



Publishing Scientific Research

Universidad Pablo de Olavide

Sevilla, September 2014

Nathalie Jacobs, Senior Publishing Editor

Who we are - Key facts about Springer

- A leading global scientific, technical and medical (STM) publisher
- Some 2,200 English-language journals and more than 8,000 new book titles published in 2013
- Some 145,000 English-language eBook titles available on <http://link.springer.com> (January 2014)
- Largest open access portfolio worldwide - BioMed Central is part of Springer - with over 350 open access journals
- More than 7,000 employees worldwide
- Publishing partnerships with more than 500 scientific societies
- Growing presence in emerging markets



Springer

- **Nathalie Jacobs**
- Senior Publishing Editor Engineering
- Journals + Books Portfolio
- 14 years with Springer
- Lived in Salamanca, Spain for 7 years

For questions and proposals please contact me at

Nathalie Jacobs

Nathalie.jacobs@springer.com



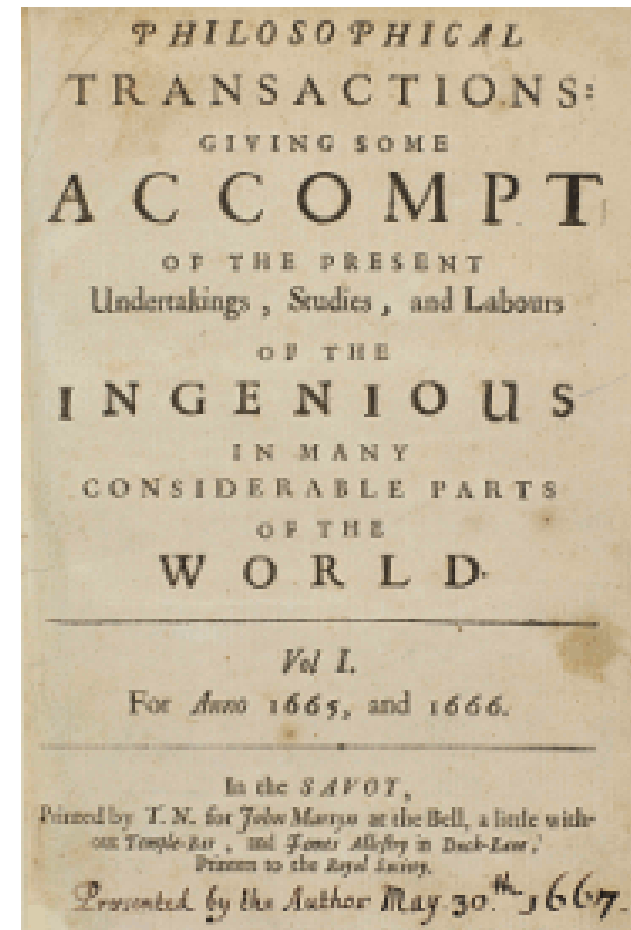


Publishing scientific articles

Why you should publish – where it began

Philosophical Transactions – the world's first science journal

- In 1662, the 'Royal Society of London for Improving Natural Knowledge' was given permission to publish by King Charles II
- In **March 1665**, the first issue of *Philosophical Transactions* was published
- The goal was to inform the Fellows of the Society, and other interested readers, of the latest scientific discoveries
- As such, *Philosophical Transactions* established the important principles of **scientific priority** and **peer review**, which have become the central foundations of scientific journals since



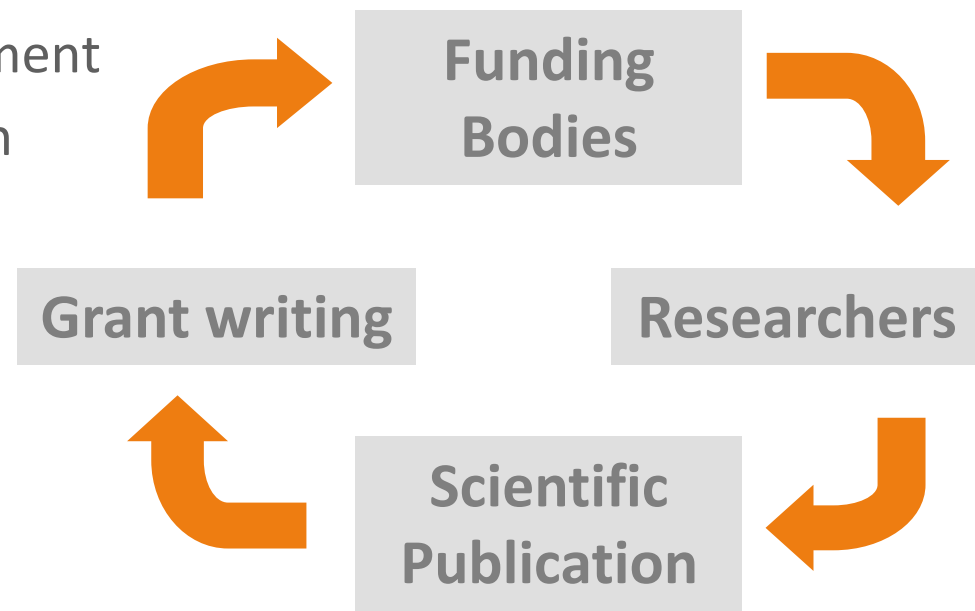
Source: Royal Society Publishing
<http://rstl.royalsocietypublishing.org>

Why you should publish

- Publish or Perish:

Your research is NOT complete until it has been published

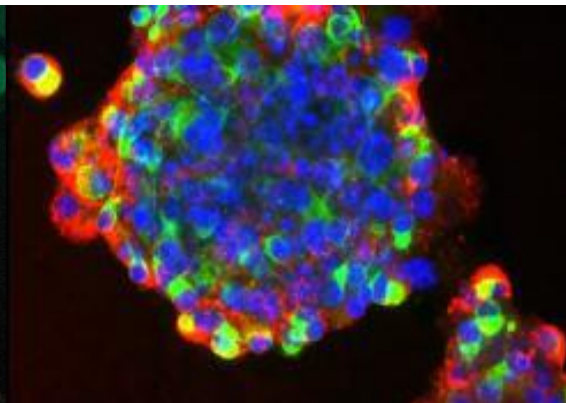
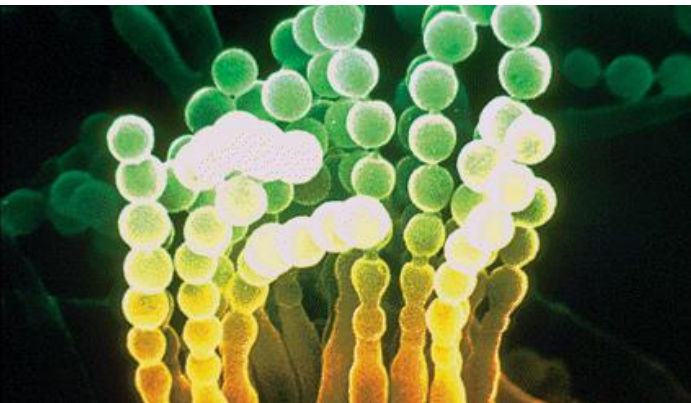
- Present new and original results or methods
- Exchange ideas, communicate with peers -> Advance (not repeat) scientific knowledge and enhance scientific progress
- Credibility of results
- Grant writing, research funding
- Recognition and career advancement
- Personal prestige and satisfaction



Why you should publish – and not just blog about your work

Publishing through reputed publishing houses ensures:

- Quality control (e.g. peer review)
- Professional publishing services (e.g. Abstracting and Indexing)
- Innovative publishing technology (e.g. POD/PTO, XML, ePub)
- Global marketing and discoverability (e.g. Search Engine Optimization, MARC records, etc)
- Global visibility (e.g. cooperation with Amazon)



Why you should publish – in English

- It is currently the international language of science (it has been e.g. French and German in the past)
- Foster (international) collaborations
- Scientists will want to hear from other scientists around the world
- Develop an international status / reputation
- Your number of publications in journals with an Impact Factor (i.e. English language journals) is linked to career advancement and funding



Before you begin

- **To Write = To Read**
- Know the status quo of your field of research
- Make sure you have access to the most up-to-date scientific literature, scientific communication is about advancing - not repeating - scientific knowledge (remember your library provides access to most of the scientific publications, e.g. on <http://link.springer.com>)
- Work on your writing style, develop concise writing skills as well as specialized vocabulary
- Refine your skills by reviewing papers of colleagues. This will help you form a strong framework for your own research writing
- Determine a feel of the (kind of) journal you wish to publish in

Before you begin (cont.)

Make sure you do good quality science:

- Have a hypothesis or research question
- Make sure that the science that supports your research is valid and supports your conclusions
- Use appropriate methods and controls
- Ensure sample sizes are large enough
- Use appropriate statistical tests
- Remove investigator/researcher/patient bias
- Comply with ethical requirements
- Citation of most appropriate research

How to choose the right journal

- Check where **collaborating / competing research groups** and researchers publish their work
- Is an **Impact Factor** important to you? Or are you more concerned about **usage / visibility**?
- Follow the **references** in your own paper. Where were the original papers published and read?
- Check **publisher sites**, you can often find useful information in the 'for authors' section
- Use **tools** such as the Edanz Journal Selector at http://www.edanzediting.com/journal_selector
- **Avoid** journals with no clear submission and reviewing process

How to choose the right journal - springer.com journal pages (cont.)

Applied Psychophysiology and Biofeedback is an international, interdisciplinary journal which explores the interrelationship of physiological systems, cognition, social and environmental parameters, and health. Priority coverage is devoted to original research, basic and applied, which contributes to the theory, practice, and evaluation of applied psychophysiology and biofeedback. Additional sections include the Clinical Forum, offering separate categories for innovative case studies, clinical replication series, extended treatment protocols, and clinical notes and observations; the Discussion Forum, which includes papers centered on a topic of importance to the field; Innovations in Instrumentation; Letters to the Editor, commenting on issues raised in articles previously published in the journal; and select book reviews.

Applied Psychophysiology and Biofeedback is the official publication of the Association for Applied Psychophysiology and Biofeedback (AAPB).

Related subjects » Health Psychology & Behavioral Medicine - Psychology - Psychotherapy & Counseling - Public Health

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RELATED BOOKS - SERIES - JOURNALS

Journal

The Analysis of Verbal Behavior

Editor » Pétursdóttir, Anna I.

1/10

POPULAR CONTENT WITHIN THIS PUBLICATION

The Effects of QEEG-Informed Neurofeedback on ADHD: An Open-Label Pilot Study
Arns, Martijn; Drinkenburg, Wilhelmus; Leon Kenemans, J.

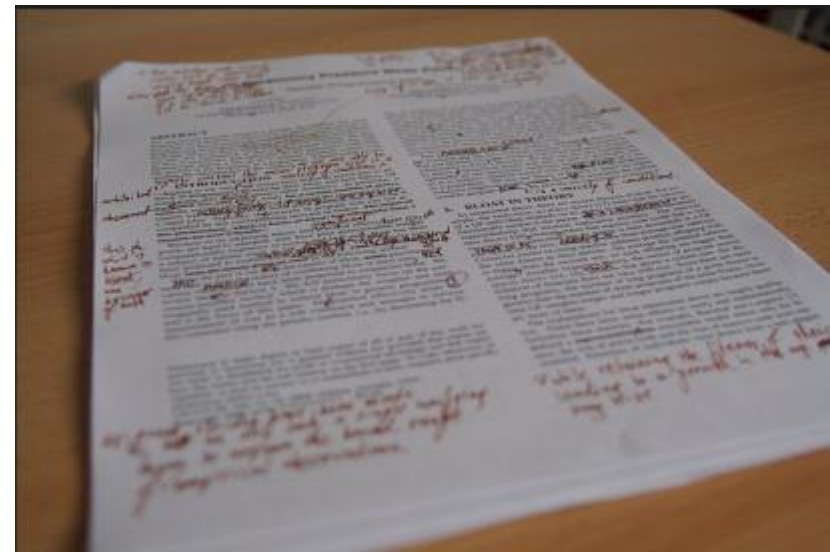
The Effect of a Single Session of Short Duration Heart Rate Variability Biofeedback on EEG: A Pilot Study
Prinsloo, Gabriell E.; Rauch, H. G. Laurie; Karpul, David [Show all authors \(4\)](#)

Coping with Stress: The Effectiveness of Different Types of Music
Labbé, Elise; Schmidt, Nicholas; Babin, Jonathan [Show all authors \(4\)](#)

Hot topics!

How to structure your article

- Follow the **author instructions** of the journal you chose to submit to
- Tell a story that is easy to understand:
 - Beginning (introduction)
 - Middle (main body: results)
 - End (conclusion)
- The order in which you actually write your paper should be:
 - Methods and Results
 - Introduction
 - Discussion and Conclusion
 - Abstract and Title



How to structure your article (cont.)

Title + Authors + Abstract + Keywords
= Discoverability!

Title	Read first and most. Keep it short and to the point. Must reflect the content of the paper.
Authors	Correct spelling, consistency in affiliation.
Abstract	100-300 word summary of objective and results. Includes key message of paper.
Keywords	Synonyms relevant as search terms e.g. in Google. Ideally not words from the title because title words are automatically keywords.
Introduction	Explain i) why the work was conducted ii) what methodology was employed iii) why you chose this particular methodology iv) How the methodology accomplished the hypothesis set out in your abstract.
Methodology	Written clearly and concisely so that someone can follow how you did your research and can reproduce it.

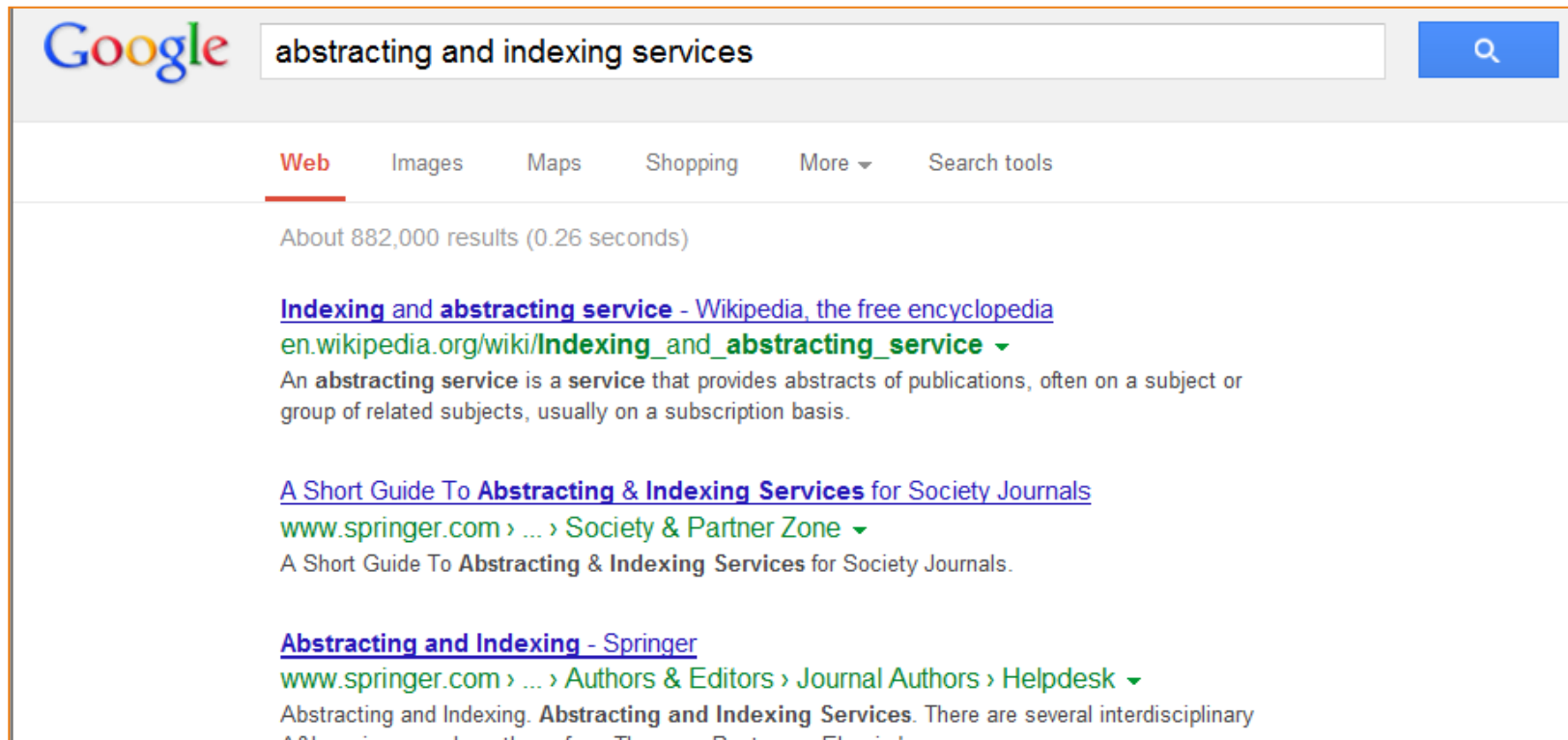
How to structure your article (cont.)

Analysis/Results	Present the results clearly and carefully.
Discussion	Discuss the results here. If the results were not what you were expecting this is where you can provide insights or speculations as to what happened and/or what you could have done differently.
Conclusions	Write down your conclusions from the study.
Acknowledgements	Acknowledge the people and institutions who have made your research possible e.g. funding.
References	Properly cite your referenced material; use the style of the journal.
Supplementary Material	List any supplementary materials, appendices.

Discoverability of your work: metadata

Title + Authors + Abstract + Keywords
= Discoverability!

- Your article needs to be found, read, used and cited!
- Metadata ensures your work appears with the proper audience through for example
 - Abstracting and Indexing Services
 - Search Engine Optimization (SEO)



The screenshot shows a Google search interface. The search bar contains the text "abstracting and indexing services". Below the search bar, there are navigation tabs for "Web", "Images", "Maps", "Shopping", "More", and "Search tools". The "Web" tab is selected. The search results show "About 882,000 results (0.26 seconds)". The first result is "Indexing and abstracting service - Wikipedia, the free encyclopedia" with a green link to "en.wikipedia.org/wiki/Indexing_and_abstracting_service". The second result is "A Short Guide To Abstracting & Indexing Services for Society Journals" with a green link to "www.springer.com > ... > Society & Partner Zone". The third result is "Abstracting and Indexing - Springer" with a green link to "www.springer.com > ... > Authors & Editors > Journal Authors > Helpdesk".

Publishing ethics

- The work described has not been published before
- It is not under consideration anywhere else (not sent to other J.)
- Publication has been approved by co-authors and responsible authorities
- Permissions have been obtained from copyright owners
- No data fabrication or falsification
- No plagiarism
- No improper contribution of authors
- No improper use of humans or animals

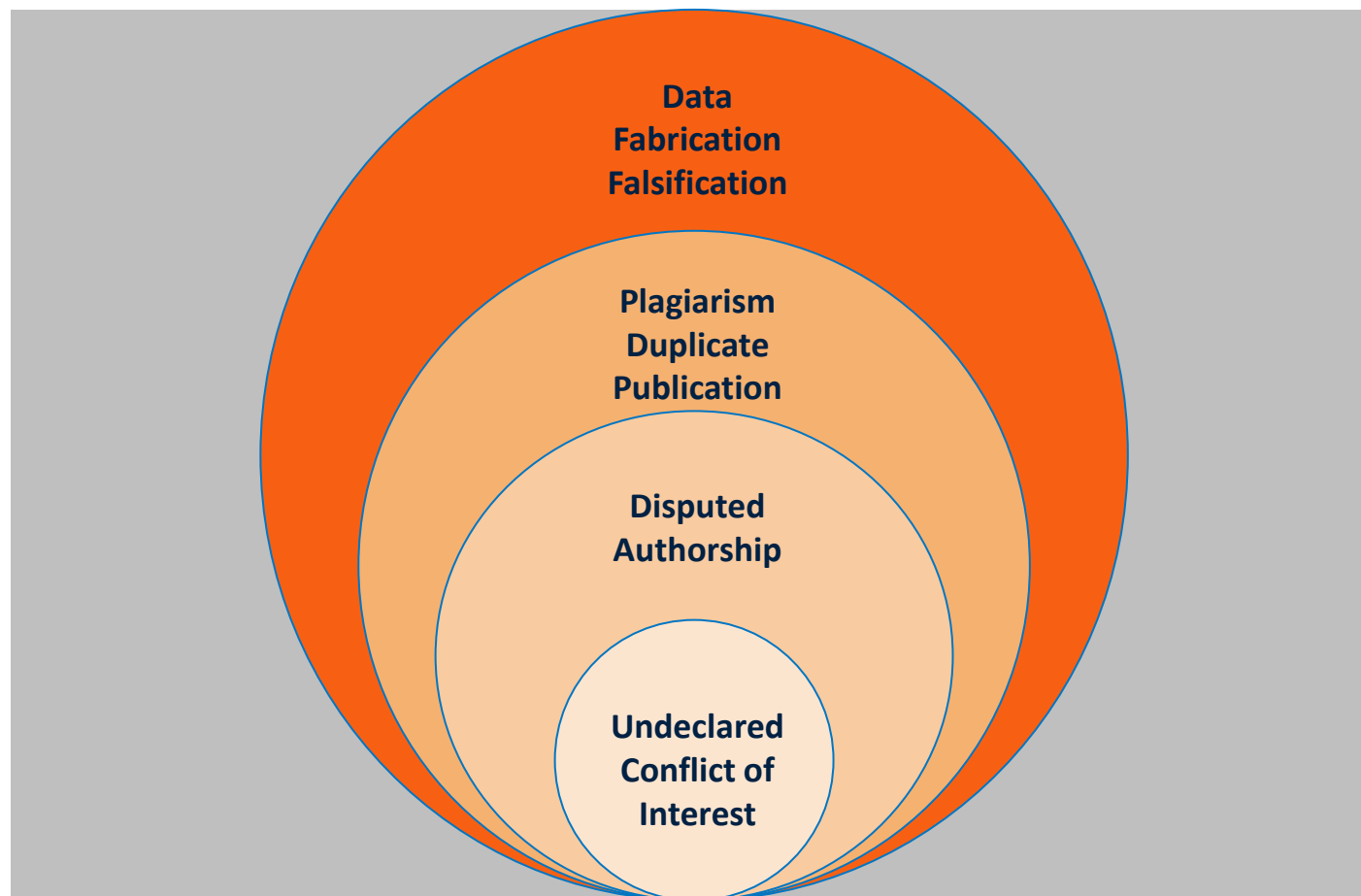


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Publishing ethics - Common types of misconduct

“Scientific misconduct is a continuum ranging from honest errors to outright fraud”

(Nylemma and Simonsen (2006) Scientific misconduct: a new approach to prevention. *The Lancet* 367, 1882-1884)



Publishing ethics - COPE: Committee on Publication Ethics

- COPE provides a forum for editors of academic journals to discuss issues relating to the integrity of the works in their journals
- COPE can act as the impartial mediator in disputes
- COPE is a charity registered in the UK, established in 1997
- Currently 5200 members



Peer review - What it is

- Peer review is a process of **self-regulation**. When you submit an article, other experts in the field evaluate your article, your research and methodology, to determine if your paper is suitable for publication
- Peer review is employed to maintain a **high quality** standard of published papers and to provide **credibility**



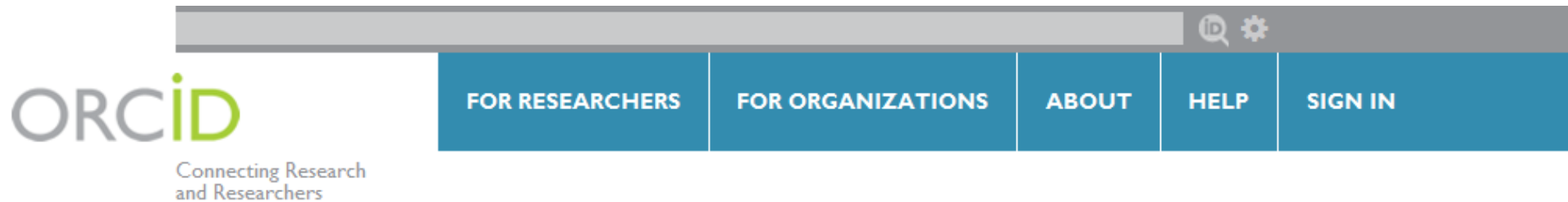
Peer Review – Different types

- Peer review, depending on the discipline, can be:
 - Open (both authors and reviewers known)
 - Blind (reviewers do not know who the authors are)
 - Double blind (both authors and reviewers anonymous)
- Per review can be:
 - Done before (traditionally anonymously)
 - Open / Publically
 - After publication



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Defining impact in academic publishing

Impact Factor



THOMSON REUTERS

- Measure of the average number of citations articles in a particular journal receive in a particular year

Formula for the 2012 Impact Factor:

Number of citations in 2012 to articles published in 2010 + 2011

Total citable articles published in 2010 + 2011

Example:

120 citations in 2012 (to articles published 2010 or 2011)

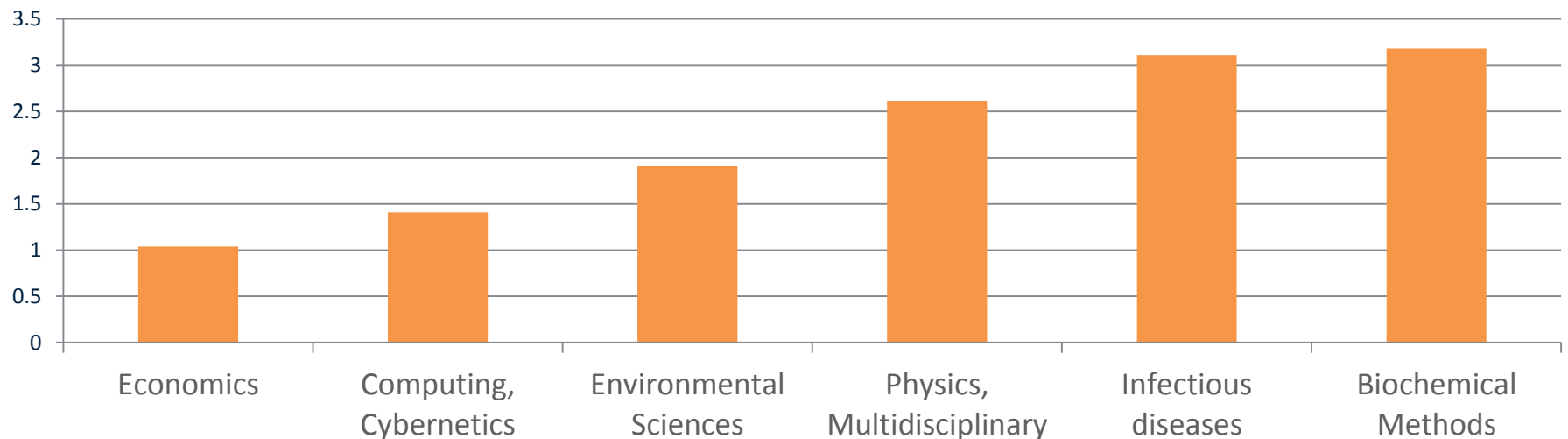
----- = 1.5

80 articles published in 2010 and 2011

Impact Factor – Points to consider

- There is much debate over the Impact Factor (IF) in the scientific community, particularly with regard to the fairness of the system
- Compare the IF only with journals within the same discipline because the average IF is very different among different disciplines (see chart)
- E.g. In mathematics researchers will often cite older work but only citations in the two years after publication count toward the IF

Average Impact Factor 2010



Impact Factor – Other ISI databases by Web of Science

- Science Citation Index Expanded (SCI-E)
- Science Citation Index (SCI) - Subset of SCI-E, must be in top 10% of SCI-E categories to apply
- Social Science Citation Index (SSCI)
- Arts & Humanities Citation Index (A&HCI) - No Impact Factor (IF)
- Conference Proceedings Citation Index- Science (CPCI-S) - No IF
- Conference Proceedings Citation Index- Social Science & Humanities (CPCI-SSH)
- Book Citation Index, Science (BKCI-S) - No IF
- Book Citation Index, Social Sciences & Humanities (BKCI-SSH) - No IF
- Journal Citation Report (JCR) - Publishes the IF
- Other discipline-specific databases like BIOSIS, Zoological Abstracts, etc

The h -index

- The h -index is intended to measure simultaneously the **quality** and **quantity** of scientific output.
- A scholar with an index of h has published h papers each of which has been cited in other papers at least h times
- Evaluation of impact of the work of **individual** researcher, the h -index grows over time, depends on the academic age of the researcher
- The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country, as well as a scholarly journal
- A journal with an index of h has the largest number of h such that at least h articles in that publication were cited at least h times each.
- The h -index serves as an alternative to more traditional journal impact factor metrics in the evaluation of the impact of the work of a particular researcher

Google Scholar citations databases

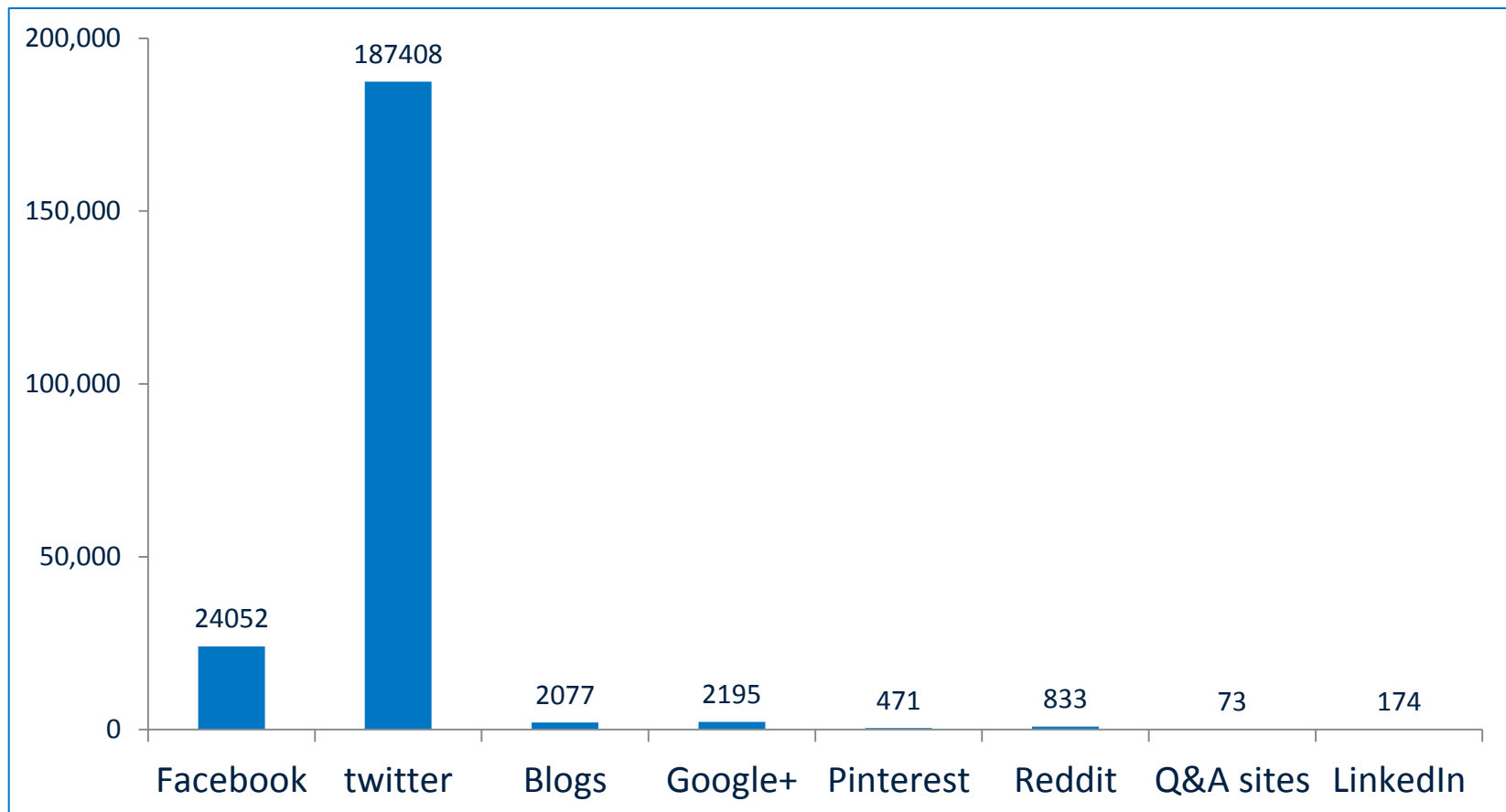
- Visit <http://scholar.google.com/scholar/citations.html> for more information
- Google **Author citations** are available since 2011
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 - Provides citation information for authors and calculates the *h*-index
 - Most author analyses limited to authors with profiles
- Google Scholar **Journal citation** database with rankings available since May 2012
 - Journal ranking
 - No quality selection, only need 100 articles in previous five years
 - *h*5-index for journals

Microsoft Academic Search


- Author citation database available since 2010
- Author profiles
- Author citations
- Author *h*-index
- More author profiles than in Google
- Analyses done on all authors, not just authors with profiles
- Interesting graphic analysis capabilities: key relationships between and among subjects, content, and authors

Social (media) impact - Growth of non-scholarly citations

- Consider the non scholarly citations through the different social media platforms



Connect with Springer

123 Twitter accounts	
51 Facebook pages	
26 LinkedIn groups	
5 Xing groups	
9 YouTube channels	
14 blogs	
7 Google+ accounts	

facebook Search for people, places and things Springer Eng

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Here's to our reviewers!
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When a researcher gets their work published, months of hard work and dedication finally pay off. The rewards of being published in a reputable journal...

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Publishing books

Why we like to talk about books

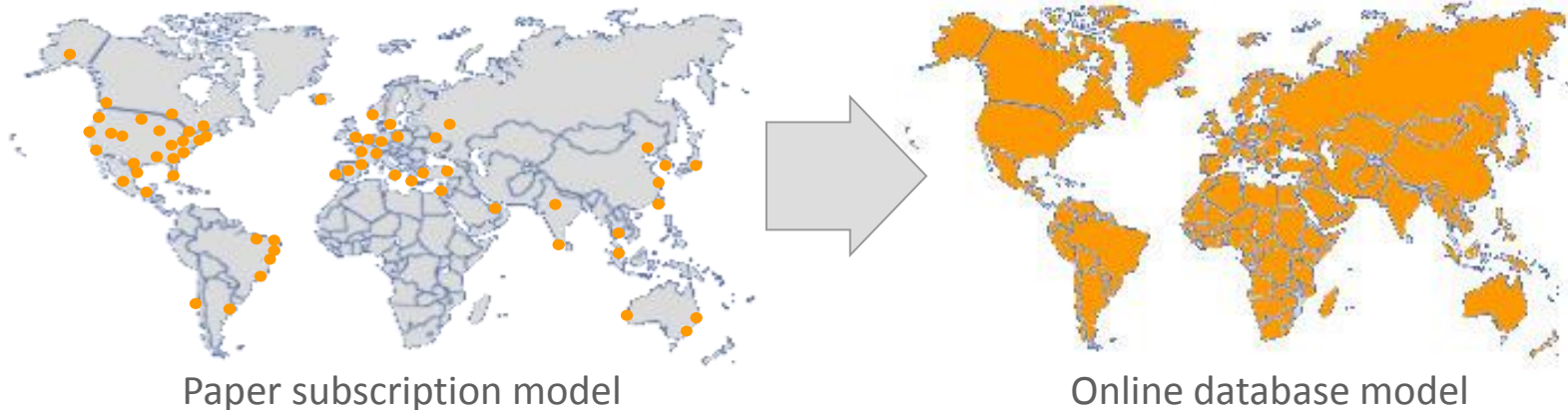
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- Book output growing rapidly every year

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The importance of eBooks in scientific publishing

Reach printed version vs the online version

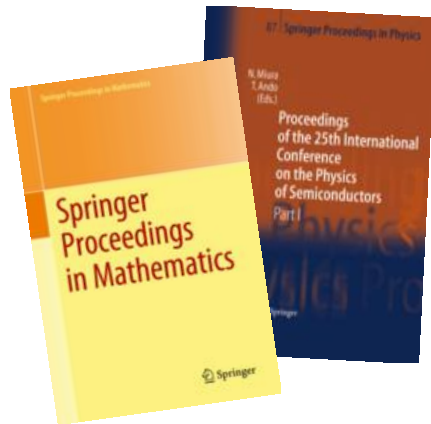


Advantages for:

- | | | | |
|--|--|--|---|
| <ul style="list-style-type: none"> • Libraries | <ul style="list-style-type: none"> • Researchers | <ul style="list-style-type: none"> • Authors | <ul style="list-style-type: none"> • Publishers |
| More content/service | Easier to search | Online first | Lower distribution costs |
| Higher usage | Easier to cite | Wider distribution | Better marketing efficiency |
| Better tracking | 24/7 access | Global readership | New markets |
| Preservation | Remote access | More citations | |

Different types of books

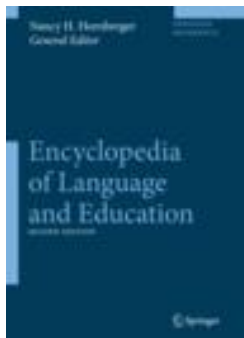
Monographs: single author, high quality, niche subject, long shelf life



Proceedings: Collected papers from a conference, short shelf life



Reference Works: Encyclopedia, Handbook or Atlas, comprehensive and complete, tertiary literature, often A-Z format

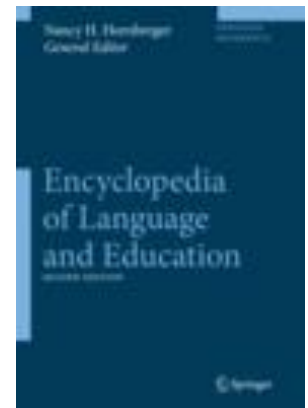


Textbooks: Written for a specific higher education course, high usage

Contributed volume: Editor(s), multiple chapter authors, long shelf life

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Open Access publishing

What Open Access is

- The differences between traditional publishing (in subscription journals) and Open Access are in costs and in copyright
- **Costs**
 - Traditional: Publishing is free to the author / reader pays
 - Open Access: Article is free to the reader/ author pays to publish
- **Copyright**
 - Traditional: Copyright is generally with the publisher
 - Open Access: Copyright remains with the author
- There are various types of Open Access publishing models (hybrid etc.) and different publishers have different policies – Check with the publisher!

How Open Access came about

- (Bio)medicine is the field where Open Access was first established
- It came about through the funding bodies, for example the NIH (National Institutes of Health) in the US
- The funding bodies said that research funded with public funds should be publically available
- Most Open Access journals are still in Health Sciences, but other fields are catching up fast

The traditional subscription journal

- Institutional paper subscriptions are a thing of the past, these days there are large online deals (The Big Deal approach) for governments, consortia and institutions
- In principle there are no publication charges for the author – there may be exceptions for society owned journals or in case of excessive need of color images
- In general the copyright of the final article is with the publisher or society
- Option to publish Open Access in a traditional journal is called Open Choice

The Open Access journal

- There is an Article Processing Charge (APC) to publish an article
- The APC is different for each publisher.
- At Springer, there are membership arrangements - for BioMed Central (part of Springer) and SpringerOpen – made with universities, check with your library
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The success story of Open Access

10 YEARS
2003-2013

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