26th International Lab Meeting – Winter Session 2015
25th – 28th January 2015, Rome (Italy)

Key Lecture

Advanced Training in the meta-theoretical analysis of the specialised literature on Social Representations and Communication

SAPIENZA
UNIVERSITÀ DI ROMA

European/International Joint Ph.D.
in Social Representations and Communication

An introduction to Scopus and bibliometrics

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Rome, 26 January 2015

Empowering Knowledge

Agenda

- Scopus
  - Overview
  - Content Coverage
  - Content Selection Criteria
  - Author and Affiliation profiles
- Bibliometrics
  - Basic concepts
  - Use cases and applications
  - Journal Indicators
  - Alternative metrics

Scopus at-a-glance

- The largest abstract and citation database of peer-reviewed research literature from around the world
- More than 21,900 titles from more than 5,000 international publishers and 105 different countries
- Over 55 million records, 23 million patents from 5 patent offices worldwide
- All content is vigorously vetted by an independent, 15-person, international board of experts called the Content Selection and Advisory Board (CSAB)

How Scopus supports the researcher

Scopus is for academics, government researchers and corporate R&D professionals who need a comprehensive and efficient place to search, discover and analyze research:

- Find out what already exists in the global world of research output
- Determine how to differentiate research topics and find new ideas
- Decide what, where and with whom to partner or collaborate with
- Track impact of research; monitor global research trends
- Identify and analyze which journals to read or where to submit an article
- Help researchers manage their career through citation counts and the *h*-index

How Scopus supports the research manager

Scopus is the most comprehensive data source of scientific peer-reviewed literature and as such it can be used as a database for bibliometric analyses on the research activity of entities such as countries, institutions, researchers:

- Measure the scientific production of entities and its trend over time.
- Assess the scientific impact as captured by citations
- Analyze collaboration networks
- Evaluate the performance of research units
- Inform a publishing strategy to maximize the visibility and impact of scientific outputs.

What content is in Scopus?

Empowering Knowledge

How much content does Scopus include?

Over 55M records from **21,912** serial titles and **42,000** books (July 2014)
22M pre 1996 records | 33.0M post 1995 records

- Content from > 5,000 publishers
- “Articles in Press” from > 3,750 titles
- Titles from 105 different countries in all geographical regions
- 40 “local” languages covered
- More than 2,800 Gold Open Access journals indexed

Scopus is ideal compared to other products because it has the broadest coverage of global, curated, relevant research, with smart, simple tools to help track, analyze and visualize research.

What content does Scopus include?

Physical Sciences
6,600

Health Sciences
6,300

Social Sciences
6,350

Life Sciences
4,050

JOURNALS

21,912 peer-reviewed journals
367 trade journals

- Full metadata, abstracts and cited references (pre-1996)
- >2,800 fully Open Access titles
- Going back to 1823
- Funding data from acknowledgements

CONFERENCES

17k events
5.5M records (10%)

Conf. expansion:
1,000 conferences
6,000 conf. events
400k conf. papers
5M citations

Mainly Engineering and Physical Sciences

BOOKS

421 book series
- 28K Volumes
- 925K items

29,917 books
- 311K items

Books expansion:
75K books by 2015
- Focus on Social Sciences and A&H

PATENTS

24M patents from 5 major patent offices

All Science Journals Classification

- **4 domains**
  - Physical Sciences
  - Life Sciences
  - Health Sciences
  - Social Sciences and Humanities
- **27 subject areas**
- **334 subject fields**
- **Multidisciplinary journals (e.g. Nature, Science) are grouped under the “General” category (top level)**

Scopus covers different source types for a reason

JOURNALS

- Timely
- Peer-reviewed (formal research)

All subject fields, but typical fields with high ratio of journal publication: chemical, biological, health sciences etc.

CONFERENCES

- Preliminary research (can be a bit less formal)
- Newer ideas

Mainly of importance in Computer Science and Engineering-related subject fields

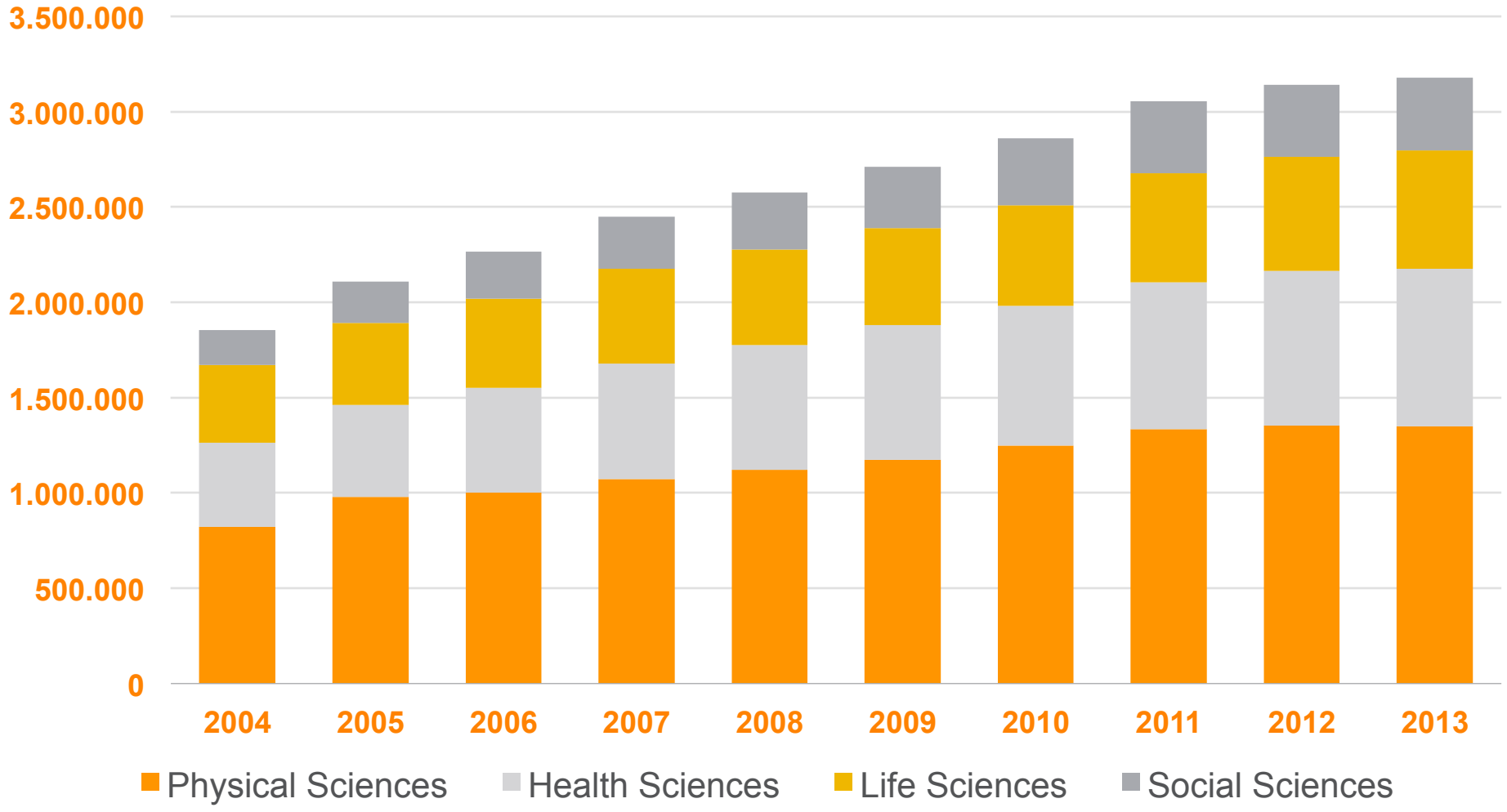
BOOKS

- Thorough analysis of a specific topic

Mainly of importance in Social Sciences and the Arts & Humanities

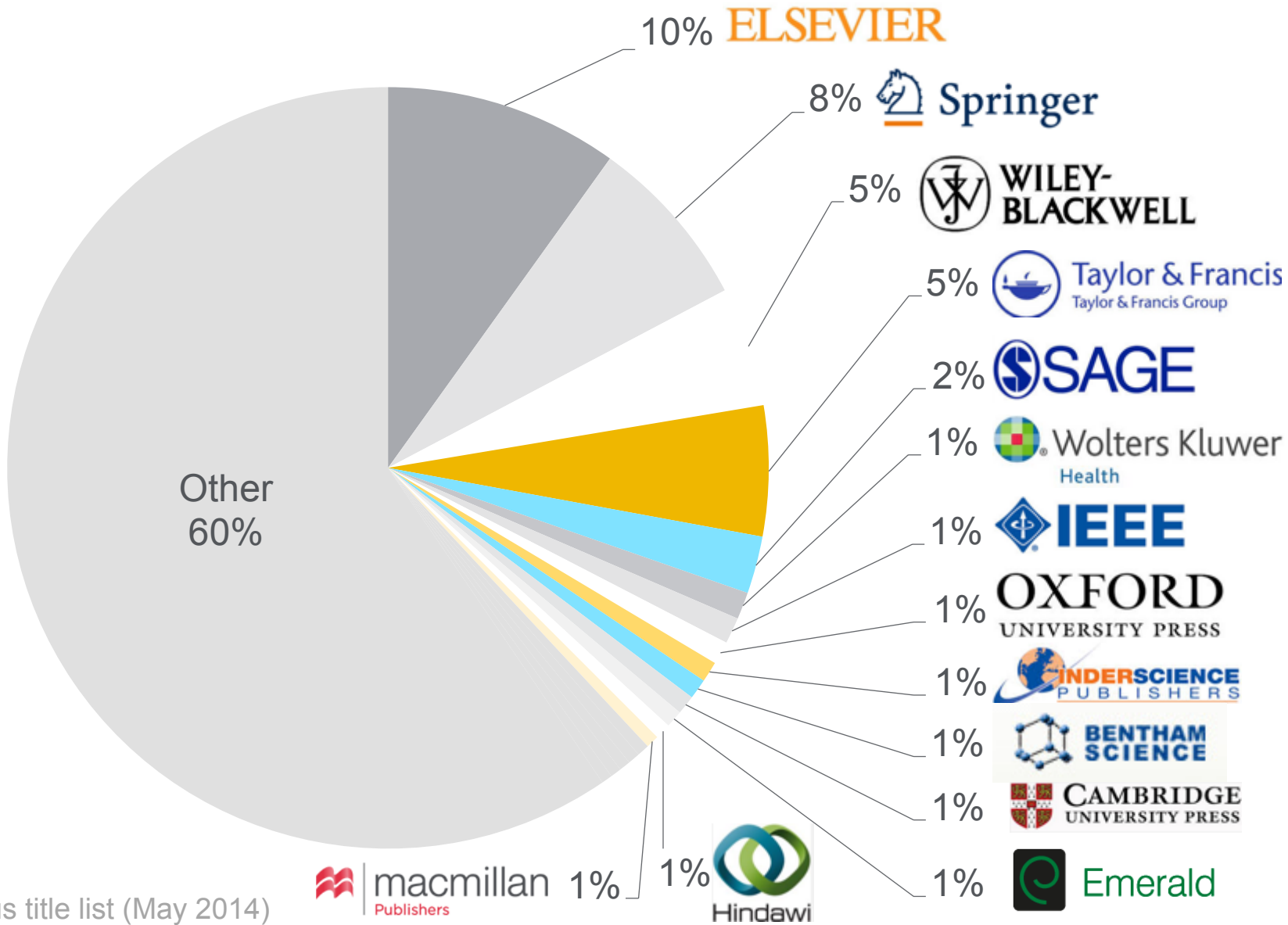
Different source types are added to ensure that coverage, discoverability, profiles and impact measurement for research in all subject fields is accounted for in Scopus.

Scopus article growth over years



Source: Scopus data 13 May 2014

Ratio of journals per Publisher in Scopus



Source: Scopus title list (May 2014)

How does Scopus choose content?

All titles should meet all minimum criteria in order to be considered for Scopus review:

- **Peer-review**
- **English abstracts**
- **Regular publication**
- **Roman script references**
- **Pub. ethics statement**

Eligible titles are reviewed by the Content Selection & Advisory Board according to a combination of 14 quantitative and qualitative selection criteria:

Journal Policy	Quality of Content	Journal Standing	Regularity	Online Availability
• Convincing editorial concept/policy • Type of peer-review • Diversity geographic distribution of editors • Diversity geographic distribution of authors	• Academic contribution to the field • Clarity of abstracts • Quality and conformity with stated aims & scope • Readability of articles	• Citedness of journal articles in Scopus • Editor standing	• No delay in publication schedule	• Content available online • English-language journal home page • Quality of home page

Info: **http://www.elsevier.com/online-tools/scopus/content-overview**
Questions: **titlesuggestion@scopus.com**

More on the CSAB…

Titles are selected by the independent Content Selection & Advisory Board (CSAB)

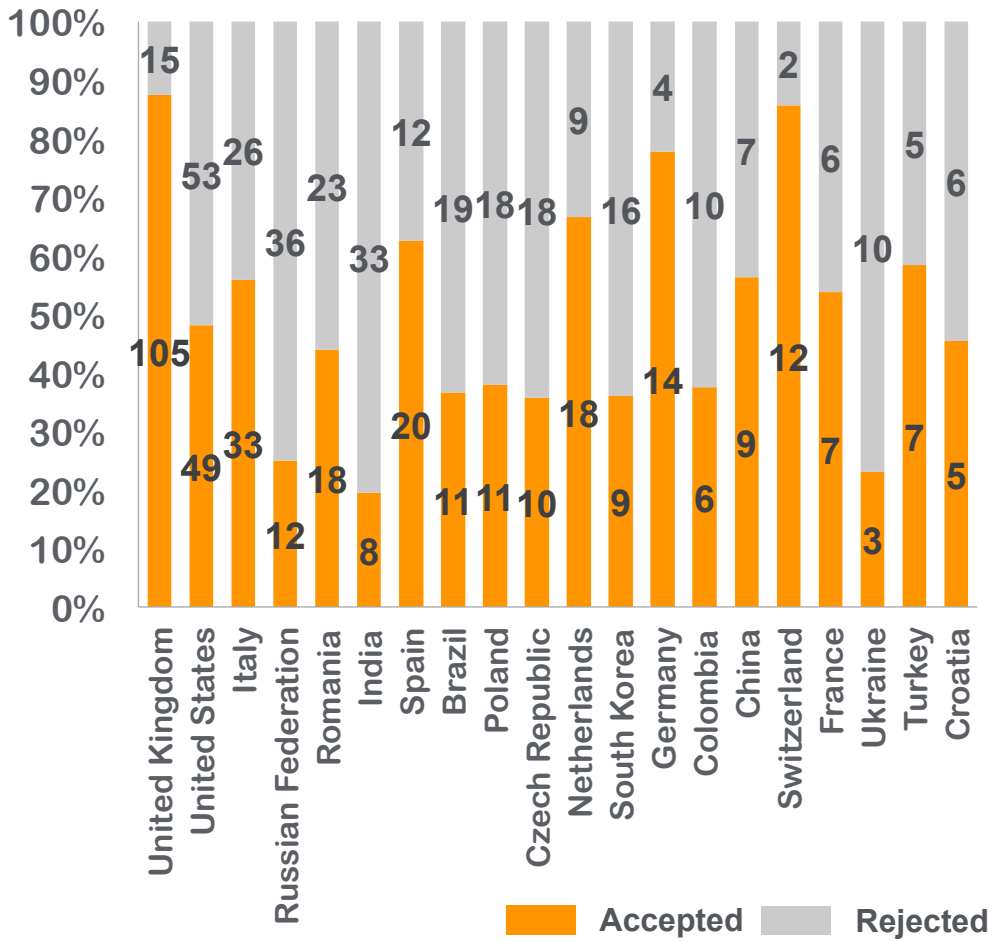
Focus on quality through content selection by the independent CSAB, because:

- Provide accurate and relevant search results for users
- No dilution of search results by irrelevant or low quality content
- Support that Scopus is recognized as authoritative
- Support confidence that Scopus “reflects the truth”

Scopus title review results and resources

In total 3,914 **titles reviewed** (2011 –2013) of which 1,844 (**47%**) **accepted** for Scopus

Titles reviewed top 20 **countries** (2013):



As a primary publisher and information aggregator, Elsevier understands the unique needs of *Authors*, *Editors* and *Publishers* and provides resources to support the research community:

- **Advice from CSAB** and FAQs available on Scopus info site
- **Publication ethics** resources via Publishing Ethics Resource Kit (PERK) and Committee on Publication Ethics (COPE)
- Translation, editing and **publishing services**
- Elsevier.com **Editors section** (for ELS editors but applicable to all)
- Freely available **journal metrics** to compare & assess journal performance
- Trends in research via **Research Trends** newsletter

Selection of non-serial Book and Conference content

Books

Book selection is via a publisher-based approach (no individual suggestions accepted). All books from selected publishers deemed “in scope” will be selected for coverage. Priority and selection of publisher’s book lists depends on:

- Reputation and impact of the publisher
- Size and subject area of the books list
- Availability and format of the book content
- Publication policy and editorial mission
- Quality of published book content

Conferences

Engineering related conferences 2005 going forward included on various vetted lists (no individual suggestions accepted).

- Australian Research Council: ARC-A, ARC-B
- “MIT” Conferences
- DBLP Computer Science Bibliography (orig. db logic program bibliography)
- Microsoft Academic Science – Computer Science, Engineering
- INSPIRES – high-energy physics (Stanford)
- Web of Science – selected engineering-focused/related
- OnePetro – Oil & Gas industries (society conferences from API, SPE, NACE, SEG, etc.)
- OneMine – mining and minerals (society conferences from SME, TMS, AIME, AusIMM, ...)

What content expansion projects are ongoing?

Scopus has three main content expansion programs

1. Books Enhancement, started June 2013
2. Conference Expansion, started 2011
3. Cited References Expansion (back file), started March 2014

Books expansion program

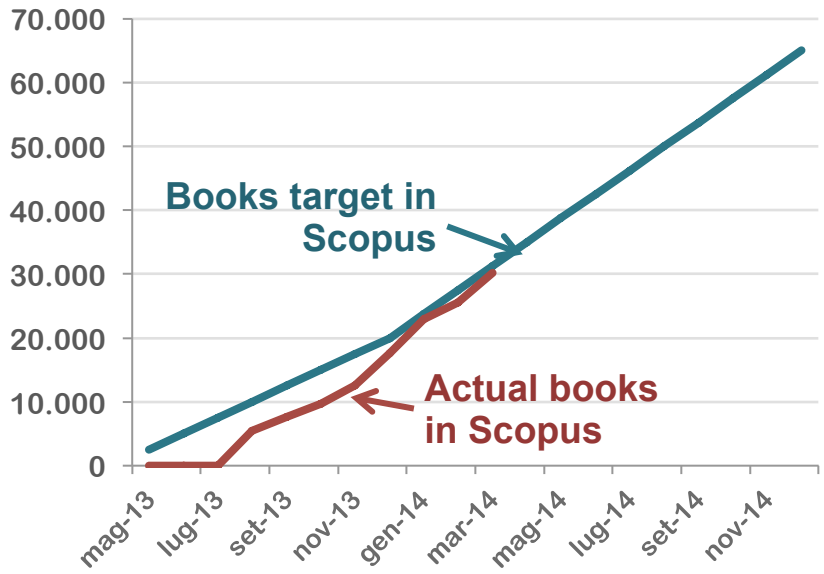
Book Chapter (268,335) >
Book (30,151) >

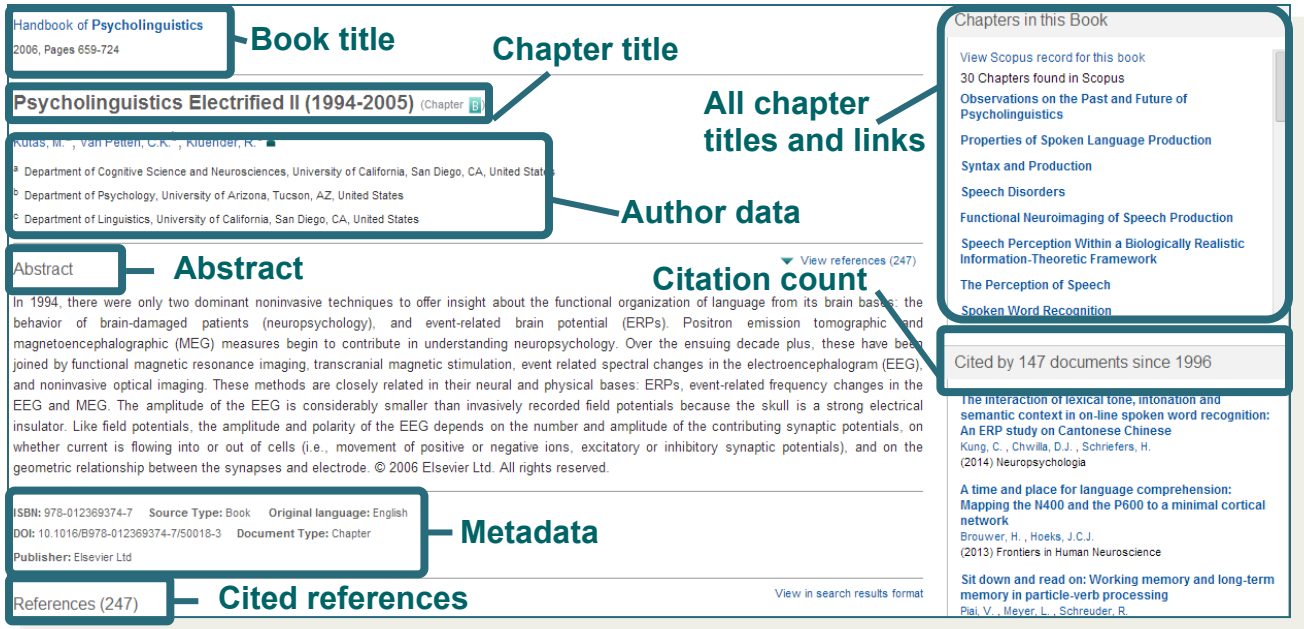
(plus ~28K book Volumes from series)

Coverage years
- Back to 2005 (2003 for A&H)

Number of books
- 75,000 over three years; 10,000 each year thereafter

Book types
- Monographs, edited volumes, major reference works, graduate level text books





Already in Scopus:

Elsevier, Springer, Wiley, Brill, De Gruyter, Woodhead, Karger, Edward Elgar, Maney, Intellect, IOS Press, Pan Stanford, University of California Press, Princeton University Press, Edinburgh University Press, Delft University Press, Duke University Press, McGill Queens University Press, Project Muse (60+ UPs), OECD and more…

Conference expansion – project status

	Oct 2013 status	June 2014
Conference titles	704	1,000
Conference events	3,675	5,600 – 6,000
Conference papers	250,000	375,000 – 400,000
References*	3.3 Million	4.95 Million – 5.28 Million

*References added to Scopus Citations cover period 2005 to present

Scopus cited references expansion program

Scopus will add cited references to 8 Million pre-1996 articles going back to 1970.

Scope and timeline

Coverage years	• Pre-1996, going back to 1970
Number of articles	• We estimate 8M+ articles will be re-processed to include cited references
Which Archives	• Archives from all major publishers with available digital archives • All subject areas included in the scope of the project
NOT in scope	• Publisher archives not available in electronic format • Articles from before 1970

With the Scopus Cited References Expansion project we aim to **add cited references** to the articles in Scopus from before 1996, going back to 1970.

In addition, for publishers from which we currently miss pre-1996 content, the **archives will be added** to Scopus.

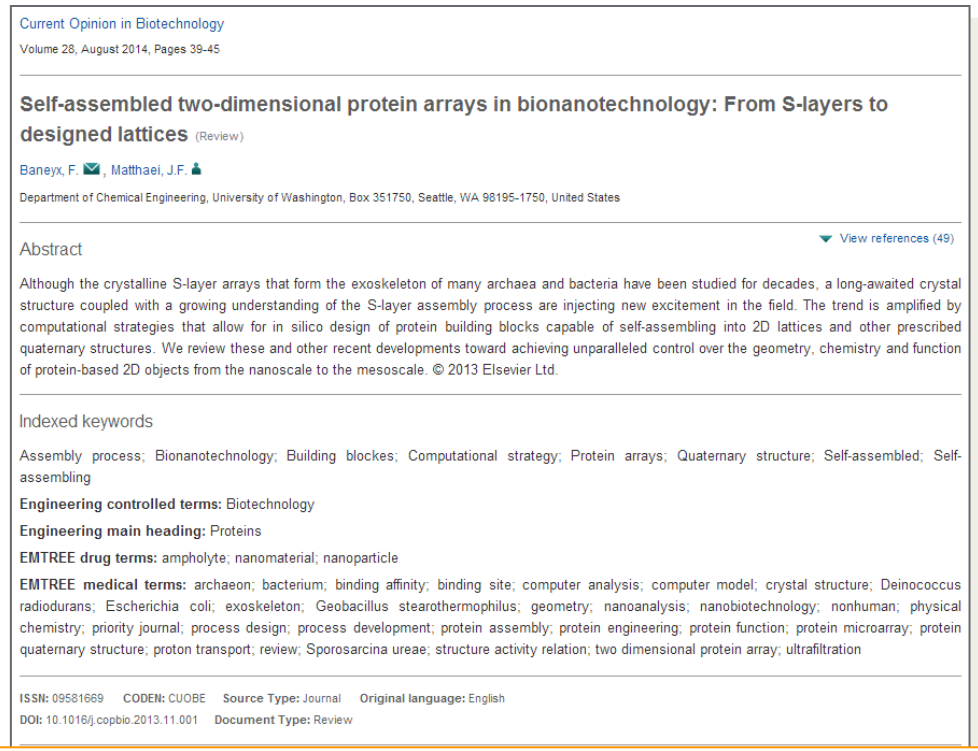
All added content is included in the **standard Scopus license at no extra charge**.

Development of required systems and processes has already started

The first content with pre-1996 cited references will be visible in Q4 2014 (Elsevier & Springer)

Project will be completed by 2016 when >8M articles from all major publishers have been loaded

Indexing funding data in Scopus



Current Opinion in Biotechnology

Volume 28, August 2014, Pages 39-45

Self-assembled two-dimensional protein arrays in bionanotechnology: From S-layers to designed lattices (Review)

Baneyx, F. , Matthaei, J.F.

Department of Chemical Engineering, University of Washington, Box 351750, Seattle, WA 98195-1750, United States

View references (49)

Abstract

Although the crystalline S-layer arrays that form the exoskeleton of many archaea and bacteria have been studied for decades, a long-awaited crystal structure coupled with a growing understanding of the S-layer assembly process are injecting new excitement in the field. The trend is amplified by computational strategies that allow for in silico design of protein building blocks capable of self-assembling into 2D lattices and other prescribed quaternary structures. We review these and other recent developments toward achieving unparalleled control over the geometry, chemistry and function of protein-based 2D objects from the nanoscale to the mesoscale. © 2013 Elsevier Ltd.

Indexed keywords

Assembly process; Bionanotechnology; Building blockes; Computational strategy; Protein arrays; Quaternary structure; Self-assembled; Self-assembling

Engineering controlled terms: Biotechnology

Engineering main heading: Proteins

EMTREE drug terms: ampholyte; nanomaterial; nanoparticle

EMTREE medical terms: archaeon; bacterium; binding affinity; binding site; computer analysis; computer model; crystal structure; Deinococcus radiodurans; Escherichia coli; exoskeleton; Geobacillus stearothermophilus; geometry; nanoanalysis; nanobiotechnology; nonhuman; physical chemistry; priority journal; process design; process development; protein assembly; protein engineering; protein function; protein microarray; protein quaternary structure; proton transport; review; Sporosarcina ureae; structure activity relation; two dimensional protein array; ultrafiltration

ISSN: 09581669 CODEN: CUOBE Source Type: Journal Original language: English

DOI: 10.1016/j.copbio.2013.11.001 Document Type: Review

Funding Details

Number; Acronym; Sponsor: T32CA138312; ONR; Office of Naval Research

Number; Acronym; Sponsor: BRC-11123566; NIH; **National** Institutes of Health

WHAT FUNDING DATA:

- **Full name** of the funding body, **acronym** and **grant number** captured from the acknowledgments section of the article.
- Making use of the **FundRef** ontology
- **Forward flow**, started in July 2013

FUNDREF ONTOLOGY:

- Only funding bodies included in the FundRef ontology are captured
- Around **5,000 funding bodies** originally included in FundRef
- When processing content for Scopus new funding body terms are identified as **candidate terms**
- As of January 2014 around **1,000 new candidate terms** will be added to FundRef each month

In Scopus funding data can be searched using the following fields in Advanced Search:

FUND-SPONSOR | FUND-ACR | FUND-NO

For example, the advanced search term "FUND-SPONSOR(National Science Foundation)" will result in all articles that mention the National Science Foundation as the funding body in the acknowledgements.

Author & Affiliation Profiles

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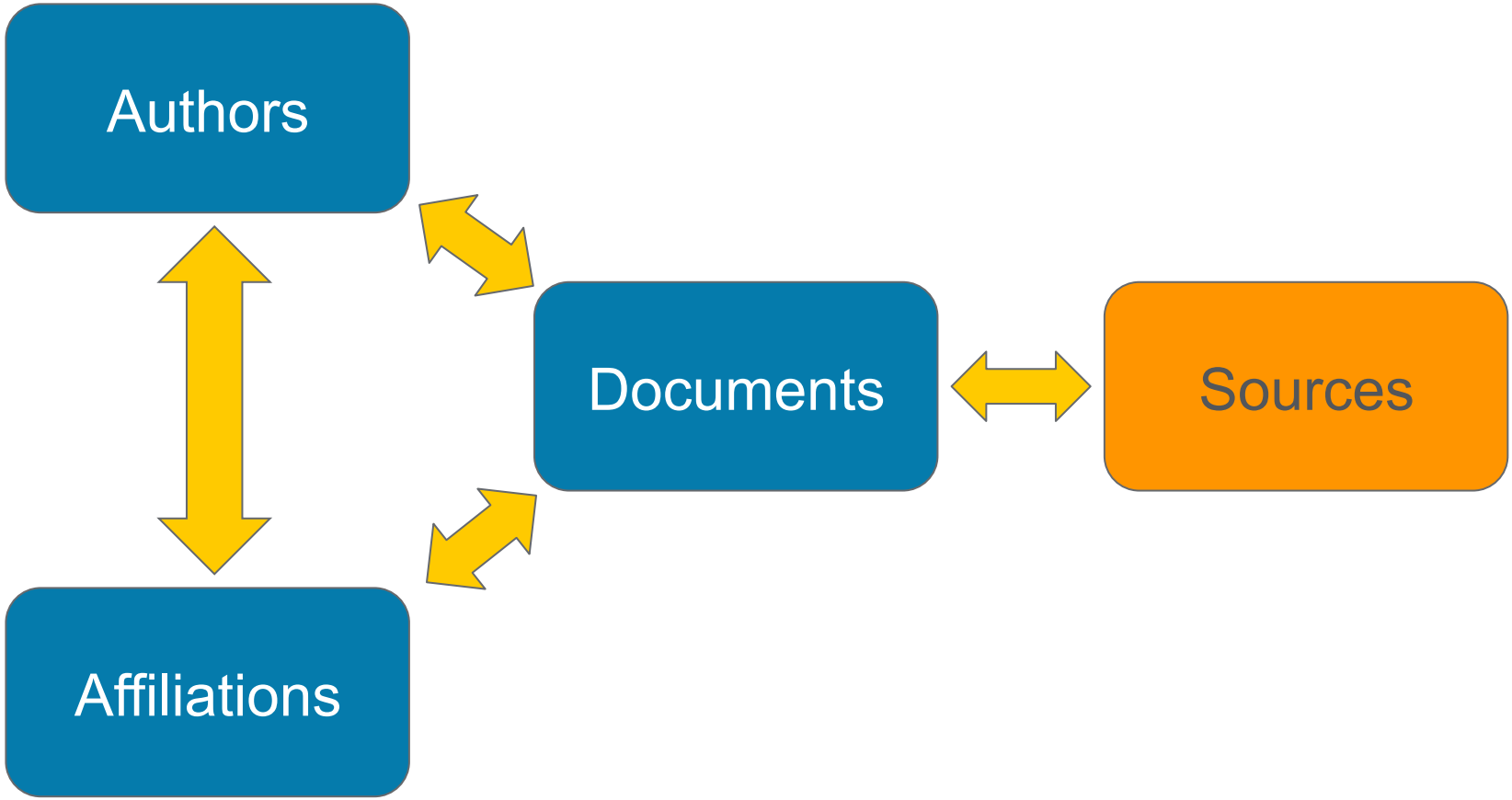
Scopus database structure



Scopus Author Profile

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Back to results | 1 of 1

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Wang, Ene

Author ID: 7403414156

About Scopus Author Identifier | View potential author matches

Other name formats: Wang, Enge G.
Wang
Wang, En-Ge
View More

Follow this Author

Receive emails when this author publishes new articles

Get citation alerts

Add to ORCID

Request author detail corrections

Documents: 79

Citations: 784 total citations by 661 documents

h Index: 14 The *h* Index considers Scopus articles published after 1995.

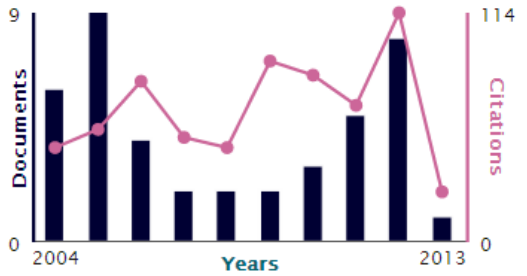
Co-authors: 150 (maximum 150 co-authors can be displayed)

Subject area: Physics and Astronomy , Materials Science View More

View Author Evaluator

View citation overview

View h-Graph



79 Documents | Cited by 661 documents since 1996 | 150 co-authors

79 documents View in search results format

Sort on: Date Cited by ...

Export all | Add all to my list | Set document alert | Set document feed

Size-selective self-assembly of magnetic Mn nanoclusters on Si(111)	Niu, C.-Y., Wang, J.-T., Wang, E., Chen, C.	2013	Journal of Chemical Physics	0
View at Publisher				
The effect of the electron-phonon coupling on the thermal conductivity of silicon nanowires	Wan, W., Xiong, B., Zhang, W., Feng, J., Wang, E.	2012	Journal of Physics Condensed Matter	0
View at Publisher				
Controlled oxidative functionalization of monolayer graphene by water-vapor plasma etching	Liu, L., Xie, D., Wu, M., (...), Bai, X., Wang, E.	2012	Carbon	0
View at Publisher				
Ultralong aligned single-walled carbon nanotubes on flexible fluorphlogopite mica for strain sensors	Wu, M., Liu, K., Wang, W., (...), Bai, X., Wang, E.	2012	Nano Research	0
View at Publisher				

Author History

Publication range: 1985 - 2013

References: 894

Source history:

Physica B: Condensed Matter — View documents

Frontiers of Physics in China — View documents

Science in China, Series E: Technological Sciences — View documents

View More

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Scopus affiliation profile

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Yale University

265 Church Street, New Haven
CT, United States
Affiliation ID: 60005455

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Authors: 18,138
Patent results: 1,865

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Collaborating affiliations

	Documents
Yale University School of Medicine	3,180
Massachusetts Institute of Technology	2,208
Harvard University	2,112
University of Pennsylvania	1,960
University of Wisconsin Madison	1,826

View more...

Sources

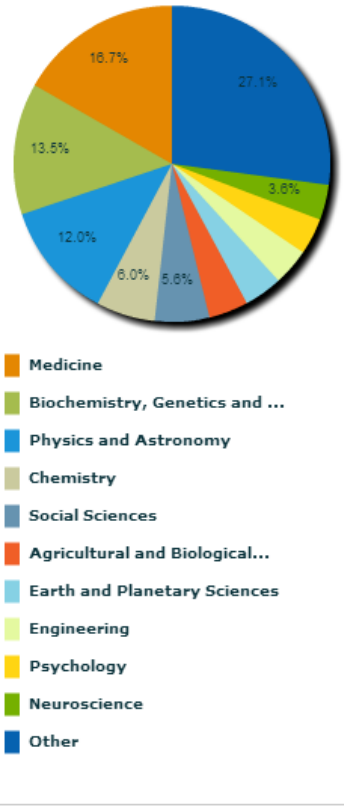
	Documents
Journal of the American Chemical Society	2,167
Physical Review Letters	1,738
Science	1,435
Proceedings of the National Academy of Sciences of the United States of America	1,405
Physical Review	1,159

View more...

The data displayed above is compiled exclusively from articles published in the Scopus database. To request corrections to any inaccuracies or provide any further feedback, please contact us (registration required).
The data displayed above is subject to the privacy conditions contained in the privacy policy.

Subject areas

Pie chart view | Table view



ELSEVIER

Bibliometrics

Empowering Knowledge

Definitions

Bibliometrics is the application of statistical methods to books and other media of communication (Pritchard, 1969)

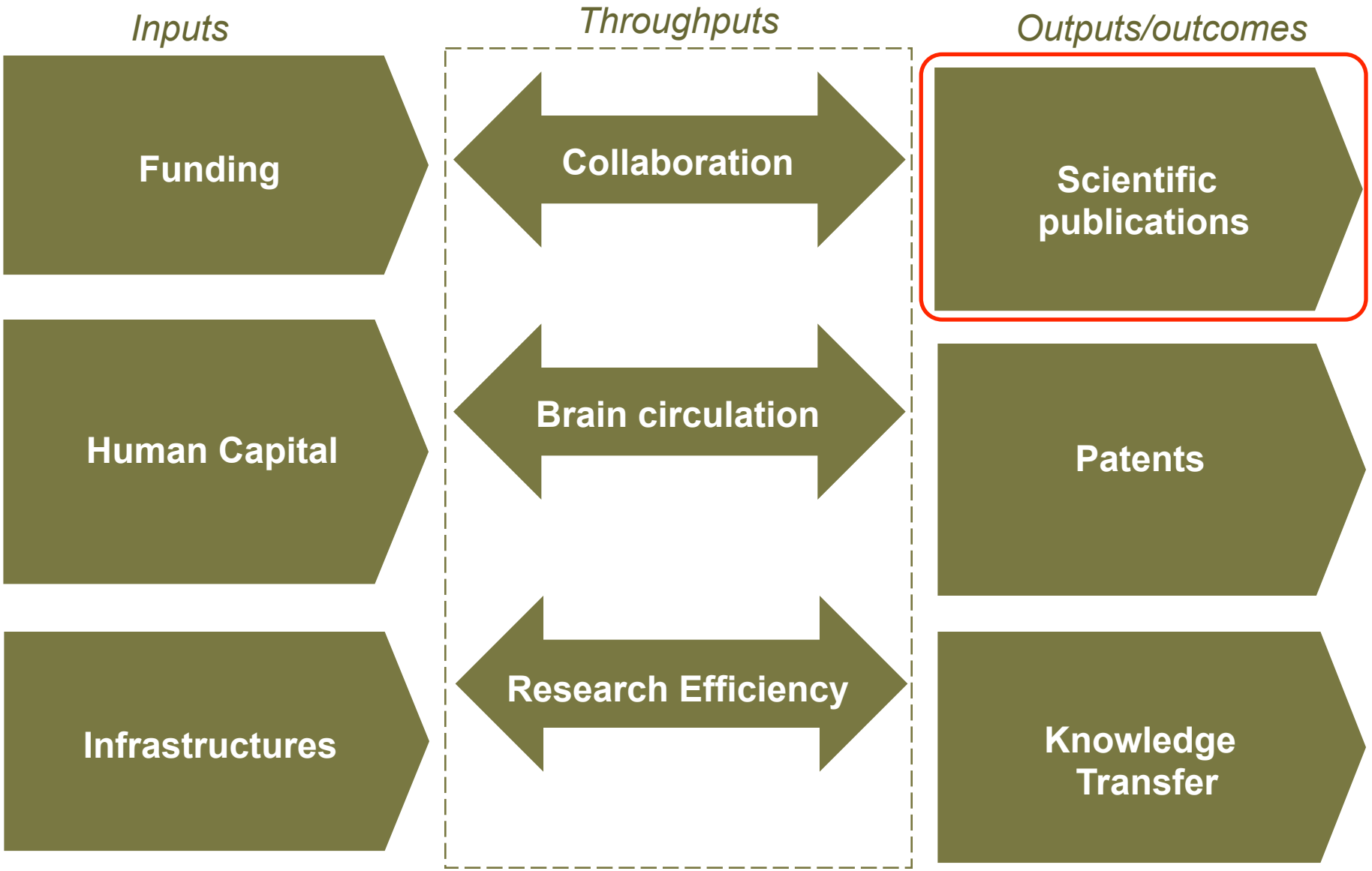
Scientometrics is the “science of science” i.e. the study of the structure and dynamics of scientific and innovation systems.

When applied to scientific publications, bibliometrics can be seen as a sub-field of scientometrics, focusing on one class of outputs of a scientific system.

Bibliometric analyses are usually carried out using abstract and citations databases such as Scopus as underlying data sources.

Pritchard, A. (1969). Statistical Bibliography or Bibliometrics. Journal of Documentation, 25(4), 348

A framework for the analysis of a scientific system



Metadata used in a bibliometric analysis

- Type of publication (Original Research Article, Review, Conference paper…)
- Journal identifier
- Journal classification
- Publication year
- Author names (co-authorship networks)
- Affiliations (collaboration analyses)
- Number of citations (impact)
- Cited references (citation networks)
- Title / abstract / keywords (for text mining purposes)
- Acknowledgements (funding information)

WHO to measure

Bibliometric analyses are done on “entities” that are represented by a dataset of publications.

One common way to define a dataset is to look at the scientific production of a physical entity

- Country or group of countries
- Institution or group of institutions
- Researchers or groups thereof

Other entities don’t represent an individual research performer

- Journals
- Publications corpora that represent a specific research topic

WHAT to measure

- Production
- Scientific Impact and Recognition
- Global outreach
- Publications prestige
- Collaboration networks
- Knowledge transfer (cross-sector collaboration)
- Research trends (keywords analysis)

HOW to measure

Raw indicators

- Number of publications
- Number of authors
- Number of citations
- Number and types of collaboration

Derived indicators / normalized indicators

- Fractionalized count of papers
- Average number of papers per researcher
- Citations per publication
- Field-Weighted Citation Impact (FWCI)
- Impact ranking of publications with citation percentiles
- H-index
- Impact Factor
- SNIP
- SJR

Dimensions of analysis

- Time (publication year / citation year)
- Subject field (e.g. ASJC)

WHERE to measure: bibliographic databases

ISI Web of Science	• http://thomsonreuters.com/thomson-reuters-web-of-science/
Elsevier Scopus	• http://www.elsevier.com/online-tools/scopus
Google Scholar	• http://scholar.google.com

Some basic rules

Indicators should be chosen based on the question being answered

Multiple indicators always provide more information than a single number

Not all indicators are suitable for all entities, e.g.: h-index applies only to researchers, SNIP to journals, etc.

When benchmarking entities of different nature, it is important to be aware of normalized indicators, where normalization can be done by several dimensions:

- Size
- Time
- Discipline
- Document type

Evolution of Scopus Analysis Tools

Journal Metrics in Scopus: SNIP & SJR

SNIP

Universiteit Leiden

- SNIP=Sourced Normalized Impact per Paper
- Refined metric calculation, **better corrects for field differences**
- Outlier scores are closer to average

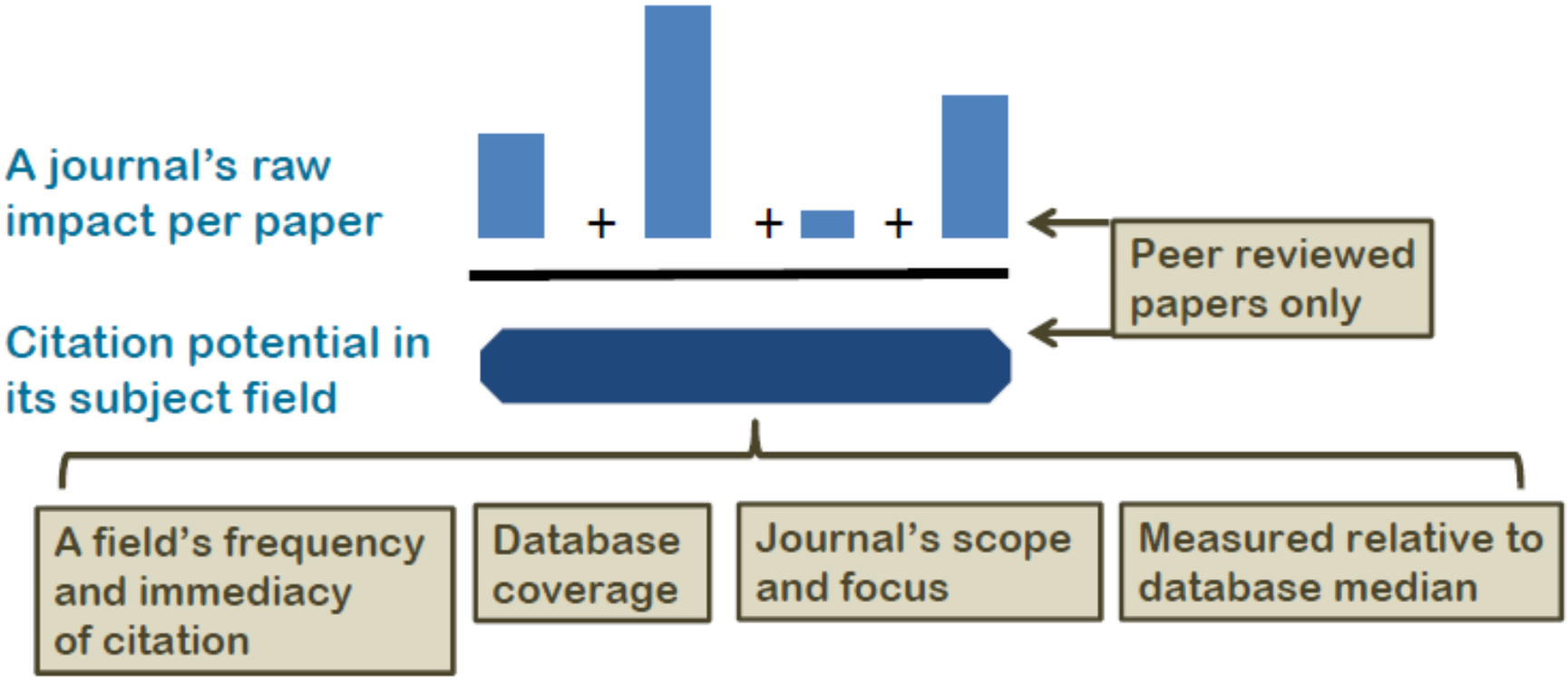
SJR

SCIMAGO LAB

- SJR=SCImago Journal Rank
- More prestigious nature of citations that come from within the same, or a closely related field
- **Overcome the tendency for prestige scores to decrease as the quantity of journals increases**

www.journalmetrics.com

Source Normalized Impact per Paper (SNIP)



SJR - SCImago Journal Rank

Prestige metric: Prestige transferred when a journal cites

- Citations are weighted depending on where they come from
- A journal's prestige is shared equally between its citations

Life Sciences journal

High impact, lots of citations
One citation = low value

Arts & Humanities journal

Low impact, few on citations
One citation = high value

SJR normalises for differences in citation behaviour between subject fields

Journal Analyzer

Scopus

Kai Wan | Logout

Search | Alerts | My list | Settings
Live Chat | Help and Contact | Tutorials | Library catalogue

Journal Analyzer

Search: chinese — Journal Title
Engineering
Show: SJR SNIP ISSN
Search

Results: 31 Sources Found (Double-click or drag to add)

Journal Title	SJR
Nongye Gongcheng Xuebao/Transactions of the Chine	0.290
Nongye Jixie Xuebao/Transactions of the Chinese Soci	0.359
Shuidonglixue Yanjiu yu Jinzhan / Journal of Hydrodyna	0.333
Yanshilixue Yu Gongcheng Xuebao/Chinese Journal of	1.173
Ying Yong Li Xue Xue Bao/Chinese Journal of Applied	0.149
Zhongguo Dianji Gongcheng Xuebao/Proceedings of th	0.783
Zhongguo Guanxing Jishu Xuebao/Journal of Chinese I	0.328
Zhongguo Jiguang/Chinese Journal of Lasers	0.458
Zhongguo Shengwu Yixue Gongcheng Xuebao/Chines	0.109

Calculations Last Updated: 08 Jun 2013

Show journals in: Line Chart | Table
About calculations

SJR | SNIP | Citations | Docs | Percent Not Cited | Percent Reviews

Note: Scopus does not have complete citation information for articles published before 1996.
Calculations Last Updated: 08 Jun 2013

Journals in Chart — Clear Chart

- Chinese Journal of Aeronautics — Show info
- Chinese Journal of Mechanical Engineering (English Edition) — Show info
- Chinese Space Science and Technology — Show info
- Zhongguo Dianji Gongcheng Xuebao/Proceedings of the Chinese Society of Ele... — Show info

Altmetrics

DOI: 10.1038/srep00570 PubMed ID: 22880161 Document Type: Article

References (46)

View in table layout

Page | Export | Print | E-mail | Create bibliography

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The time variation of dose rate artificially increased by the Fukushima nuclear crisis
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Full Text | View at Publisher

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Full Text | View at Publisher

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Full Text | View at Publisher

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