The Evolving World of Medical Publishing

Donatella Rizza

Executive Editor, Springer Milan

Lisbon, 22 November 2014

Who we are - Key facts about Springer

- A leading global scientific, technical and medical (STM) publisher
- Some 2,820 English-language journals and more than 8,400 new book titles published in 2013
- Some 100,000 English-language eBook titles available on http://link.springer.com
- 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

Who we are - About your presenter:

- **Donatella Rizza**
- Executive Editor, Clinical Medicine. With Springer since 20 years- Degree in Foreign Literature and Languages.
- Currently leading a group of in-house editors acquiring new books title in surgery, dermatology, orthopedics and cardiology
- Project management and development (print and digital), new topics identification and authors scouting, contract negotiation and copyright issues.

For questions and proposals please contact me at

donatella.rizza@springer.com

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Agenda for today

- Publishing scientific articles
- Defining impact in academic publishing
- Open Access publishing
- Publishing books
- Available tools for authors

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STM publishing is arguably one of the most thoroughly realized web-based businesses

- Manuscripts are created and transmitted electronically
- All processing is now handled electronically
  - Editorial
  - Production
- Primary delivery to consumer is by the Internet
  - Readers (users)
  - Librarians (buyers)

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… everything is connected

- High quality content is provided by authors, reviewers and editors
- But today it is important to give users more than just the content
- Journals need to offer services that help readers manage the wealth of information

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Publishing scientific articles

Springer

You all know why you should publish….

Credibility of results

Present new and original data

Grant writing, research funding

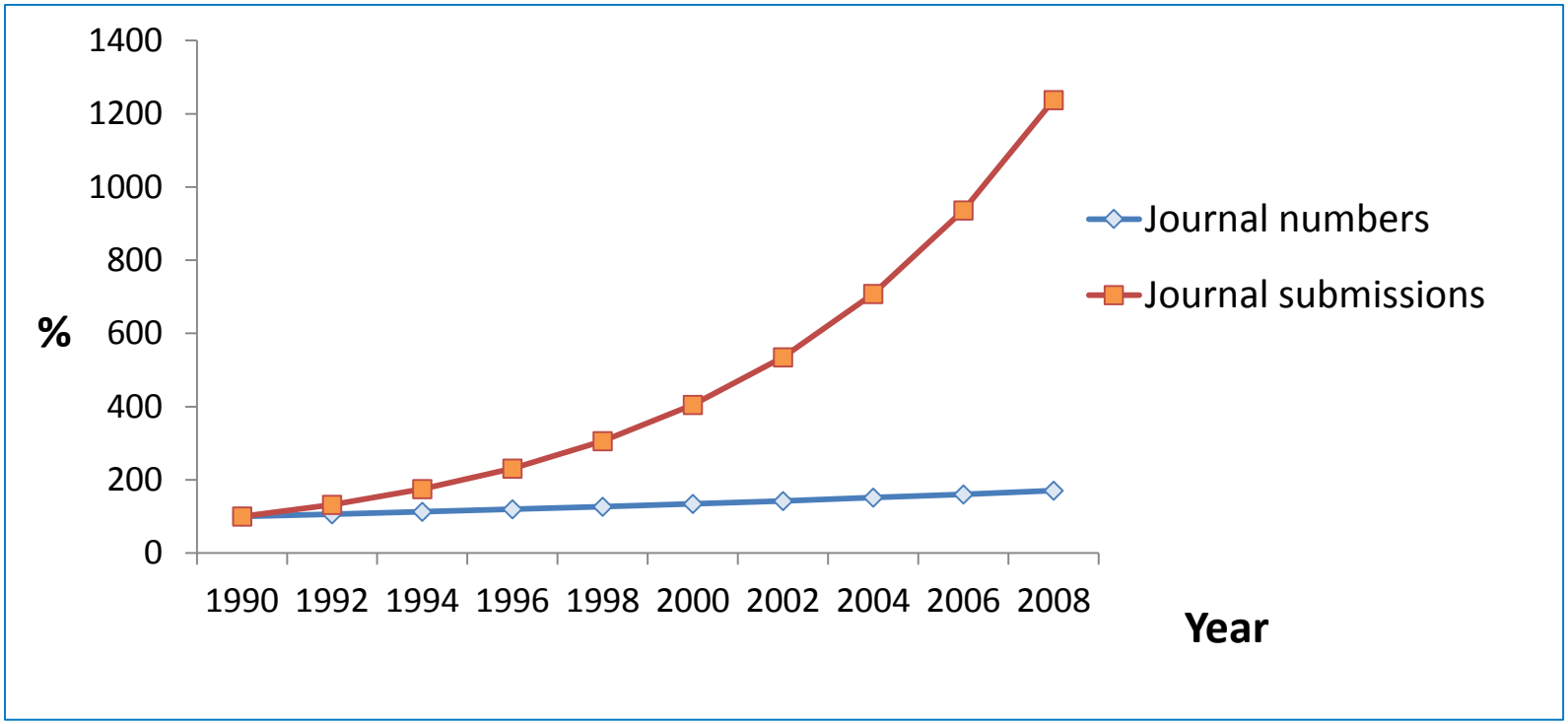
Recognition and career advancement

… but why you should publish in English?

- It is currently the international language of science
- It fosters (international) collaborations
- Scientists will want to hear from other scientists around the world
- Allows you to become an effective science communicator

The status of scholarly publications today

- The number of article submissions is growing exponentially compared to number of new journals
- Consider - when you submit your own article - the growing pressure this puts on Editor-in-Chief , the Editorial Board and the Peer Reviewers of any given journal.



Source: Daniel McGowan, Edanz, 2012

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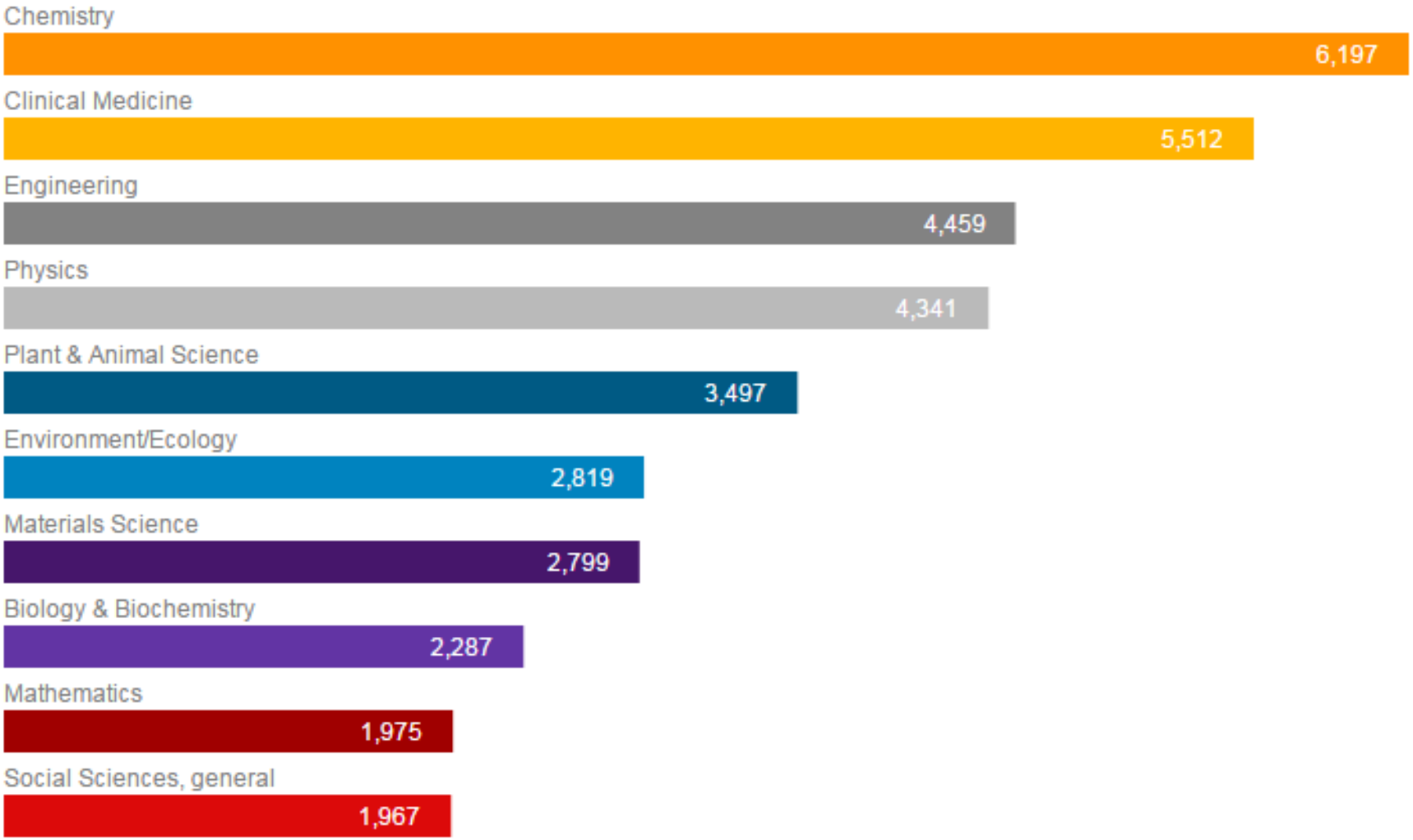
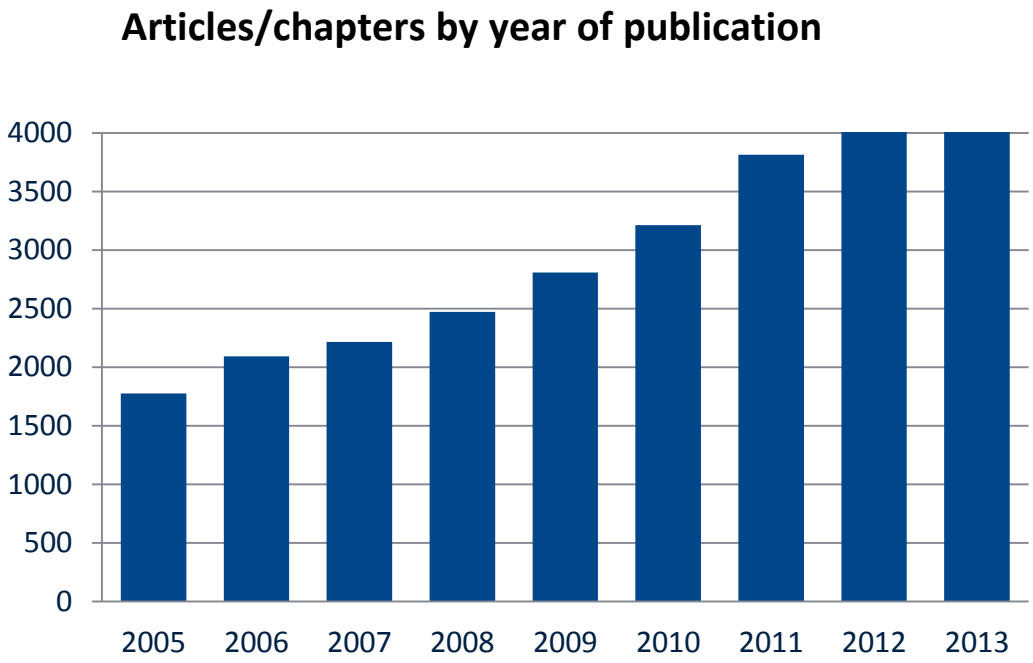
Article output from Portugal 2010-14



Articles/chapters published with Springer 2005 to 2013

Journal Articles Published

Between 2005 and 2013 researchers from Portugal published approx. 18500 contributions, of which 10000 in journals and 8500 as volume chapters



(Source: Springer Authormapper. Reported numbers are minimum numbers, based on available information about roles, affiliations, and addresses.)

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Articles/chapters published with Springer 2005 to 2013

- Journal articles (first ten disciplines)

Life Sciences (1995)
Chemistry (1230)
Medicine & Public Health (1115)
Physics (1108)
Ecology (797)
Plant Sciences (743)
Biochemistry, general (733)
Microbiology (704)
Mathematics (701)
Engineering (687)

- Book chapters (first ten disciplines)

Computer Science (4014)
Artificial Intelligence (incl. Robotics) (2637)
Engineering (1519)
Computer Communication Networks (1467)
Software Engineering (1166)
Information Systems Applications (incl.Internet) (1012)
Information Storage and Retrieval (977)
Information Systems Applications (incl. Internet) (974)
User Interfaces and Human Computer Interaction (902)
Algorithm Analysis and Problem Complexity (816)

- First fifteen institutions

University of Coimbra (546)
University of Minho (493)
Universidade Nova de Lisboa (487)
Universidade do Porto (414)
University of Porto (374)
Technical University of Lisbon (360)
University of Aveiro (337)
Instituto Superior Técnico (311)
Universidade do Minho (311)
University of Lisbon (221)
Universidade de Lisboa (155)
Universidade de Aveiro (146)
Universidade Técnica de Lisboa (146)
Universidade de Coimbra (111)
New University of Lisbon (90)

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Types of journals

- **Letters journal** - Rapid communication of interim work, peer-reviewed, a good way to get time sensitive, preliminary or ongoing research initially published and get feedback
- **Traditional academic research journal** - The main venue for primary research, rigorously peer-reviewed
- **Review journal** - Publishes overviews of research, perspective on the state of a field and/or where it is heading, usually peer-reviewed, may contain commissioned material
- **Professional journal** - Mainly review and how-to articles, heavily edited, not necessarily peer-reviewed, but the audience may be who you want to reach with your research outcome: practitioners

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Megajournals

A **mega journal** is a peer-reviewed academic open access journal designed to be much larger than a traditional journal by exerting low selectivity among accepted articles. It was pioneered by *PLOS ONE*

- Launched June 2006
- broad coverage of different subject areas
- accepting articles for publication based on whether they are technically sound rather than selecting for perceived importance
- gold model of open access where costs are covered by an article processing charge

Source: Wikipedia

The rise of the megajournals: SpringerPlus

- Multidisciplinary, peer-reviewed and Open Access
- Only one year after its launch in January 2012, SpringerPlus was accepted for indexing by Scopus and PubMed Central.
- 2000 submissions, 960 published articles across all areas of science, technology, medicine, the humanities and social sciences.

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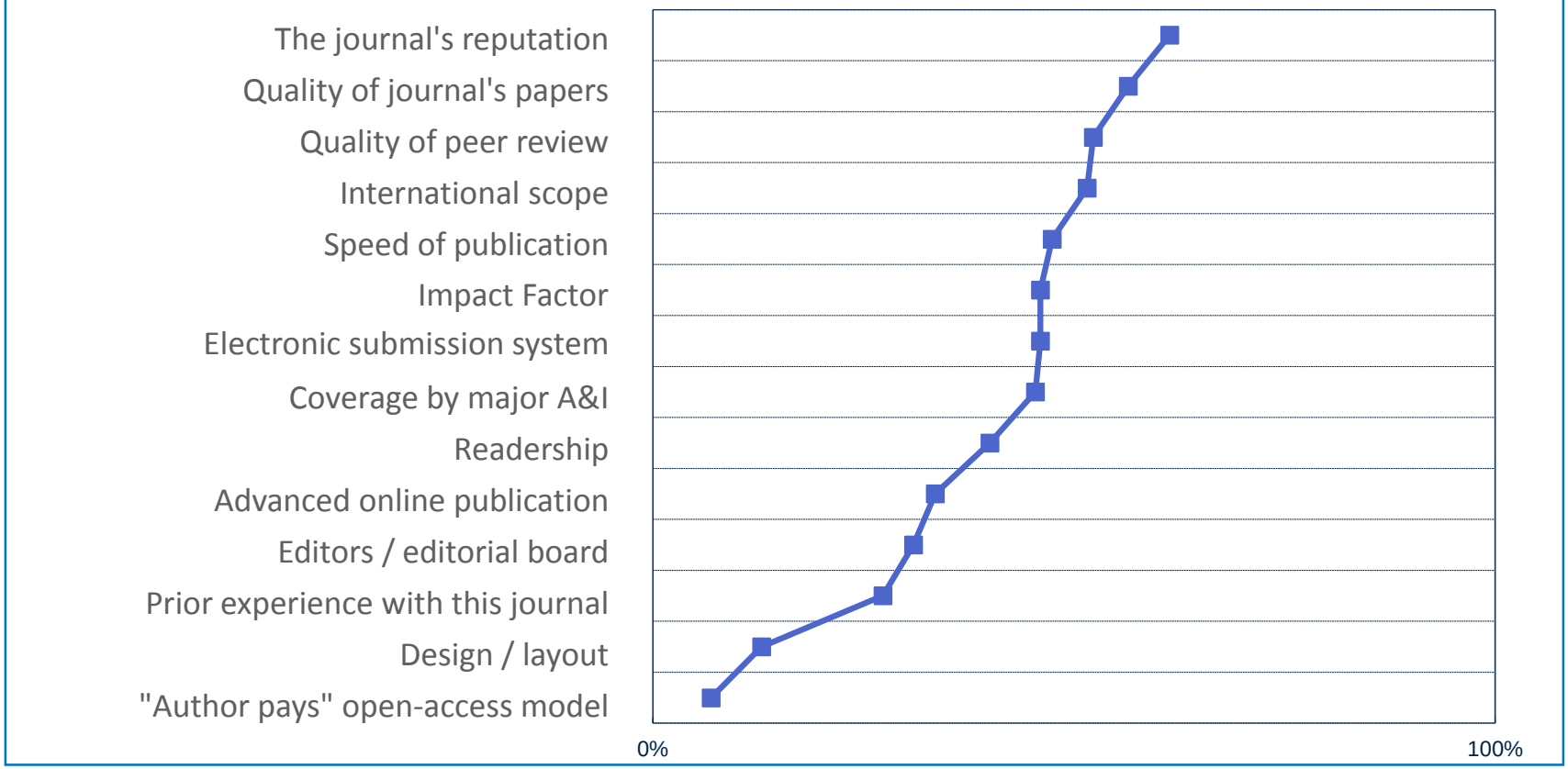
How to choose the right journal - what our authors say

How important are the following factors for you when deciding to submit a manuscript to a particular journal?



(N = 19,220 respondents, 5-point rating: 1=very important to 5=not important at all) Results 2009

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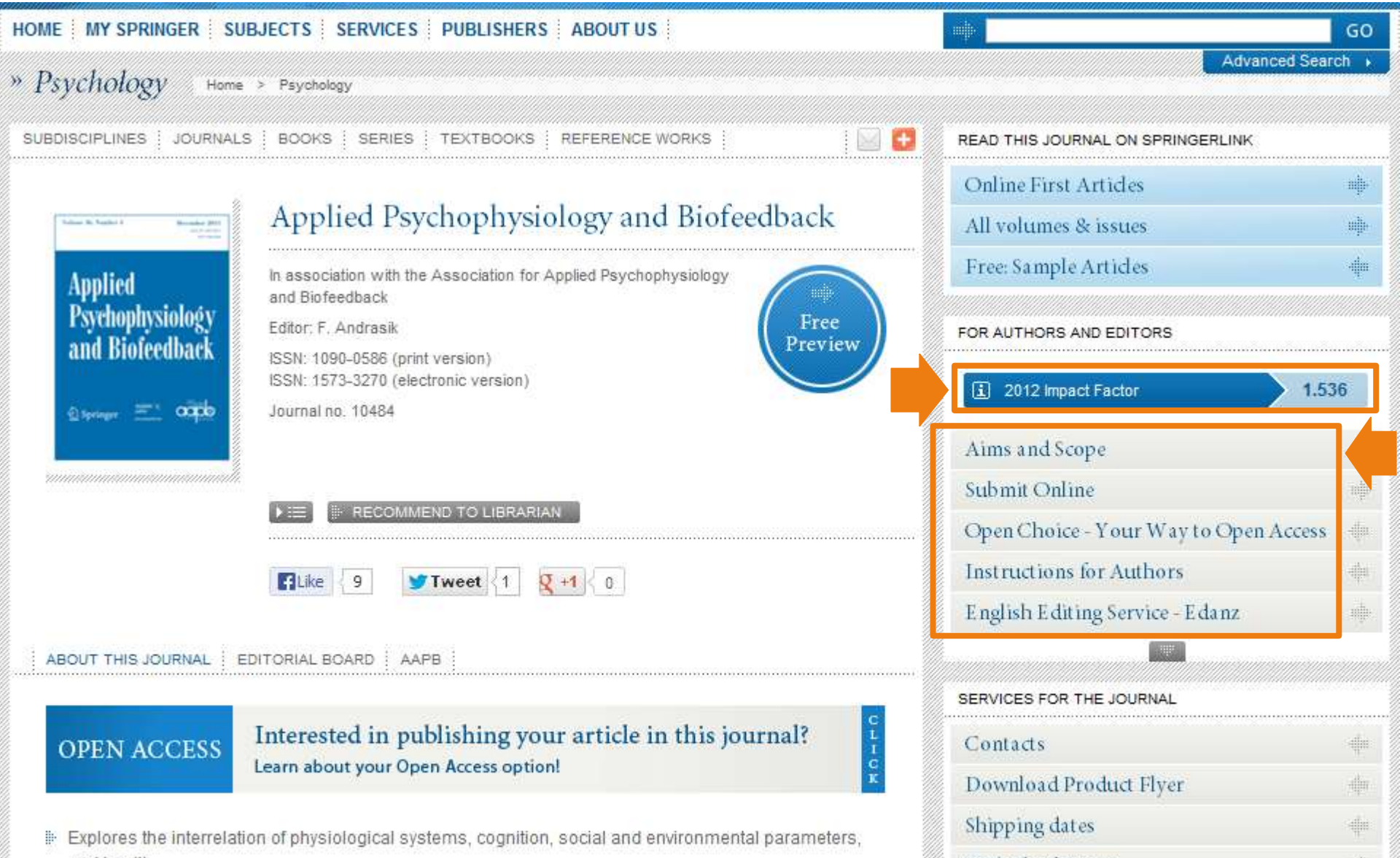
How to choose the right journal - springer.com journal pages



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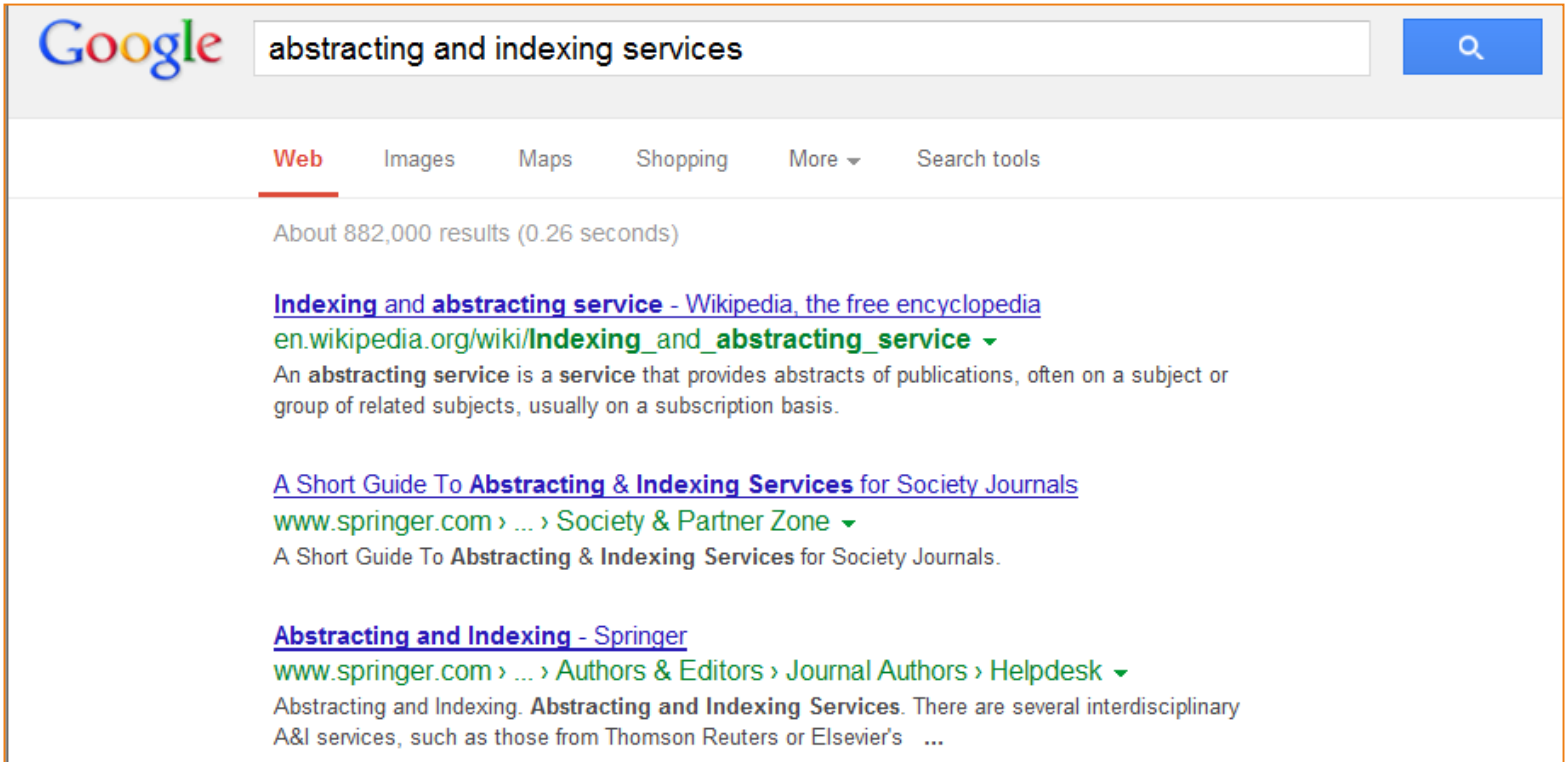
Discoverability of your work: metadata

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)



Getting ready to submit – Language editing

- Professional editing services can help you to improve the text on grammar and to enhance the readability of your manuscript . Thanks to the partnership between Springer and Edanz, Springer authors are granted a **10% discount**
- It is neither a requirement nor a guarantee for acceptance for publication
- Professional editing services will raise your chances of acceptance and ensures clear communication of your research

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npg nature publishing group language editing
Premium science and medical editing

Getting ready to submit – Publishing ethics

- The work described has not been published before
- It is not under consideration anywhere else: NEVER submitting a paper to more than one journal at the same time would represent a violation of Publishing Integrity.
- Publication has been approved by co-authors and responsible authorities
- Permissions have been obtained from copyright owners
- No data fabrication or falsification

COPE COMMITTEE ON PUBLICATION ETHICS

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CrossCheck powered by iThenticate is an initiative started by CrossRef to help its members actively engage in efforts to prevent scholarly and professional plagiarism

Peer-review process: *Editorial Manager™*

- a web-based manuscript submission and review system that lets authors submit articles directly online
- provides online peer review services and tracks manuscripts through the entire review process
- The status of a manuscript can be checked and tracked online and the author can also receive regular e-mail updates
- Rapid review time
- Minimize the amount of time from receipt of the submitted article to acceptance or rejection
- Easier communications among Authors, Editorial Office and Springer Production

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Fully citable by their DOI 2-3 weeks after acceptance and before distribution of the final issue

Metadata are sent to A&I services within48 hours after online

publication

Submission

Accepted articles To Springer production

Proofs to Authors and Editors

Online First articles

Issue online in html e pdf

Issue distribution

Peer review

Editing and typesetting

Proofs editing

Issue building

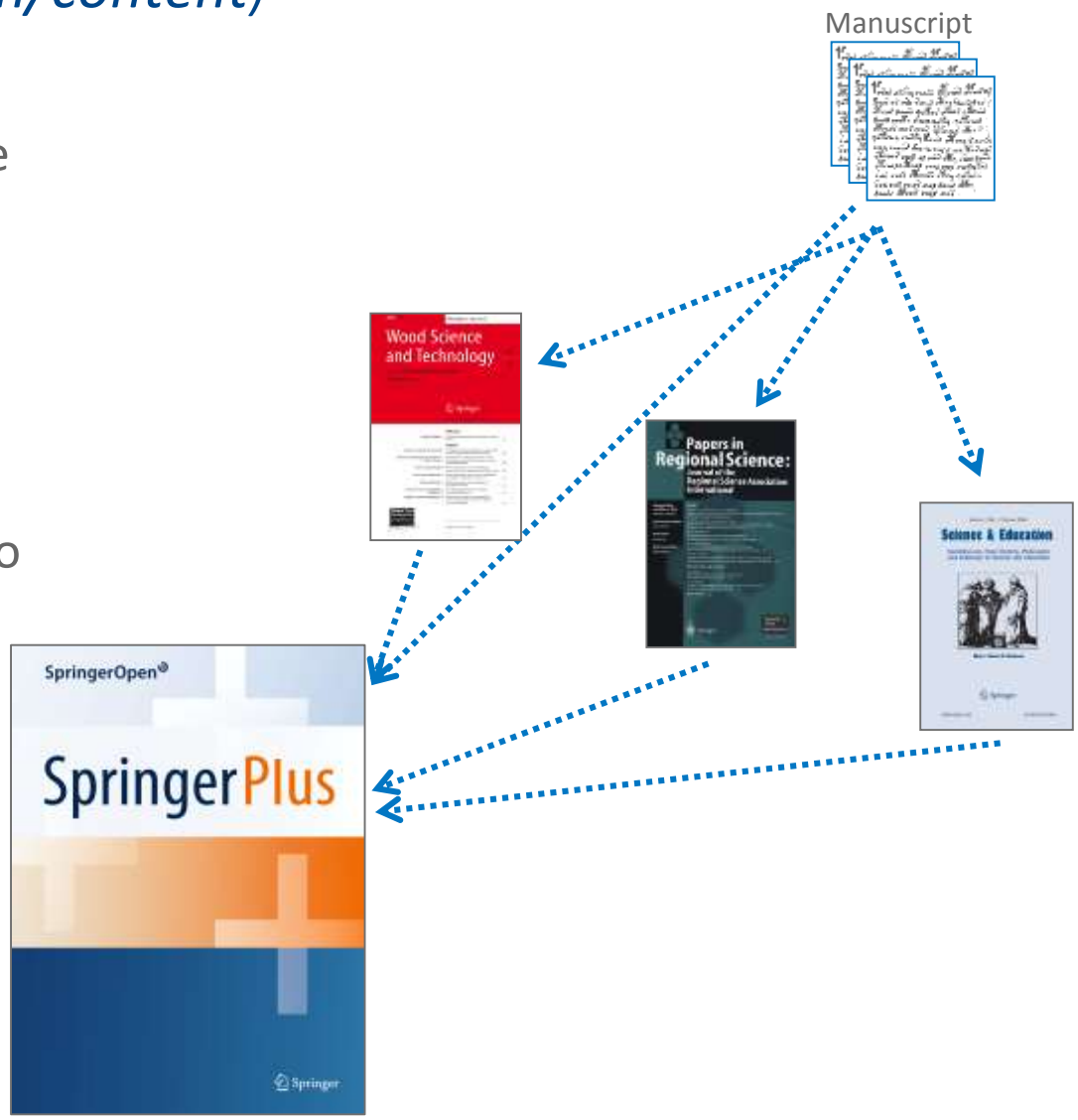
Printing

Weeks 0 1 3 5 7

Transfer to SpringerPlus
(*http://www.springerplus.com/content*)

- The manuscripts **rejected** because **out of scope** can be moved to **SpringerPlus**

- Authors are proposed the shifting from the journal to which they originally submitted their article to the megajournal



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Defining impact in academic publishing

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Impact Factor

THOMSON REUTERS

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

Formula for the 2012 Impact Factor:

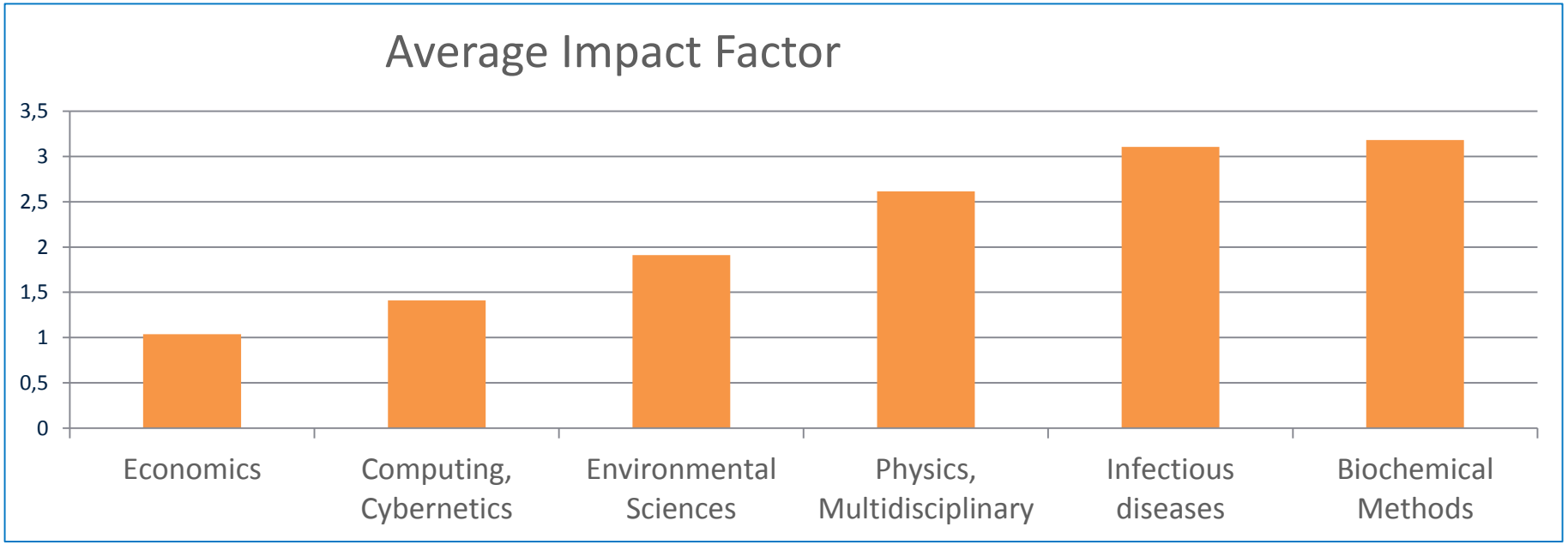
$$\frac{\text{Number of citations in 2012 to articles published in 2010 + 2011}}{\text{Total citable articles published in 2010 + 2011}}$$

Example:

$$\frac{\text{120 citations in 2012 (to articles published 2010 or 2011)}}{\text{80 articles published in 2010 and 2011}} = 1.5$$

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
- E.g. In mathematics researchers will often cite older work but only citations in the two years after publication count toward the IF



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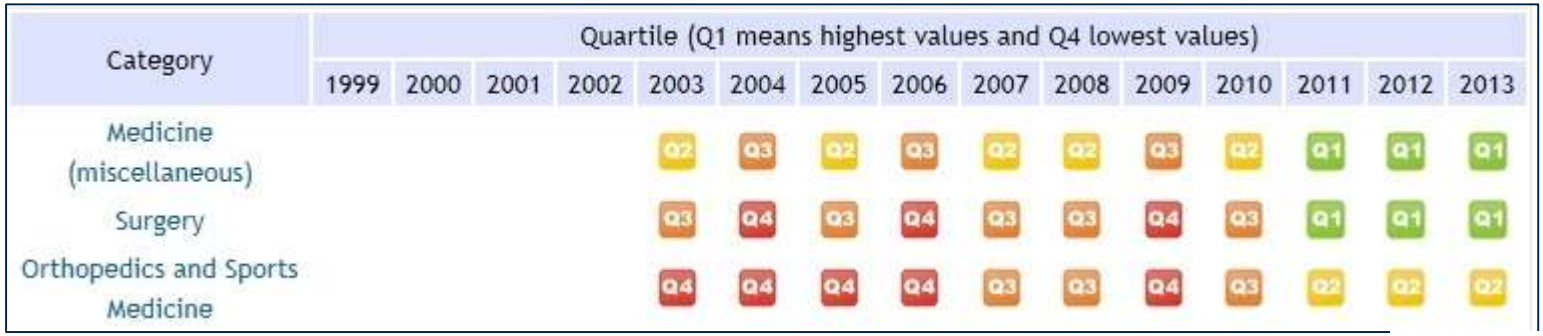
The *h*-index

- Evaluation of impact of the work of **individual** researcher measuring 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
- 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

Scopus citation databases - Scimago

- Scopus is the largest abstract and citation database of peer-reviewed literature in the fields of science, technology, medicine, social sciences, and arts and humanities
- Submission can be proposed directly online and the evaluation is made by an Internation Scientific Committe **CSAB - Content Selection & Advisory Board**
- Scopus metrics is the Scimago Journal Ranking



Category	SJR within the category	Journals	Ranking	
Medicine (miscellaneous)	20,717 - 0.1	1827	333	
Surgery	4,261 - 0,1	379	72	Q1
Orthopaedics and Sports Medicine	3,705 – 0,1	219	56	Top Q2

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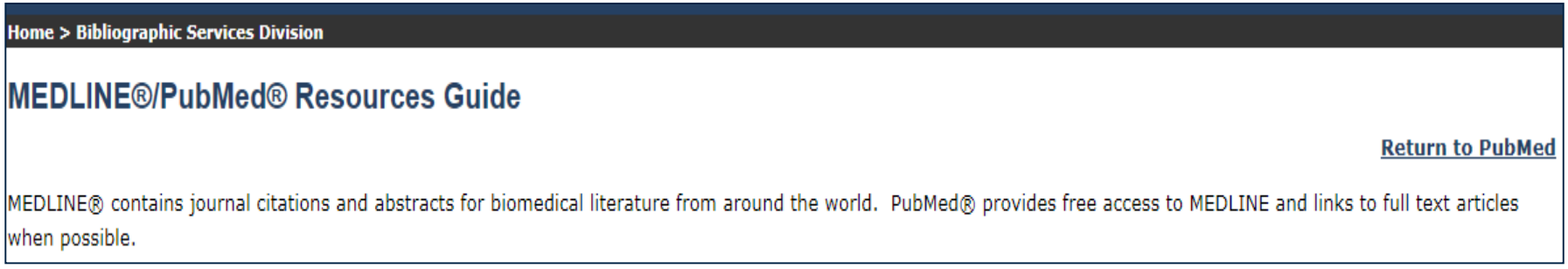
PubMed/MEDLINE citations databases

- PubMed is a freely searchable database at the National Library of Medicine
- MEDLINE® subset of data in PubMed of journals that have been reviewed and accepted for full indexing (selective DB). Over 5,600 scholarly journals published around the world are currently indexed for MEDLINE
- PubMed Central: collection of OA and free access articles. Metadata for these articles go into PubMed but not Medline



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Google Scholar citations databases

- Visit http://scholar.google.com/scholar/citations.html for more information
- Google **Author citations** are available since 2011
  - Authors should set up their profile at http://scholar.google.com and claim their articles
  - 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

Social media activity

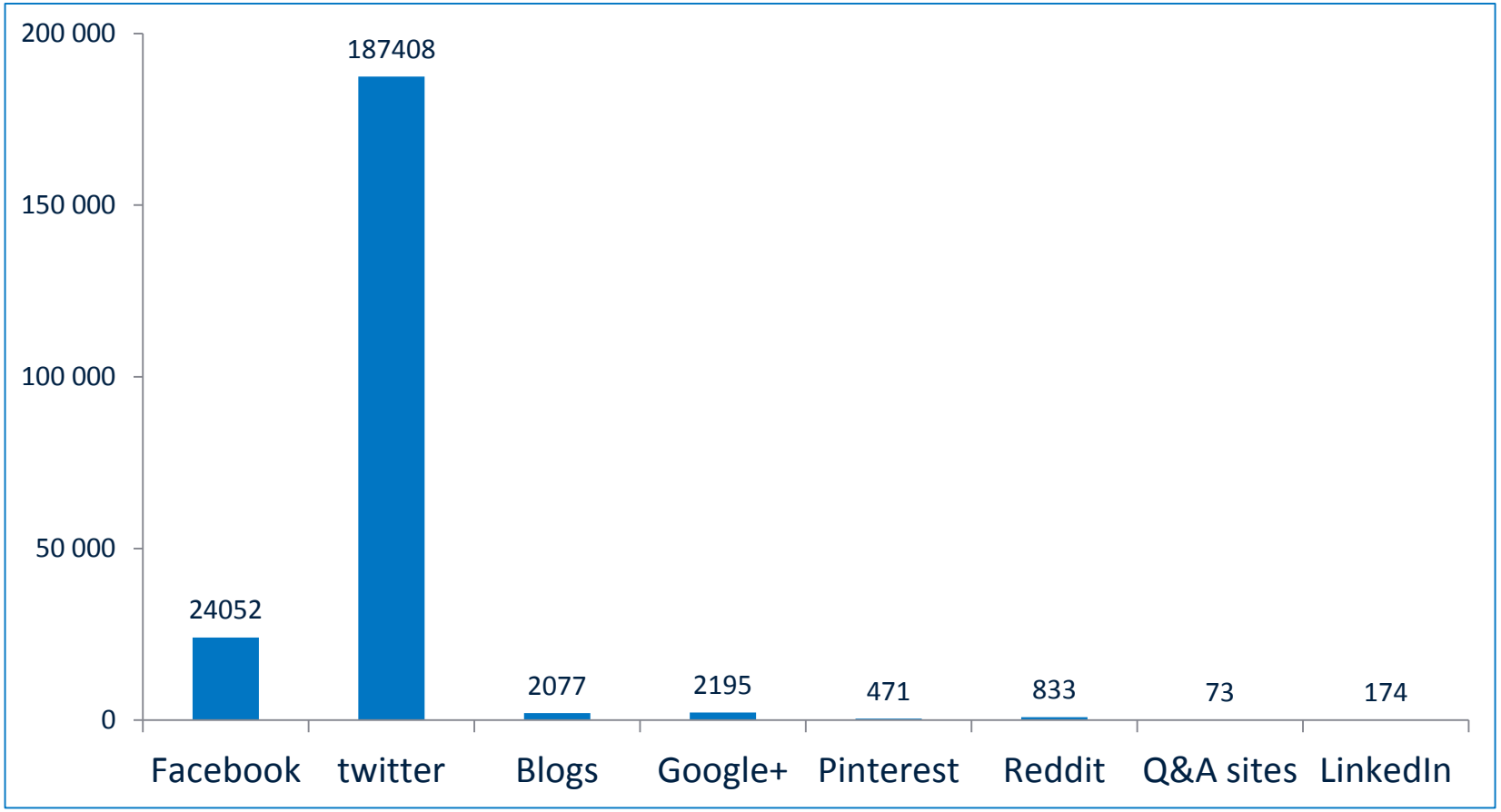
Social media activity around scholarly articles growing by **5% to 10% per month** (Adie & Roe, 2013)

- Mendeley
  - 521 million bookmarks
  - 2.7 million users
  - 32% increase of users from 09/2012 to 09/2013
- Twitter
  - 500 million tweets per day
  - 230 million active users
  - 39% increase of users from 09/2012 to 09/2013

- **Social Media & Science** Adie, E. & Roe, W. (2013). Altmetric: Enriching Scholarly Content with Article-level Discussion and Metrics. *Learned Publishing*, 26(1), 11-17. Mendeley statistics based on monthly user counts from 10/2010 to 01/2014 on the Mendeley website accessed through the Internet Archive Twitter statistics: https://business.twitter.com/whos-twitter and http://www.sec.gov/Archives/edgar/data/1418091/000119312513400028/d564001ds1a.htm

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

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



Which article made a bigger impact?

- Article published in a top-tier journal with '0' citations after 2 years

Impact factor

42.351

2013

- Article published in a lower impact journal with tens of citations

Impact factor

1.136

2013

The new kid on the block: Altmetrics

- Article-Level Metrics (ALMs, altmetrics, alternative metrics) are not just about citations and usage; the concept refers to a whole range of measures which might provide insight into ‘impact’ or ‘reach’
- Reddit threads
- (a collection of) Blogs
- Tweets
- (public) Google+ posts
- (a collection of) News outlets
- Q&A site users
- (public) Facebook posts
- Faculty of 1000 reviews
- Mendeley readers
- CiteULike readers

More information can be found on
www.altmetric.com

The new kid on the block: Altmetrics (cont.)

Coffee, but not caffeine, has positive effects on cognition and psychomotor behavior in aging.

Blogs | Twitter | Facebook | Google+ | Score | Demographics | Help

So far Altmetric has seen **1** blog post.

Coffee, but not caffeine, has positive effects on cognition and psychomotor behavior in aging

Science Alerts Social Network

The complex mixture of phytochemicals in fruits and vegetables provides protective health benefits, mainly through additive and/ ..

27-Oct-2013

Score in context

Is one of the highest ever scores in this journal (ranked #1 of 181)

show more...

Mentioned by

- **1** blog
- **279** tweeters
- **11** Facebook users
- **1** Google+ user

Readers on

- **15** Mendeley
- **0** CiteULike

The new kid on the block: Altmetrics (cont.)

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AGE
December 2013, Volume 35, Issue 6, pp 2183-2192

Coffee, but not caffeine, has positive effects on cognition and psychomotor behavior in aging

Barbara Shukitt-Hale, Marshall G. Miller, Yi-Fang Chu, Barbara J. Lyle, James A. Joseph

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Within this Article

- Introduction
- Materials and methods
- Results
- Discussion
- References
- References

Abstract

The complex mixture of phytochemicals in fruits and vegetables provides protective health benefits, mainly through additive and/or synergistic effects. The presence of several bioactive compounds, such as polyphenols and caffeine, implicates coffee as a potential nutritional therapeutic in aging. Moderate (three to five cups a day) coffee consumption in humans is associated with a significant decrease in the risk of developing certain chronic diseases. However, the ability of coffee supplementation to improve cognitive function in aged individuals and the effect of the individual components in coffee, such as caffeine, have not been fully evaluated. We fed aged rats (19 months) one of five coffee-supplemented

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Open Access publishing

Green Open Access

- Also referred to as Author Archiving
- Author's accepted manuscript is placed in a repository
- Individual authors archiving policies by journal or publisher

Gold Open Access

- Finalized article freely and permanently available immediately after publication
- Unlimited reuse of the article
- Hybrid journals or OA journals

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The Open Access journal

- There is an Article Processing Charge (APC) to publish an article
- The APC may vary from EUR 500-1500 (for Springer)
- There are membership arrangements - for BioMed Central (part of Springer) and SpringerOpen – made with universities, check with your library
- There is an automatic waivers for low-income economies
- Many credible OA publications, with proper peer review
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Open Access

Differences between traditional publishing (in subscription journals) and Open Access 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

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The success story of Open Access

10 YEARS 2003–2013

- Directory of Open Access Journals (DOAJ) at www.doaj.org is maintained by Lund University in Sweden and now contains nearly **10,000 journals**

BioMed Central
The Open Access Publisher

WILEY Open Access

SpringerOpen

Dovepress
open access to scientific and medical research

AIP Advances

BMJ open

G3 Genes | Genomes | Genetics
GSA Genetics Society of America

SAGE open

open Biology

SCIENTIFIC REPORTS

American Society for Microbiology | mBio

Physical Review X
expanding access

Copernicus Publications
The Innovative Open Access Publisher

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The Journal of Headache and Pain
a SpringerOpen Journal

Applied Water Science
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International Journal of Emergency Medicine
a SpringerOpen Journal

Organic and Medicinal Chemistry Letters
a SpringerOpen Journal

Psychology of Well-Being
a SpringerOpen Journal

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Journal of Mathematics in Industry
a SpringerOpen Journal

Health Economics Review
a SpringerOpen Journal

Gold Bulletin
a SpringerOpen Journal

BMC Medicine IMPACT FACTOR 5.75

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Genome Biology IMPACT FACTOR 6.89

BMC Biology incorporating Journal of Biology IMPACT FACTOR 5.20

OJRD ORPHANET JOURNAL OF RARE DISEASES IMPACT FACTOR 5.93

BioMed Central
The Open Access Publisher

BCR Breast Cancer RESEARCH IMPACT FACTOR 5.79

MN MOLECULAR NEURODEGENERATION IMPACT FACTOR 5.36

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Publishing books

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- SpringerLink is home to one of the largest collections of scientific eBooks , with currently over 174,000 eBooks (November 2014)
- Book output growing rapidly every year

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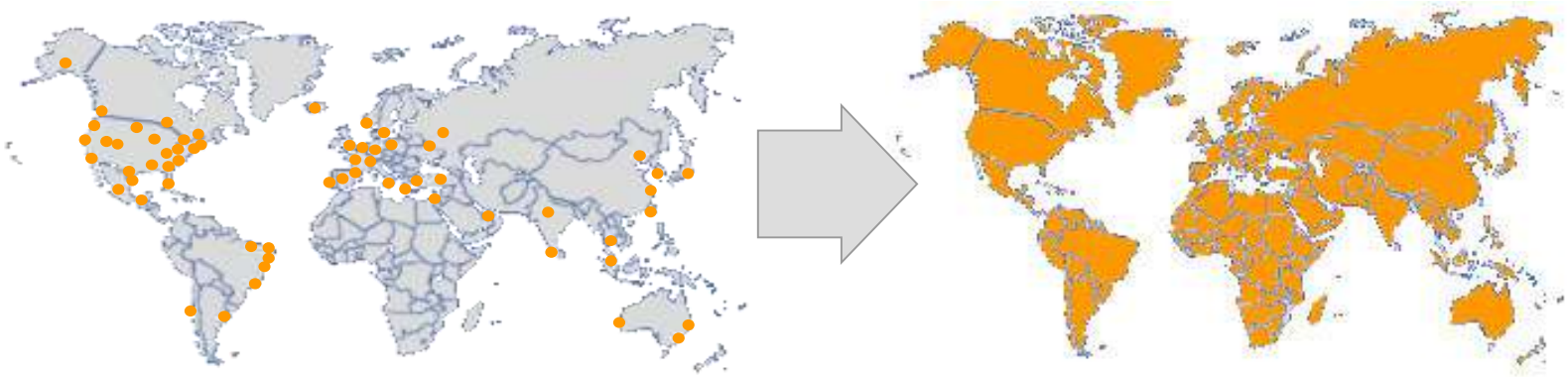
The book will never die: Springer to offer book content back to the 1840s

The importance of eBooks in scientific publishing

Reach printed version vs the online version



Paper subscription model

Online database model

Advantages for:

- **Libraries**
  - More content/service
  - Higher usage
  - Better tracking
  - Preservation
- **Researchers**
  - Easier to search
  - Easier to cite
  - 24/7 access
  - Remote access
- **Authors**
  - Online first
  - Wider distribution
  - Global readership
  - More citations
- **Publishers**
  - Lower distribution costs
  - Better marketing efficiency
  - New markets

Types of books unique to Springer

- **SpringerBriefs** http://www.springer.com/gp/authors-editors/book-authors-editors/springerbriefs
- Providing a format for publishing research, longer than an article, shorter than a book
  - Between 50 and 125 pages
  - Organized in focused subject series

  (not available for clinical medicine)

- **SpringerReference** www.springerreference.com
  - At least 1200 pages ▪At least 60-80 chapters ▪At least 400 entries
  - Regularly updated, much like Wikipedia (but peer reviewed)
  - Static and live final Reference Work on SpringerLink
  - Available in print

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ISI Book Index

- Released October 2011
- All new Springer boos are sent to ISI automatically
- Individual evaluation (even for series)
- Selection Criteria:
  - CRY 2005 or later
  - Scholarly chapters
- No impact factor or other ranking, books do not fit the IF algorithm

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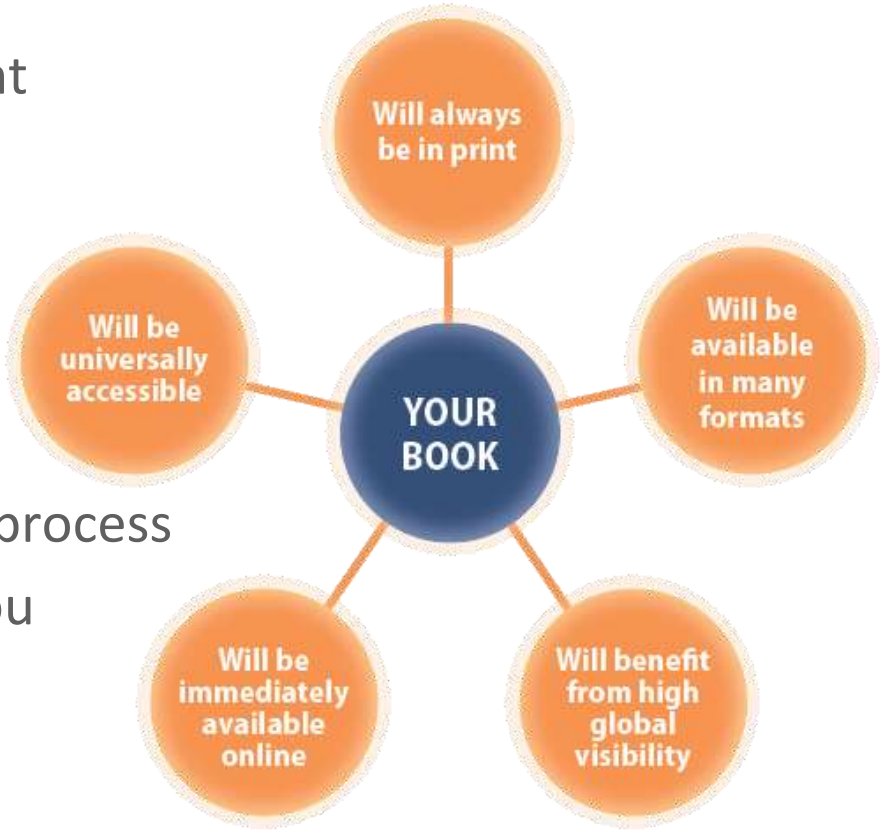

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Available tools for authors

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Available tools for authors

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- http://academy.springer.com: Answers questions about writing for scientific publication
- www.authormapper.com - See where the research is coming from, who you can collaborate with
- www.springerexemplar.com - How is a specific term used in context; in a sentence in any of the work published on SpringerLink?
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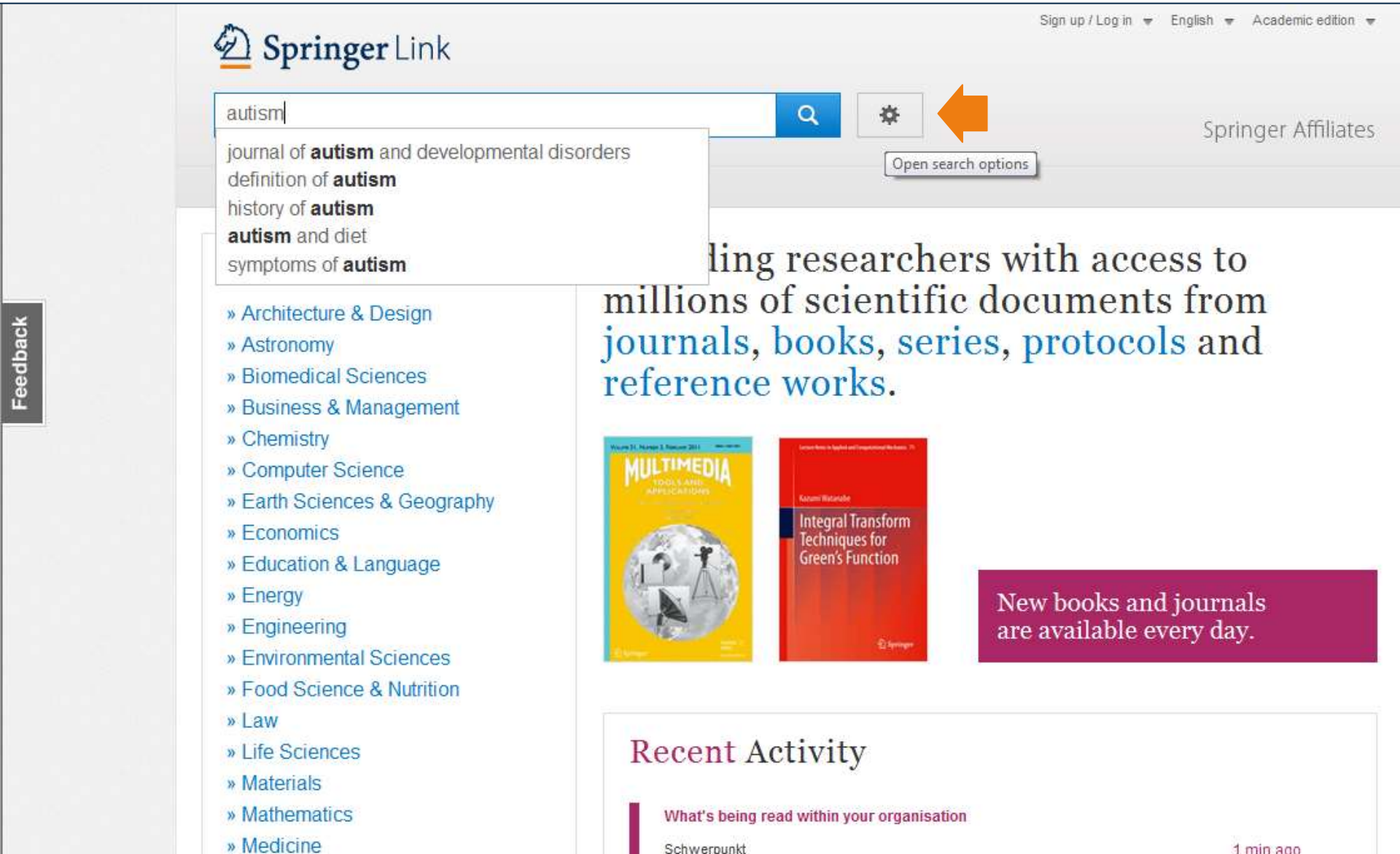
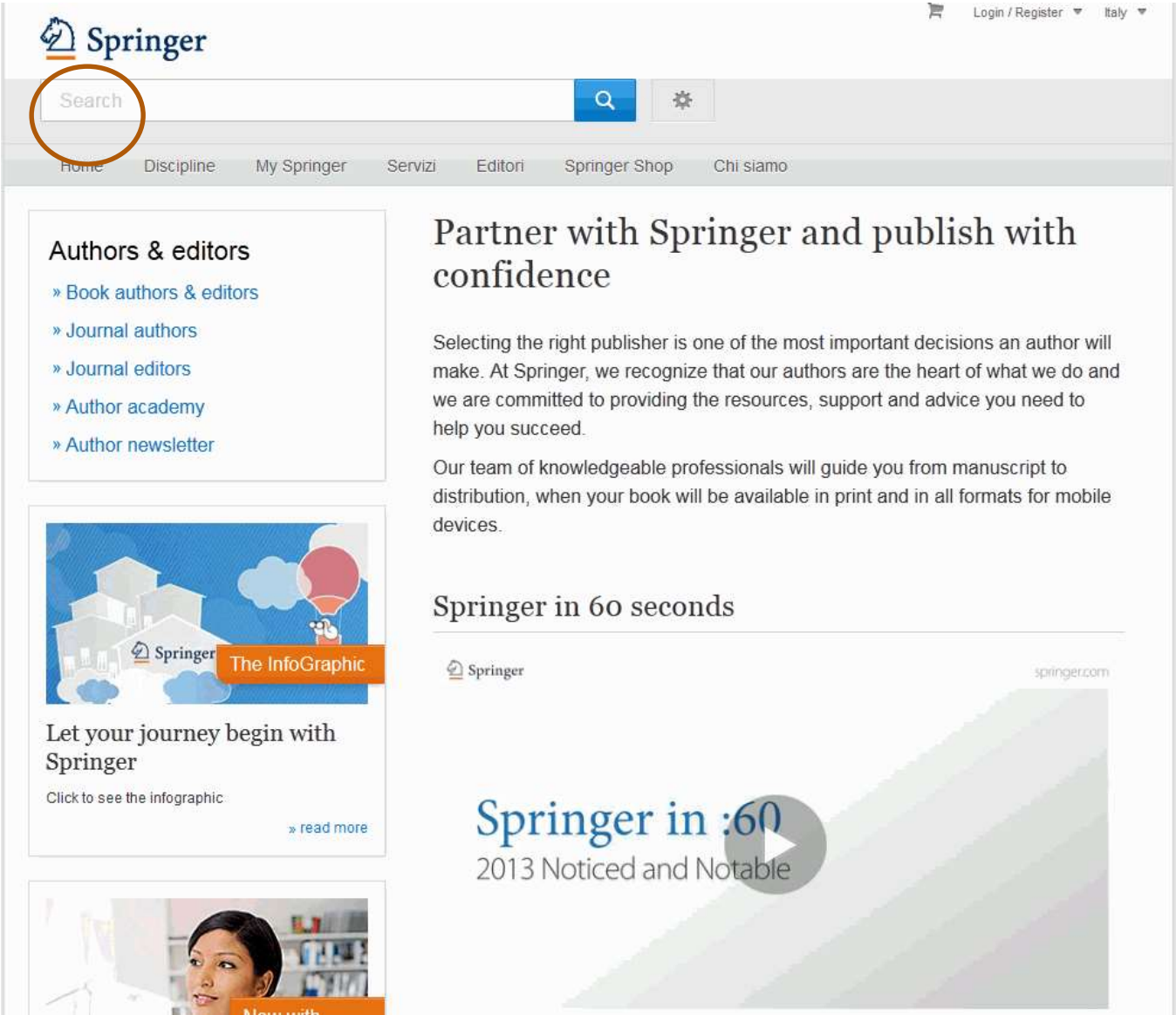


www.springer.com/authors



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Mr. Yin Li
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