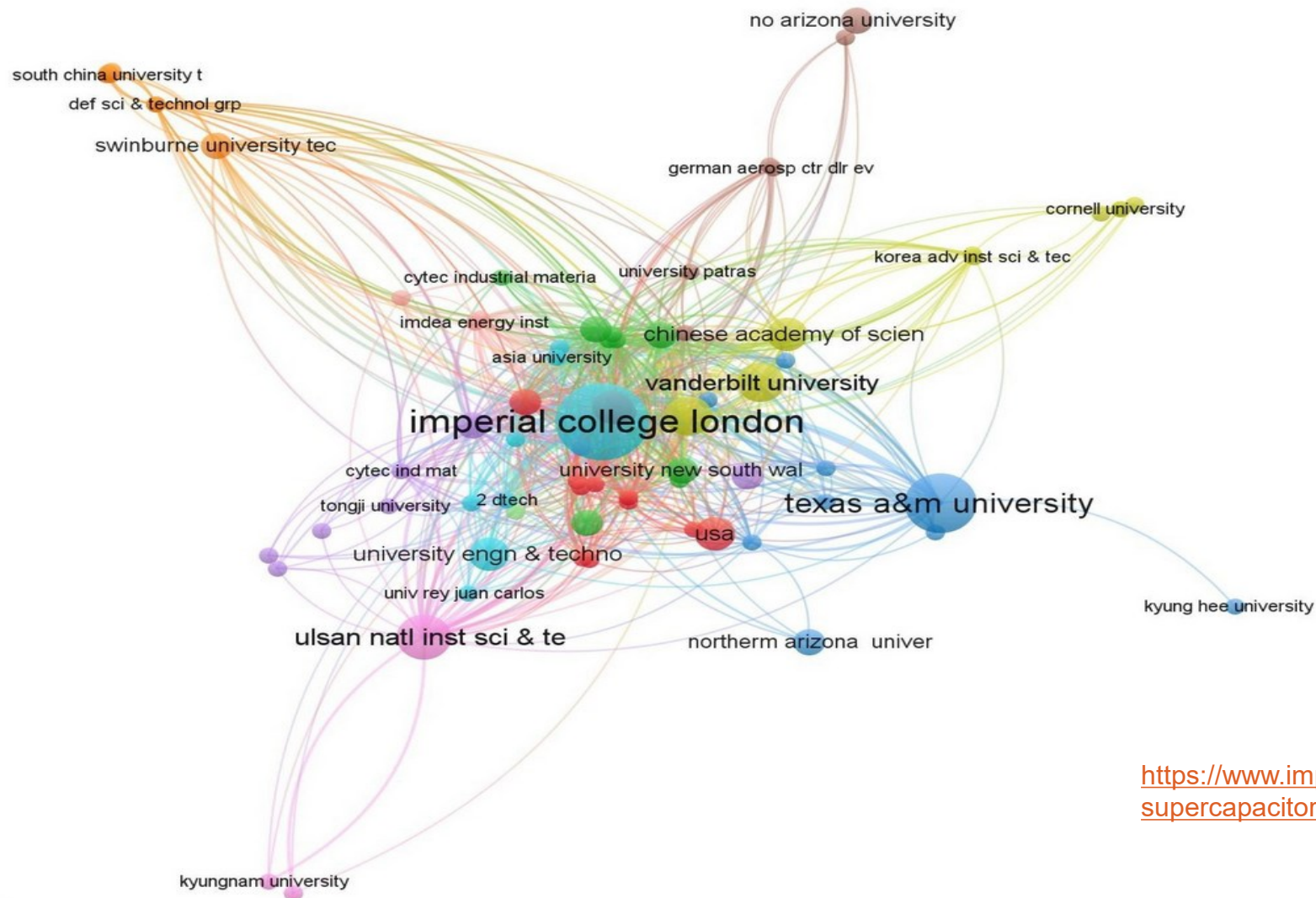


Documents by funding sponsor





The image below shows organizational networks for journal articles on structural supercapacitors. The dot size in the networks relate to the number of publications by institute, and their position relates to their frequency of citation by others.



<https://www.imperial.ac.uk/structural-power-composites/structural-supercapacitors/international-landscape/>

## 4. Anwendungen in Google Scholar und Altmetrics

## Suche nach bibliometrischen Daten mit Google Scholar

 My profile (erfordert ein Google-Konto)

Beispiel für ein Profil: Prof. Dr. Michael Schaepman

[https://scholar.google.co.uk/citations?hl=de&user=w\\_DZ9\\_wAAAAJ&inst=13856427432203950092](https://scholar.google.co.uk/citations?hl=de&user=w_DZ9_wAAAAJ&inst=13856427432203950092)

Analysetools für Google Scholar :

- Scholarometer (Browser Add-on)  
<http://scholarometer.indiana.edu/>
- Publish or Perish (Softwareprogramm)  
<http://www.harzing.com/resources/publish-or-perish>

**ACHTUNG:** Google Scholar ist keine gepflegte Datenbank!



## Michael E. Schaepman

FOLGEN

President and Professor of Remote Sensing, [University of Zurich](#)  
Bestätigte E-Mail-Adresse bei [geo.uzh.ch](#) - [Startseite](#)

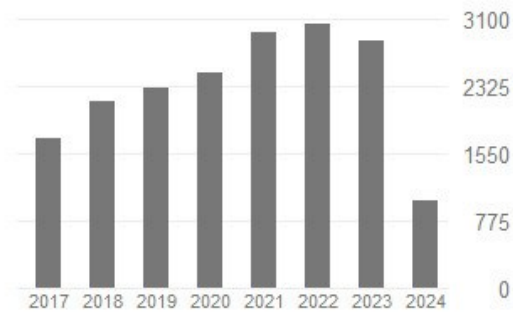
[Earth System Science](#) [Earth Observation](#) [Remote Sensing](#) [Imaging Spectroscopy](#)

EIGENES PROFIL ERSTELLEN

### Metrics

Zitiert von [ALLE ANZEIGEN](#)

	Alle	Seit 2019
Zitate	27899	14701
h-index	78	61
i10-index	288	192



Öffentlicher Zugriff [ALLE ANZEIGEN](#)

10 Artikel	70 Artikel
nicht verfügbar	verfügbar

TITEL	ZITIERT VON	JAHR
<a href="#">Reflectance quantities in optical remote sensing—Definitions and case studies</a> G Schaepman-Strub, ME Schaepman, TH Painter, S Dangel, ... Remote sensing of environment 103 (1), 27-42 1'040 3 731 2	1313	2006
<a href="#">Proxy global assessment of land degradation</a> ZG Bai, DL Dent, L Olsson, ME Schaepman Soil use and management 24 (3), 223-234 800 12 504 6	1287	2008
<a href="#">Intercomparison, interpretation, and assessment of spring phenology in North America estimated from remote sensing for 1982–2006</a> MA White, KM de Beurs, K Didan, DW Inouye, AD Richardson, OP Jensen, ... Global change biology 15 (10), 2335-2359 898 20 686 1	1146	2009
<a href="#">The use of remote sensing in soil and terrain mapping—A review</a> VL Mulder, S De Bruin, ME Schaepman, TR Mayr Geoderma 162 (1-2), 1-19 623 2 309 1	931	2011
<a href="#">Retrieval of foliar information about plant pigment systems from high resolution spectroscopy</a>	745	2009

# The toxic truth about sugar

Overview of attention for article published in Nature, February 2012

## Altmetric



### About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

### Mentioned by

- 35 news outlets
- 33 blogs
- 3 policy sources
- 1500 tweeters
- 1 patent
- 51 Facebook pages
- 6 Wikipedia pages
- 20 Google+ users
- 1 LinkedIn user
- 3 Redditors
- 6 video uploaders

### Citations

- 515 Dimensions

### SUMMARY

News

Blogs

Policy documents

Twitter

Patents

Facebook

Wikipedia

Google+

LinkedIn

Title	The toxic truth about sugar
Published in	Nature, February 2012
DOI	10.1038/482027a
Pubmed ID	22297952
Authors	Robert H. Lustig, Laura A. Schmidt, Claire D. Brindis

View on publisher site

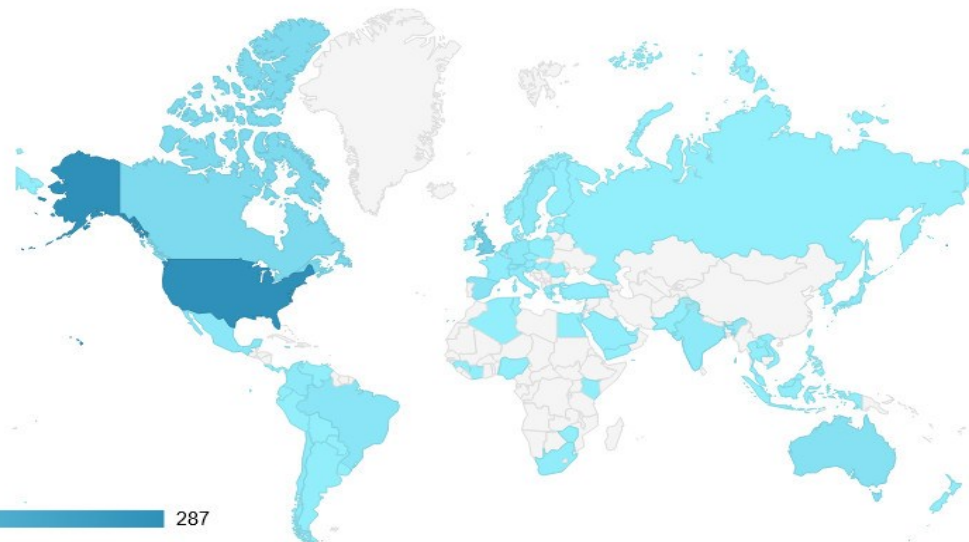
Alert me about new mentions

### TWITTER DEMOGRAPHICS

### MENDELEY READERS

### ATTENTION SCORE IN CONTEXT

The data shown below were collected from the profiles of 1,500 tweeters who shared this research output. [Click here to find out more about how the information was compiled](#)





# Altmetric

## Introduction to the Bookmarklet

Modified on: Fri, 27 Nov, 2020 at 11:56 AM

The Altmetric Bookmarklet is a free browser tool for Chrome, Safari, and Firefox that lets you easily find out how much attention that recent papers have received online.

Click the Bookmarklet's "**Altmetric It!**" button, all of the [altmetrics](#) data for that paper will appear on the right side of the page.



# Altmetrics in ZORA (Original in Altmetric)

Universität Zürich UZH

ZORA Über ZORA OA-Team Statistik Anmelden DE EN

Jahr Autoren & Herausgeber Communities & Collections DDC Scopus Fachgebiete

Suche in allen Metadaten und im Volltext

Erweiterte Suche Hilfe

## TRY plant trait database – enhanced coverage and open access

Kattge, Jens; Bönisch, Gerhard; Díaz, Sandra; Lavorel, Sandra; Prentice, Iain Colin; Leadley, Paul; Tautenhahn, Susanne; Werner, Gijsbert D A; Aakala, Tuomas; Abedi, Mehdi; Acosta, Alicia T R; Adamidis, George C; Adamson, Kairi; Aiba, Masahiro; Albert, Cécile H; Alcántara, Julio M; Alcázar C, Carolina; Aleixo, Izabela; Ali, Hamada; Amiaud, Bernard; Ammer, Christian; Amoroso, Mariano M; Anand, Madhur; Anderson, Carolyn; Anten, Niels; Antos, Joseph; Apgaua, Deborah Mattos Guimarães; Ashman, Tia-Lynn; Asmara, Degi Harja; Asner, Gregory P; Schmid, Bernhard; et al (2020). *TRY plant trait database – enhanced coverage and open access*. *Global Change Biology*, 26(1):119-188.

Kopieren

### Kurzfassung

Plant traits—the morphological, anatomical, physiological, biochemical and phenological characteristics of plants—determine how plants respond to environmental factors, affect other trophic levels, and influence ecosystem properties and their benefits and detriments to people. Plant trait data thus represent the basis for a vast area of research spanning from evolutionary biology, community and functional ecology, to biodiversity conservation, ecosystem and landscape management, restoration, biogeography and earth system modelling. Since its foundation in 2007, the TRY database of plant traits has grown continuously. It now provides unprecedented data coverage under an open access data policy and is the main plant trait database used by the research community worldwide. Increasingly, the TRY database also supports new frontiers of trait-based plant research, including the identification of data gaps and the subsequent mobilization or measurement of new data. To support this development, in Mehr dazu...

### Zitationen

461 Dimensions.ai Metrics

354 Zitationen in Web of Science®  
332 Zitationen in Scopus®  
Google Scholar™

### Altmetrics

212

- Tweeted by 276
- Blogged by 2
- Picked up by 4 news outlets
- On 7 Facebook pages
- 977 readers on Mendeley

[View details on Altmetric's website](#)

### Downloads

19 Downloads seit Hinterlegung am 30 Jul. 2020  
8 Downloads seit 12 Monaten  
[Detaillierte Angaben](#)



# Metriken auf sozialen Plattformen



**Michael Schaepman**

Prof. Dr. sc. nat. · Chair at University of Zurich  
Switzerland

Research Interest Score 9,734

Citations 14,439

h-index 58

[Citations over time](#)

Profile

Research (492)

Stats

Follow

Message

More ▾

## Stats overview

**9,734**

Research Interest Score

**167,223**

Reads ⓘ

**14,439**

Citations

**761**

Recommendations

## Research Interest Score

We've improved the **Research Interest Score** to better help you understand an author's impact at a glance.

[Learn more on our blog](#)



×

## Was können Forschungsindikatoren leisten?

Bibliometrische Daten werden nach wie vor häufig als Entscheidungshilfe für die Verteilung von Budgets oder für die Vergabe von Stellen oder Preisen herangezogen. Die Antragsteller müssen die entsprechenden Daten in der Regel selbst bereitstellen.

Wer schreibt zum Thema, wer zitiert wen, wer kooperiert mit wem?

- Zitationsbasierte Indikatoren sagen etwas über die Vergangenheit aus.
- Was in der Vergangenheit stimmte, muss nicht für die Zukunft stimmen
- Die Zahlen müssen immer in Bezug zum Fachbereich gesetzt und betrachtet werden!
- Menschen reagieren auf Bedingungen (Indikatoren werden zu Anreizen)
- Perverse Effekte = falsche Indikatoren/Anreize

*„Während der Kolonialzeit hatten die Franzosen im vietnamesischen Hanoi mit einer Rattenplage zu kämpfen. Als Anreiz bezahlten sie den Einheimischen für jeden abgelieferten Rattenpelz eine Prämie. Das perverse Resultat davon: Die Leute begannen Ratten zu züchten.“ (Binswanger 2010)*



## RESEARCH QUALITY (SSH)



Valid measures for research quality?  
*bold and italic.* measured by commonly used indicators

1. *Scholarly exchange*
2. Innovation, originality
3. *Productivity*
4. Rigour
5. Fostering cultural memory
6. *Recognition*
7. Reflection, criticism
8. *Continuity, continuation*
9. *Impact on research community*
10. *Relation to and impact on society*
11. Variety of research
12. Connection to other research
13. Openness ideas and persons
14. Self-management, independence
15. Scholarship, erudition
16. Passion, enthusiasm
17. Vision of future research
18. Connection between research and teaching, scholarship of teaching
19. *Relevance*

## Further Reading



Kulczycki, E. (2022). *The Evaluation Game How Publication Metrics Shape Scholarly Communication*. Cambridge University Press. <https://doi.org/10.1017/9781009351218>

Video Recording:

<https://video.ethz.ch/events/2023/syos/3c4c3b1d-8655-496e-9fb2-49a37d79c8d1.html>

Betschart, Leo: Shenanigans with Impact Factors 1: The curious case of Acta Crystallographica Section A.  
<https://yearofsciencemetrics.ethz.ch/shenanigans-with-impact-factors-1-the-curious-case-of-acta-crystallographica-section-a/>