How to Write Great Papers

From title to references

From submission to acceptance

Presented by: Anthony Newman
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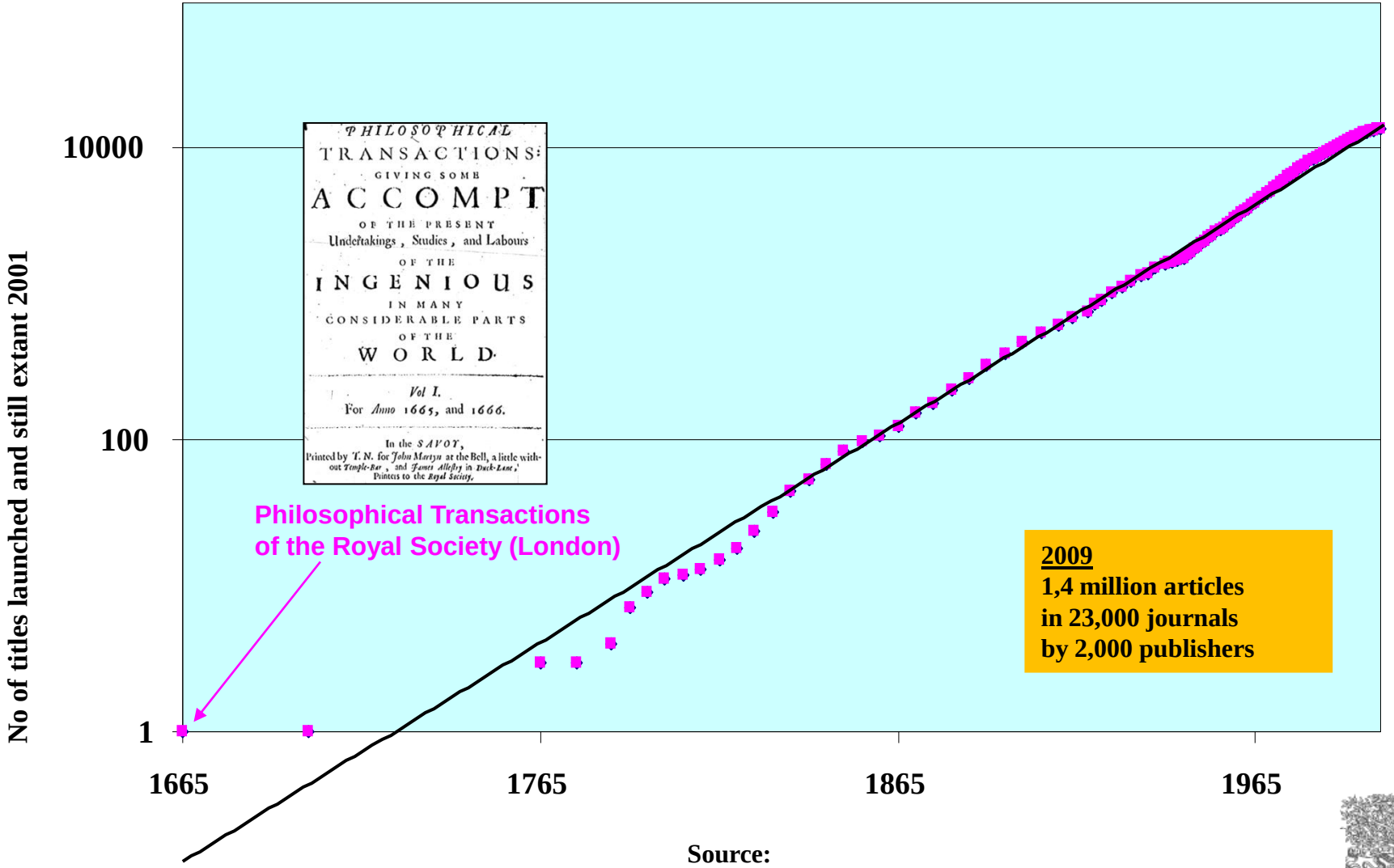
Workshop Outline

- **How to get Published**
  - Before you begin
  - Select your audience
  - The article structure
  - The review and editorial process

- **What not to do... (author ethics)**

Peer –Reviewed Journal Growth 1665-2001



Source:
M A Mabe The number and growth of journals *Serials* 16(2).191-7, 2003

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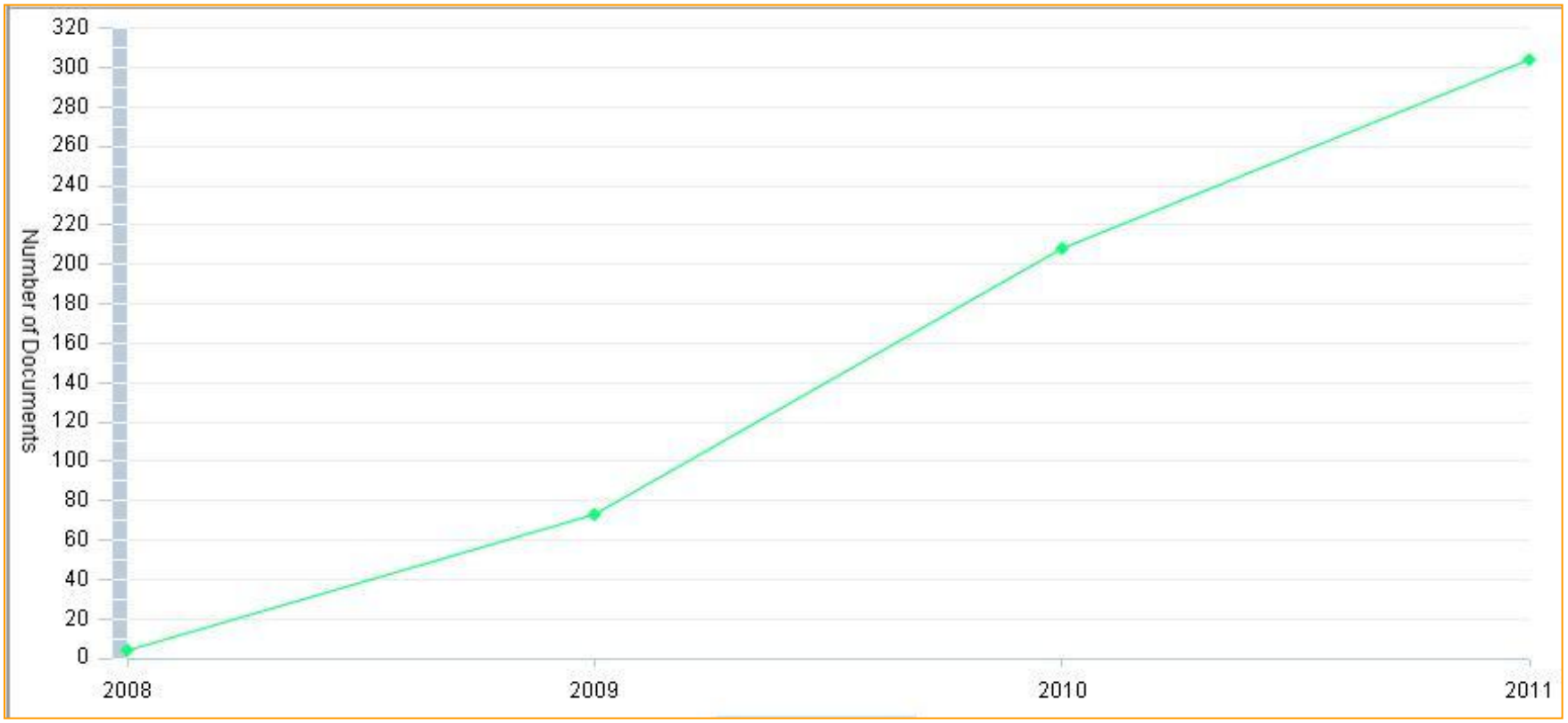
UNIST - Scopus data



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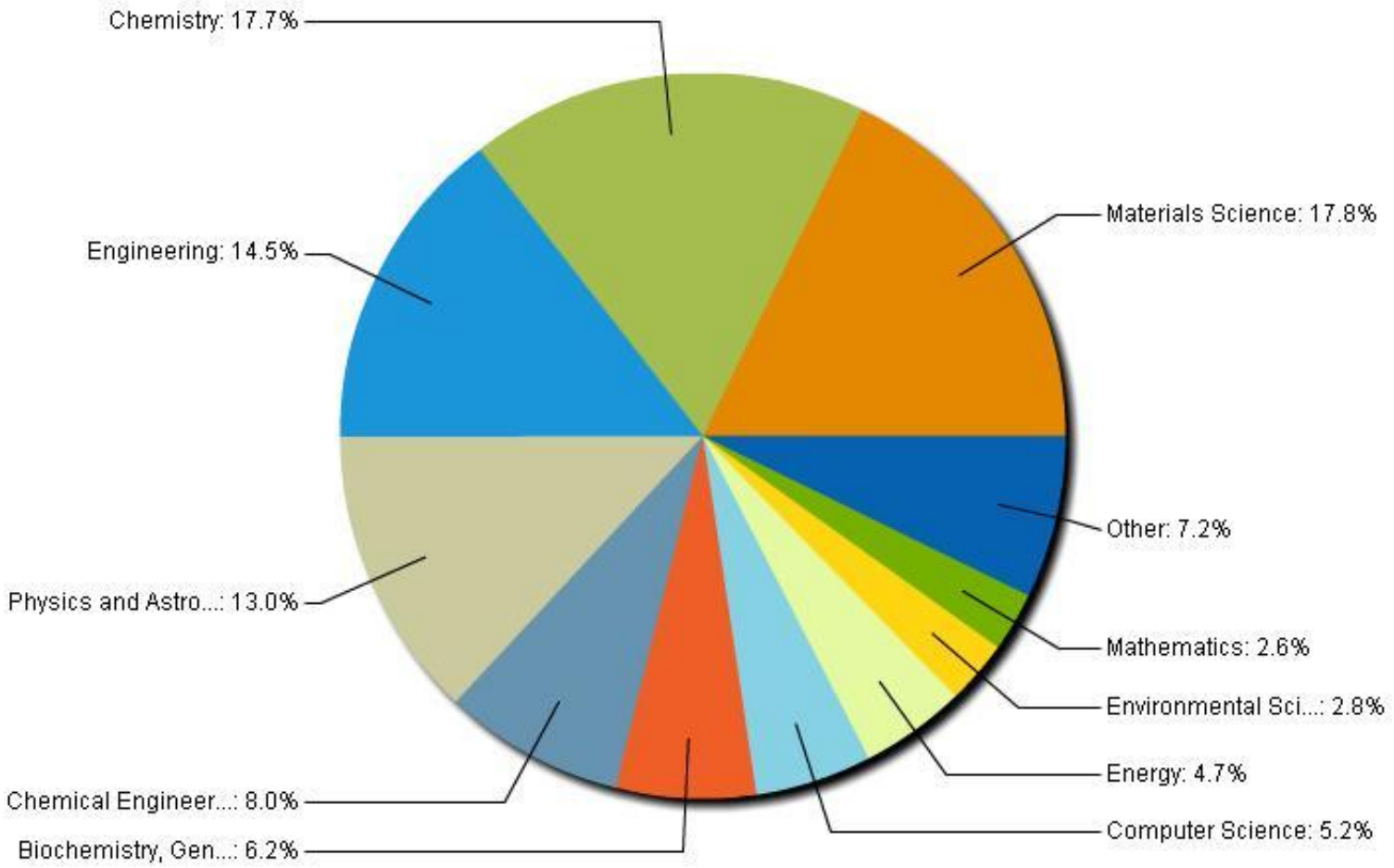

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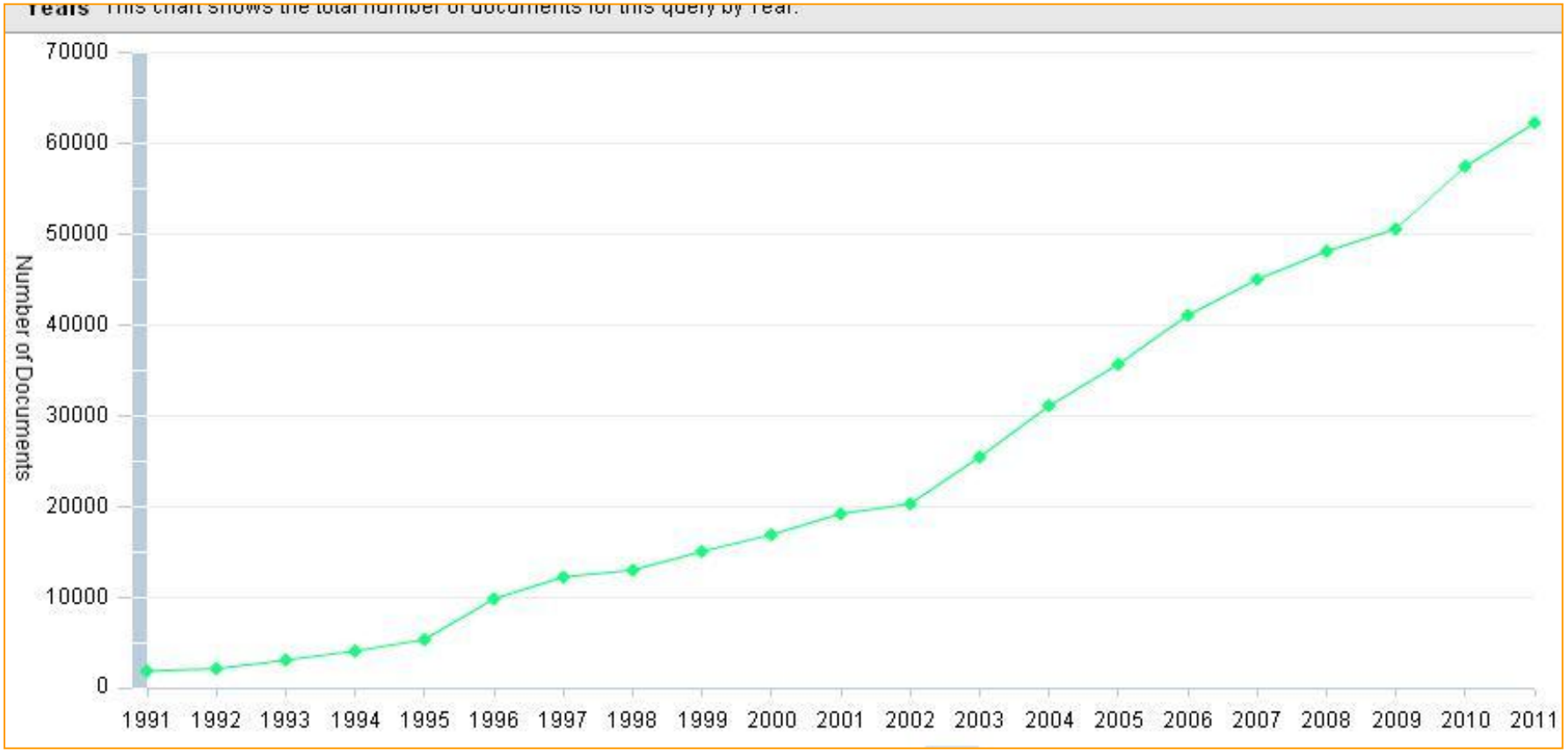
S. Korea - 10 years Scopus data



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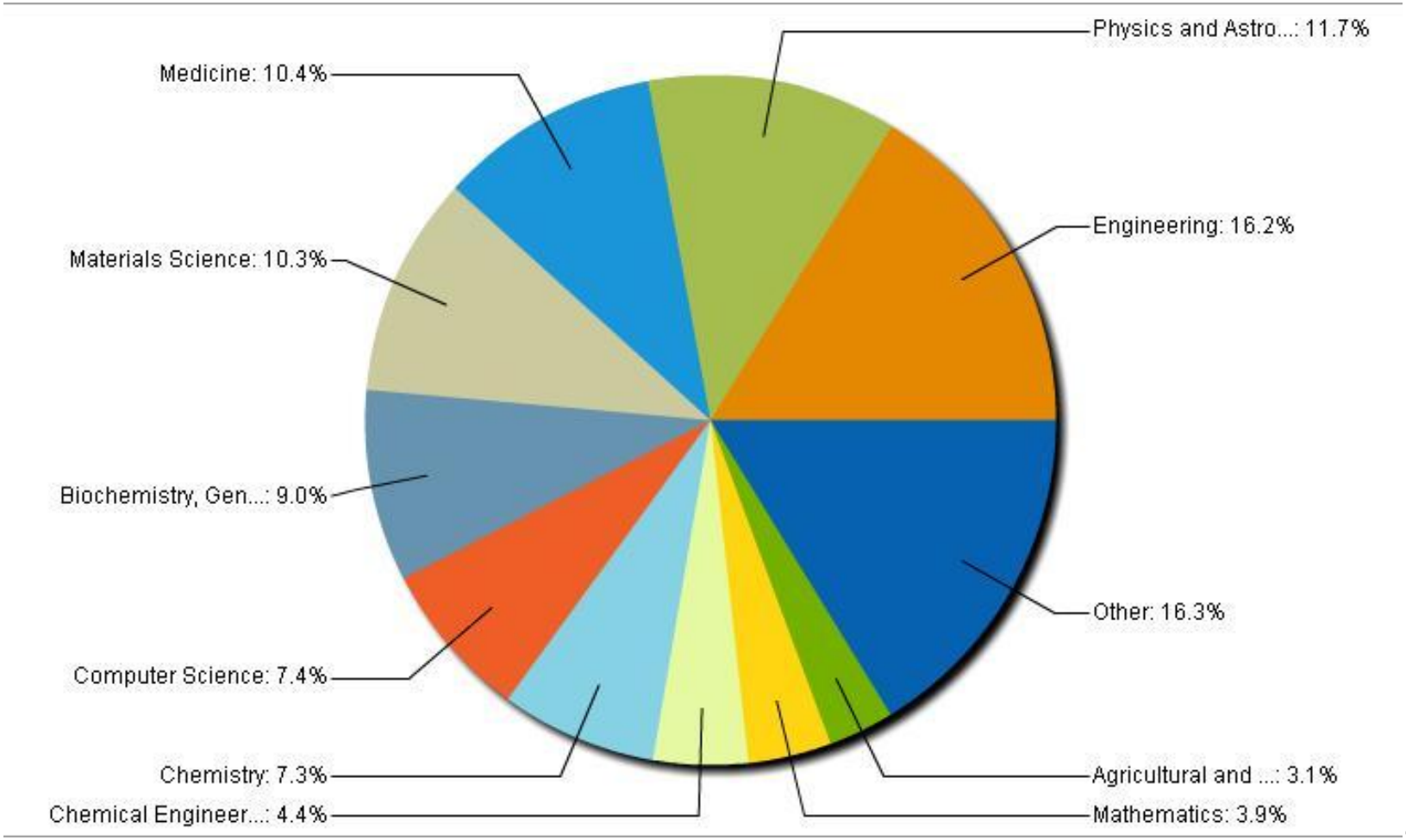
S. Korea – 10 years Scopus data



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Elsevier Journal publishing volume

- 1,000 new editors per year
- 20 new journals per year

- Organise editorial boards
- Launch new specialist journals

- ***600,000+ article submissions per year***

Solicit and manage submissions

- 200,000 reviewers
- 1 million reviewer reports per year

Manage peer review

- ***40%-90% of articles rejected***

Edit and prepare

- 7,000 editors
- 70,000 editorial board members
- 6.5 million author/publisher communications /year

Production

- ***280,000 new articles produced per year***
- 190 years of back issues scanned, processed and data-tagged

Publish and disseminate

- ***11 million researchers***
- ***5,000+ institutions***
- ***180+ countries***
- ***400 million+ downloads per year***
- 3 million print pages per year

Archive and promote

- ***11 million articles now available***

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
  - 2012: 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
- **Experimentation with new publishing models**
  - E.g. "author pays" models, "delayed open access", etc.

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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 !

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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**
- **Reviews or summaries of** particular subject
- **Manuscripts that advance** the **knowledge** and understanding in a certain scientific field

What NOT to **publish**:

- Reports of no scientific interest
- Out of date work
- **Duplications** of previously published work
- Incorrect/unacceptable conclusions

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

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What is a strong manuscript?

- Has a novel, clear, useful, and exciting message
- Presented and constructed in a logical manner
- Reviewers and editors can grasp the scientific significance easily

Editors and reviewers are all busy scientists – make things easy to save their time

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How To Get Your Article Published

Before you start

Refine your Search strategies

Too many researchers have abandoned all the value of libraries when they stopped going there physically!

There is more than 

Learn what online resources are available at your institute, and learn to search in a clever way.

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Search Methodology of Researchers

- "The search methodology of the researchers can be characterized by "trial and error." They have no planned search strategy, but start at random, experimenting both with the actual words and sources to use.
- … they never use manuals, etc., for instructions. The idea of contacting the library for help does not occur to them. They have little or no knowledge of the finer points of many information sources
- … researchers seldom use the library Web page as starting point … , and instead use bookmarks/shortcuts added by themselves
- … researchers have difficulties in identifying correct search terms. Searches are often unsuccessful."
- "For many researchers, especially in the sciences, Google is the first choice for information – all kinds of information."
- "Some [researchers] even state having moved from subject specific databases to Google."

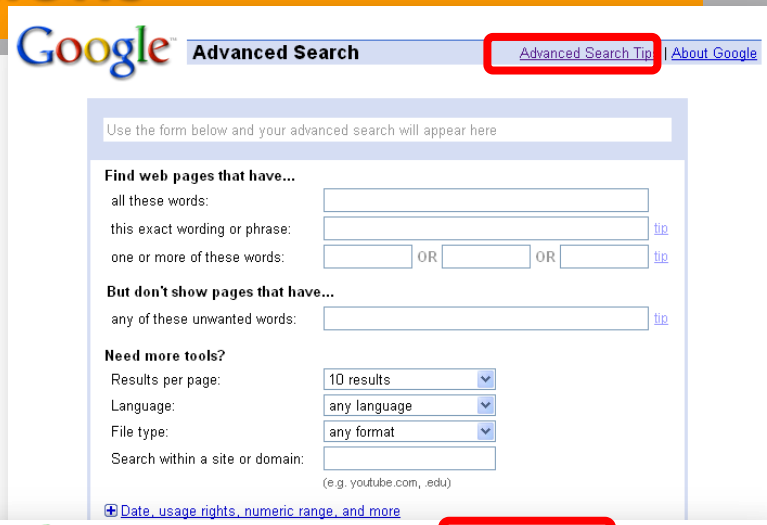
(Haglund and Olson, 2008)

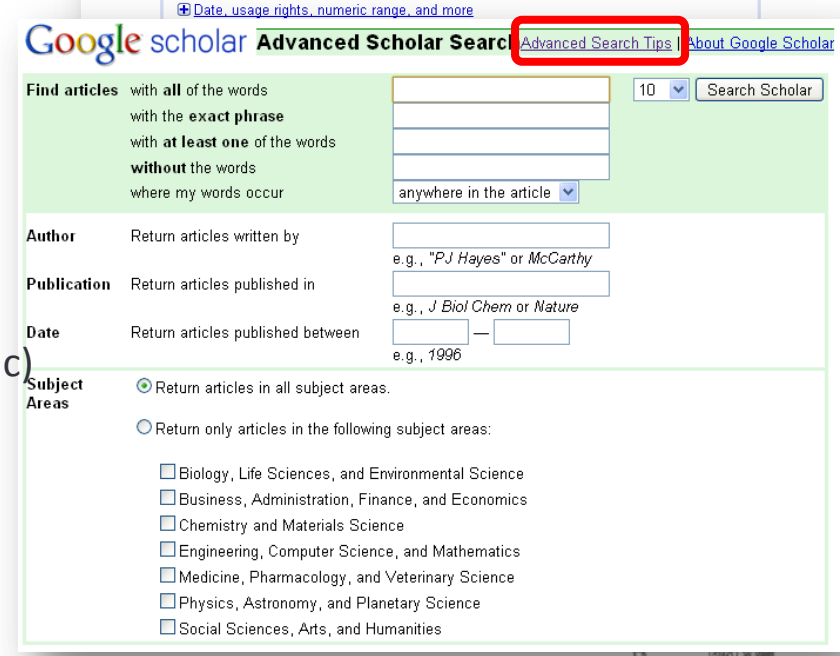
Use the advanced search options

- **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





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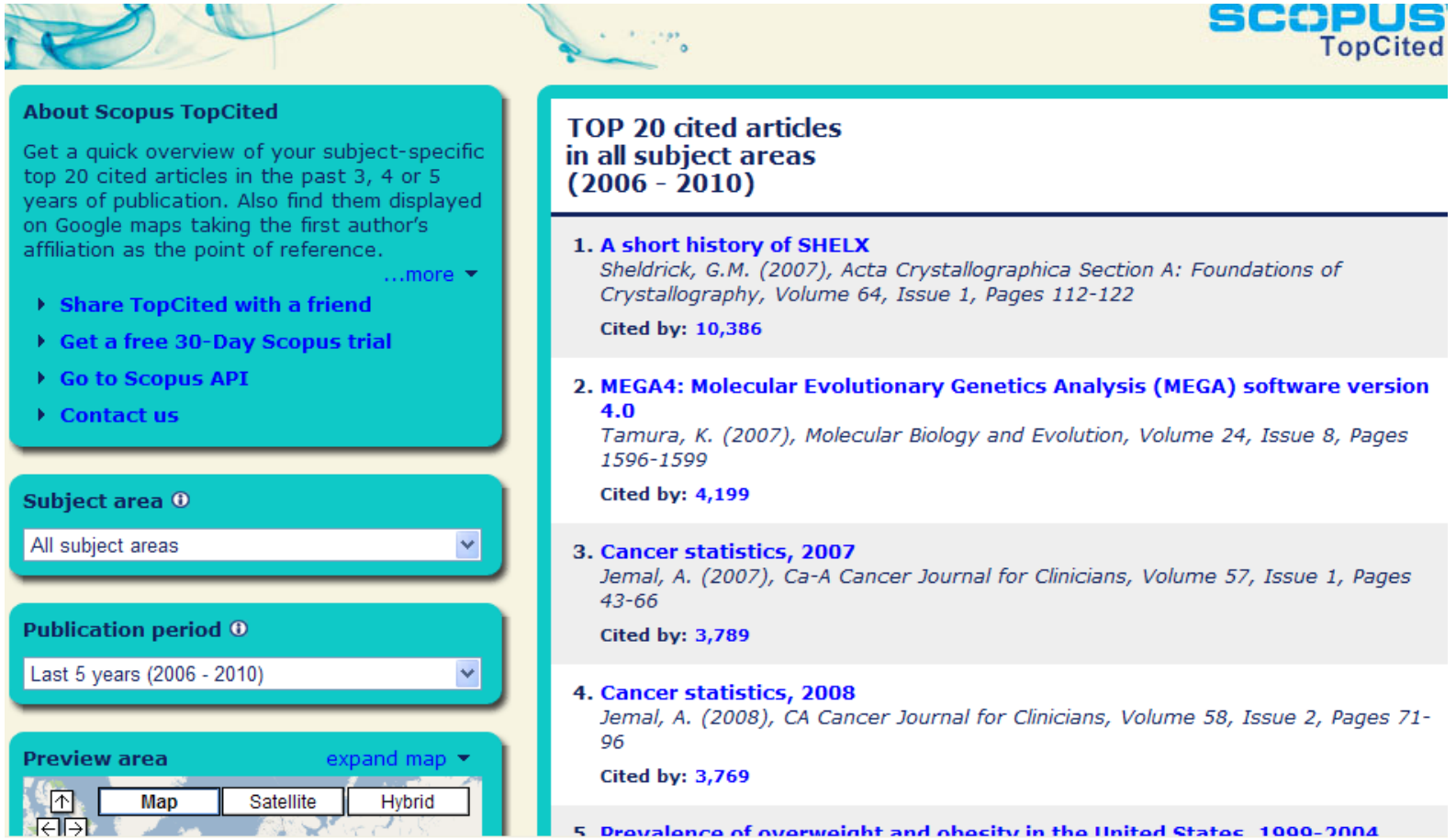
Practical Advice

- **Find out what's Hot**
  - http://info.scopus.com/topcited/
  - http://top25.sciencedirect.com/
  - http://www.scitopics.com/
- **Find the trends of the subject area**
  - Search tips (including alerts)
  - Journals, authors, publications per year (Scopus)
- **Evaluate which journal is right for your article**
  - Impact Factor
  - Subject Specific Impact Factor (http://tinyurl.com/scopusimpact)
  - SCImago Journal & Country Ranking (http://scimagojr.com/)
  - Journal Analyzer
  - SNIP (using Scopus)
  - *h*-Index
- **Find out more about the journals**
  - Who are the editors?
  - Guide for authors

Find out what's Hot (downloads)



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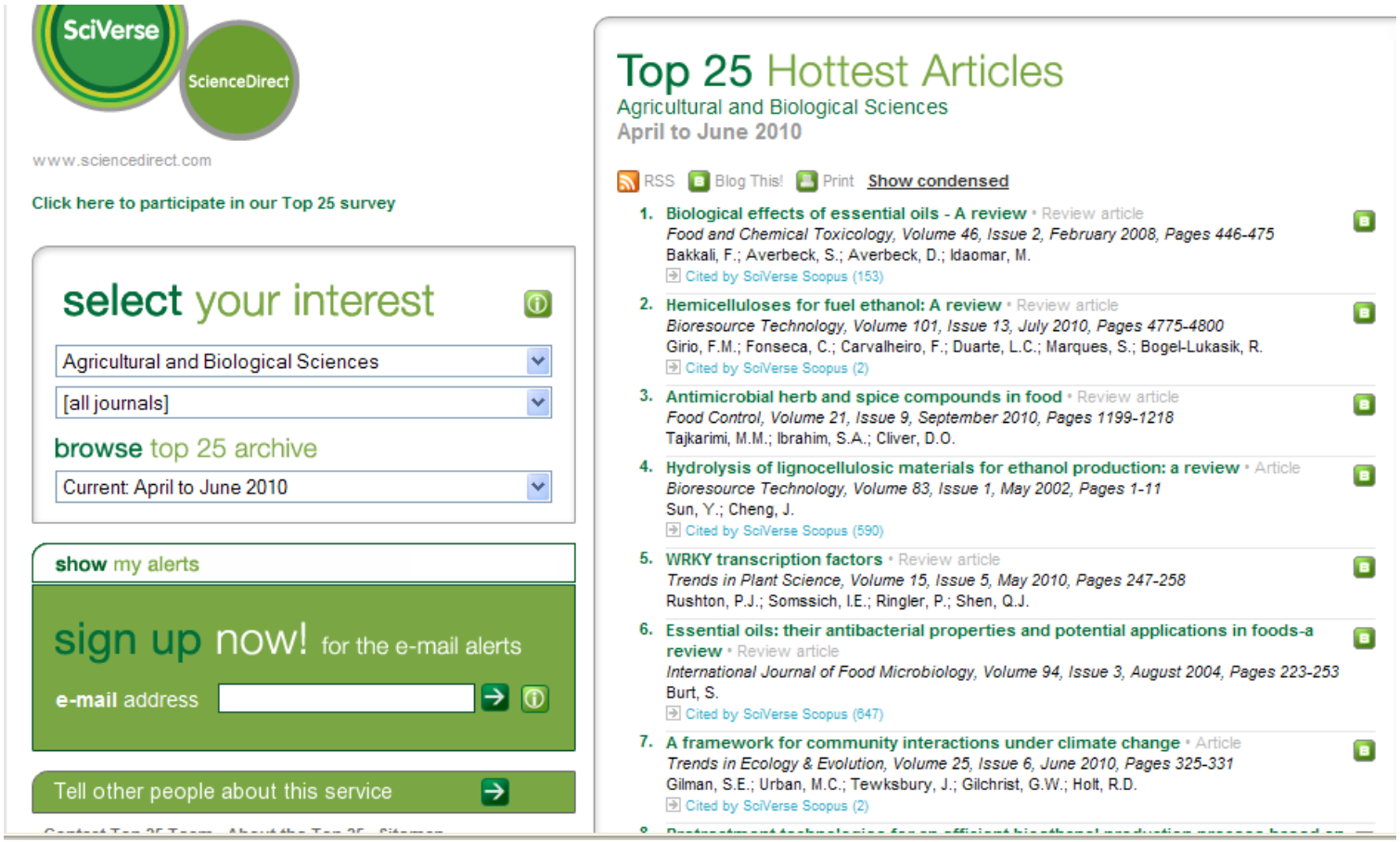

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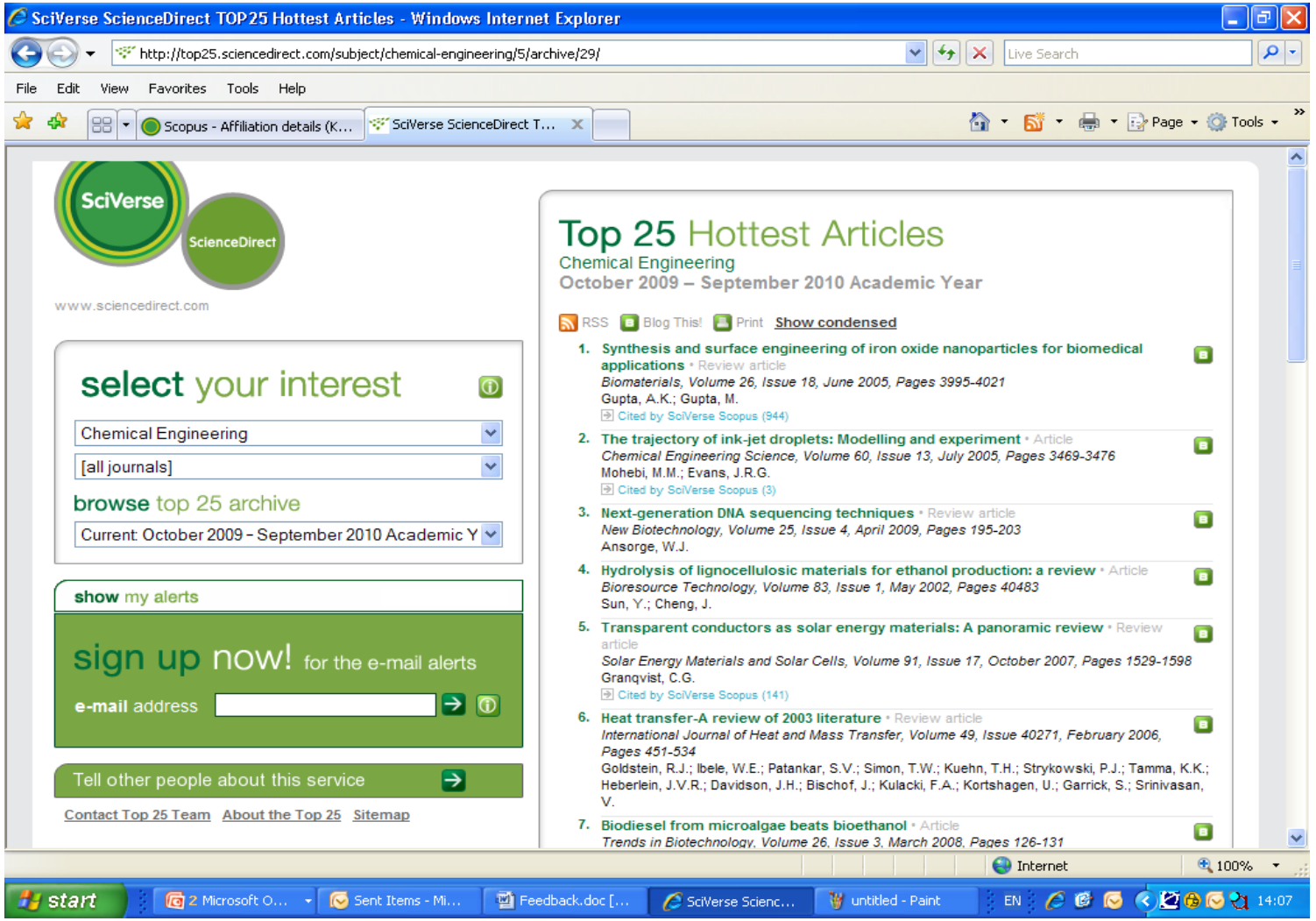

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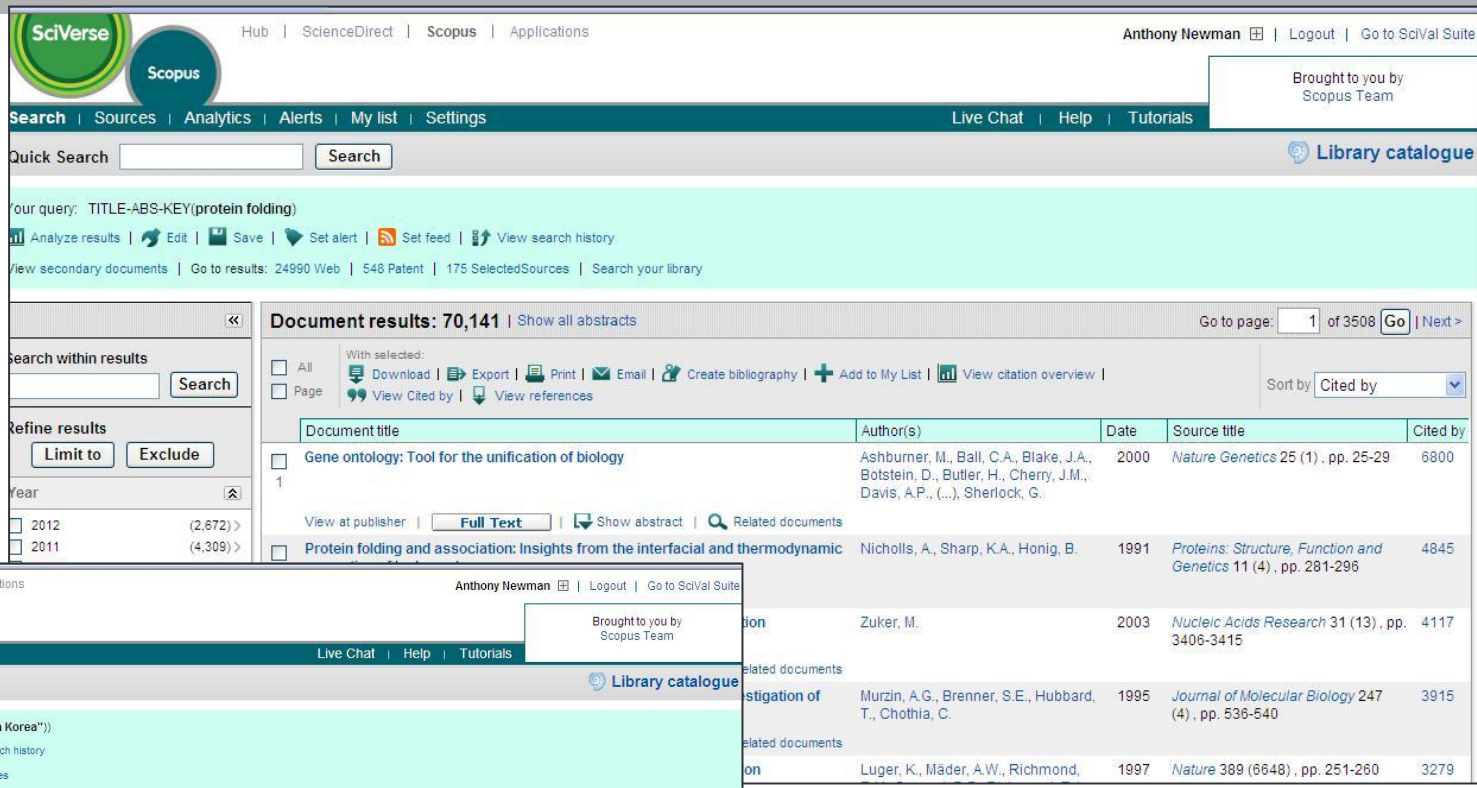
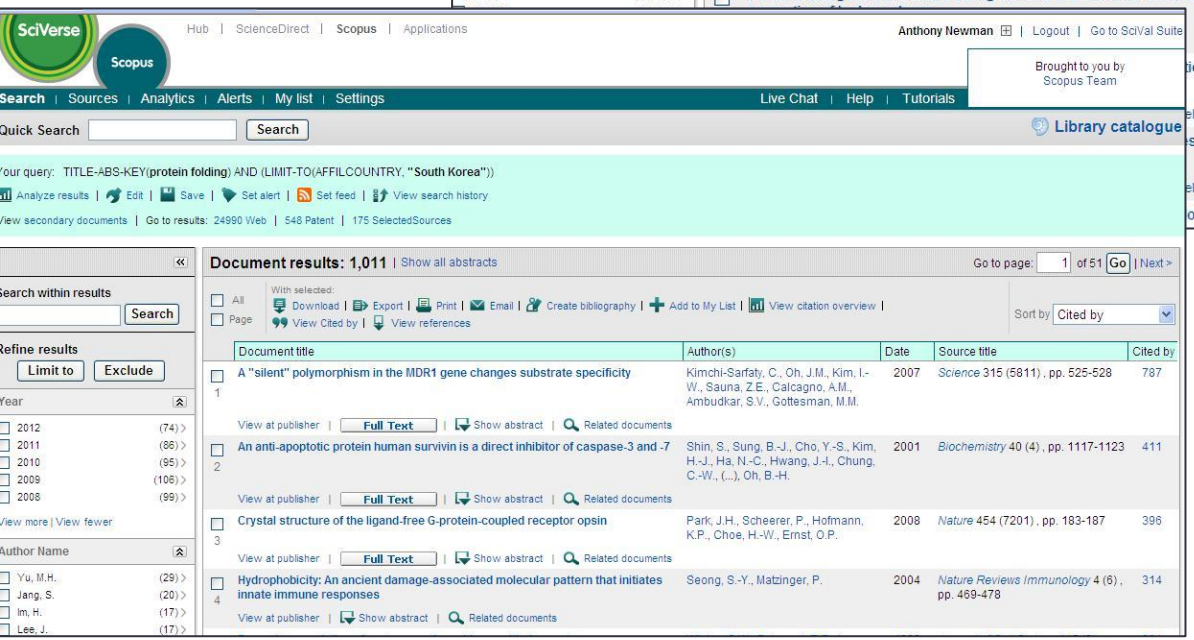
Find out what is being cited





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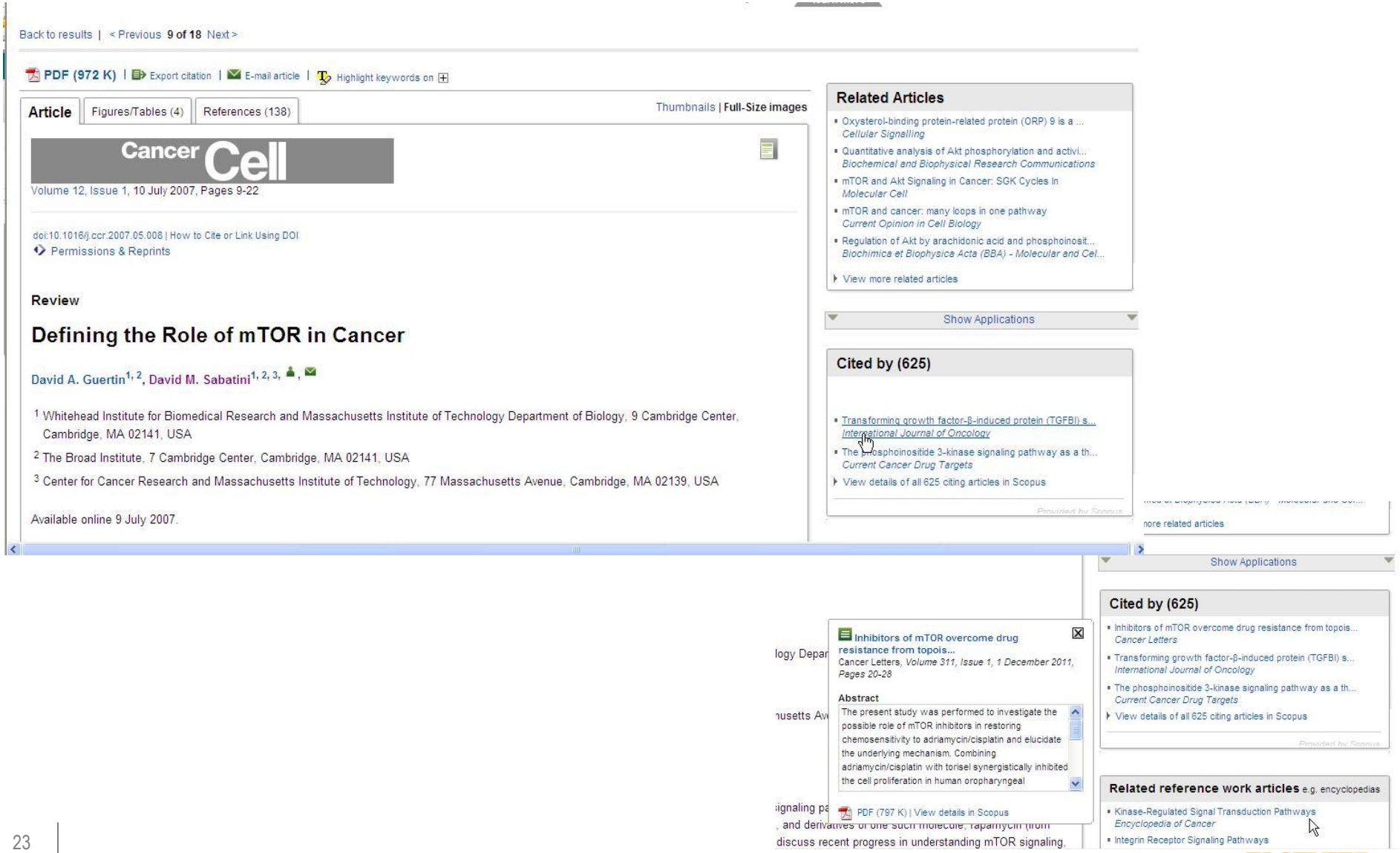
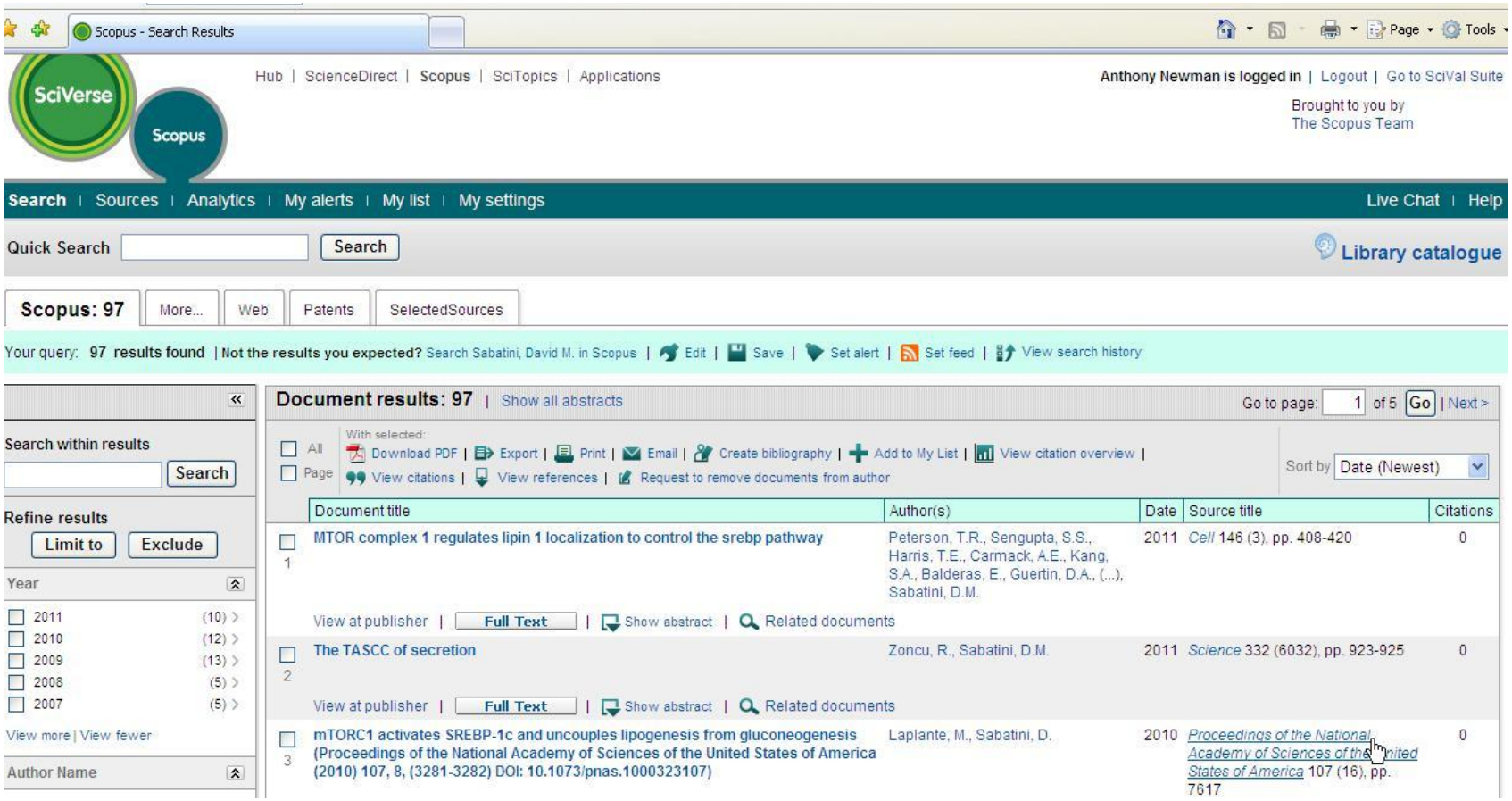


Find out who is being cited



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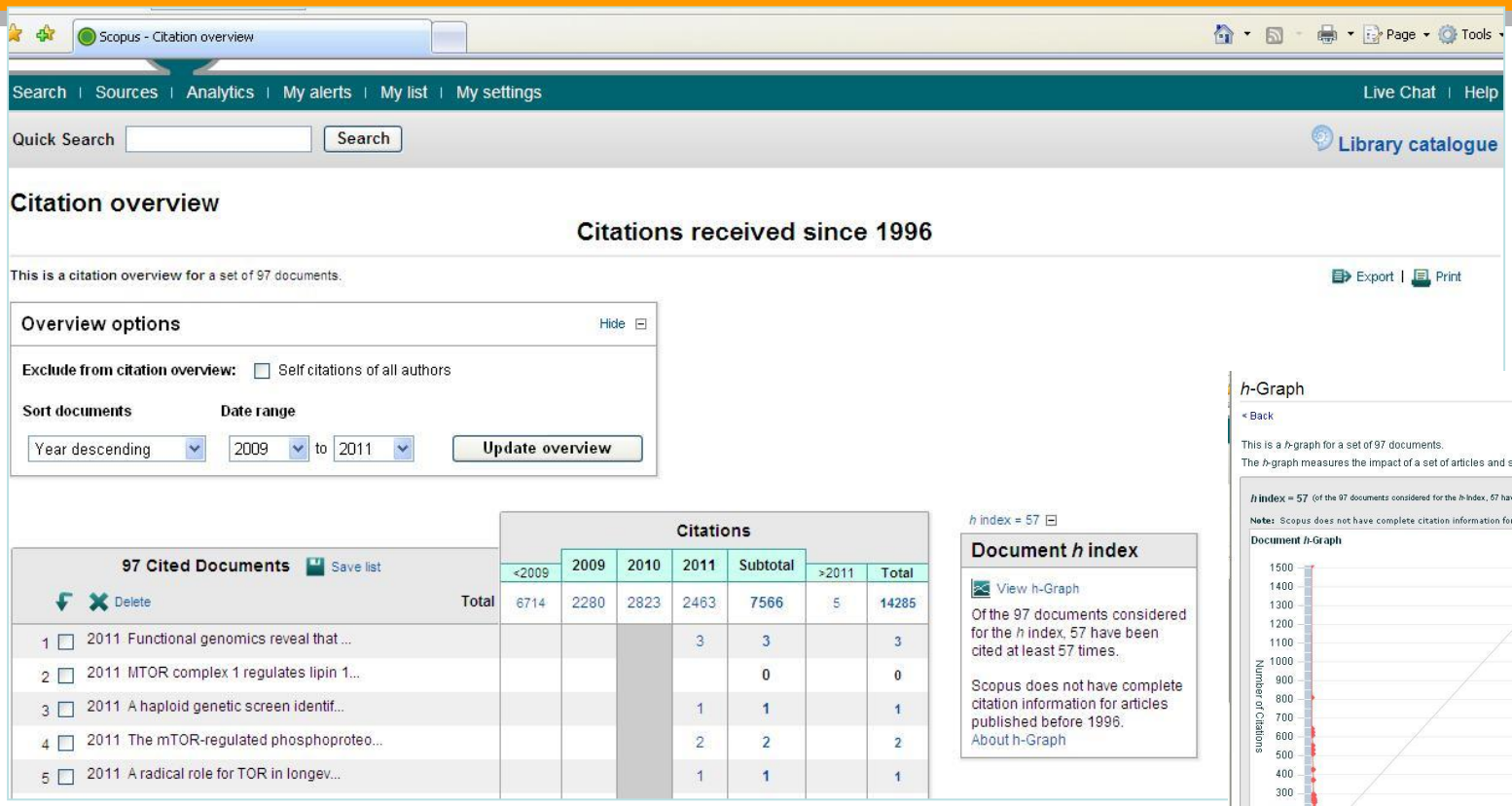
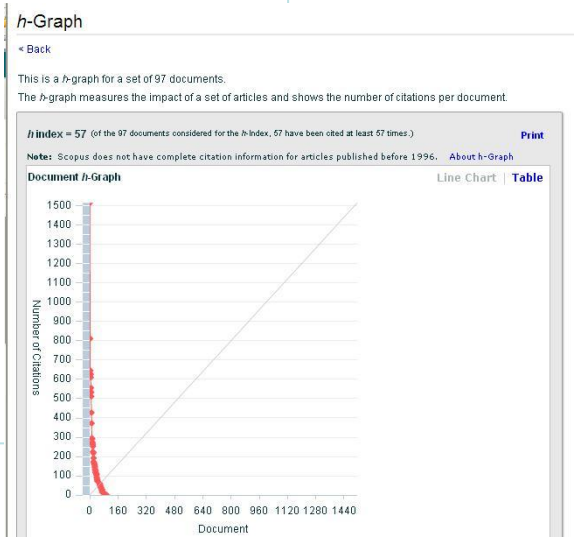
Find out who is being cited – in more depth





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Questions to answer before you write

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;**
- **Letters/Rapid Communications/Short communications;**
- **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**?
  - Who is this journal's **audience**?
  - What is the journal's **Impact Factor**?
- Ask help from your supervisor or colleagues. The supervisor (who is often a co-author) has at least co-responsibility for your work.
- **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!)

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Choose the right journal

Do not just “descend the stairs”

Top journals

Nature, Science, Lancet, NEJM, ...

↓

Field-specific top journals

↓

Other field-specific journals

↓

National journals

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Identify the right audience for your paper

- Identify the sector of readership/community for which a paper is meant

- Identify the interest of your audience

- Is your paper of local or international interest

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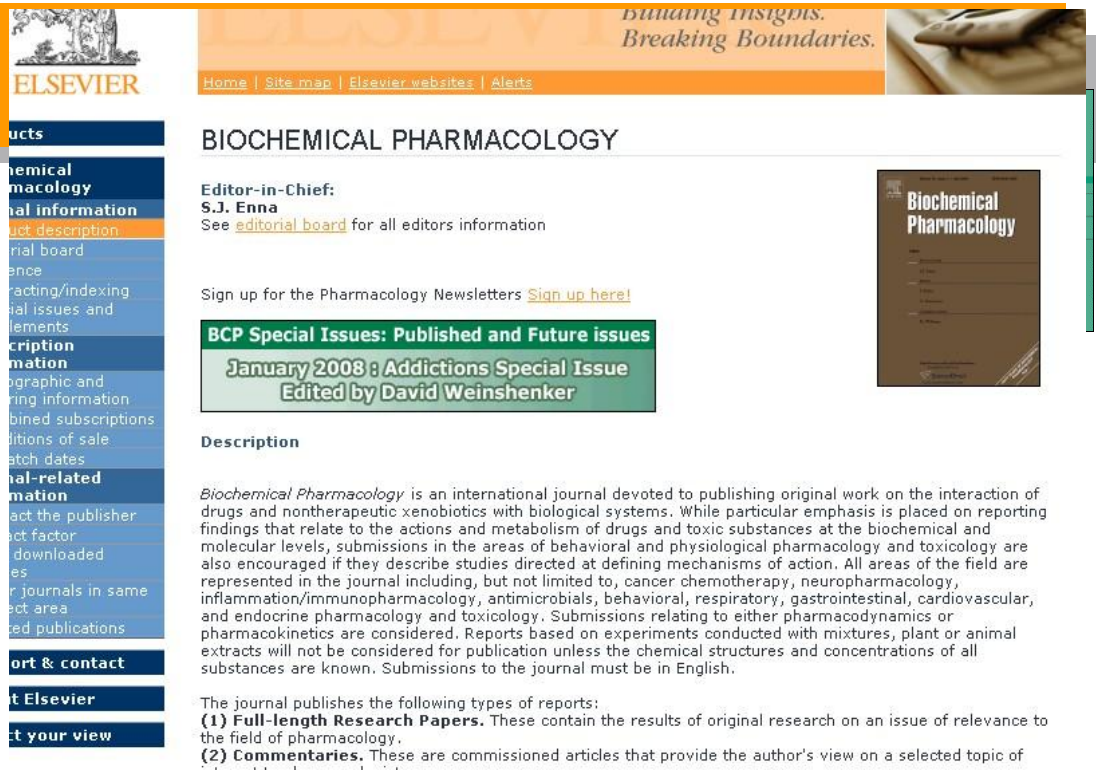
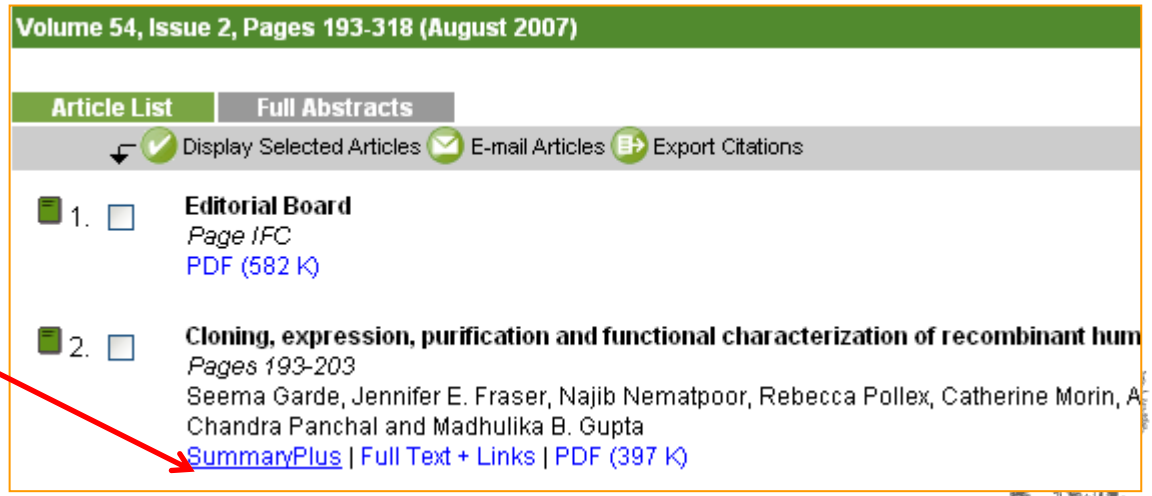
Choose the right journal

- **Investigate all candidate journals to find out**
  - Aims and scope
  - Accepted types of articles
  - Readership
  - Current hot topics
    - go through the abstracts of recent publications)





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What is the Impact Factor (IF)?

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

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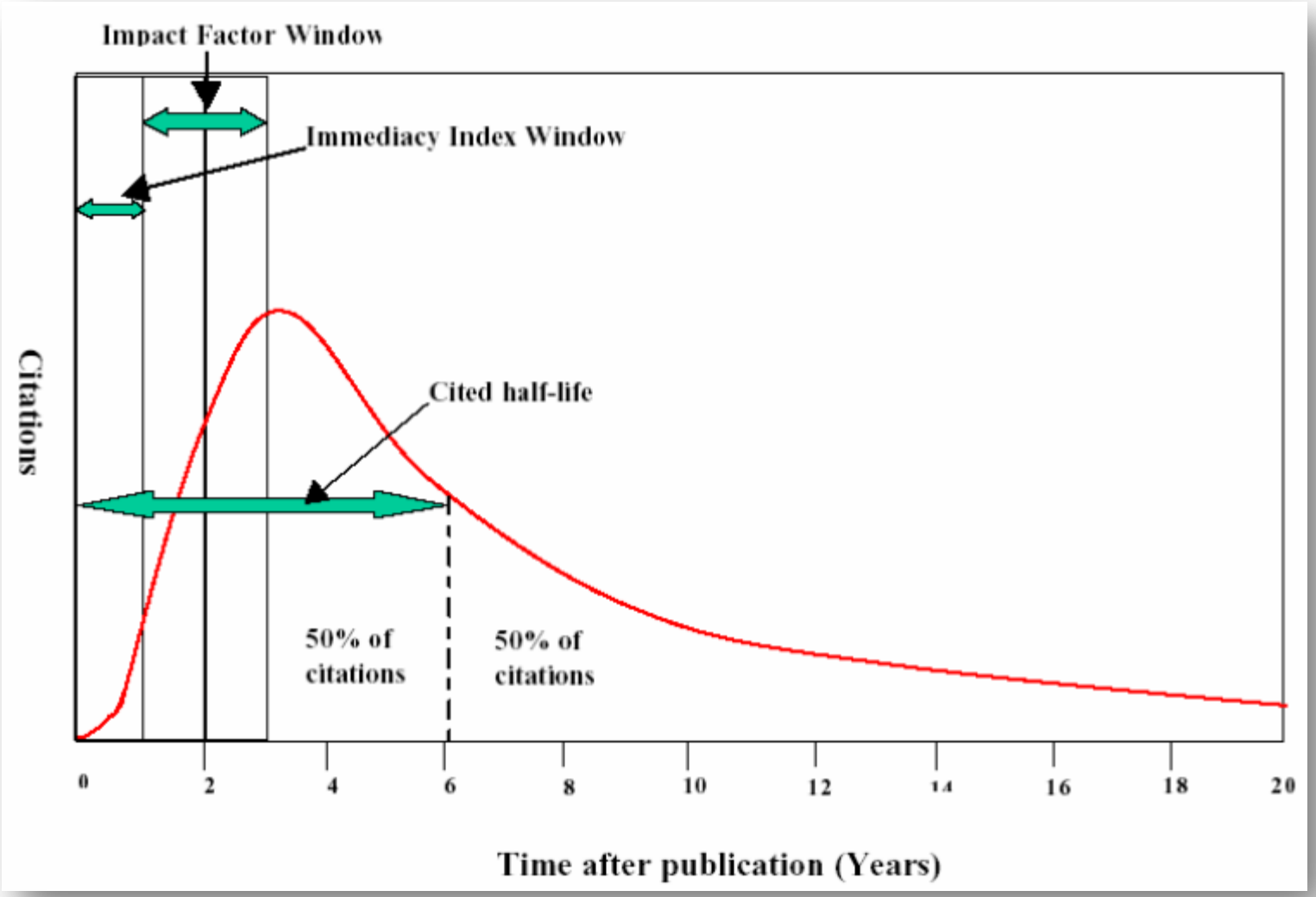
Impact Factor and other bibliometric parameters



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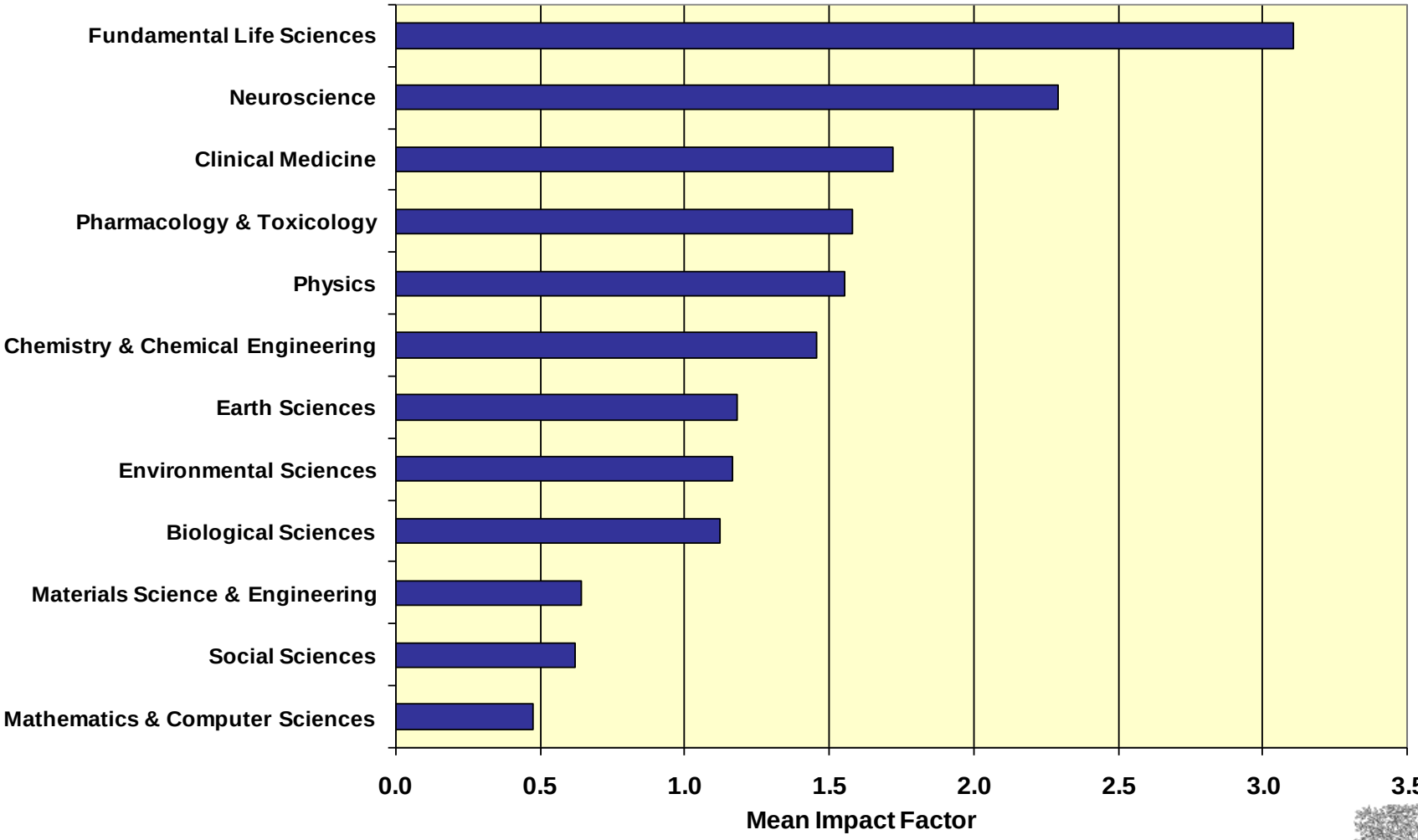
Influences on Impact Factors: Subject Area



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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*

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.**

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Imprint: ELSEVIER

Actions
- Submit Article
- Order Journal
- Free Sample Issue
- Recommend to Friend
- Bookmark this Page

Guide for Authors

Printer-friendly

Official journal of the Controlled Release Society, and of the Japan Society of Drug Delivery System

- SCOPE OF THE JOURNAL
- Contact details for submission

BEFORE YOU BEGIN
- Ethics in Publishing
- Conflict of interest
- Submission declaration and verification
- Copyright
- Retained author rights
- Role of the funding source
- Funding body agreements and policies
- Language and language services
- Submission
- Additional information

PREPARATION
- Use of wordprocessing software
- Article structure
- Essential title page information
- Abstract
- Graphical abstract
- Keywords
- Abbreviations
- Acknowledgements
- Artwork
- Electronic artwork
- Tables
- References
- Video data
- Supplementary data
- Submission checklist
- Additional information

AFTER ACCEPTANCE
- Use of the Digital Object Identifier
- Proofs
- Offprints

AUTHOR INQUIRIES

SCOPE OF THE JOURNAL

The journal publishes papers innovative, original research involving the controlled release and delivery of drugs and other biologically active agents. The terms "controlled release" and "delivery" are used in their broadest sense to include mechanisms such as diffusion, chemical and enzymatic reactions, dissolution,

Additional Information
- Related Publications
- Editorial Board
- Login to Editorial System
- Pharmaceutics Subject Page
- Advertisers Media Information

Readers
- Order Journal
- Access Full-Text
- Free Sample Issue
- Volume/Issue Alert
- Free Tables of contents and abstracts

Authors
- Authors Home
- Submit an Article
- Track Your Accepted Articles
- Guide for Authors
- Artwork instructions
- Authors Rights
- Funding Bodies Compliance

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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

Why Is Language Important?

Save your editor and reviewers the trouble of guessing what you mean

Complaint from an editor:

"[This] paper fell well below my threshold. I refuse to spend time trying to understand what the author is trying to say. Besides, I really want to send a message that they can't submit garbage to us and expect us to fix it. My rule of thumb is that if there are more than 6 grammatical errors in the abstract, then I don't waste my time carefully reading the rest."

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

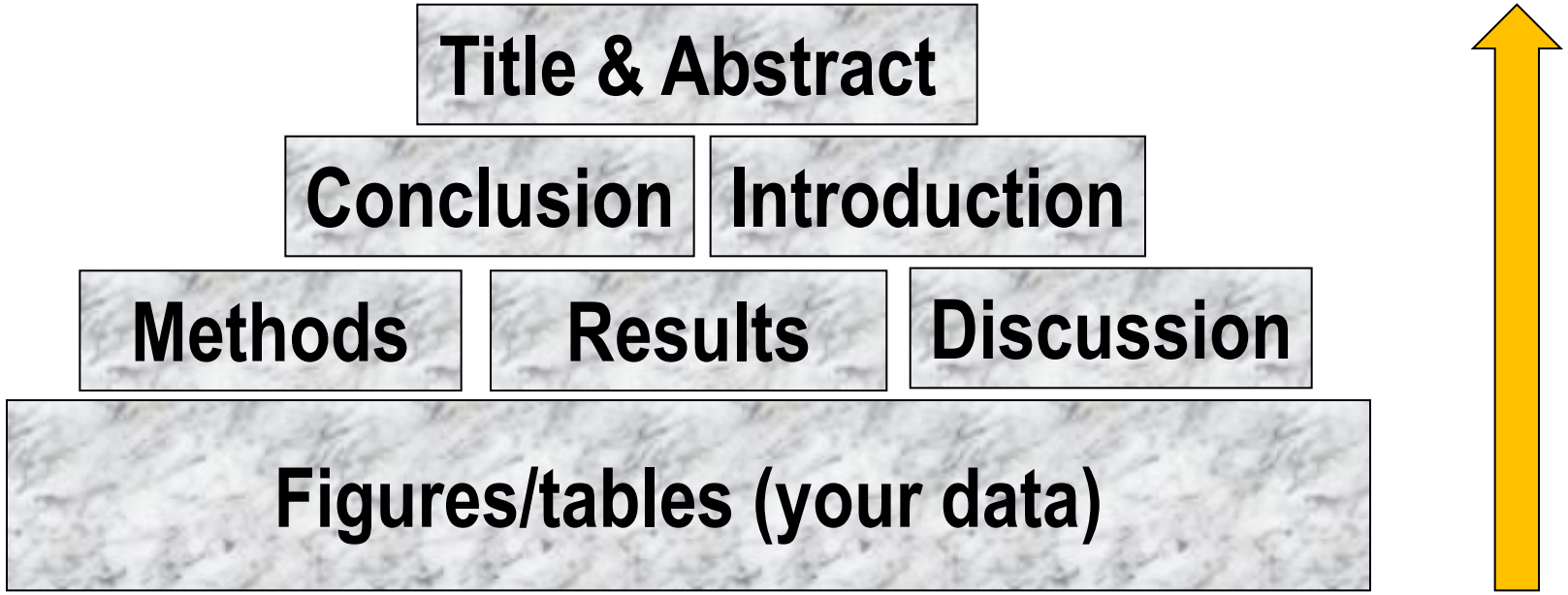
Scientific Language – Sentences

- 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."

The process of writing – building the article



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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"

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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

Acknowledged Individuals

Recognize those who helped in the research, but do not qualify as authors (you want them to help again, don't you?)

Include individuals who have assisted you in your study:

- Advisors
- Financial supporters
- Proofreaders
- Typists
- Suppliers who may have given materials

Author names: common problems

- **Different Spellings**
  - J**ä**rvinen / J**ae**rvinen / J**a**rvinen
  - Lue**ß**en / Lue**b**en / Lue**ss**en
  - van **H**arten / **V**anharten / 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?

Title

- **A good title should contain the fewest possible words that adequately describe the contents of a paper.**

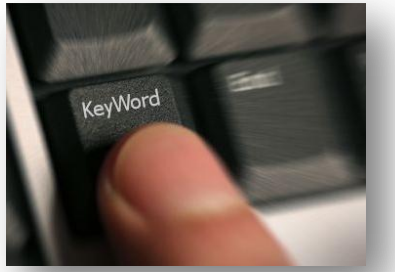
- **Effective titles**
  - Identify the main issue of the paper
  - Begin with the subject of the paper
  - Are accurate, unambiguous, specific, and complete
  - Are as short as possible
  - Articles with short, catchy titles are often better cited
  - Do not contain rarely-used abbreviations
  - Attract readers - Remember: readers are the potential authors who will cite your article

Title: Examples

Original Title	Revised	Remarks
Preliminary observations on the effect of Zn element on anticorrosion of zinc plating layer	Effect of Zn on anticorrosion of zinc plating layer	Long title distracts readers. Remove all redundancies such as "observations on", "the nature of", etc.
Action of antibiotics on bacteria	Inhibition of growth of mycobacterium tuberculosis by streptomycin	Titles should be specific. Think to yourself: "How will I search for this piece of information?" when you design the title.
Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical properties via electrospinning carbon	Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical properties	"English needs help. The title is nonsense. All materials have properties of all varieties. You could examine my hair for its electrical and optical properties! You MUST be specific. I haven't read the paper but I suspect there is something special about these properties, otherwise why would you be reporting them?" – *the Editor-in-chief*

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

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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*x*N(SO2CF3)2 ·*δ*F are prepared under ambient conditions in 48% hydrofluoric acid, using K2MnF6 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 *δ* parameters are determined for reaction times from 0.25 500 h.

What has been done

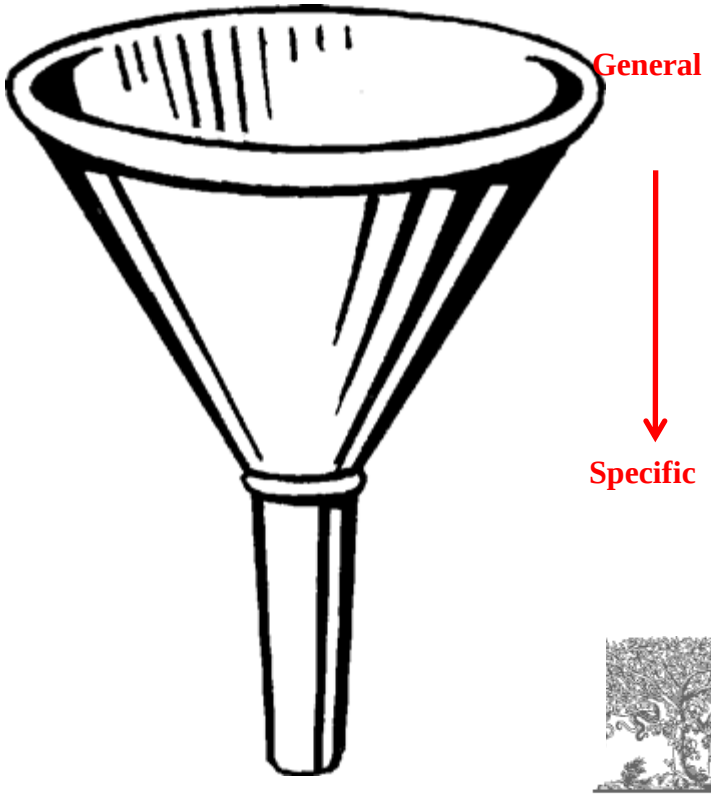
What are the main findings

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

Ethics Committee approval

- **Experiments on humans or animals must follow applicable ethics standards**
  - e.g. most recent version of the Helsinki Declaration and/or relevant (local, national, international) animal experimentation guidelines
- **Approval of the local ethics committee is required, and should be specified in the manuscript**
- **Editors can make their own decisions as to whether the experiments were done in an ethically acceptable manner**
  - Sometimes local ethics approvals are way below internationally accepted standards

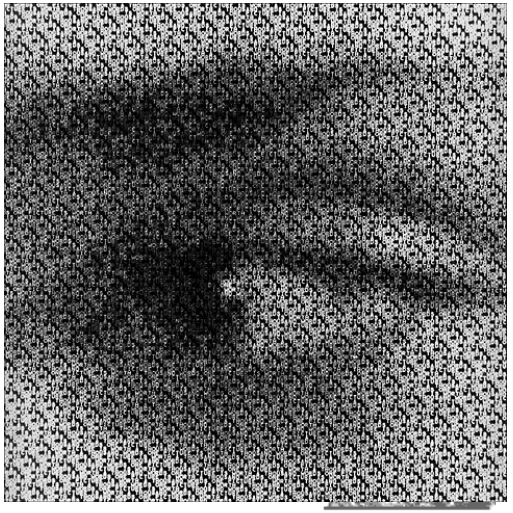
Results – what have you found?

- **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

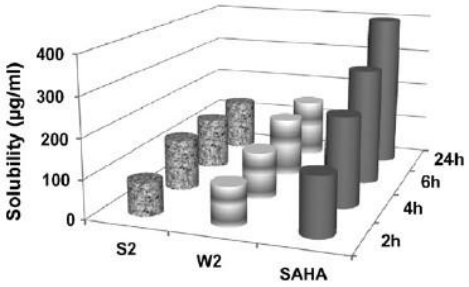
- **Illustrations are critical, because**
  - Figures and tables are the most efficient way to present results
  - Results are the driving force of the publication
  - Captions and legends must be detailed enough to make figures and tables self-explanatory
  - No duplication of results described in text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

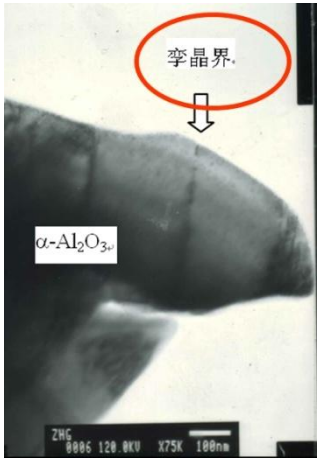
"One Picture is Worth a Thousand Words"
Sue Hanauer (1968)

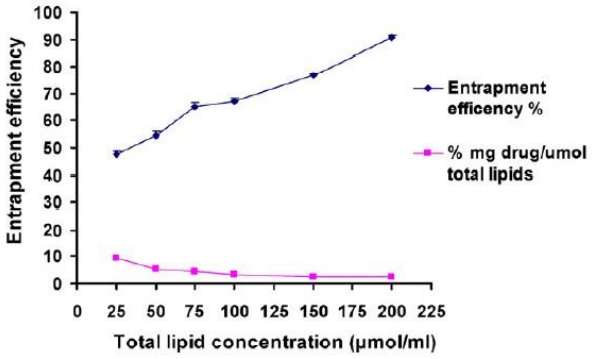


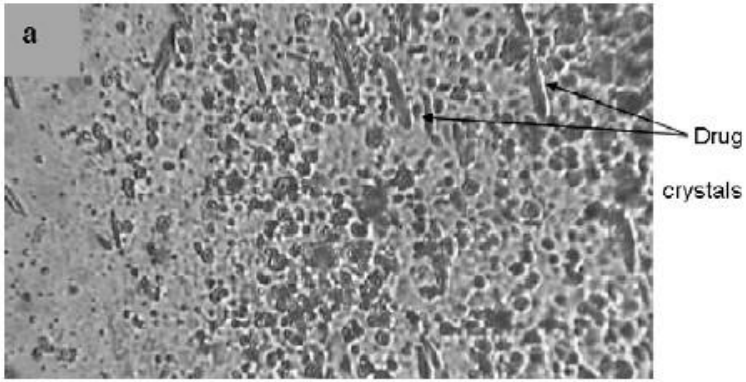
Results – Appearance counts!

- 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!









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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**

Avoid non-quantitative words, if possible

e.g.

- low/high
- extreme
- enormous
- rapid/slow
- dramatic,
- massive
- considerable
- exceedingly
- major/minor
- hot/cool
- …

Quantitative descriptions are always preferred

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

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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**

Abbreviations

- Abbreviations must be defined on the first use in both abstract and main text.
- Some journals do not allow the use of abbreviations in the abstract.
- Abbreviations that are firmly established in the field do not need to be defined, e.g. DNA.
- Never define an abbreviation of a term that is only used once.
- Avoid acronyms, if possible
  - Abbreviations that consist of the initial letters of a series of words
  - Can be typical “lab jargon”, incomprehensible to outsiders

Cover Letter

Your chance to speak to the editor directly

- Submitted along with your manuscript
- Mention what would make your manuscript special to the journal
- Note special requirements (suggest reviewers, conflicts of interest)

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Cover Le

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 en electronic submission of a manu
entitled "Mechano-sorptive creep under compressive loading – a microm
model" by John Smith and myself. This is an original paper which
previously nor simultaneously in whole or in part been submitted
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 networ level that is able to capture the experimentally observed behaviour. In particular, th difference between mechano-sorptive creep in tension and compression is analyse John Smith is a PhD-student who within a year will present his doctoral thesis. T present paper will be a part of that thesis.

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

Dr. Fernandez, Tennessee Tech, email1@university.com
Dr. Chen, University of Maine, email2@university.com
Dr. Singh, Colorado School of Mines, email3@university.com

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

ely yours,

A. Professor

Final approval from all authors

Explanation of importance of research

Suggested reviewers

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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.

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Suggest potential reviewers - ethically!

Retraction Watch

Tracking retractions as

Journal editor resigned in wake of retractions for fake email addresses that enabled self-peer review

with 16 comments

The case of Hyung-In Moon — the researcher who faked email addresses for potential peer reviewers so he could do his own peer review — has already led to one resignation.

Emilio Jirillo, the editor of *Immunopharmacology and Immunotoxicology*, which retracted 20 of Moon's papers, stepped down earlier this year in the wake of the case, Retraction Watch has learned.

Here's a note the publisher posted on the journal's site on June 15:

> We are sorry to announce that Prof. Emilio Jirillo is stepping down as Editor in Chief of Immunopharmacology and Immunotoxicology, effective 15 June 2012.
>
> The editorial office is currently looking for a new editor. In the interim, the Associate Editors and the editorial board will strive to handle the editorial process in a timely and efficient manner.

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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***.

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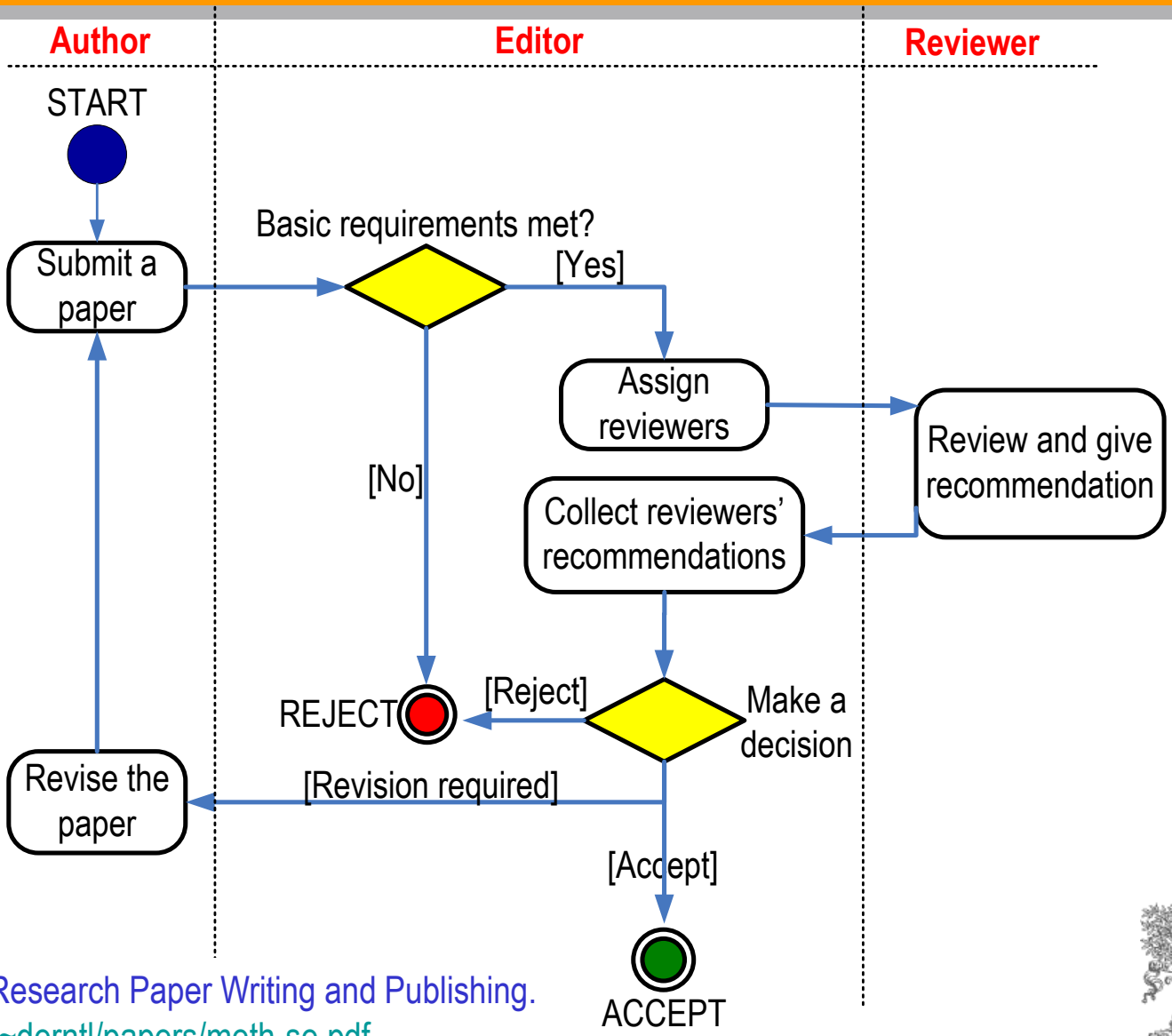
The Peer Review Process – not a black hole!



Michael Derntl. Basics of Research Paper Writing and Publishing.
http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf

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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.

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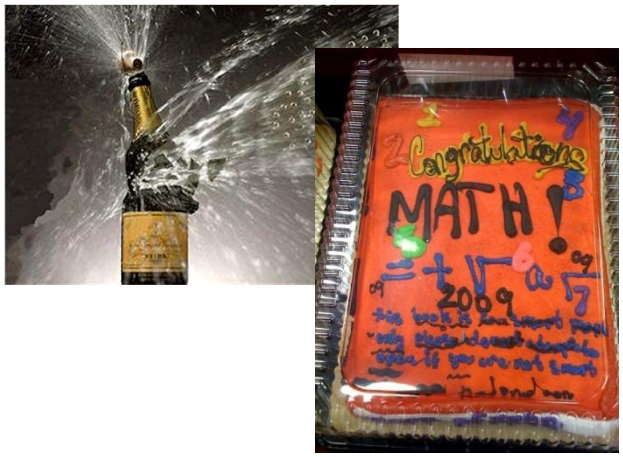
First Decision: “Accepted” or “Rejected”

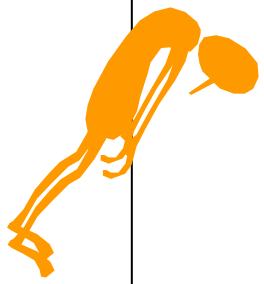
Accepted

- **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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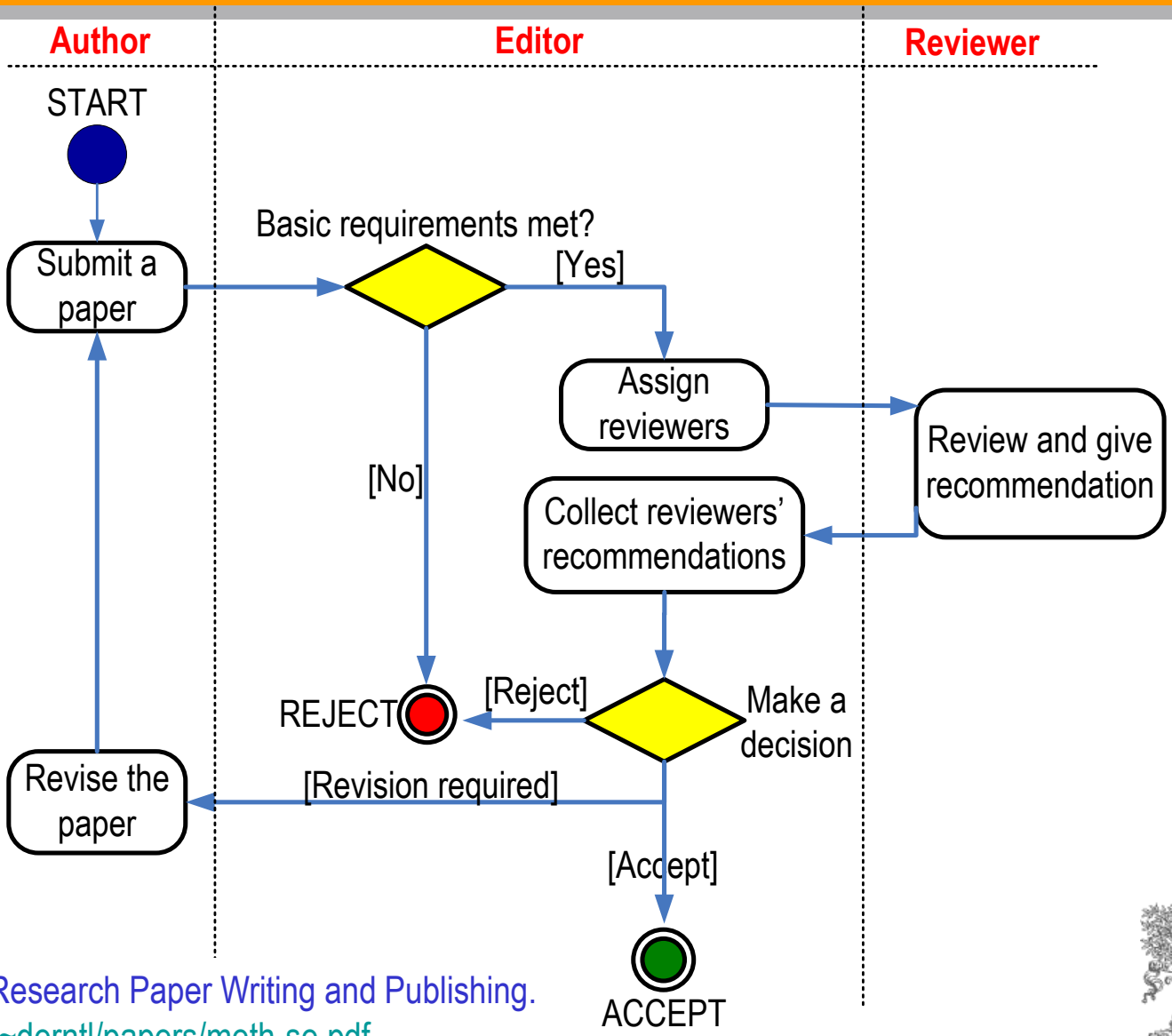
The Peer Review Process – not a black hole!



Michael Derntl. Basics of Research Paper Writing and Publishing.
http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf

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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!

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 disfavour, 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?

What NOT to do (Publishing Ethics)

When it comes to publishing ethics abuse, the much used phrase "Publish or Perish" has in reality become "Publish AND Perish"!

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Ethics Issues in Publishing

Scientific misconduct

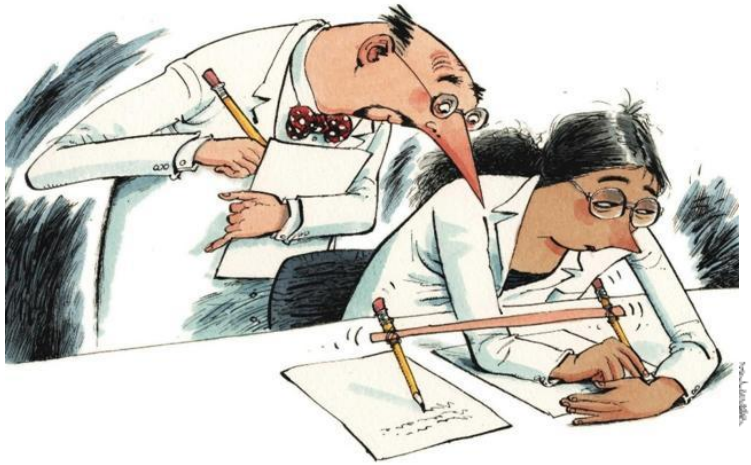
- Falsification of results

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

Publish *AND* Perish! – if you break ethical rules

- **International scientific ethics have evolved over centuries and are commonly held throughout the world.**
- **Scientific ethics are not considered to have national variants or characteristics – there is a *single ethical standard* for science.**
- **Ethics problems with scientific articles are on the rise *globally*.**



M. Errami & H. Garner
A tale of two citations
Nature 451 (2008): 397-399

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Data fabrication and falsification

Fabrication: **Making up data or results, and recording or reporting them**

"… the fabrication of research data … *hits at the heart of our responsibility to society*, the reputation of our institution, the trust between the public and the biomedical research community, and our personal credibility and that of our mentors, colleagues…"

"It can *waste the time of others*, trying to replicate false data or designing experiments based on false premises, and can lead to therapeutic errors. It can never be tolerated."

Professor Richard Hawkes
Department of Cell Biology and Anatomy
University of Calgary

"The most dangerous of all falsehoods is a slightly distorted truth."

G.C.Lichtenberg (1742-1799)

Data fabrication and falsification

Falsification:

- Manipulation of research materials, equipment, processes
- Changes in / omission of data or results such that the research is not accurately represented in the research record

"Select data to fit a preconceived hypothesis:

- We do not include (data from) an experiment because '*it did not work*', or
- We show *'representative'* images that do not reflect the total data set, or
- We simply shelve data that do not fit."

Richard Hawkes

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Data Fabrication & Falsification - often go hand in hand

A Massive Case Of Fraud
Chemical & Engineering News
February 18, 2008

Journal editors are left reeling as publishers move to rid their archives of scientist's falsified research
William G. Schulz

A CHEMIST IN INDIA has been found guilty of plagiarizing and/or falsifying more than 70 research papers published in a wide variety of Western scientific journals between 2004 and 2007, according to documents from his university, copies of which were obtained by C&EN. Some journal editors left reeling by the incident say it is one of the most spectacular and outrageous cases of scientific fraud they have ever seen. …

Chinese scientists dismissed after 70 suspect papers

[BEIJING] Two Chinese university lecturers have been dismissed after 70 papers they published in an international journal were revoked because of alleged fraud.

Hua Zhong and Ta University in soutl the papers in 200

"Although the Chinese government declares zero tolerance on academic fraud, in practice, few researchers are seriously punished for their misconduct. Universities tend to cover for those offenders with high academic status for fear of their power and the reputation of the school" said Fang

Chinese scientists dismissed after 70 suspect papers [SciDev.Net - 01/13/2010]

"A researcher is rewarded and promoted largely based on the number of published papers, which poses dangerous incentives for researchers to commit fraud" he said

Plagiarism and fake publications c

Anwar Tumur (*University of Xinjiang, Urumqi, People's*. from the Swiss Federal Commission for Scholarships f Switzerland from July 2003 to July 2004. From July to Octol in Fribourg (Switzerland) and then worked as visiting scie Ecology (University of Bern, Switzerland) from October 20(had free access to our infrastructure and contributed to a s mammals (rodents) in set aside areas under my supervisic (November 2003 to May 2004) A.Tumur did field work (2 collected was barely sufficient for a publication. He wrote depth to correct the poor English and weed out many flaw China, he asked me whether I would agree to have this repo the text would not be modified. Anwar Tumur only sent identical to study was copy of the is included on the same Incidentally

Plagiarism and fake publications of Anwar Tumur

Anwar Tumur (*University of Xinjiang, Urumqi, People's Republic of China*) received a July 2003 to July 2004. From July to October 2003 he attended a French course in Fribourg Switzerland) from October 2003 to July 2004. During this time, he had free access to our infrast supervision (J.-P. Airoldi). During 7 months (November 2003 to May 2004) A.Tumur did fie report, which had to be edited in depth to correct the poor English and weed out many flaws agreed, assuming that the text would not be modified. Anwar Tumur only sent me the abstract, The study was published in Acta Theriologica Sinica (25: 254-260, 2005). Anwar never sent me All the information gathered by Anwar Tumur during his stay in Switzerland is included in the abc Incidentally we detected quite recently 5 other publications which were never authorized by me published or unpublished results of our scientific work, but they also contain data which are comp authorship. This is completely unacceptable since the publication of fake data will damage my sci I would not agree to co-author a publication based on data already published elsewhere or whic to the editors and reviewers. Anwar Tumur intentionally misled and fooled the scientific comm published with our agreement, and we examined it in more details. To our astonishment, we reali

The incriminated publications:

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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.**

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)

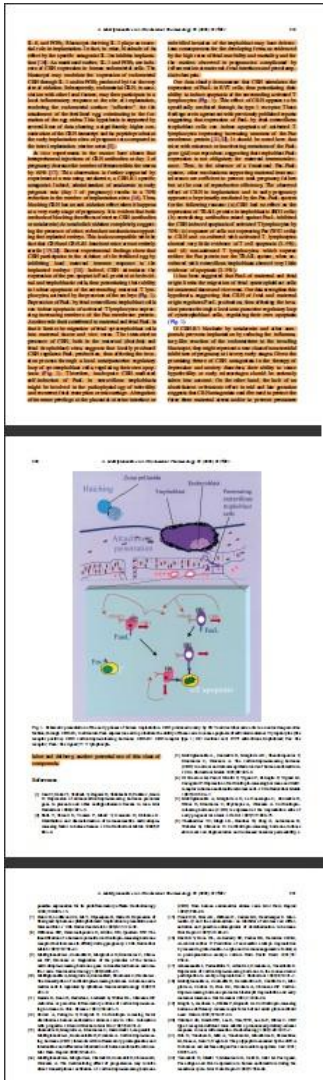
Manuscripts are checked against a database of 20 million peer reviewed articles which have been donated by 50+ publishers, including Elsevier.

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 ...

Publication ethics – Self-plagiarism

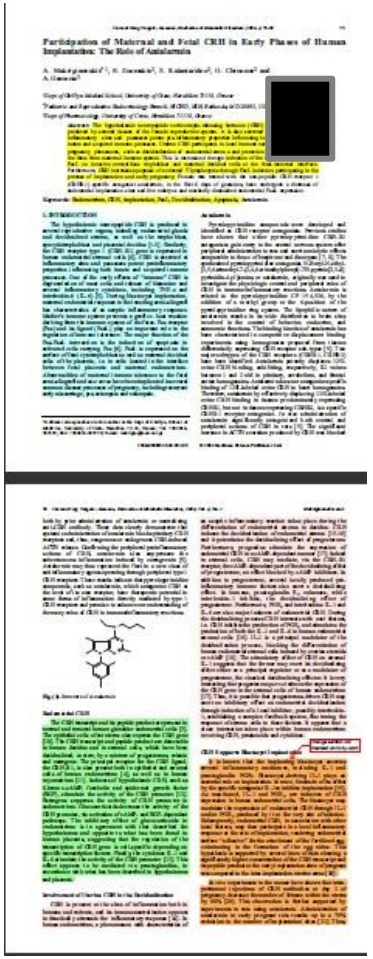
2003

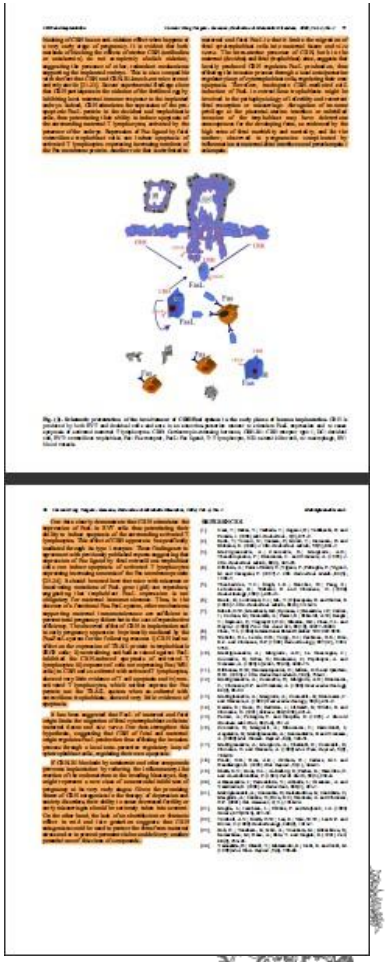


Same colour left and right

Same text

2004





83

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doi:10.1016/j.sigpro.2005.07.019 Cite or Link Using DOI

RETRACTED: Matching pursuit-based approach f

[redacted]

Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and P
http://www.elsevier.com/locate/withdrawalpolicy.

Reason: This article is virtually identical to the previously published articl
algorithm for SNR improvement in ultrasonic NDT", *Independent Nond*
International, volume 38 (2005) 453 – 458 authored by [redacted]

RETRACTED

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, even when the input SNR (SNRin) is lower than 0dB (the level of echoes scattered by microstructures is above the level of the flaw 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 $D = \{g_i;\ i = 0, 1, \ldots, L\}$ 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 l^2 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 adaptive 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 mth iteration the residue is

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

where $\alpha_{i(m)}$ is the weight associated to optimum atom $g_{i(m)}[n]$ at the mth iteration.

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

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

The optimum atom $g_{i(m)}[n]$ (and its weight $\alpha_{i(m)}$) at the mth iteration are obtained as follows:

$$g_{i(m)}[n] = \arg\min_{g_i \in D} \|r^{m+1}[n]\|^2 = \arg\max_{g_i \in D} |\alpha_i^m|^2 = \arg\max_{g_i \in D} |\alpha_i^m|. \quad (3)$$

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:

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

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…

Signal Processing
Volume 86, Issue 5, May 2006, Pages 962-970

Publication ethics – How it can end .....

theguardian

News | Sport | Comment | Culture | Business | Money | London 2012 | Life & style | Travel

News › World news › Hungary

Hungarian president resigns over doctorate plagiarism scandal

Pal Schmitt steps down after university revokes doctorate, saying Olympics thesis was mostly copied from two authors

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Associated Press in Budapest
guardian.co.uk, Monday 2 April 2012 13.29 BST

Article history

The Hungarian president, Pal Schmitt, who has announced his resignation. Photograph: Matej Divizna/EPA

The Hungarian president, Pal Schmitt, has announced he will resign after losing his doctorate in a plagiarism scandal.

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Hungary · Europe

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Plagiarism · Higher education

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German politician loses doctorate for plagiarism

24 Feb 2011
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24 February 2011 Last updated at 11:38 GMT

German minister loses doctorate after plagiarism row

Germany's defence minister has been stripped of his university doctorate after he was found to have copied large parts of his work from others.

Mr Guttenberg failed to name sources for parts of his PhD thesis

Karl-Theodor zu Guttenberg, an aristocrat who lives in a Bavarian castle, admitted breaching standards but denied deliberately cheating.

Analysis revealed that more than half of his thesis had long sections lifted word-for-word from the work of others.

So far the German Chancellor, Angela Merkel, has stood by the minister.

The University of Bayreuth decided that Mr Guttenberg had "violated scientific duties to a considerable extent".

It deplored the fact that he had lifted sections of text without attribution.

Last week Mr Guttenberg said he would temporarily give up his PhD title while the university investigated the charges of plagiarism. He admitted that he had made "serious mistakes".

His thesis - Constitution and Constitutional Treaty: Constitutional Developments in the US and EU - was completed in 2006 and published in 2009.

Chancellor Merkel insisted on Monday that she was standing by her defence minister, who was seen as something of a rising star in her conservative coalition

Related Stories

Germany's Baron without a title

Plagiarism row minister drops PhD

German minister denies plagiarism

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Figure Manipulation – some things are allowed

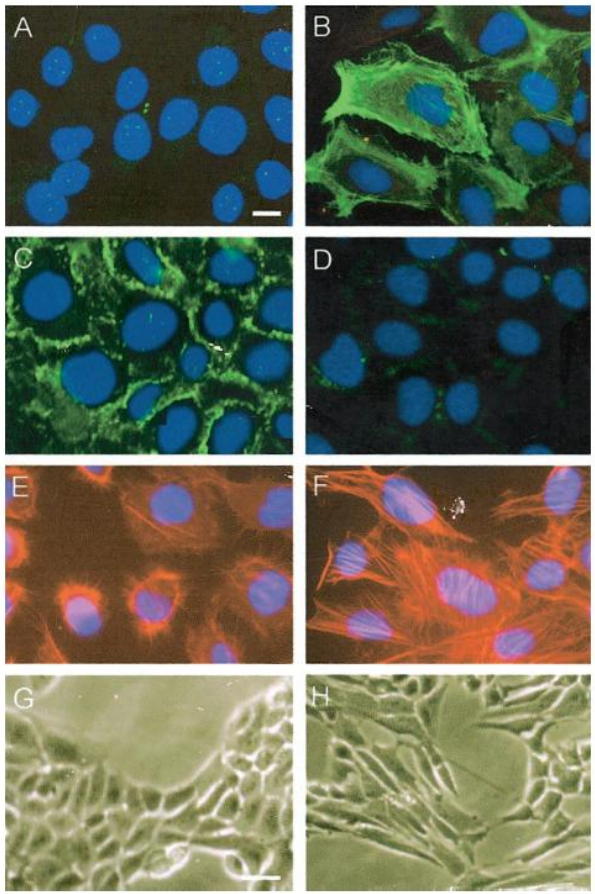
As long as they don't obscure or eliminate info present in the original image

Must be disclosed in the figure legend

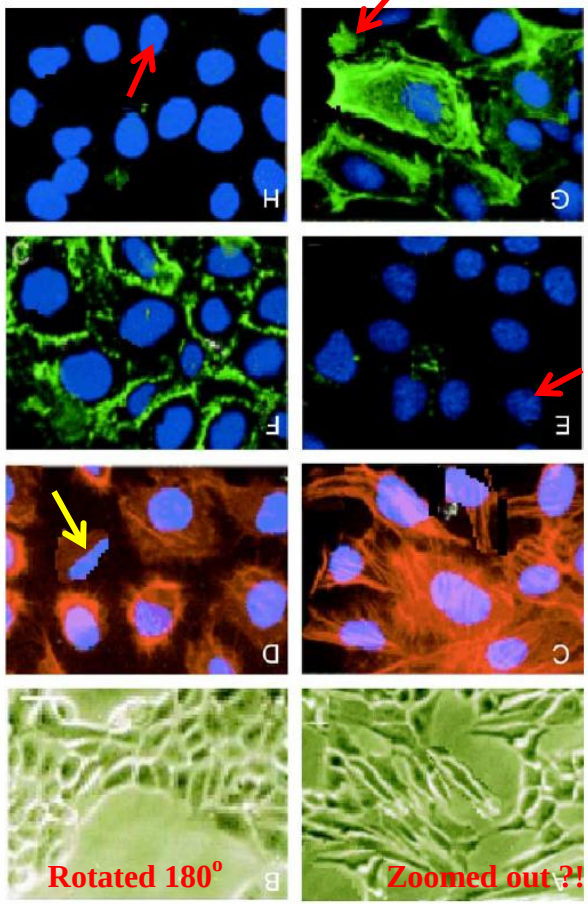
Figure Manipulation

Example - Different authors and reported experiments

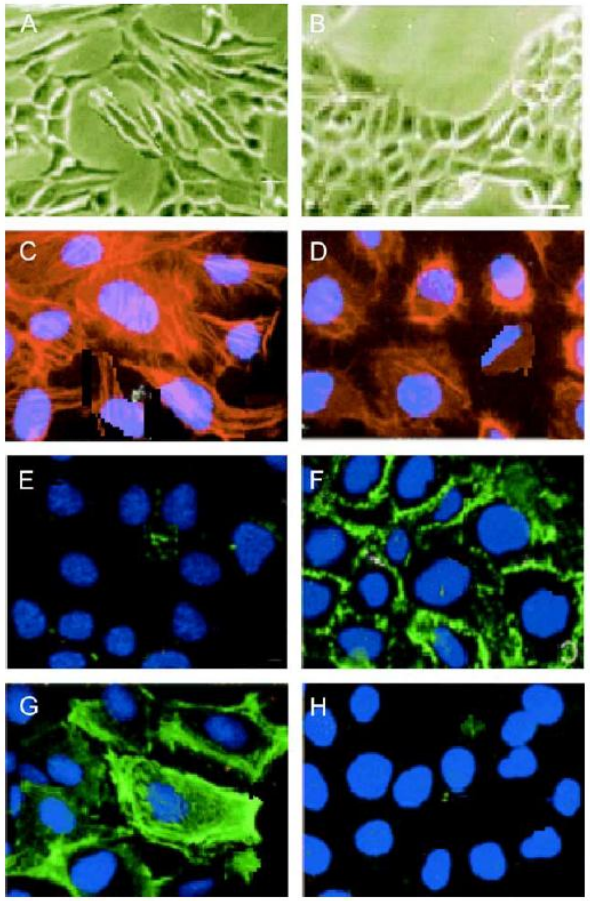
Am J Pathol, 2001



Life Sci, 2004
Rotated 180°



Life Sci, 2004



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What leads to acceptance ?

- **A**ttention to details
- **C**heck and double check your work
- **C**onsider the reviewers' comments
- **E**nglish must be as good as possible
- **P**resentation is important
- **T**ake your time with revision
- **A**cknowledge those who have helped you
- **N**ew, original and previously unpublished
- **C**ritically evaluate your own manuscript
- **E**thical rules must be obeyed

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

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- Wilfred CG Peh. Editor, Singapore Medical Journal
- Malcolm W. Kennedy. Professor, Institue of Biomedical and Life Sciences, University of Glasgow, UK

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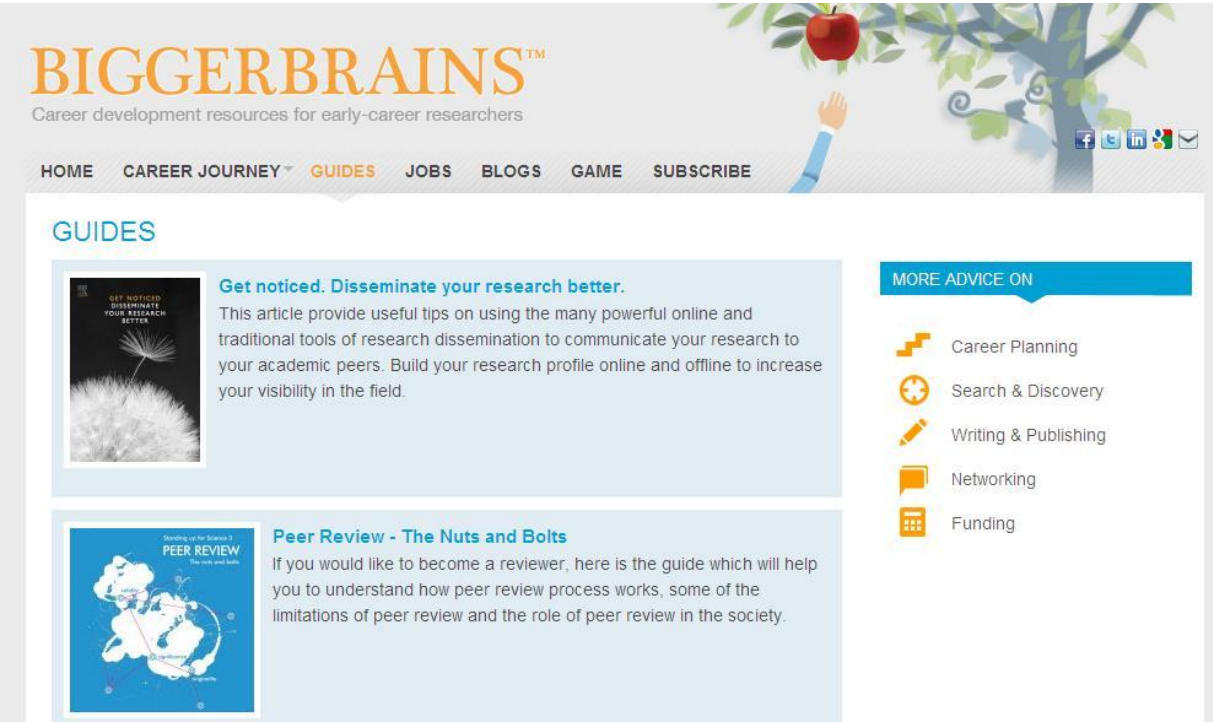
There are lots of online resources....

Elsevier and many other publishers give lots of helpful advice, as do many scientific societies and universities – go look!



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Further reading for you

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