

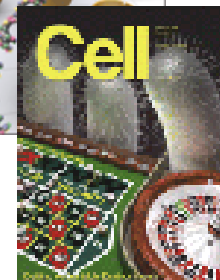
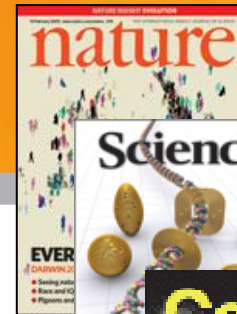
# How to write great papers and get them accepted in good journals

*From title to references*

*From submission to acceptance*

**Presented by:** Anthony Newman  
Senior Publisher,  
Elsevier, Amsterdam

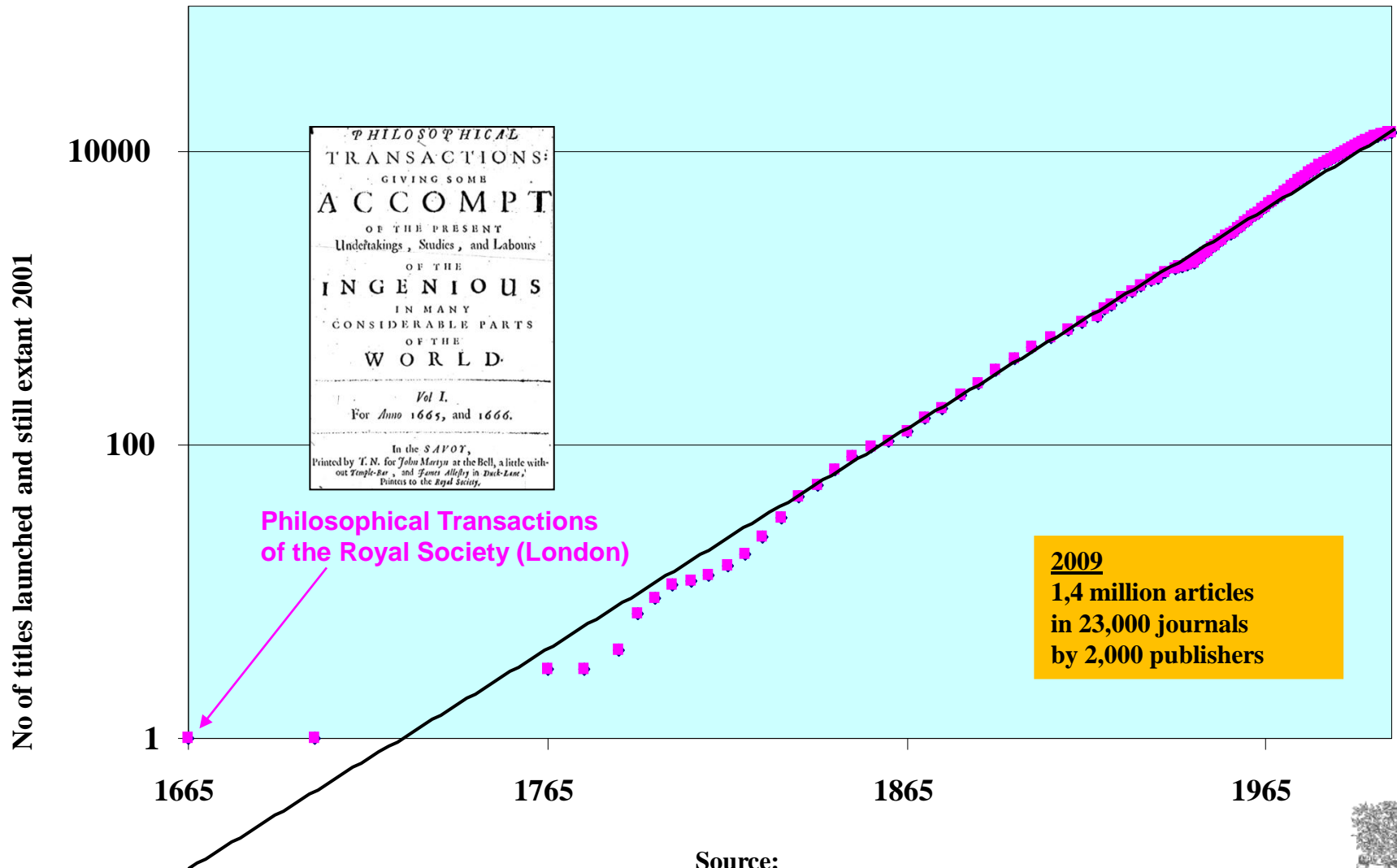
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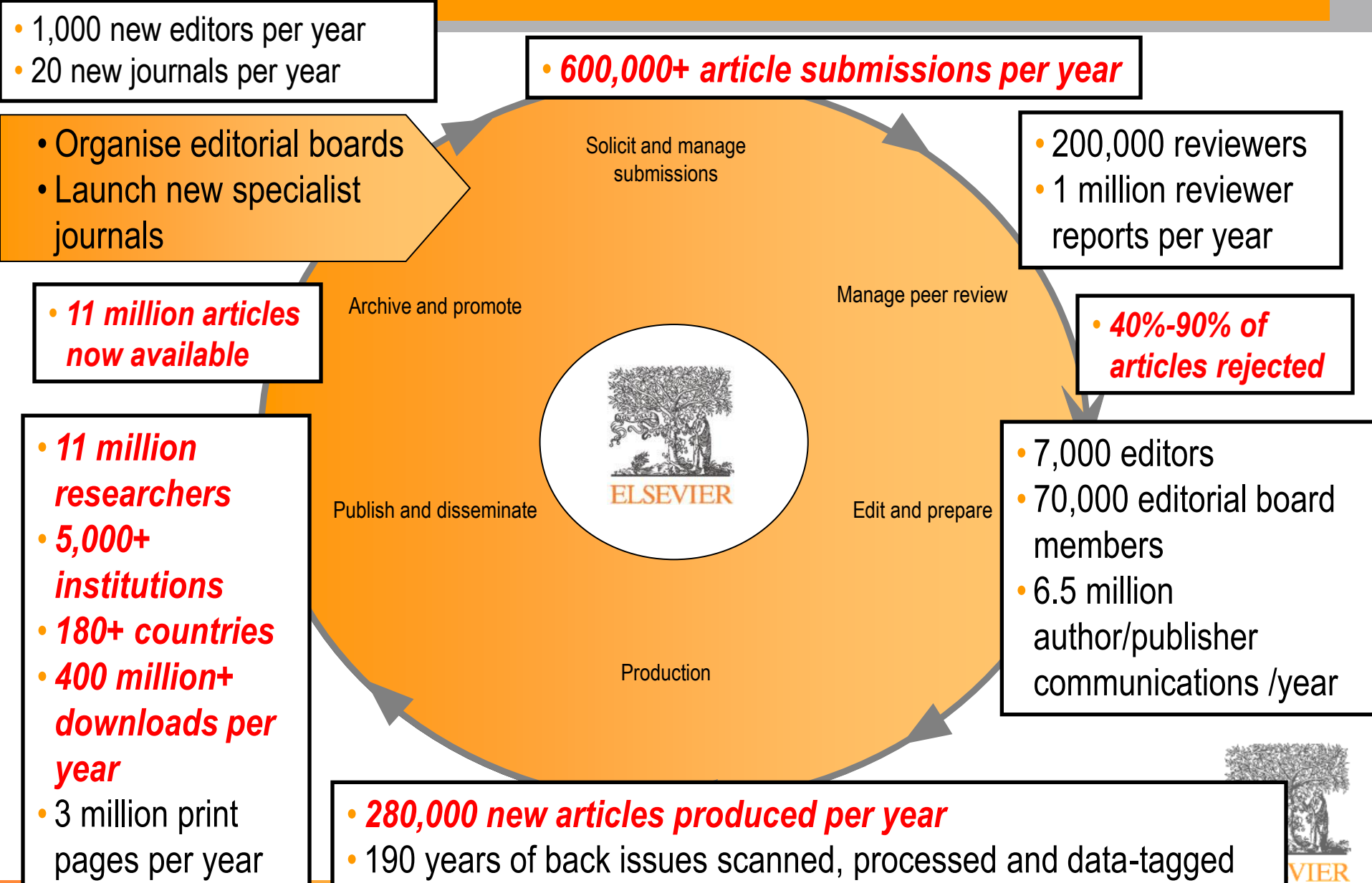
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  - Select your audience
  - The article structure
  - The review and editorial process
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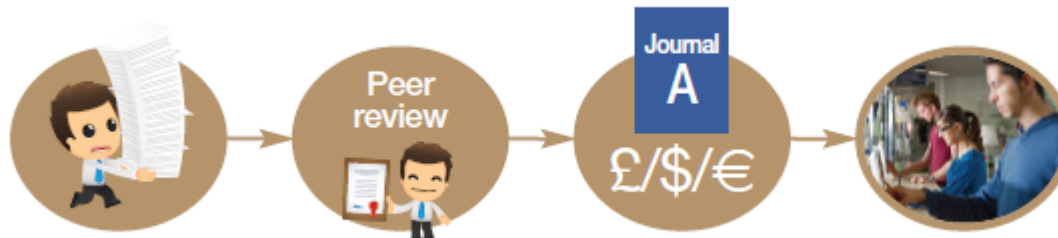


# Trends in publishing

- **Rapid conversion from “print” to “electronic”**
  - 1997: print only
  - 2009: 55% e-only (mostly e-collections)  
25% print only  
20% print-plus-electronic
  - 2013: 95+% electronic access
- **Changing role of “journals” due to e-access**
- **Increased usage of articles**
  - at lower cost per article
- **Electronic submission**
  - Increased manuscript inflow
- **New publishing models**
  - E.g. “author pays” models (open access), “delayed open access” (open archiving), etc.

## Open Access Information

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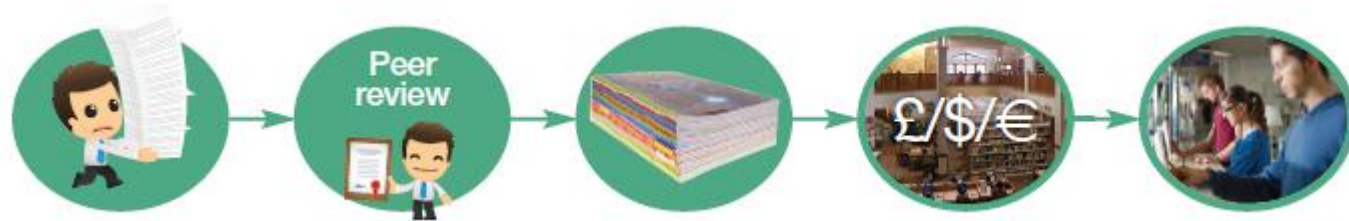
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# Complying with new polices



## Three key funder developments:

- **Research Councils UK**
- **European Commission - Horizon 2020**
  - Every EU country to develop their own policy
- **Office of Science and Technology Policy (US)**



# Your personal reason for publishing



- However, editors, reviewers, and the research community don't consider these reasons when assessing your work.



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# Always keep in mind that ...

**.... your published papers, as a permanent record of your research, are your passport to your community !**



# Why publish?

**Publishing** is one of the necessary steps **embedded in the** scientific **research process**. It is also necessary for graduation and career progression.

## What to publish:

- **New and original results or methods**
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## What NOT to **publish**:

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You need a **STRONG** manuscript to present your contributions to the scientific community

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**Editors and reviewers are all busy scientists –  
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# How To Get Your Article Published

*Before you start*



# Practical Advice - Information

- **Find out what's Hot**
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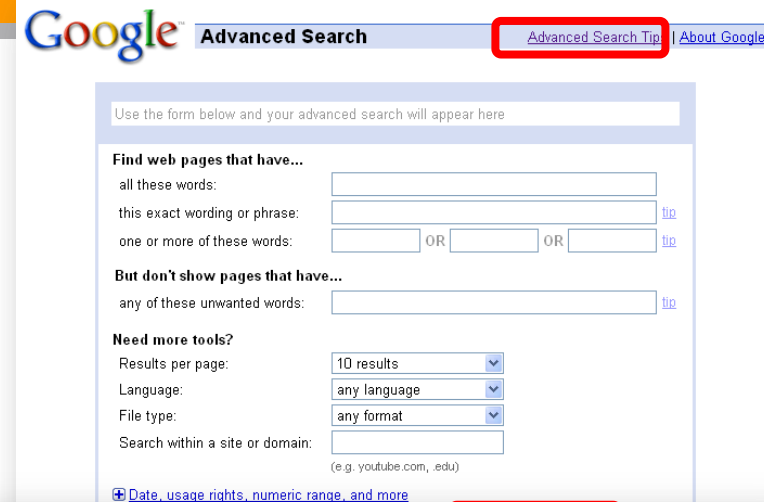
# Use the advanced search options

- Within Google and Google Scholar use the advanced searches and check out the Search Tips.

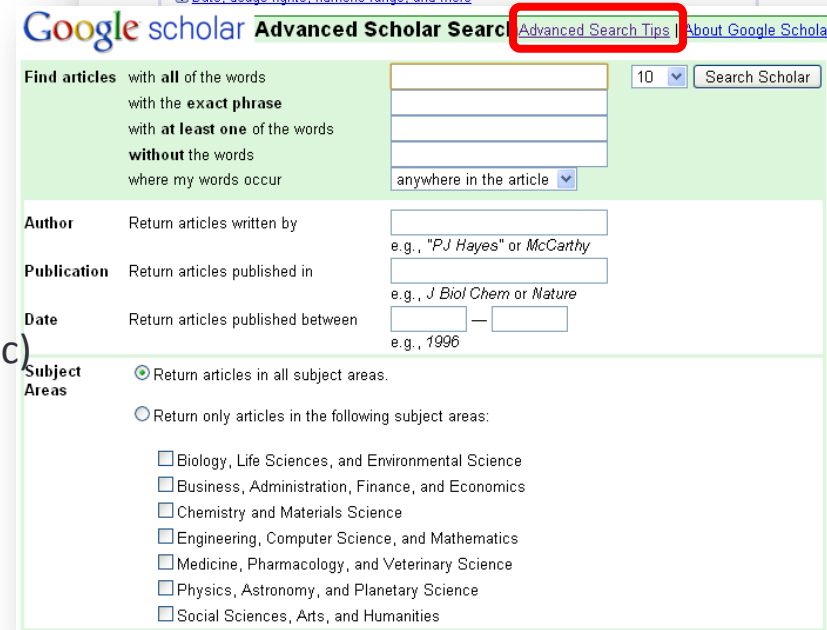
- In ScienceDirect, Scopus, WoS/WoK and other databases use proximity operators:

- w/n ← Within - (non order specific)
- pre/n ← Precedes - (order specific)

E.g. wind w/3 energy



The screenshot shows the Google Advanced Search page. The 'Advanced Search Tips' link is highlighted with a red box. The form includes fields for 'Find web pages that have...' (all these words, this exact wording or phrase, one or more of these words) and 'But don't show pages that have...' (any of these unwanted words). It also has a 'Need more tools?' section with dropdowns for 'Results per page' (10 results), 'Language' (any language), and 'File type' (any format), plus a 'Search within a site or domain' field.



The screenshot shows the Google Scholar Advanced Scholar Search page. The 'Advanced Search Tips' link is highlighted with a red box. The form includes fields for 'Find articles' (with all of the words, with the exact phrase, with at least one of the words, without the words, where my words occur) and 'Author' (Return articles written by). It also has a 'Publication' field (Return articles published in) and a 'Date' field (Return articles published between). The 'Subject Areas' section has a radio button for 'Return articles in all subject areas' and a list of subject areas with checkboxes: Biology, Life Sciences, and Environmental Science; Business, Administration, Finance, and Economics; Chemistry and Materials Science; Engineering, Computer Science, and Mathematics; Medicine, Pharmacology, and Veterinary Science; Physics, Astronomy, and Planetary Science; and Social Sciences, Arts, and Humanities.

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- 2. Imperfect information in a quality-competitive hospital market** \* Article  
*Journal of Health Economics*, Volume 29, Issue 4, July 2010, Pages 524-535  
Gravelle, H.; Sivey, P.  
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- 3. Metabolic Reprogramming: A Cancer Hallmark Even Warburg Did Not Anticipate** \* Review article  
*Cancer Cell*, Volume 21, Issue 3, March 2012, Pages 297-308  
Ward, Patrick S.; Thompson, Craig B.  
[Cited by SciVerse Scopus \(67\)](#)
- 4. Childhood obesity: public-health crisis, common sense cure** \* Review article  
*The Lancet*, Volume 360, Issue 9331, August 2002, Pages 473-482  
Ebbeling, C.B.; Pawlak, D.B.; Ludwig, D.S.  
[Cited by SciVerse Scopus \(1080\)](#)
- 5. Alzheimer's disease** \* Review article  
*The Lancet*, Volume 377, Issue 9770, March 2011, Pages 1019-1031  
Ballard, C.; Gauthier, S.; Corbett, A.; Brayne, C.; Aarsland, D.; Jones, E.  
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- 6. Cancer Stem Cells: Impact, Heterogeneity, and Uncertainty** \* Review article  
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Magee, Jeffrey A.; Piskounova, E.; Morrison, Sean J.  
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- 7. Cognitive behaviour therapy for eating disorders: a "transdiagnostic" theory and treatment** \* Article  
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Fairburn, C.G.; Cooper, Z.; Shafran, R.  
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- 9. The empirical status of cognitive-behavioral therapy: A review of meta-analyses** \* Article  
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Butler, A.C.; Chapman, J.E.; Forman, E.M.; Beck, A.T.  
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5 Crystal structure of the nucleosome core particle at 2.8 Å resolution	Luger, K., Mäder, A.W., Richmond, R.K., Sargent, D.F., Richmond, T.J.	1997	Nature 389 (6648), pp. 251-260	3480
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2 Protein folding. Molecular chaperones in the cytosol: From nascent chain to folded protein	Hartl, F.U., Hayer-Hartl, M.	2002	Science 295 (5561), pp. 1852-1858	1659
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6 SNAREs - Engines for membrane fusion	Jahn, R., Scheller, R.H.	2006	Nature Reviews Molecular Cell Biology 7 (9), pp. 631-643	803
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7 Rapid degradation of a large fraction of newly synthesized proteins by proteasomes	Schubert, U., Antón, L.C., Gibbs, J., Norbury, C.C., Yewdell, J.W., Bannik, J.R.	2000	Nature 404 (6779), pp. 770-774	708
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8 Hsp70 chaperones: Cellular functions and molecular mechanism	Mayer, M.P., Bukau, B.	2005	Cellular and Molecular Life Sciences 62 (6), pp. 670-684	646
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## Review

### Defining the Role of mTOR in Cancer

David A. Guertin<sup>1,2</sup>, David M. Sabatini<sup>1,2,3</sup>

<sup>1</sup> Whitehead Institute for Biomedical Research and Massachusetts Institute of Technology Department of Biology, 9 Cambridge Center, Cambridge, MA 02141, USA

<sup>2</sup> The Broad Institute, 7 Cambridge Center, Cambridge, MA 02141, USA

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*Cancer Letters, Volume 311, Issue 1, 1 December 2011, Pages 20-28*

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The present study was performed to investigate the possible role of mTOR inhibitors in restoring chemosensitivity to adriamycin/cisplatin and elucidate the underlying mechanism. Combining adriamycin/cisplatin with torisel synergistically inhibited the cell proliferation in human oropharyngeal

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and derivatives of one such molecule, rapamycin (from discuss recent progress in understanding mTOR signaling.



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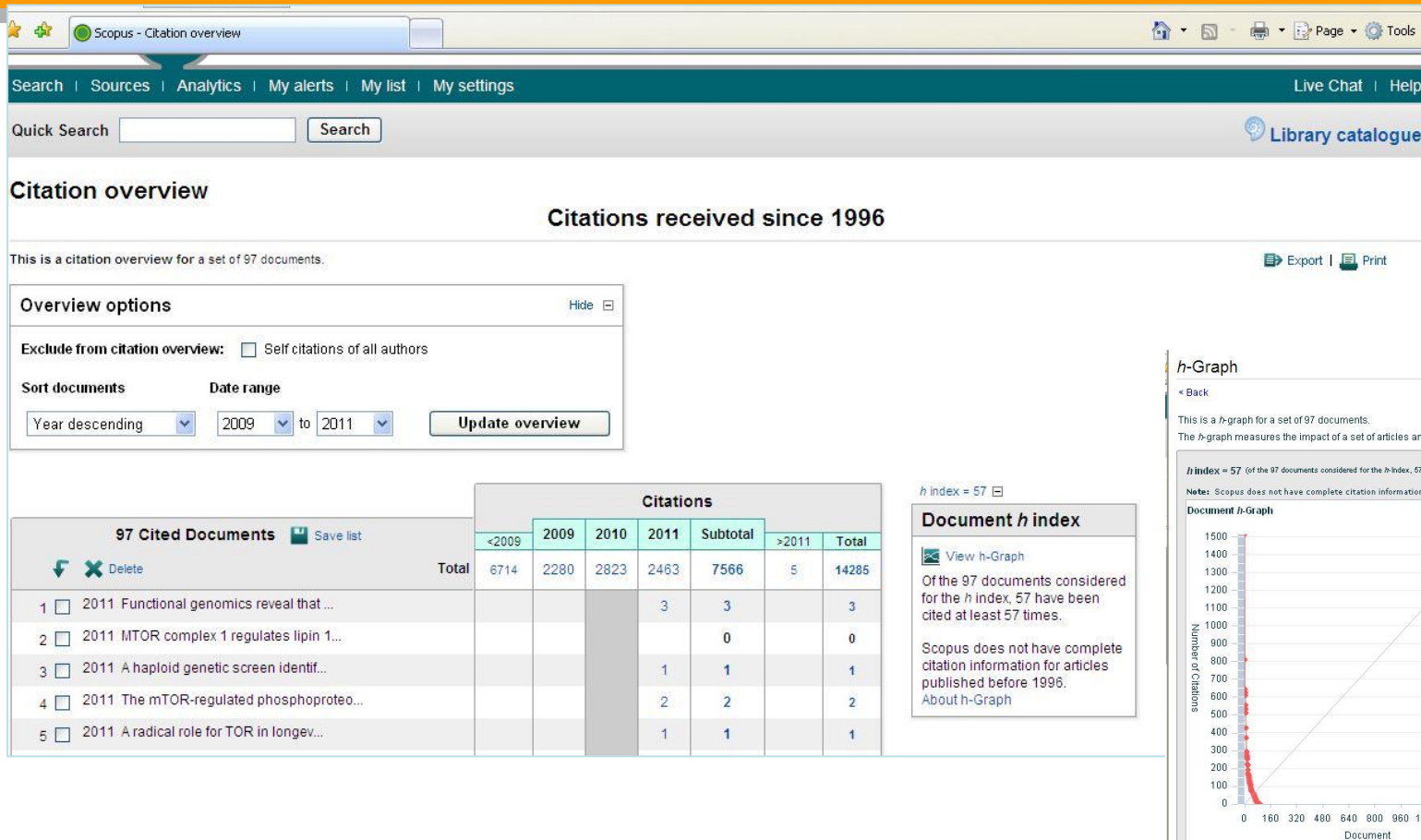
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Think about **WHY** you want to publish your work.

- Is it **new** and interesting?
- Is it a current **hot topic**?
- Have you **provided solutions** to some difficult problems?
- Are you **ready** to publish at this point?

If **all** answers are “**yes**”, then start preparations for your manuscript



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# What type of manuscript?

- Full articles/Original articles;
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- Review papers/perspectives;

**Self-evaluate your work: Is it sufficient for a full article? Or are your results so thrilling that they need to be shown as soon as possible?**

**Ask your supervisor and colleagues for advice on manuscript type.  
Sometimes outsiders see things more clearly than you.**



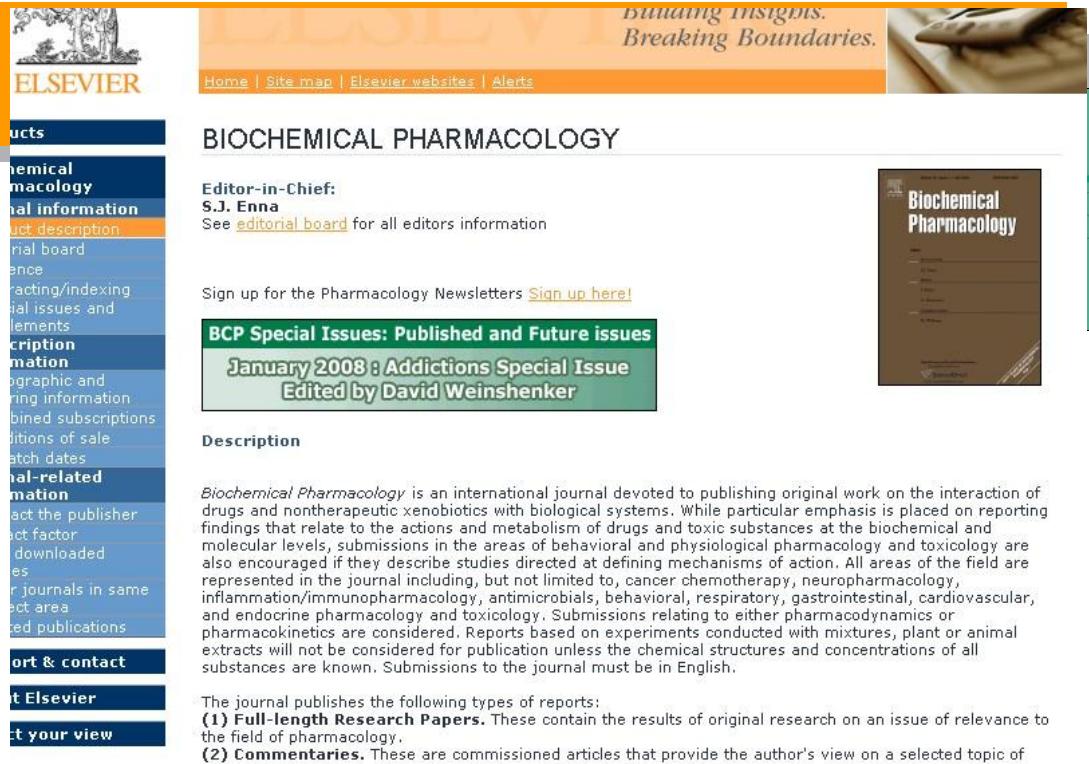
# Select the best journal for submission

- Look at **your references** – these will help you narrow your choices.
- **Review** recent publications in **each candidate journal**. Find out the hot topics, the accepted types of articles, etc.
- Ask yourself the following questions:
  - Is the journal **peer-reviewed** to the right level?
  - Who is this journal's **audience**?
  - How **fast** does it make a decision or publish your paper?
  - What is the journal's **Impact Factor**?
  - Does it really exist or is **dubious**? (check for example Beall's List of Predatory Open Access Publishers)
- **DO NOT gamble by submitting your manuscript to more than one journal at a time.**
  - International ethics standards prohibit multiple/simultaneous submissions, and editors DO find out! (Trust us, they DO!)



# Choose the right journal

- Investigate all candidate journals to find out
  - Aims and scope
  - Accepted types of articles
  - Readership
  - Current hot topics
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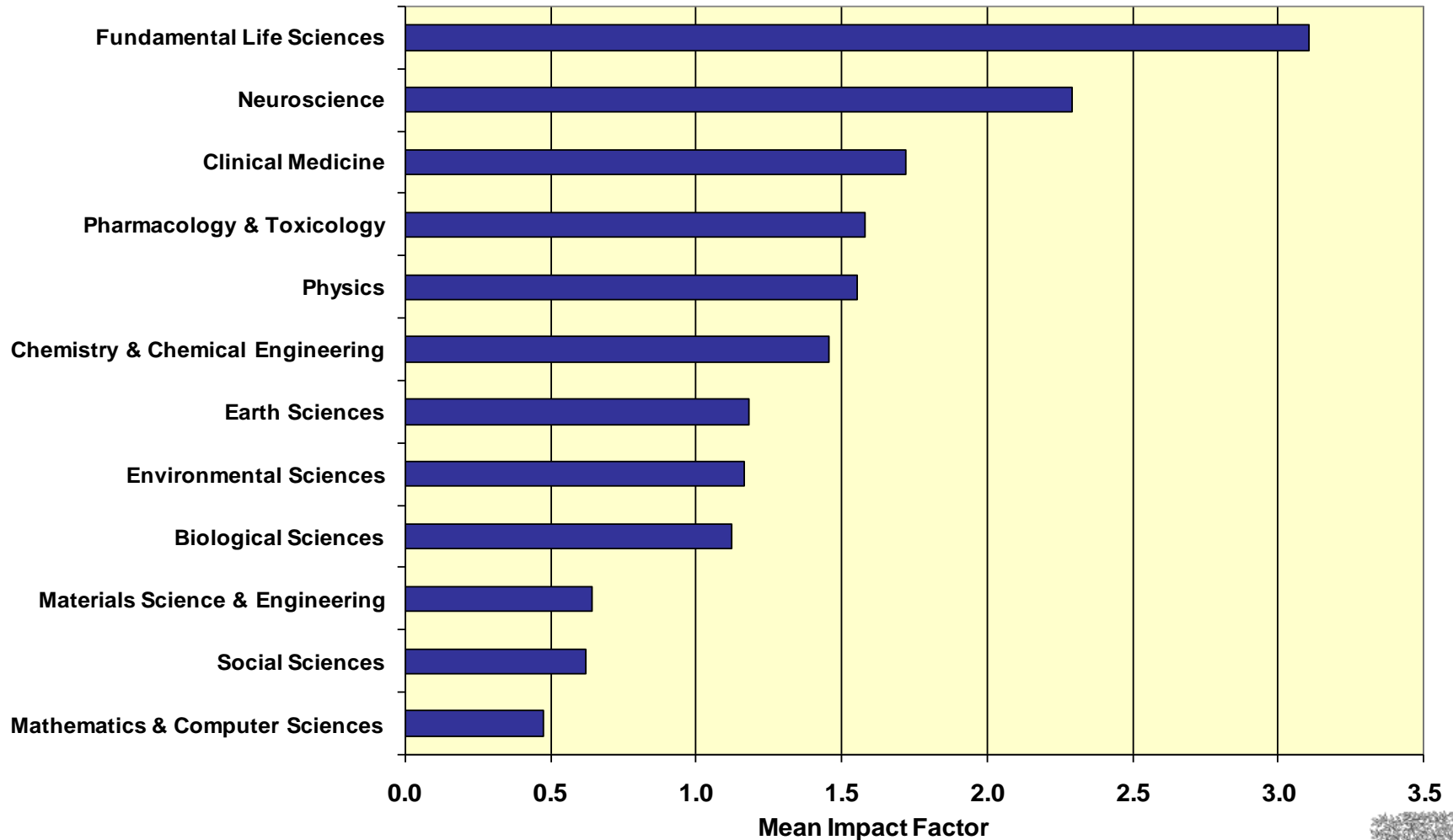
## Impact Factor

*[the average annual number of citations per article published]*

- For example, the 2011 impact factor for a journal is calculated as follows:
  - $A$  = the number of times articles published in 2009 and 2010 were cited in indexed journals during 2011
  - $B$  = the number of "citable items" (usually articles, reviews, proceedings or notes; not editorials and letters-to-the-Editor) published in 2009 and 2010
  - 2011 impact factor =  $A/B$
  - e.g. **600 citations** = 2.000  
**150 + 150 articles**



# Influences on Impact Factors: Subject Area



Search | Sources | Analysis | Alerts | My Settings

Quick Search

Journal A

Search

scien

Lim

Show

s.

Results: 1362 Sc

Journal Title

Sadhana - Acader

Safety Science

Sahara J

Saudi Journal of B

Scandinavian Jour

Scandinavian Jour

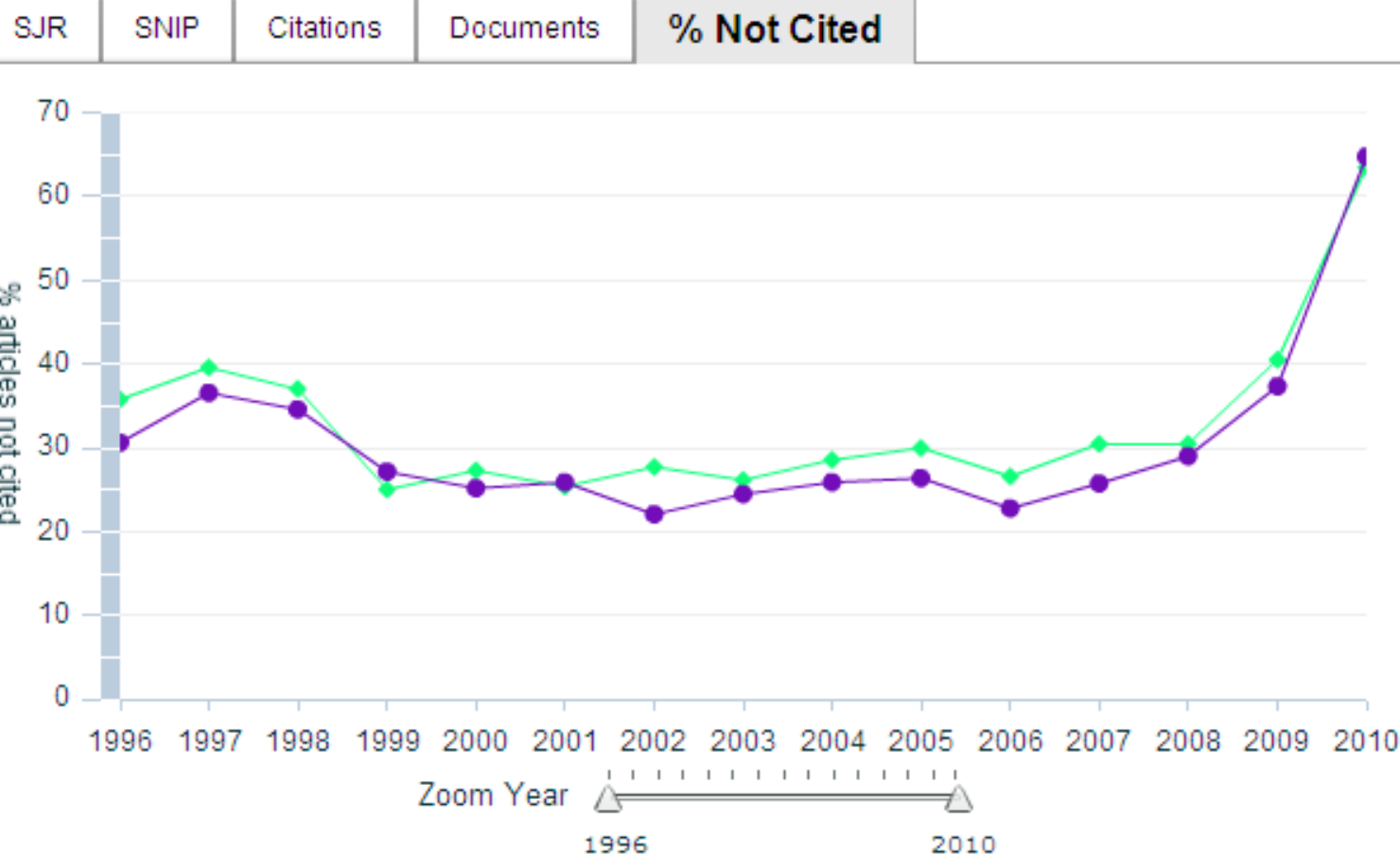
Scandinavian Jour

Science

Science China Che

Science China Ear

Calculations Last U



About calculations

Note: Scopus does not have complete citation information for articles published before 1996.

Calculations Last Updated: 19 Oct 2010

Journals In Chart

Exclude journal self citations

✕ Clear chart

✕ Clear chart

◆ Nature

+ Show Info

✕

Show Info

✕

● Science

+ Show Info

✕

Show Info

✕

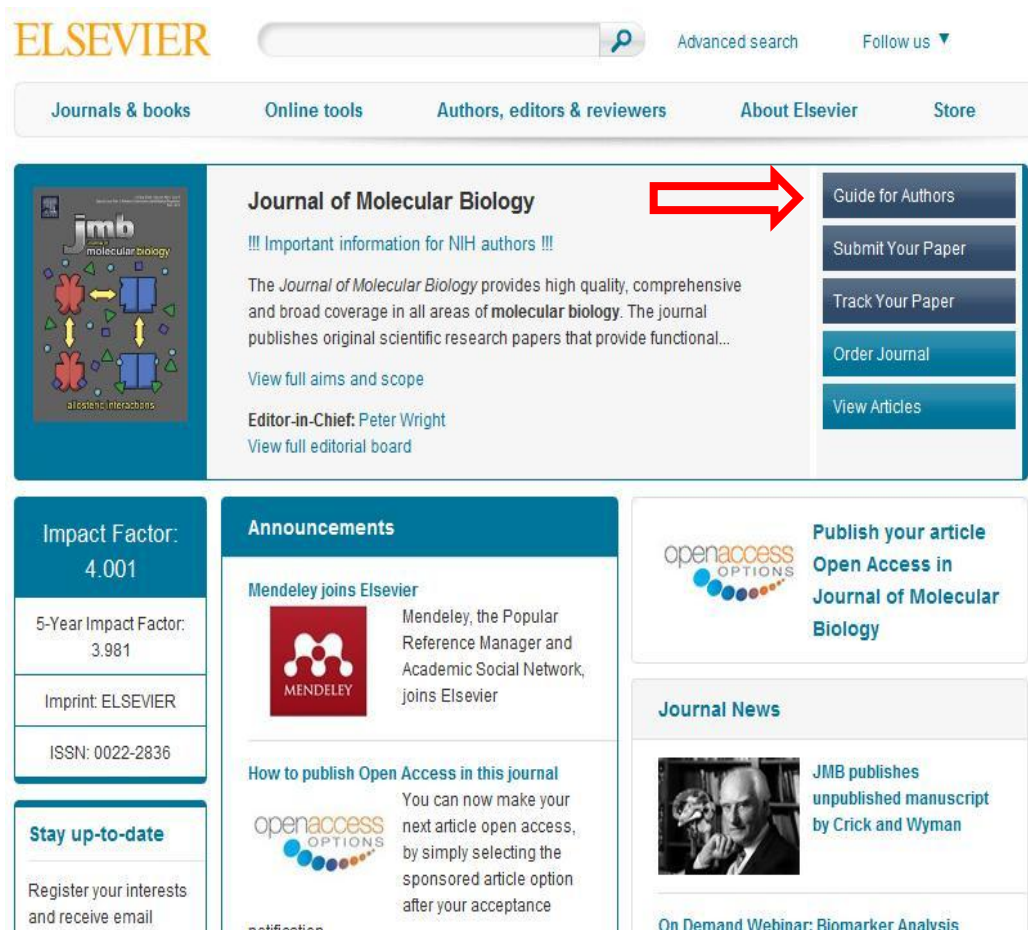
# **Your Journals list for this manuscript**

**So you now have a sequence list of candidate journals for your manuscript?**

**Write your draft as if you are going to submit to the first on your list. Use its Guide to Authors**

# Read the 'Guide to Authors'- Again and again!

- Stick to the Guide for Authors in your manuscript, **even in the first draft** (text layout, nomenclature, figures & tables, references etc.). In the end it will save you time, and also the editor's.
- Editors (and reviewers) do not like wasting time on poorly prepared manuscripts. It is a sign of disrespect.



The screenshot shows the Elsevier website for the Journal of Molecular Biology. The top navigation bar includes links for Journals & books, Online tools, Authors, editors & reviewers, About Elsevier, and Store. A red arrow points to the 'Guide for Authors' button in the right-hand navigation menu. Other buttons in the menu include 'Submit Your Paper', 'Track Your Paper', 'Order Journal', and 'View Articles'. The main content area features a cover image of the journal, a description of the journal's scope, and a list of announcements. The left sidebar displays the journal's Impact Factor (4.001), 5-Year Impact Factor (3.981), Imprint (ELSEVIER), and ISSN (0022-2836). The bottom section includes a 'Stay up-to-date' registration form and a 'Journal News' section with a photo of a man and a dog.

**ELSEVIER**

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**Journal of Molecular Biology**

!!! Important information for NIH authors !!!

The *Journal of Molecular Biology* provides high quality, comprehensive and broad coverage in all areas of molecular biology. The journal publishes original scientific research papers that provide functional...

View full aims and scope

Editor-in-Chief: Peter Wright  
View full editorial board

Guide for Authors  
Submit Your Paper  
Track Your Paper  
Order Journal  
View Articles

Impact Factor: 4.001

5-Year Impact Factor: 3.981

Imprint: ELSEVIER

ISSN: 0022-2836

Stay up-to-date

Register your interests and receive email

**Announcements**

Mendeley joins Elsevier

Mendeley, the Popular Reference Manager and Academic Social Network, joins Elsevier

How to publish Open Access in this journal

You can now make your next article open access, by simply selecting the sponsored article option after your acceptance

openaccess OPTIONS

Publish your article  
Open Access in  
Journal of Molecular  
Biology

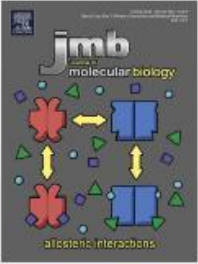
Journal News

JMB publishes unpublished manuscript by Crick and Wyman

On Demand Webinar: Biomarker Analysis



# Read the 'Guide to Authors'- Again and again!



Guide for authors

Submit your paper

Track your paper

Order journal


View articles

Abstracting and indexing

Editorial board

Browse journals > Journal of Molecular Biology > Guide for authors

## Guide for Authors

 Author information pack

### INTRODUCTION

- Editorial policy
- Sharing of reagents and data
- Sequence data
- Structural data
- NMR assignments
- Cell lines
- Types of paper
- Contact details for submission

### BEFORE YOU BEGIN

- Ethics in publishing
- Conflict of interest
- Submission declaration
- Changes to authorship
- Copyright
- Retained author rights
- Funding body agreements and policies

### PREPARATION

- Open access
- Language (usage and editing services)
- Submission
- Use of wordprocessing software
- Article structure
- Subdivision
- Essential title page information
- Abstract
- Graphical abstract
- Highlights
- Keywords
- Abbreviations
- Introduction
- Results
- Discussion
- Materials and methods

### AFTER ACCEPTANCE

- Database linking
- Accession numbers
- Glossary
- Acknowledgements
- Footnotes
- Artwork
- Color artwork
- Tables
- References
- Journal abbreviations source
- Supplemental data
- Additional information

### AUTHOR INQUIRIES

Advertisement

Understanding the Publishing Process in Scientific Journals

How to write a scientific article

Innovation

Open access solutions

Impact Factor and other quality measures

Authors' rights and responsibilities





# An international editor says...

***“The following problems appear **much too frequently**”***

- *Submission of papers which are clearly out of scope*
- *Failure to format the paper according to the Guide for Authors*
- *Inappropriate (or no) suggested reviewers*
- *Inadequate response to reviewers*
- *Inadequate standard of English*
- *Resubmission of rejected manuscripts without revision*

– Paul Haddad, Editor, *Journal of Chromatography A*



# Scientific Language – Overview

**Write with clarity, objectivity, accuracy, and brevity.**

- **Key to successful scientific writing is to be alert for common errors:**
  - Sentence construction
  - Incorrect tenses
  - Inaccurate grammar
  - Not using English

**Check the Guide for Authors of the target journal for language specifications**



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# Scientific Language – Sentences

- Write direct and short sentences
- One idea or piece of information per sentence is sufficient
- Avoid multiple statements in one sentence

An example of what NOT to do:

“If it is the case, intravenous administration should result in that emulsion has higher intravenous administration retention concentration, but which is not in accordance with the result, and therefore the more rational interpretation should be that SLN with mean diameter of 46nm is greatly different from emulsion with mean diameter of 65 nm in entering tumor, namely, it is probably difficult for emulsion to enter and exit from tumor blood vessel as freely as SLN, which may be caused by the fact that the tumor blood vessel aperture is smaller.”

# Authorship

- Policies regarding authorship can vary
- One example: the International Committee of Medical Journal Editors (“Vancouver Group”) declared that an author must:
  1. **substantially contribute** to conception and design, or acquisition of data, or analysis and interpretation of data;
  2. **draft** the article or **revise** it critically for important intellectual content; and
  3. **give their approval** of the final full version to be published.
  4. **ALL three** conditions must be fulfilled to be an author!

All others would qualify as “Acknowledged Individuals”

# Authorship - Order & Abuses

- **General principles for who is listed first**
  - First Author
    - Conducts and/or supervises the data generation and analysis and the proper presentation and interpretation of the results
    - Puts paper together and submits the paper to journal
  - Corresponding author
    - The first author or a senior author from the institution
      - Particularly when the first author is a PhD student or postdoc, and may move to another institution soon.
- **Abuses to be avoided**
  - Ghost Authorship: leaving out authors who should be included
  - Gift Authorship: including authors who did not contribute significantly

# Author names: common problems

- **Different Spellings**
  - Järvinen / Jaervinen / Jarvinen
  - Lueßen / Lueben / Luessen
  - van Harten / Vanharten / Van
- **First/Last Names**
  - Asian names often difficult for Europeans or Americans
- **What in case of marriage/divorce?**

**Be consistent!**

If you are not, how can others be?

# Author Profiles...be consistent if you can, or correct

Search | Sources | Analytics | Alerts | My list | Settings

Quick Search  Search

Print | E-mail | Request author detail corrections

---

## Van'T Veer, Laura J.

---

### Personal

Name	Van'T Veer, Laura J.
Other formats	<div>van't Veer, Laura J. Van'T Veer, L. J. Van 't Veer, L. J. van' t Veer, L. J. van't Veer, L. J. Van't Veer, L. J. van't Veer, Laura Van'T Veer, Laura Van 't Veer, L. Van't Veer, Laura J. Van't Veer, L.</div> <div>Van 't Veer, Laura J. Van T Veer, L. J. van 't Veer, L. J. van 't Veer, Laura Van't Veer, Laura van 't Veer, Laura J. van't Veer, L. Van 't Veer, Laura Van T Veer, Laura J.</div>
Author ID	7004922326
Affiliation	The Netherlands Cancer Institute, Amsterdam Netherlands

---

### Research

Documents	204  View Author Evaluator    Add to my list    Set alert    Set feed
References	4242
Citations	18676 total citations by 12720 documents  View citation overview    Set alert
h Index	54  View h-Graph <span>The h Index considers Scopus articles published after 1995.</span>
Co-authors	150 (maximum 150 co-authors can be displayed)
Web search	8304
Subject area	Medicine Biochemistry, Genetics and Molecular Biology Agricultural and Biological Sciences <a href="#">More...</a>

# ORCID: Author Profile 2.0



Connecting Research  
and Researchers

- Open
- Researcher &
- Contributor
- ID

## The Challenge:

- The scholarly record is broken
- Name ambiguity is an issue

## The Solution:

- Establish a researcher identifier registry (partnership between Univs, Publishers, funding bodies...)

## The Benefits:

- Current authors can claim already published work
- New authors can establish unique identifier

ORCID Launches Registry *October 16, 2012*

ORCID (Open Researcher and Contributor ID) is excited to announce the launch of its Registry (<http://orcid.org>), where researchers can distinguish themselves by creating a unique personal identifier.

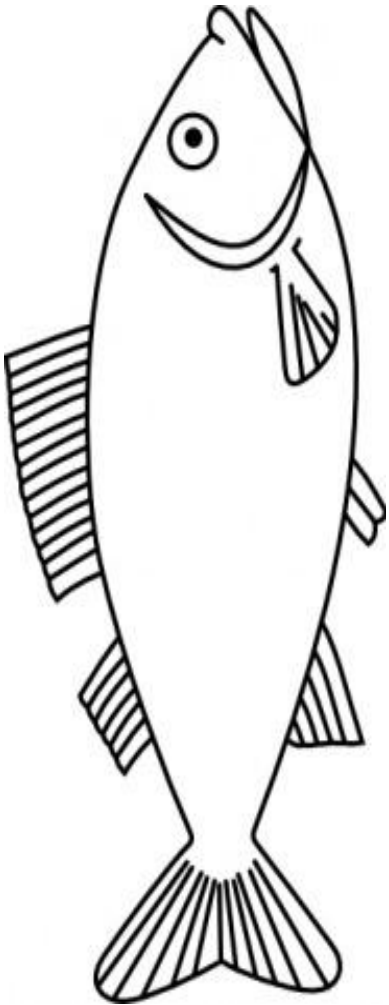
"ORCID addresses a problem shared by individuals and organizations across the research community: reliably connecting research with researchers," said Laura Hask, Executive Director of...

[Read more >](#)

**Launched 16 October 2012**



# General Structure of a Research Article



- Title
- Abstract
- Keywords

**Make them easy for indexing and searching! (informative, attractive, effective)**

- Main text (IMRAD)
  - Introduction
  - Methods
  - Results
  - And
  - Discussions

**Journal space is not unlimited.**

**Your reader's time is scarce.**

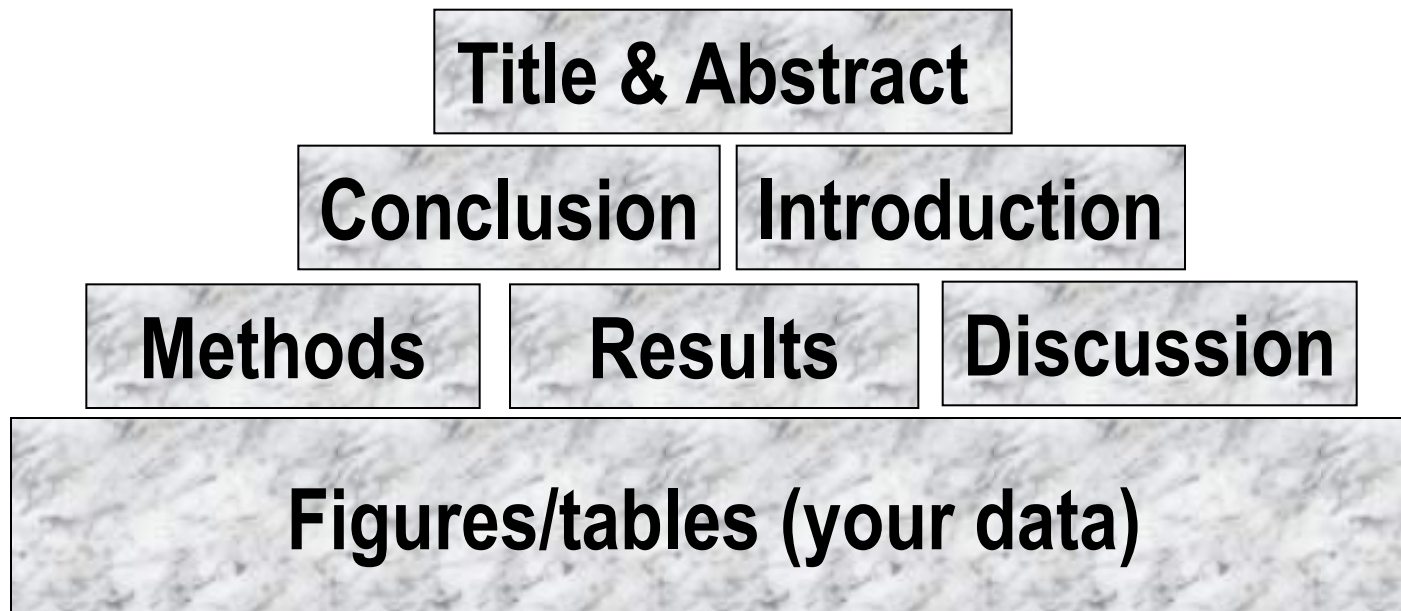
**Make your article as concise as possible  
- more difficult than you imagine!.**

- Conclusion
- Acknowledgement
- References
- Supplementary Data



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# The process of writing – building the article

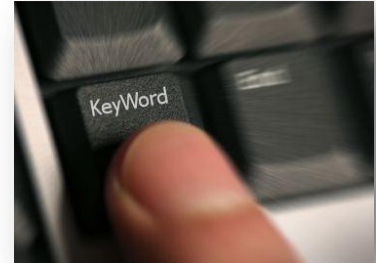


# Title

- A good title should contain the **fewest** possible words that **adequately** describe the contents of a paper.
- **Effective titles**
  - Identify the main issue of the paper
  - Begin with the subject of the paper
  - Are accurate, unambiguous, specific, and complete
  - Are as short as possible
  - Articles with short, catchy titles are often better cited
  - Do not contain rarely-used abbreviations
  - Attract readers - Remember: readers are the potential authors who will cite your article

# Keywords

In an “electronic world, keywords determine whether your article is found or not!



Avoid making them

- too general (“drug delivery”, “mouse”, “disease”, etc.)
- too narrow (so that nobody will ever search for it)

Effective approach:

Look at the keywords of articles relevant to your manuscript  
Play with these keywords, and see whether they return relevant papers, neither too many nor too few

# Abstract

## Tell readers what you did and the important findings

- One paragraph (between 50-250 words) often, plus Highlight bullet points
- Advertisement for your article
- A clear abstract will strongly influence if your work is considered further

Graphite intercalation compounds (GICs) of composition  $C_xN(SO_2CF_3)_2 \cdot \delta F$  are prepared under ambient conditions in 48% hydrofluoric acid, using  $K_2MnF_6$  as an oxidizing reagent. The stage 2 GIC product structures are determined using powder XRD and modeled by fitting one dimensional electron density profiles.

A new digestion method followed by selective fluoride electrode elemental analyses allows the determination of free fluoride within products, and the compositional  $x$  and  $\delta$  parameters are determined for reaction times from 0.25 to 500 h.

What has been done

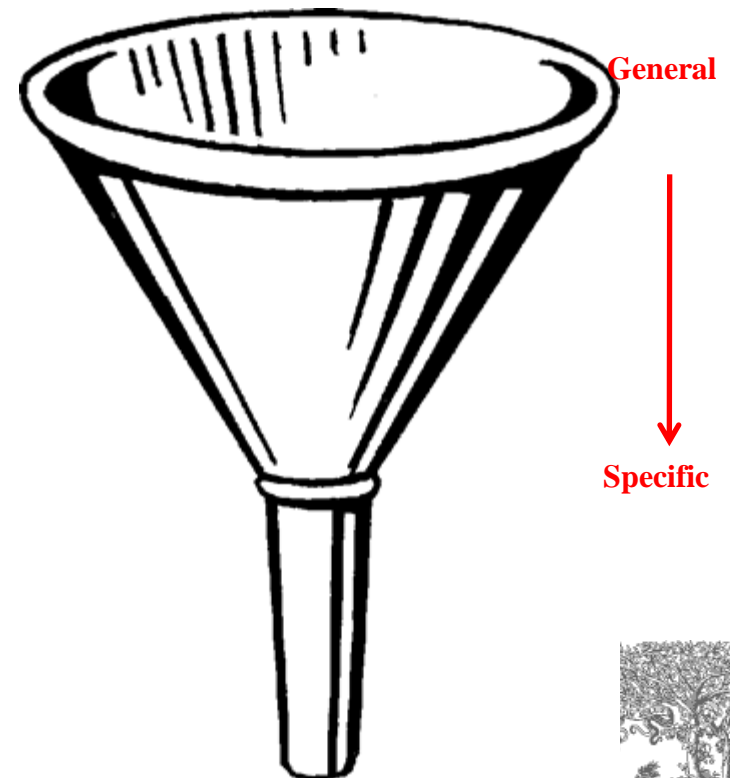
What are the main findings

# Introduction

**The place to convince readers that you know why your work is relevant, also for them**

**Answer a series of questions:**

- What is the problem?
- Are there any existing solutions?
- Which one is the best?
- What is its main limitation?
- What do you hope to achieve?



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# Pay attention to the following

- Before you present your new data, put them into perspective first
- Be brief, it is not a history lesson
- Do not mix introduction, results, discussion and conclusions. Keep them separate
- Do not overuse expressions such as “novel”, “first time”, “first ever”, “paradigm shift”, etc.
- Cite only relevant references
  - Otherwise the editor and the reviewer may think you don't have a clue where you are writing about

# Methods / Experimental

- **Include all important details so that the reader can repeat the work.**
  - Details that were previously published can be omitted but a general summary of those experiments should be included
- **Give vendor names (and addresses) of equipment etc. used**
- **All chemicals must be identified**
  - Do not use proprietary, unidentifiable compounds without description
- **Present proper control experiments**
- **Avoid adding comments and discussion.**
- **Write in the past tense**
  - Most journals prefer the passive voice, some the active.
- **Consider use of Supplementary Materials**
  - Documents, spreadsheets, audio, video, .....

***Reviewers will criticize incomplete or incorrect descriptions, and may even recommend rejection***



# Results – what have you found?

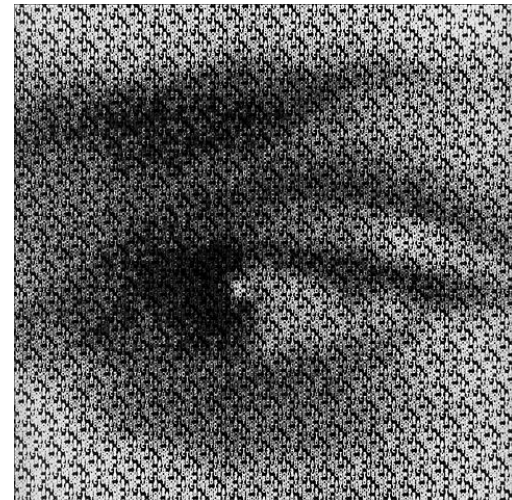
- The following should be included
  - the **main findings**
    - Thus not *all* findings
    - Findings from experiments described in the Methods section
  - Highlight findings that **differ** from findings in previous publications, and **unexpected** findings
  - Results of the **statistical analysis**



# Results – Figures and tables

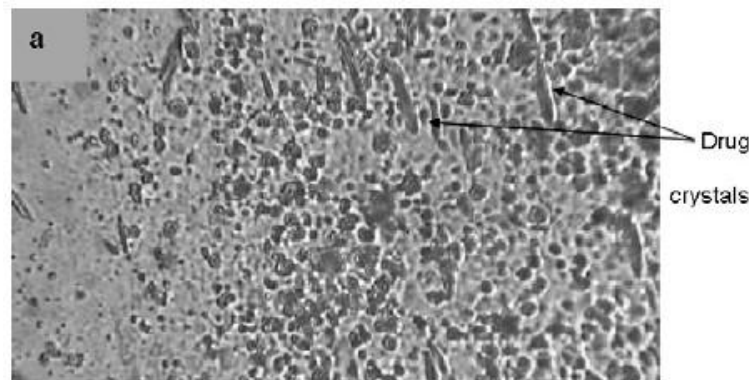
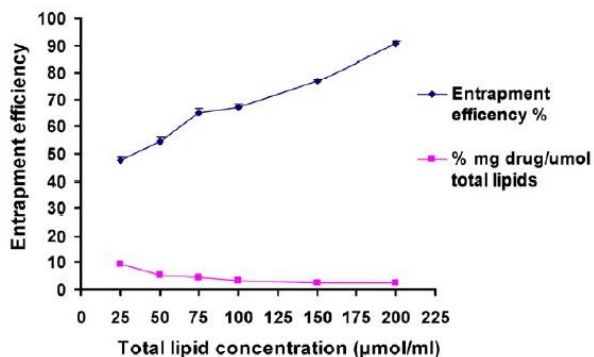
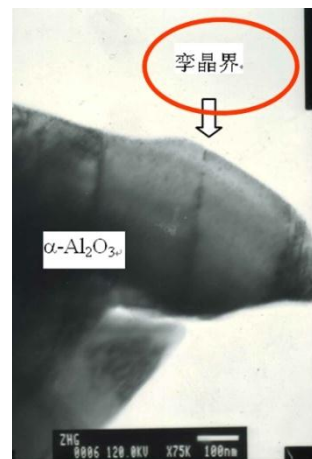
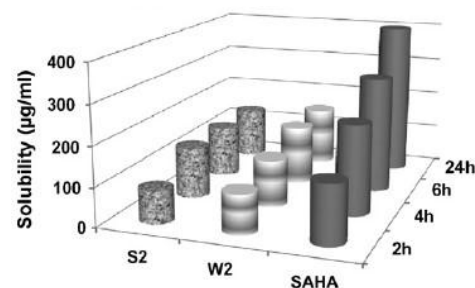
- **Illustrations are critical, because**
  - Figures and tables are the most efficient way to present results
  - Results are the driving force of the publication
  - Captions and legends must be detailed enough to make figures and tables self-explanatory
  - No duplication of results described in text or other illustrations

*"One Picture is Worth a  
Thousand Words"  
Sue Hanauer (1968)*



# Results – Appearance counts!

- Un-crowded plots
  - 3 or 4 data sets per figure; well-selected scales; appropriate axis label size; symbols clear to read; data sets easily distinguishable.
- Each photograph must have a scale marker of professional quality in a corner.
- Text in photos / figures in English
  - Not in French, German, Chinese, Korean, ...
- Use color *ONLY* when necessary.
  - If different line styles can clarify the meaning, then never use colors or other thrilling effects.
- Color must be visible and distinguishable when printed in black & white.
- Do not include long boring tables!



# Discussion – what do the results mean?

- **It is the most important section of your article. Here you get the chance to SELL your data!**
  - Many manuscripts are rejected because the Discussion is weak
- **Check for the following:**
  - How do your results relate to the original question or objectives outlined in the Introduction section?
  - Do you provide interpretation for each of your results presented?
  - Are your results consistent with what other investigators have reported? Or are there any differences? Why?
  - Are there any limitations?
  - Does the discussion logically lead to your conclusion?
- **Do not**
  - Make statements that go beyond what the results can support
  - Suddenly introduce new terms or ideas

# Conclusions

- **Present global and specific conclusions**
- **Indicate uses and extensions if appropriate**
- **Suggest future experiments and indicate whether they are underway**
- **Do not summarize the paper**
  - The abstract is for that purpose
- **Avoid judgments about impact**



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# References: get them right!

- Please **adhere to the Guide for Authors** of the journal
- It is your responsibility, not of the Editor's, to format references correctly!
- Check
  - Referencing style of the journal
  - The spelling of author names, the year of publication
  - Punctuation use
  - Use of "et al.": "et al." translates to "and others",
- **Avoid citing the following if possible:**
  - Personal communications, unpublished observations, manuscripts not yet accepted for publication
    - Editors may ask for such documents for evaluation of the manuscripts
  - Articles published only in the local language, which are difficult for international readers to find

# Supplementary Material

- **Data of secondary importance for the main scientific thrust of the article**
  - e.g. individual curves, when a representative curve or a mean curve is given in the article itself
- **Or data that do not fit into the main body of the article**
  - e.g. audio, video, ....
- **Not part of the printed article**
  - Will be available online with the published paper
- **Must relate to, and support, the article**

# Cover Letter

Your cover letter should:

- **Submit**
- **Mention**
- **Note special conflicts**

**Suggested reviewers**

Professor H. D. Schmidt  
School of Science and Engineering  
Northeast State University  
College Park, MI 10000  
USA

January 1, 2008

Dear Professor Schmidt,

Enclosed with this letter you will find an electronic submission of a manuscript entitled "Mechano-sorptive creep under compressive loading – a micromechanical model" by John Smith and myself. This is an original paper which has neither previously nor simultaneously in whole or in part been submitted anywhere else. Both authors have read and approved the final version submitted.

Mechano-sorptive is sometimes denoted as accelerated creep. It has been experimentally observed that the creep of paper accelerates if it is subjected to a cyclic moisture content. This is of large practical importance for the paper industry. The present manuscript describes a micromechanical model on the fibre network level that is able to capture the experimentally observed behaviour. In particular, the difference between mechano-sorptive creep in tension and compression is analysed. John Smith is a PhD-student who within a year will present his doctoral thesis. The present paper will be a part of that thesis.

Three potential independent reviewers who have excellent expertise in the field of this paper are:

Dr. Fernandez, Tennessee Tech, [email1@university.com](mailto:email1@university.com)  
Dr. Chen, University of Maine, [email2@university.com](mailto:email2@university.com)  
Dr. Singh, Colorado School of Mines, [email3@university.com](mailto:email3@university.com)

I would very much appreciate if you would consider the manuscript for publication in the *International Journal of Science*.

Sincerely yours,

A. Professor

**Final approval from all authors**

**Explanation of importance of research**



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# Suggest potential reviewers

- Your suggestions will help the Editor to move your manuscript to the review stage more efficiently.
- You can easily find potential reviewers and their contact details from articles in your specific subject area (e.g., your references).
- The reviewers should represent at least two regions of the world. And they **should not** be your supervisor or close friends.
- Be prepared to suggest 3-6 potential reviewers, based on the Guide to Authors.

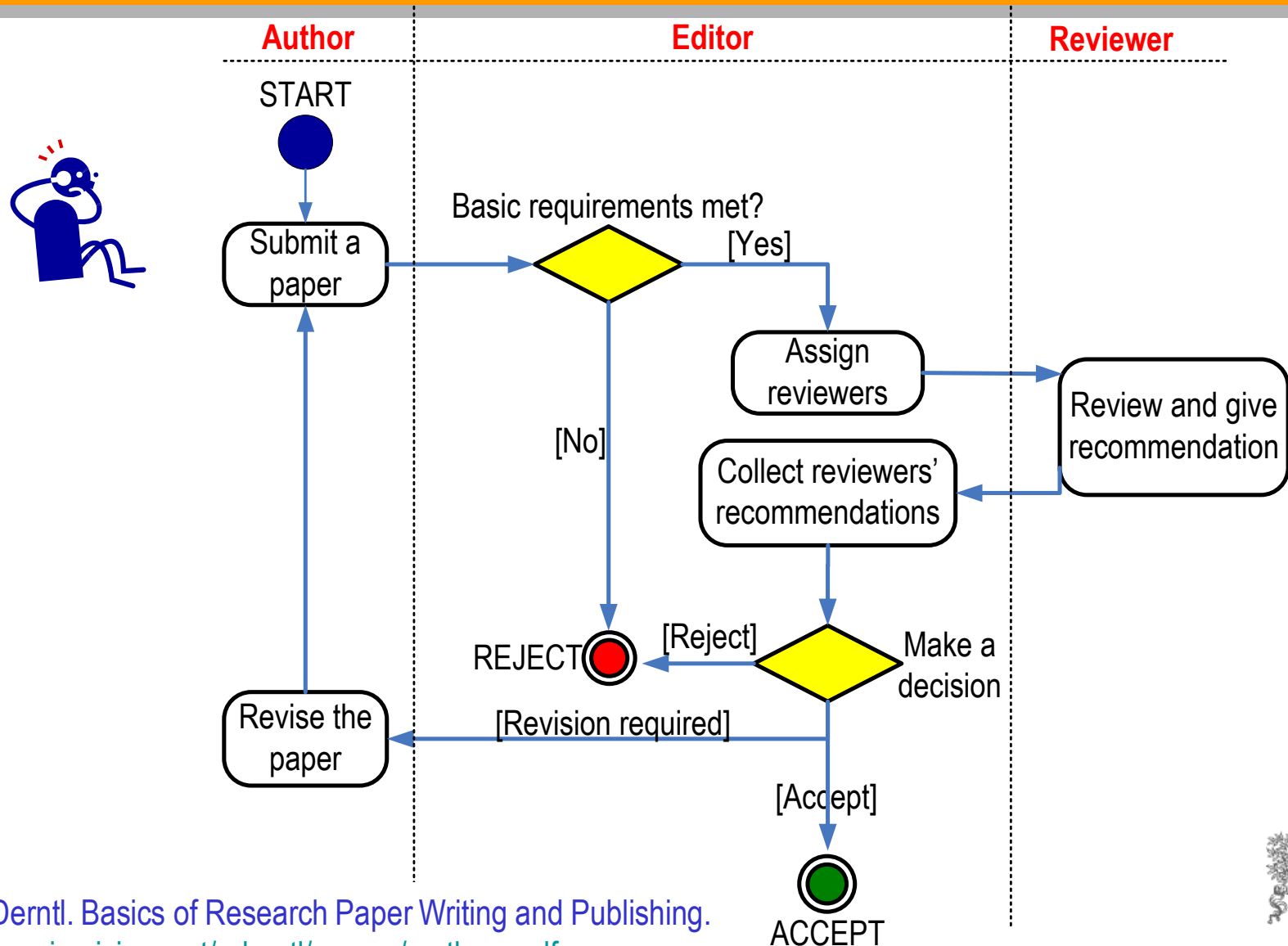


# Do everything to make your submission a success

- **No one gets it right the first time!**
  - Write, and re-write ....
- **Suggestions**
  - After writing a first version, take several days of rest. Come back with a critical, fresh view.
  - Ask colleagues and supervisor to review your manuscript. Ask them to be highly critical, and ***be open to their suggestions.***
  - Make changes to incorporate comments and suggestions. Get all co-authors to approve version to submit.

*Then it is the point in time to submit your article!*

# The Peer Review Process – not a black hole!



# Initial Editorial Review

Many journals use a system of initial editorial review. Editors may reject a manuscript without sending it for review

## Why?

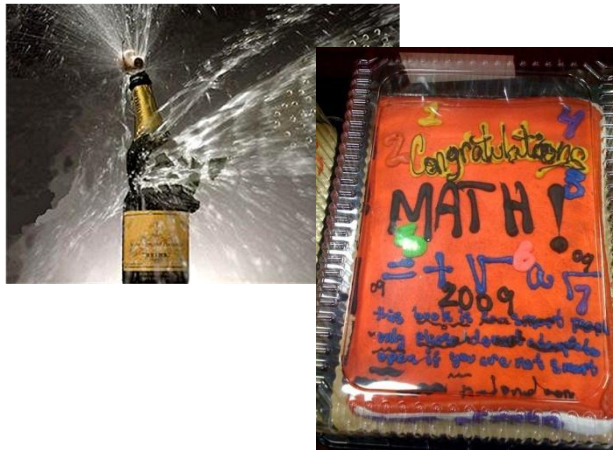
- The peer-review system is **grossly overloaded** and editors wish to use reviewers only for those papers with a good probability of acceptance.
- It is a **disservice** to ask reviewers to spend time on work that has clear and evident deficiencies.



# First Decision: “Accepted” or “Rejected”

## Accepted

- Very rare, but it happens

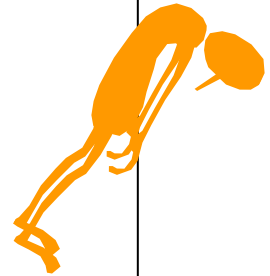


- **Congratulations!**

- Cake for the department
- Now wait for page proofs and then for your article to be online and in print

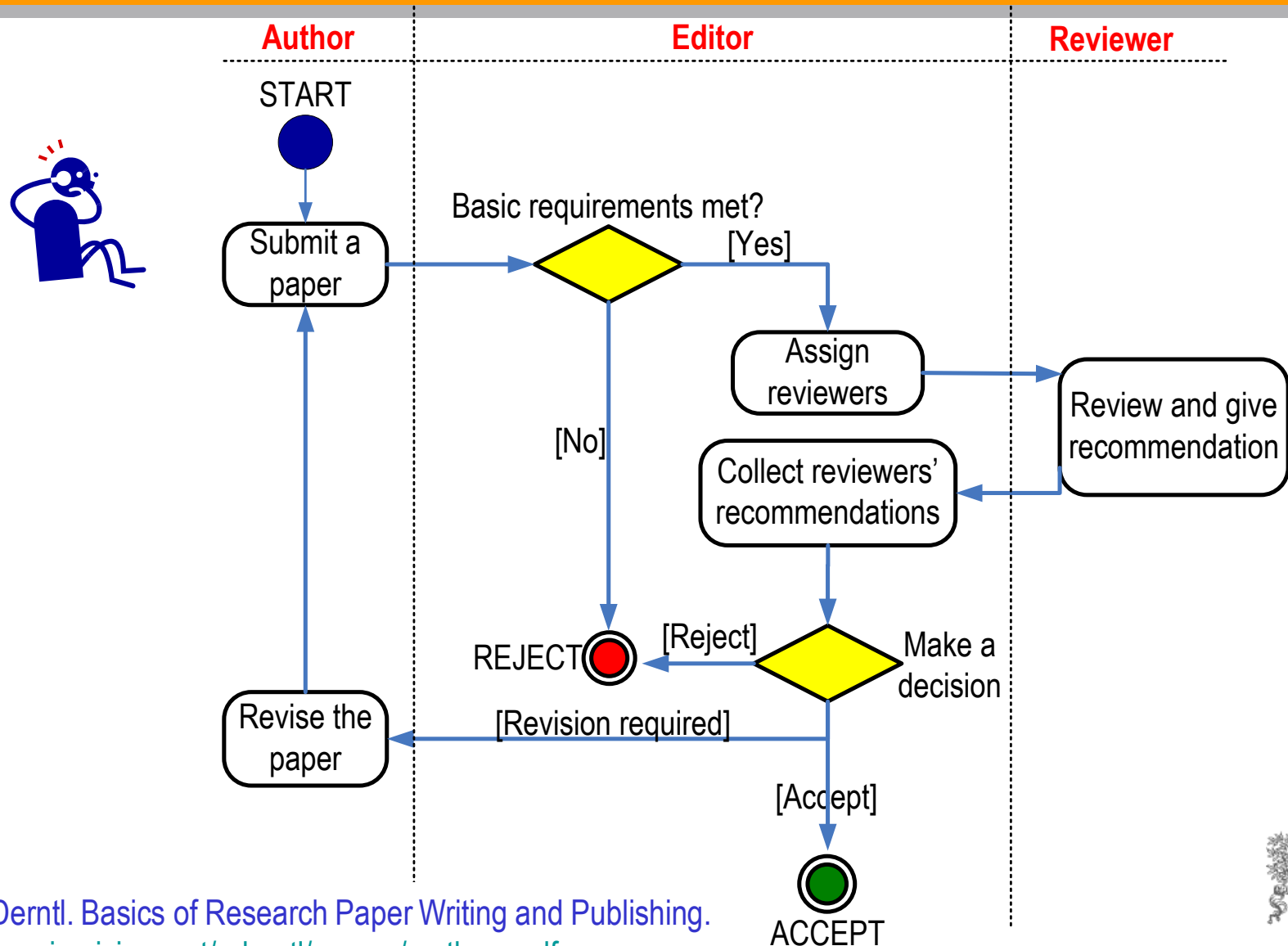
## Rejected

- Probability 40-90% ...
- Do not despair
  - It happens to everybody
- Try to understand WHY
  - Consider reviewers' advice
  - Be self-critical
- If you submit to another journal, begin as if it were a new manuscript
  - Take advantage of the reviewers' comments
  - They may review your manuscript for the other journal too!
  - Read the Guide for Authors of the new journal, again and again.



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# The Peer Review Process – revisions



# First Decision: “Major” or “Minor” Revision

- **Major revision**

- The manuscript may finally be published in the journal
- Significant deficiencies must be corrected before acceptance
- Usually involves (significant) textual modifications and/or additional experiments

- **Minor revision**

- Basically, the manuscript is worth being published
- Some elements in the manuscript must be clarified, restructured, shortened (often) or expanded (rarely)
- Textual adaptations
- “Minor revision” does NOT guarantee acceptance after revision!



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# Manuscript Revision

## ■ Prepare a detailed Response Letter

- Copy-paste each reviewer comment, and type your response below it
- State specifically which changes you have made to the manuscript
  - Include page/line numbers
  - No general statements like “Comment accepted, and Discussion changed accordingly.”
- Provide a *scientific* response to comments to accept, .....
- ..... or a convincing, solid and polite rebuttal when you feel the reviewer was wrong.
- Write in such a manner, that your response can be forwarded to the reviewer without prior editing

## ■ Do not do yourself a disfavours, but cherish your work

- You spent **weeks** and **months** in the lab or the library to do the research
- It took you **weeks** to write the manuscript.....



*.....Why then run the risk of avoidable rejection  
by not taking manuscript revision seriously?*



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# Increasing the likelihood of acceptance

**All these various steps are not difficult**

**You have to be consistent.**

**You have to check and recheck before submitting.**

**Make sure you tell a logical, clear, story about your findings.**

**Especially, take note of referees' comments. They improve your paper.**

***This should increase the likelihood of your paper being accepted, and being in the 30% (accepted) not the 70% (rejected) group!***



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# What leads to acceptance ?

- Attention to details
- Check and double check your work
- Consider the reviewers' comments
- English must be as good as possible
- Presentation is important
- Take your time with revision
- Acknowledge those who have helped you
- New, original and previously unpublished
- Critically evaluate your own manuscript
- Ethical rules must be obeyed

– Nigel John Cook  
Editor-in-Chief, *Ore Geology Reviews*

# What NOT to do (Publishing Ethics)

## Author's responsibilities

# Ethics Issues in Publishing

## Scientific misconduct

- Falsification of results

## Publication misconduct

- Plagiarism
  - Different forms / severities
  - The paper must be original to the authors
- Duplicate publication
- Duplicate submission
- Appropriate acknowledgement of prior research and researchers
- Appropriate identification of all co-authors
- Conflict of interest



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# Plagiarism

- A short-cut to long-term consequences!
- Plagiarism is considered a *serious offense* by your institute, by journal editors, and by the scientific community.
- Plagiarism may result in *academic charges*, but will certainly cause rejection of your paper.
- Plagiarism will *hurt your reputation* in the scientific community.

No Copying



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# Duplicate Publication

- **Two or more papers, without full cross reference, share the same hypotheses, data, discussion points, or conclusions**
- **An author should not submit for consideration in another journal a previously published paper.**
  - Published studies do not need to be repeated unless further confirmation is required.
  - Previous publication of an abstract during the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission.
  - Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission.
  - At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers in press.
  - This includes translations

# Plagiarism Detection Tools

- Elsevier is participating in 2 plagiarism detection schemes:
  - TurnItIn (aimed at universities)
  - iThenticate (aimed at publishers and corporations)



**Manuscripts are checked against a database of 20 million peer reviewed articles which have been donated by 50+ publishers, including Elsevier.**

**All post-1994 Elsevier journal content is now included, and the pre-1995 is being steadily added week-by-week**

- Editors and reviewers
- Your colleagues
- "Other" whistleblowers
  - "The walls have ears", it seems ...



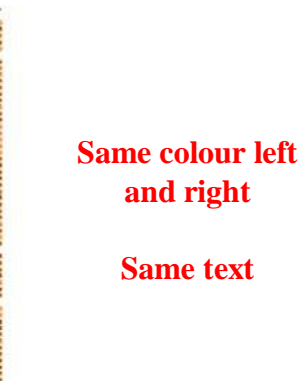
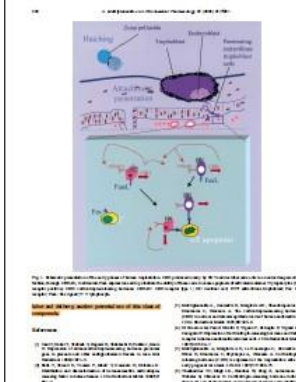


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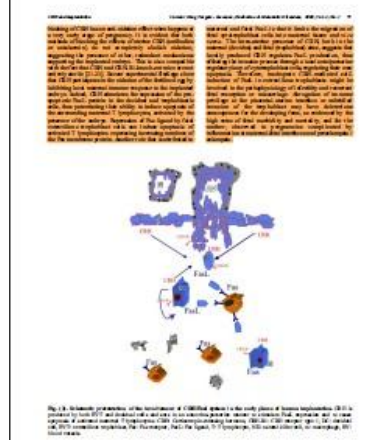
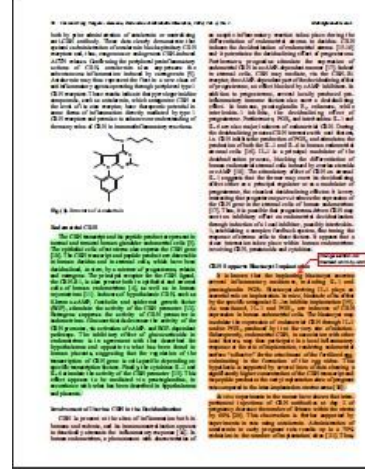
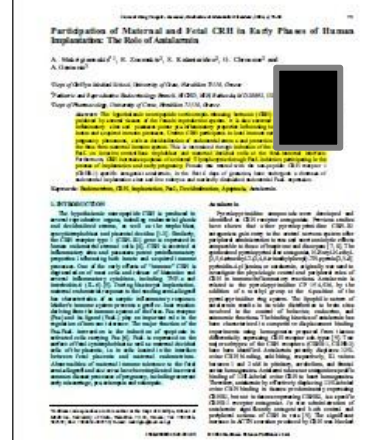
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# RETRACTED: Matching pursuit-based approach



Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher. For more information on this retraction, please visit <http://www.elsevier.com/locate/withdrawalpolicy>.

Reason: This article is virtually identical to the previously published article "A matching pursuit-based approach for SNR improvement in ultrasonic NDT", *Independent Nondestructive Evaluation*, volume 38 (2005) 453 – 458 authored by N. ...

An article in which the authors committed plagiarism: it will not be removed from ScienceDirect ever. Everybody who downloads it will see the reason for the retraction...

the echoes issuing from the flaws to be detected. Therefore, it cannot be cancelled by classical time averaging or matched band-pass filtering techniques.

Many signal processing techniques have been utilized for signal-to-noise ratio (SNR) improvement in ultrasonic NDT of highly scattering materials. The most popular one is the split spectrum processing (SSP) [1–3], because it makes possible real-time ultrasonic test for industrial applications, providing quite good results. Alternatively to SSP, wavelet transform (WT) based denoising/detection methods have been proposed during recent years [4–8], yielding usually to higher improvements of SNR at the expense of an increase in complexity. Adaptive time-frequency analysis by basis pursuit (BP) [9,10] is a recent technique for decomposing a signal into an optimal superposition of elements in an over-complete waveform dictionary. This technique and some other related techniques have been successfully applied to denoising ultrasonic signals contaminated with grain noise in highly scattering materials [11,12], as an alternative to the WT technique, the computational cost of the BP algorithm being the main drawback.

In this paper, we propose a novel matching pursuit-based signal processing method for improving SNR in ultrasonic NDT of highly scattering materials, such as steel and composites. Matching pursuit is used instead of BP to reduce the complexity. Despite its iterative nature, the method is fast enough to be real-time implemented. The performance of the proposed method has been evaluated using both computer simulation and experimental results, when the input SNR (SNR<sub>in</sub>) is lower than 0 dB (the level of echoes from microstructures is above the level of the echoes).

## 2. Matching pursuit

Matching pursuit was introduced by Mallat and Zhang [13]. Let us suppose an approximation of the ultrasonic backscattered signals  $x[n]$  as a linear expansion in terms of functions  $g_i[n]$  chosen from an over-complete dictionary. Let  $H$  be a Hilbert

space. We define the over-complete dictionary as a family  $D = \{g_i; i = 0, 1, \dots, L\}$  of vectors in  $H$ , such as  $\|g_i\| = 1$ .

The problem of choosing functions  $g_i[n]$  that best approximate the analysed signal  $x[n]$  is computationally very complex. Matching pursuit is an iterative algorithm that offers sub-optimal solutions for decomposing signals in terms of expansion functions chosen from a dictionary, where  $\ell^1$  norm is used as the approximation metric because of its mathematical convenience. When a well-designed dictionary is used in matching pursuit, the non-linear nature of the algorithm leads to compact and sparse signal models.

In each step of the iterative procedure, vector  $g_i[n]$  which gives the largest inner product with the analysed signal is chosen. The contribution of this vector is then subtracted from the signal and the process is repeated on the residual. At the  $m$ th iteration the residue is

$$r^m[n] = \begin{cases} x[n] & m = 0, \\ r^{m-1}[n] + a_{km} g_{km}[n], & m \neq 0, \end{cases} \quad (1)$$

where  $a_{km}$  is the weight associated to optimum atom  $g_{km}[n]$  at the  $m$ th iteration.

The weight  $a_i^m$  associated to each atom  $g_i[n] \in D$  at the  $m$ th iteration is introduced to compute all the inner products with the residual  $r^m[n]$ :

$$a_i^m = \frac{\langle r^m[n], g_i[n] \rangle}{\langle g_i[n], g_i[n] \rangle} = \frac{\langle r^m[n], g_i[n] \rangle}{\|g_i[n]\|^2} = \langle r^m[n], g_i[n] \rangle. \quad (2)$$

The optimum atom  $g_{km}[n]$  (and its weight  $a_{km}$ ) at the  $m$ th iteration are obtained as follows:

$$g_{km}[n] = \arg \min_{g_i[n] \in D} \|\langle r^{m-1}[n] \rangle\|^2 = \arg \max_{g_i[n] \in D} |\langle r^{m-1}[n], g_i[n] \rangle|. \quad (3)$$

The computation of correlations  $\langle r^m[n], g_i[n] \rangle$  for all vectors  $g_i[n]$  at each iteration implies a high computational effort, which can be substantially reduced using an updating procedure derived from Eq. (1). The correlation updating procedure [13] is performed as follows:

$$\langle r^{m+1}[n], g_i[n] \rangle = \langle r^m[n], g_i[n] \rangle - a_{km} \langle g_{km}[n], g_i[n] \rangle. \quad (4)$$

# Figure Manipulation – some things are allowed

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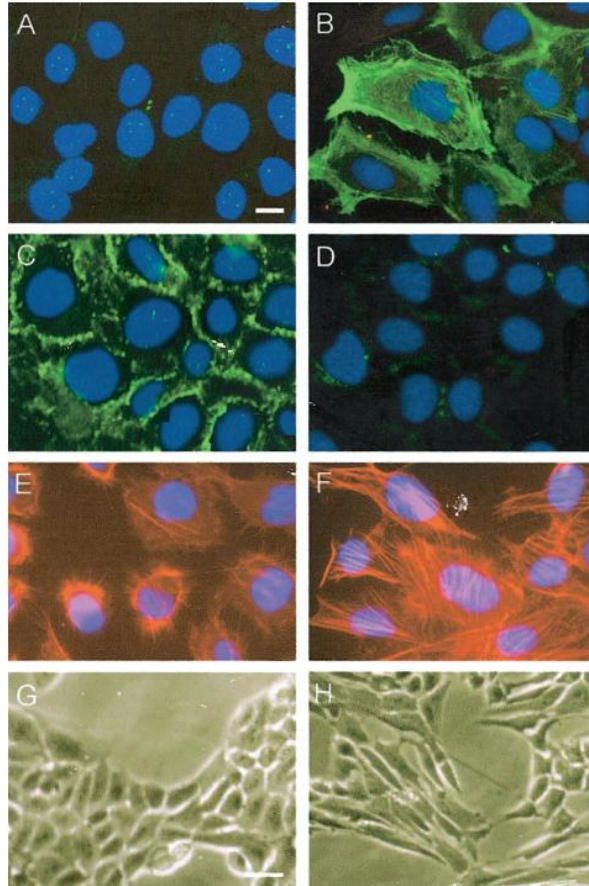
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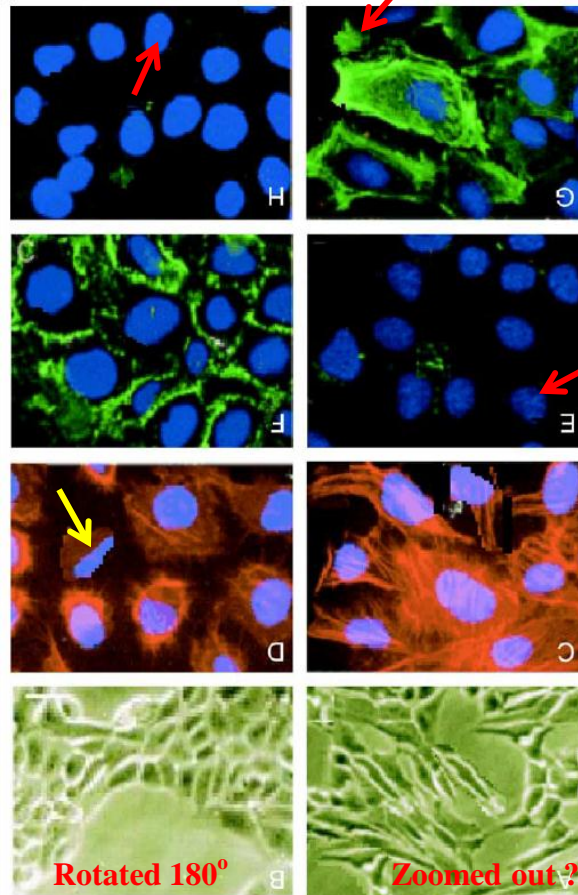


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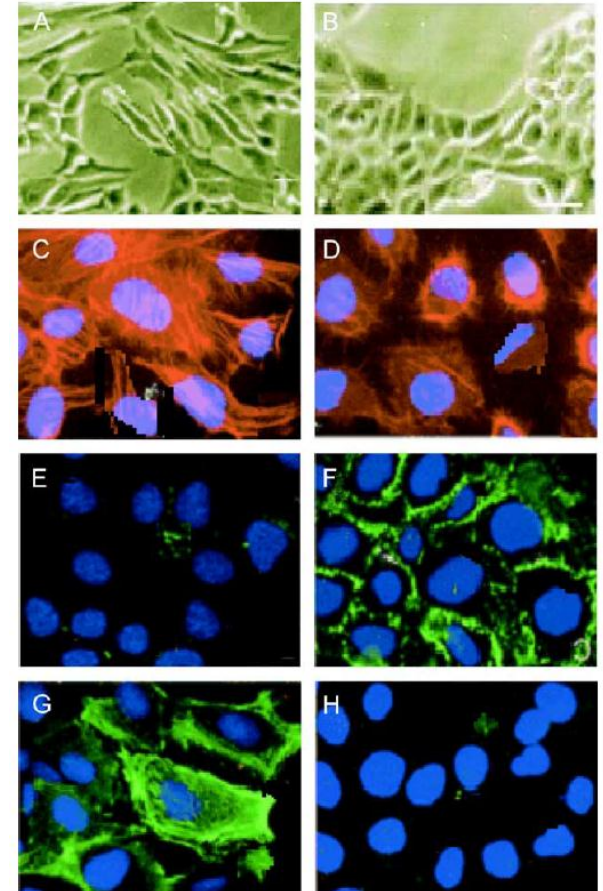


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# References and Acknowledgements

- Guide for Authors of Elsevier journals.
- <http://owl.english.purdue.edu/owl/>
- <http://www.physics.ohio-state.edu/~wilkins/writing/index.html>
- Petey Young. Writing and Presenting in English. The Rosetta Stone of Science. Elsevier 2006
- EDANZ Editing training materials. 2006
- Jullian Eastoe. Co-editor, Journal of Colloid and Interface Science
- Peter Thrower. Editor-in-chief, Carbon
- Roel Prins. Editor-in-chief, Journal of Catalysis
- Nigel Cook. Editor-in-chief, Ore Geology Reviews.
- Frans P. Nijkamp, Journal of Ethnopharmacology
- Wilfred CG Peh. Editor, Singapore Medical Journal
- Malcolm W. Kennedy. Professor, Institue of Biomedical and Life Sciences, University of Glasgow, UK

# Further reading for you

- Mark Ware Consulting Ltd, Publishing and E-learning Consultancy. Scientific publishing in transition: an overview of current developments. Sept., 2006. [www.stm-assoc.org/storage/Scientific\\_Publishing\\_in\\_Transition\\_White\\_Paper.pdf](http://www.stm-assoc.org/storage/Scientific_Publishing_in_Transition_White_Paper.pdf)
- Ethical Guidelines for Journal Publishing, Elsevier.  
[http://www.elsevier.com/wps/find/intro.cws\\_home/ethical\\_guidelines#Duties%20of%20Authors](http://www.elsevier.com/wps/find/intro.cws_home/ethical_guidelines#Duties%20of%20Authors)
- International Committee of Medical Journal Editors. Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication. Feb. 2006  
<http://www.publicationethics.org.uk/guidelines>  
<http://www.icmje.org/index.html#ethic>  
<http://www.onlineethics.org/>  
<http://owl.english.purdue.edu/owl/>  
<http://www.physics.ohio-state.edu/~wilkins/writing/index.html>
- George D. Gopen, Judith A. Swan. The science of Scientific Writing. American Scientist (Nov-Dec 1990), Vol. 78, 550-558.
- Michael Derntl. Basics of Research Paper Writing and Publishing.  
<http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf>
- Thomas H Adair. Professor, Physiology & Biophysics Center of Excellence in Cardiovascular-Renal Research, University of Mississippi Medical Center. <http://dor.umc.edu/ARCHIVES/WritingandpublishingaresearcharticleAdair.ppt>
- Bruce Railsback. Professor, Department of Geology, University of Georgia. Some Comments on Ethical issues about research.  
[www.gly.uga.edu/railsback/11111misc/ResearchEthics.html](http://www.gly.uga.edu/railsback/11111misc/ResearchEthics.html)
- Peter Young. Writing and Presenting in English. The Rosetta Stone of Science. Elsevier 2006.
- Philip Campbell. Editor-in-Chief, Nature. Futures of scientific communication and outreach. June 2007.  
<http://scholarlyoa.com/2012/12/06/bealls-list-of-predatory-publishers-2013/>  
[http://www.youtube.com/watch?v=kges3mN5rDk&feature=youtube\\_gdata\\_player](http://www.youtube.com/watch?v=kges3mN5rDk&feature=youtube_gdata_player)
- Yaoqi ZHOU. Recipe for a quality Scientific Paper: Fulfill Readers' and Reviewers' Expectations. <http://sparks.informatics.iupui.edu>
- EDANZ Editing training materials. 2006 <http://liwenbianji.com>, <http://www.edanzediting.com/english.html>
- **Anthony Newman, Ethics White Paper** <http://www.ifcc.org/media/161822/IFCC%20Ethics%20in%20Science.pdf>



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