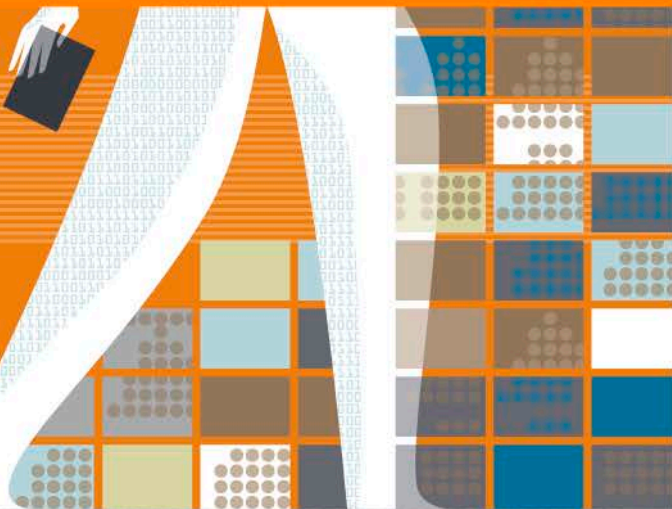


# Publishing workshop – Hanoi

## Working with Peer Reviewers and Publication Ethics



Presenter: Duc Le

August, 2015

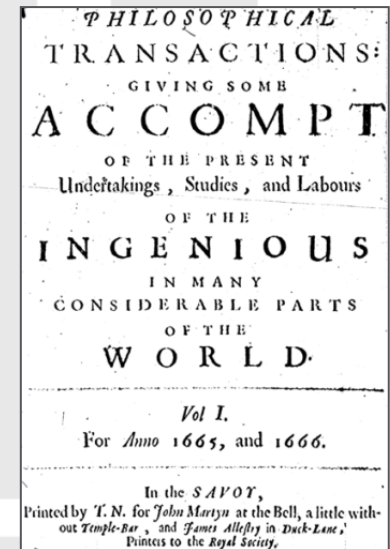
# Outline

- The peer reviewing process and the reviewer's role
- How to review a manuscript
- How to respond to reviews to improve your chances of success
- Publication ethics



# The publishing process and peer review

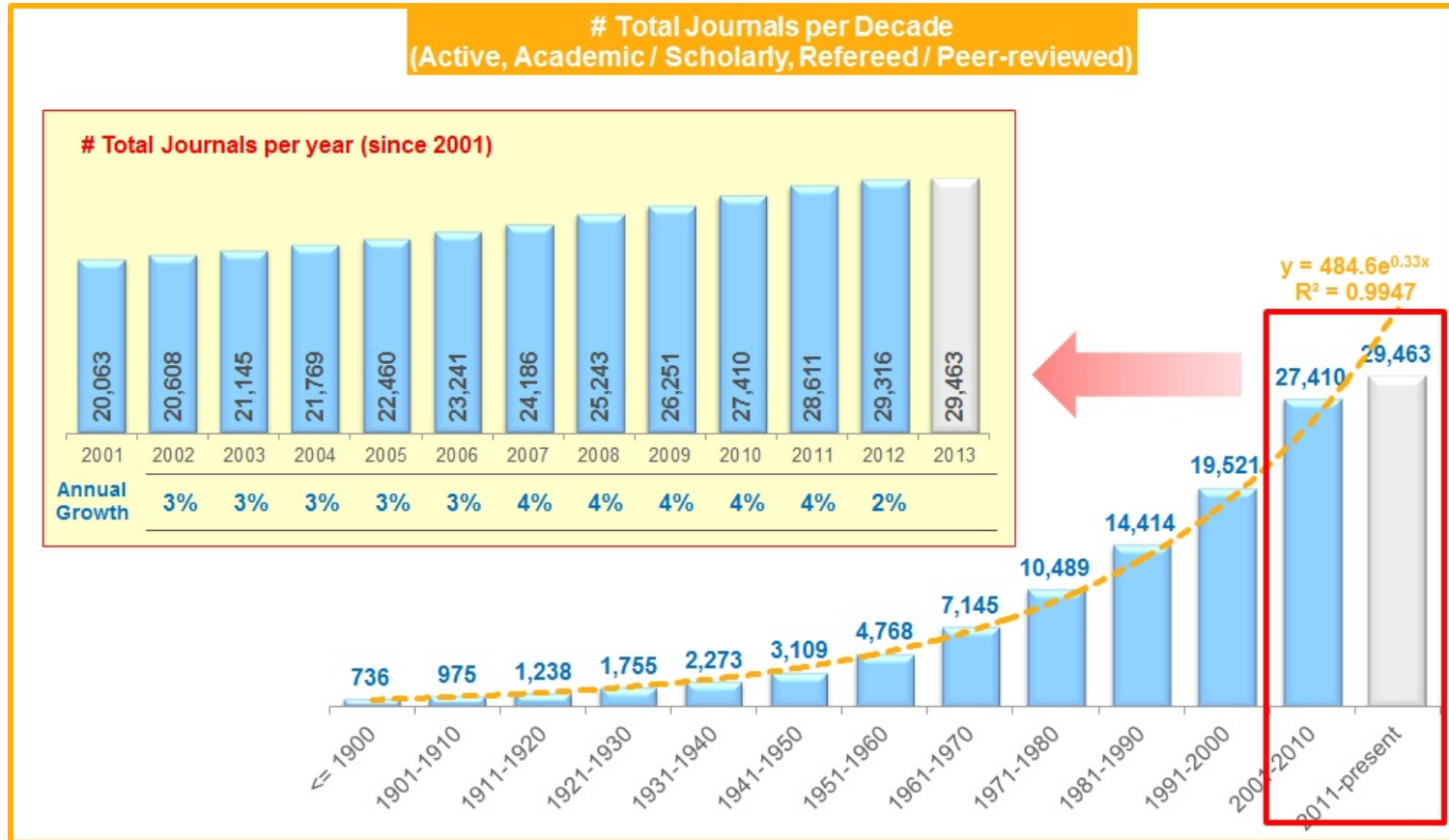
- Based on peer review - involves the evaluation of articles by experts in the field
- It was first used in 1665, by the Royal Society in London
- Peer review places the reviewer, with the author, at the heart of scientific publishing
- Reviewers make the editorial process work by examining and commenting on manuscripts
- Without peer review there is no control in scientific communication
- Reviewers are the backbone of the whole process



Peer Review is at the core of scientific publishing, which aims to improve, validate, register, disseminate and preserve a researcher's work

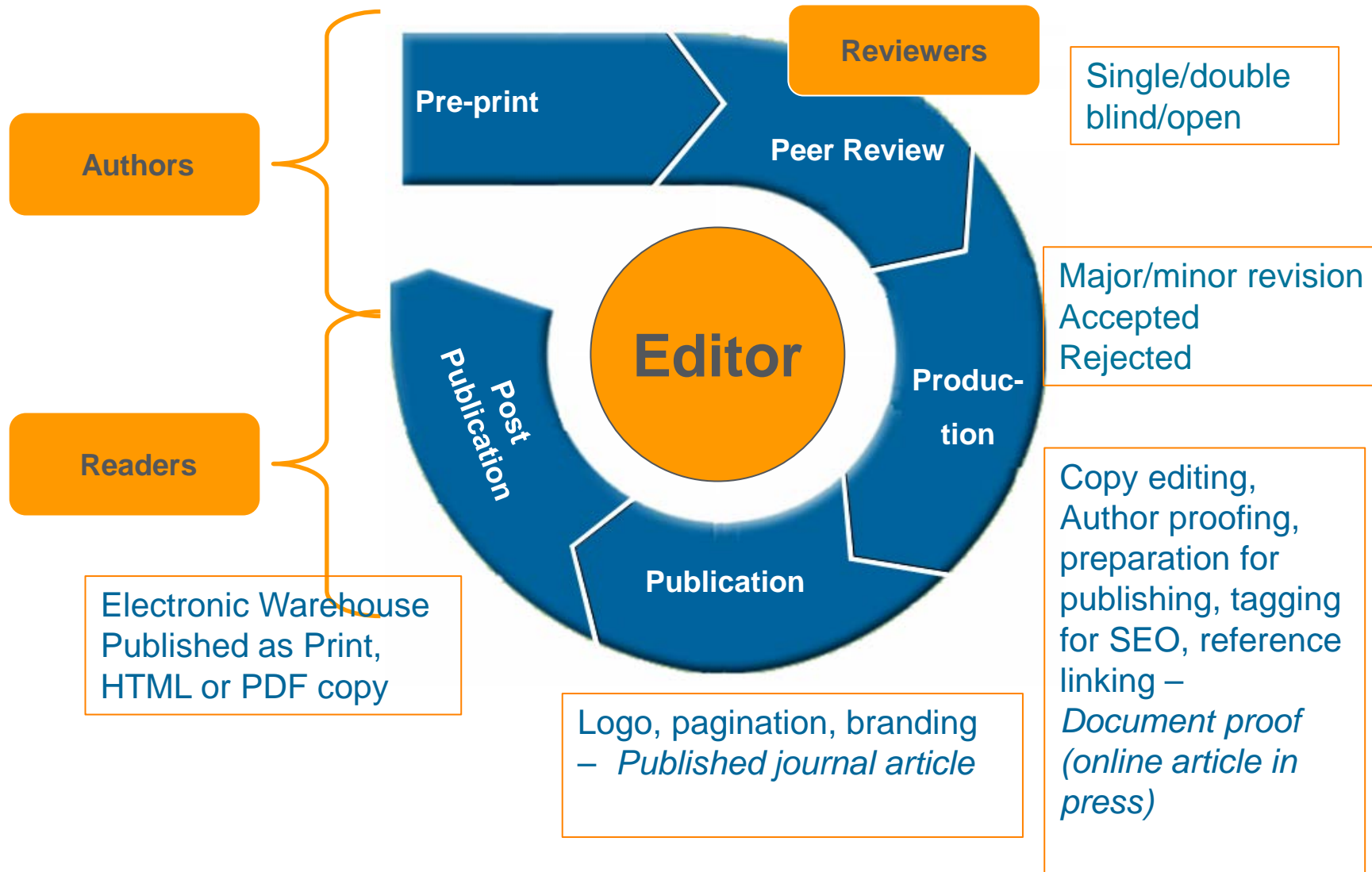
# Academic publishing

## Peer-reviewed journal growth 1990-2013



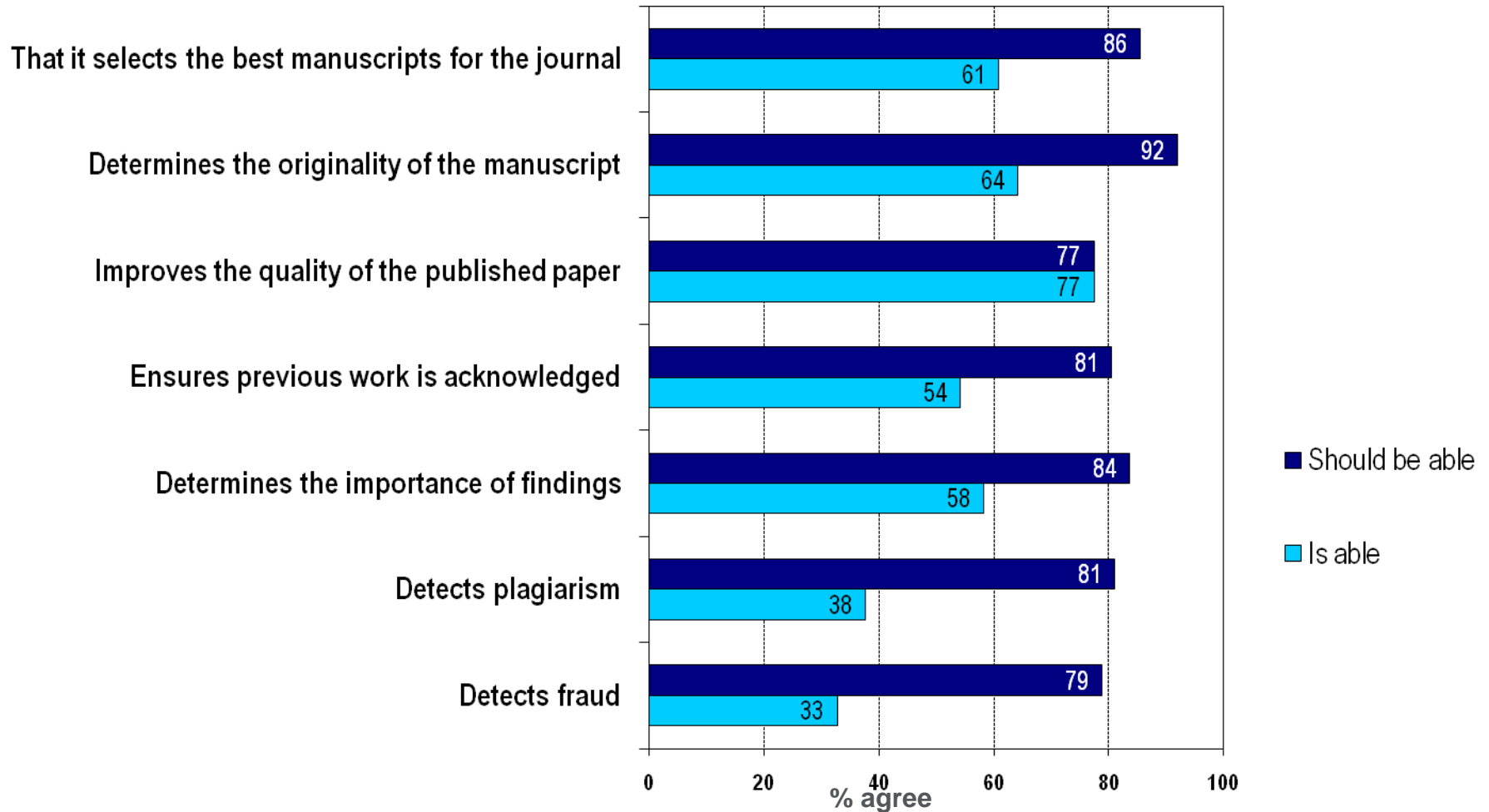
Source: Ulrichsweb Global Serials Directory

# Publishing process



# What is the purpose of peer review?

Source: Survey by "Sense about Science", 2009

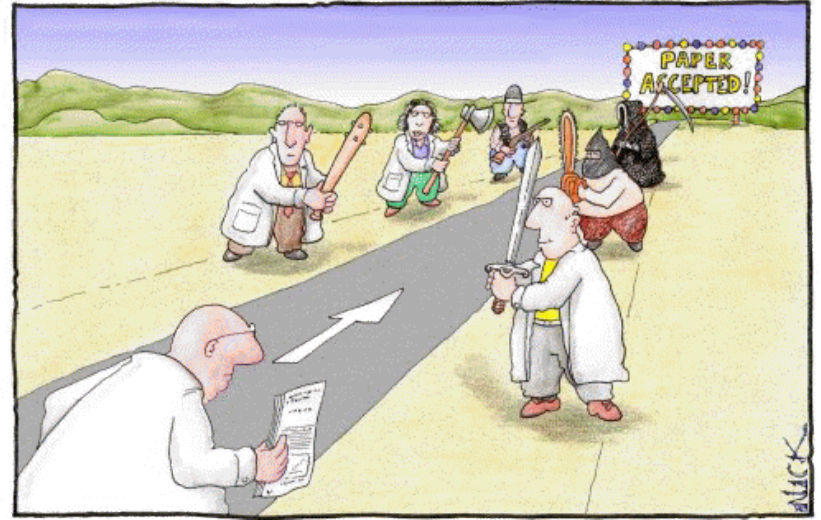


## Why do reviewers review?

- “Give”
  - Academic ‘duty’
  
- “Take”
  - General interest in the area
  - Keep up-to-date with the latest developments
  - Helps with their own research and/or stimulate new ideas
  - Builds association with prestigious journals and editors
  - Aware of new research before their peers
  - Career development

## Take-Home Lesson

Authors sometimes experience peer review as distress they need to get through to publish their work.



However, the best reviewers tend to view themselves as teachers rather than critics.

The goal is to improve the work published – for the sake of the authors, readers and science overall.



## Reviewers...

- Should only accept to review manuscripts
  - in their areas of expertise
  - when they can complete the review on time
- Should always avoid any conflicts of interest
  - If in doubt, consult with the editor
- Are not allowed to plagiarize the data
- Should provide an honest, critical assessment of the research
- Must analyze the strengths and weaknesses of the research, and provide specific suggestions for improvement

If you cannot accept an invitation, it is helpful to the journal Editor if you can recommend a colleague.

You should be neutral to the author(s), not a collaborator, friend, relative....

## Holding the overview

The reviewer also has the unpleasant responsibility of reporting suspicion of

- duplicate publication
- fraud
- plagiarism
- ethics concerns
- etc.

These problems are normally followed up by the Editors and the Publisher.

# EBioMedicine Reviewer guidelines

## REVIEWER INSTRUCTIONS:

*Please use this guide to assist you in formulating your comments on the review form. Initial points to be considered:*

- Does the subject fall within the scope of the journal? Life Sciences publishes articles emphasizing the molecular, cellular, and functional basis of therapy.
- Is this a novel and original contribution? (For review articles: Is this a timely topic summarizing the current state of this area of science?)

The same article will be reviewed differently for different journals (according to scope and other requirements)

- Are keywords appropriate?
- Is the statement of objectives of the article adequate and appropriate in view of the subject matter?
- Is the description of materials and methods sufficiently informative to allow replication of the experiment?
- Are the statistical methods used correct and adequate?
- Are the results clearly presented?
- Is the organisation of the article satisfactory (e.g. no discussion in Results)?
- Does the content justify the length?
- Are the figures and tables all necessary, complete (e.g. titles and legends) and clearly presented?
- Are the references adequate?
- Is the English correct and understandable to a multidisciplinary and multinational readership?

# Journals can have specific reviewer checklist

Rating scale

Top 10% \_\_\_\_\_ Top 25% \_\_\_\_\_ Top 50% \_\_\_\_\_ Lower 50% \_\_\_\_\_

for

Experimental Design, Data Quality, Originality, Overall priority

Manuscript length

OK \_\_\_\_\_ E(xpand) \_\_\_\_\_ S(horten) \_\_\_\_\_

for

Abstract, Introduction, Methods, Results, Discussion, References

Recommendation to editor

- Accept / Minor revision / Major Revision / Reject

## Review process (I)

- At least two reviewers
- When invited, the reviewer receives the *Abstract* of the manuscript.
- The editor generally requests that the article be reviewed within two weeks
  - limited extensions sometimes negotiable
- The reviewers' reports help the Editors to reach a decision on a submitted paper
  - The reviewer is the *reviewer*, the editor the *referee*.

## Review process (II)

- If a report has not been received after 4 weeks, the Editorial office contacts the reviewer
- The final decision concerning a manuscript lies with the Editors
- If there is a notable disagreement between the reports of the reviewers, a third reviewer may be consulted
- The anonymity of the reviewers is strictly maintained
  - unless a reviewer asks to have his/her identify made known to the authors

# Supporting Reviewers

- <http://www.elsevier.com/reviewers/home> - on Elsevier.com
- <http://www.elsevier.com/reviewers-update/home>

The screenshot shows the Elsevier website's 'For Reviewers' section. At the top, the Elsevier logo is on the left, followed by a search bar with the placeholder text 'Type here to search on Elsevier.com'. To the right of the search bar are links for 'Advanced search', 'Follow us:' with social media icons for Facebook, LinkedIn, Twitter, and YouTube, and a 'Help & Contact' link. Below the search bar is a navigation menu with links for 'Journals & books', 'Solutions', 'Authors, editors & reviewers', 'About Elsevier', 'Community', and 'Store'. The main content area is titled 'For Reviewers' and includes a sidebar with links for 'Home', 'Reviewer guidelines', 'Peer review', 'Elsevier Editorial System', and 'Reviewers' Update'. The main content area is titled 'Elsevier for reviewers' and features a large banner for Scopus, which offers '30-day free access for reviewers to the largest abstract and citation database of peer-reviewed research literature'. Below the banner is a navigation menu with links for 'Getting started', 'Why review?', 'Reviewer toolkit', 'Reviewer recognition', and 'Stay connected'. At the bottom, there is a section titled 'How to become a reviewer?' with links for 'Locate the journal you need to review for', 'Forgotten your username and password to review a paper', 'Peer review', 'Elsevier Editorial System', and 'Reviewer Guidelines'.

**ELSEVIER** Type here to search on Elsevier.com Advanced search Follow us: Facebook LinkedIn Twitter YouTube Help & Contact

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**For Reviewers**

Home  
Reviewer guidelines  
Peer review  
Elsevier Editorial System  
Reviewers' Update

**Elsevier for reviewers**


**Scopus**  
30-day free access for reviewers to the largest abstract and citation database of peer-reviewed research literature

Getting started Why review? Reviewer toolkit Reviewer recognition Stay connected

How to become a reviewer?  
Locate the journal you need to review for  
Forgotten your username and password to review a paper  
Peer review  
Elsevier Editorial System  
Reviewer Guidelines

How to become a reviewer?

# Outline

- The peer reviewing process and the reviewer's role
- How to review a manuscript 
- How to respond to reviews to improve your chances of success
- Publication ethics



# How to review a manuscript: Issues to review as Reviewers

Importance and Clarity of Research Hypothesis

Originality of work

Strengths & weaknesses of methodology, approach & interpretation

Writing style and figure/table presentation

Ethics concerns (animal/human)

# Purpose of Peer Review

Check the manuscript for:

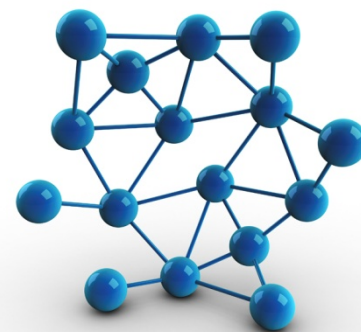
Mistakes in procedures or logic

Conclusions not supported by the results

Errors or omissions in the references

Compliance with ethics standards

Originality and significance of the work



# Quality of the work



Are the methods appropriate and presented in sufficient detail to allow the results to be repeated?



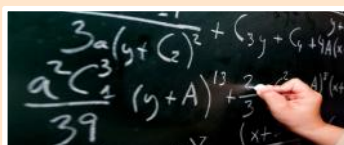
Is the data adequate to support the conclusions?



Do all methods have results?



Have all results been described in the methods?



Are all conclusions based on results?

# Presentation of the paper

Writing	Clear and concise English
Title	Specific and reflecting the content of the manuscript
Abstract	Brief and describing the purpose of the work
Figures	Justified and clear with fonts proportionate to the size of the figure
Tables	Can they be simplified or condensed? Should any be omitted?
Trade Names Abbreviations Symbols	Properly used where indicated

# ***Assessment - General impression and Abstract***

## **General impression**

- Before commenting on parts of the manuscript, add a short summary of the article,
  - indicating a general comprehension of the article, its importance, reviewer's enthusiasm, language/style/grammar
- Avoid remarks personally hitting the authors, or excessive or pointlessly clever and sarcastic remarks
  - Reviewer comments are not meant to hurt the authors
  - If you must "vent", add such remarks to "Comments to Editor"

## **Abstract**

- Is it a real and clear summary of the paper, including key results?
- Not too long?
  - Long abstracts are truncated in Abstracting Services

## Assessment of – *Introduction*

- Comment on effectiveness, clarity and organization
- Comment on motivation for what follows
- Suggest changes in organization
- Point authors to appropriate citations
  - Don't just write “authors have done a poor job in citing relevant research”

## Assessment of – *Methods*

- Can an interested colleague repeat the experiments and get similar outcomes?
- Proper reference to previously published methodology?
- Accurate description of new methodology?
- Proper use of Supplementary material?
- Are vendor names (and addresses) of equipment etc. given?
- Are all chemicals used identified?
- Are proper control experiments presented?

## Assessment of - *Results and Discussion (I)*

- Suggest improvements in the data presented, in presentation, and in style
- Comment on logic, and justification of conclusions and interpretations
- Detail concisely and precisely the changes you recommend
  - remember that author must respond to, and be able to implement or to rebut your comments
- List, separately under one header, suggested changes in style, grammar, and other small changes



## - *Results and Discussion (II)*

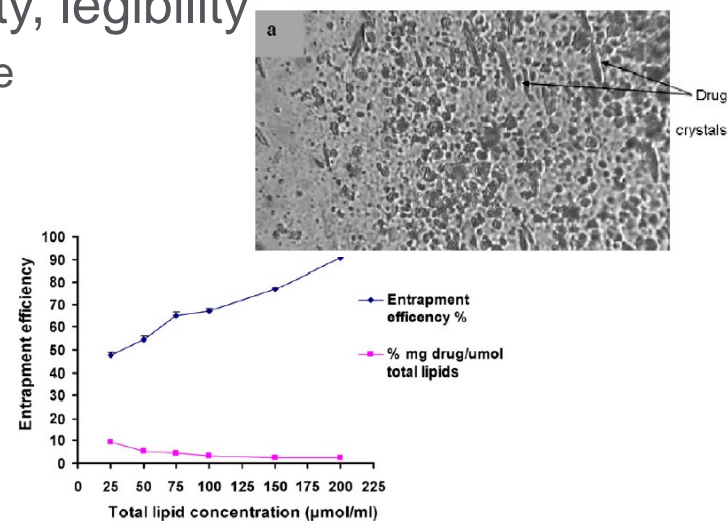
- Comment on number of figures, tables, schemes, their need and their quality
  
- Require or suggest other experiments or analyses
  - make clear the need for such, but defer to the Editor if you are not sure whether new experiments are essential, or would be more appropriate for future studies
  
- Before you propose additional work, first ask yourself whether the current manuscript is worth to be published

## Role of Reviewer - *Conclusions*

- Comment on importance, validity, and generality of conclusions
- Request “toning down” unjustified claims to generality
- Request removal of redundancies and summaries
  - Summary should be in the abstract, not in the conclusions

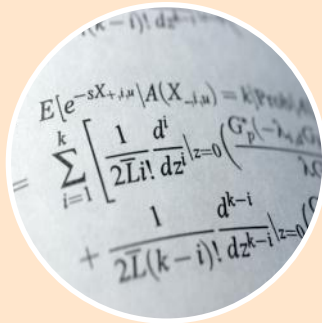
# Role of Reviewer - *References, Tables, Figures*

- Check, if possible, accuracy of citations, and also comment on number and suitability
  - main scientific publications should be included
  - 30-40 references are appropriate for a full text article
  - excessive self-citation should be avoided
- Comment on any footnotes (text or tables) and whether these used should have been included in the body of the text
- Comment on the need for figures, their quality, legibility
  - consider their likely size on the typeset journal page
- Assess legends, headers, and axis labels
  - completeness
- Check for consistency of presentation
  - font, size, etc.
- Comment on need for color in figures



## Editor's view - What makes a good Reviewer?

- Provides review that is thorough and comprehensive
- Provides review on time
- Cites appropriate evidence to support comments made to author
- Provides constructive criticism
- Demonstrates objectivity
- Provides a clear recommendation to the Editor as to the appropriateness and relevance of the research



Comment on novelty and significance



Recommend whether the manuscript is suitable for publication



Confidential comments will not be disclosed to the Author(s)

Comments to the Editors

# Comments to the Authors



Provide specific comments on the design



Comments on the presentation of data, results and discussion



Comments to the author(s) are consistent with your recommendation to the editors

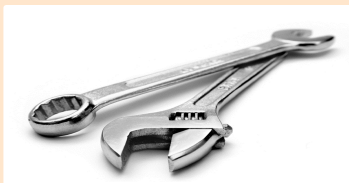
# Privileged Document



Confidential documents where the data is and remains exclusive property of the author(s)



Should not be disclosed to others and kept confidential



After final decision by the editor it must be destroyed



Shared responsibility for the review of the manuscript with a colleague must be disclosed to the editors

## Research Violations?

- Animal research
  - In accordance with the Guiding Principles in the Care and Use of Laboratory Animals?
- Human research
  - In accordance with the Declaration of Helsinki?
  - Was Ethics Committee approval obtained?
- If you have concerns about the welfare of animals or humans, include these in the written comments to the editor

Example of guidelines from the Guide for Authors of *Life Sciences*:

### Policy and ethics

The work described in your article must have been carried out in accordance with *The Code of Ethics of the World Medical Association (Declaration of Helsinki)* for experiments involving humans <http://www.wma.net/en/30publications/10policies/b3/index.html>; *EC Directive 86/609/EEC for animal experiments* [http://ec.europa.eu/environment/chemicals/lab\\_animals/legislation\\_en.htm](http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm); *Uniform Requirements for manuscripts submitted to Biomedical journals* <http://www.icmje.org>. This must be stated at an appropriate point in the article.



# 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
- Informed consents from human subjects involved in the study
  - Authors to obtain and keep confidentially
- 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

# Outline

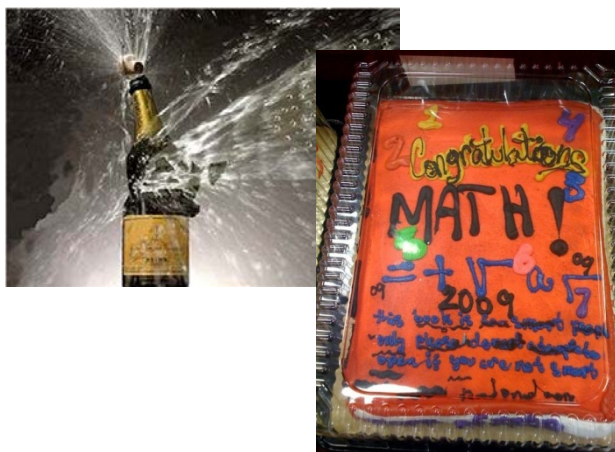
- The peer reviewing process and the reviewer's role
- How to review a manuscript
- How to respond to reviews to improve your chances of success
- Publication ethics



# 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 online and in print

## Rejected

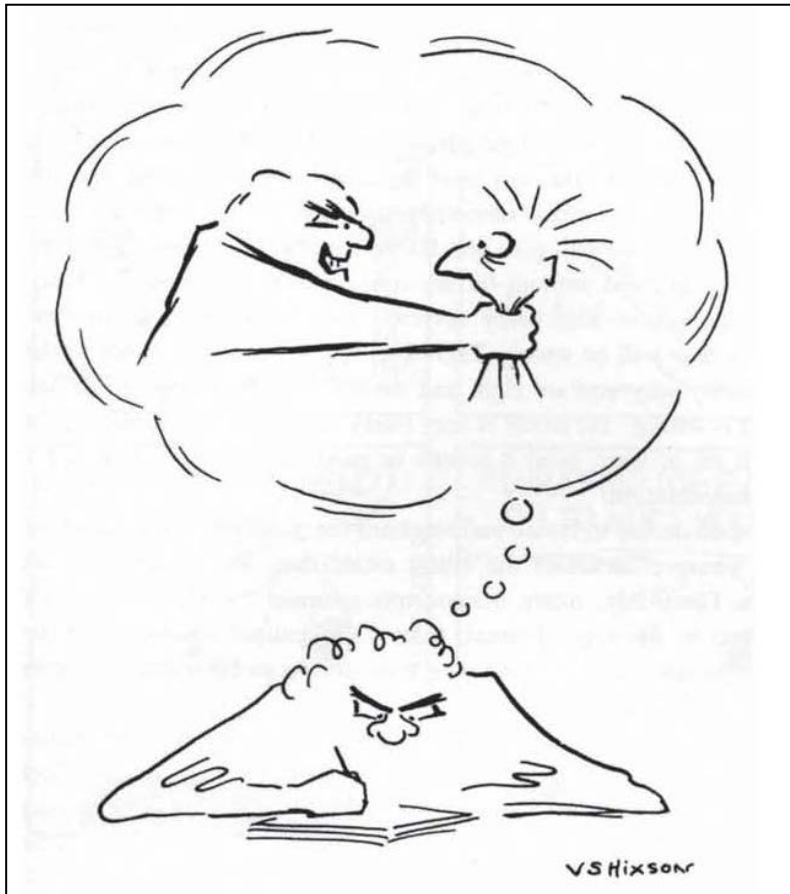
- Probability 40-90% ...
- Do not despair
  - It happens to everybody
- Try to understand WHY
  - Consider reviewers' advice
  - Be self-critical
- If you submit to another journal, begin as if it were a new manuscript
  - Take advantage of the reviewers' comments
  - The same reviewer may again review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

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

- 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!
- Major revision
  - The manuscript may be worth being published
  - Significant deficiencies must be corrected before acceptance
  - Involves (significant) textual modifications and/or additional experiments

# Be Professional

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“Thank you for your detailed and lengthy criticism of my manuscript. I will be sure to incorporate your suggestions in my next draft.”

# Manuscript Revision

- Cherish the chance of discussing your work directly with other scientists in your community.
- Prepare a detailed Response Letter
  - Copy-paste each reviewer comment, and type your response below it
  - State specifically which changes you 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 disfavoured, 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?*

# Authors response to reviewers comments

- Welcome the comments with an open mind
- Always respond in a point-by-point manner, include the original comments and provide answers immediately underneath
- Indicate whether you agree or disagree with the critics, provide reasons and evidence for your answers
- Be professional in your answers, even when you disagree (e.g., we respectfully disagree with the reviewer in this particular point...)
- Be specific, don't just say "we agree, changes have been made"
- Indicate *where* changes made to the manuscript (page no., line no.)
- Indicate *what* changes have been made to the manuscript (within the answer, and in the manuscript using track changes)

# Authors response to reviewers comments

- Incorporate your reasons and evidence in the actual manuscript where appropriate – especially where you disagree with the reviewer comments
- Remember that the majority of reviewers peer-review papers in their spare time voluntarily out of their goodwill – so thank them for their comments on your paper!
- Be thorough and try your best
- If the editor has also include his/her decision along with the reviewers' comments – and the decision is to reject your paper – first examine the comments in detail, and if you think you can address them satisfactorily, it's always worth a try to appeal the editor's decision and request a re-examination of your paper after revision. Most journals uphold one appeal from the authors.



# Rejection: not the end of the world

- Everyone has papers rejected – do not take it personally.
- Try to understand why the paper was rejected.
- Note that you have received the benefit of the editors and reviewers' time; take their advice seriously!
- Re-evaluate your work and decide whether it is appropriate to submit the paper elsewhere.
  
- **If so, begin as if you are going to write a new article.**

# Authorship

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



All others would qualify as “Acknowledged Individuals”

# Outline

- The peer reviewing process and the reviewer's role
- How to review a manuscript
- How to respond to reviews to improve your chances of success
- Publication ethics



## Key principles

- Science must rule
- Transparency & disclosure vs sanctioning
- Journal editors = primary domain experts
- Role of institutions & funders
- Publishers: tools, resources, advice

## Policy development

- Started with **individual journals** policies (The Lancet in particular)
- Engaging with and learning from collective efforts (1990s)
  - ICMJE formulating informal guidelines on article submission (with ethics issues) beginning in 1978, major revisions from 1997 on
  - NIH's Office of Research Integrity formed (as OSI) in 1989, major initiatives in the 1990's (reports, guidelines)
  - COPE formed 1997 (Elsevier early participant)
- Decision to form common "minimum" approaches across all Elsevier journals

## Elsevier “common” approaches starting mid-2000s

- Conflicts of interest (2005)
- Ethical Guidelines (2006)
- Worked with STM trade association on guidelines (“record of science”)
- Launched PERK site 2008 (Publishing Ethics Resource Kit)
- Full membership COPE 2008





Journals &amp; books

Online tools

Authors, editors &amp; reviewers

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## For Editors

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or resources](#)[About PERK](#)[About COPE](#)[How this Publishing  
Ethics Resource Kit  
works](#)[Why this Publishing  
Ethics Resource Kit?](#)[What is Elsevier's  
position on publishing  
ethics?](#)[Questions and  
answers](#)

## What is Elsevier's position on publishing ethics?

The publication of an article in a peer-reviewed journal is an essential building block in the development of a coherent and respected network of knowledge. It is a direct reflection of the quality of the work of the authors and the institutions that support them. Peer-reviewed articles support and embody the scientific method. It is therefore important to agree upon standards of expected ethical behavior for all parties involved in the act of publishing: the author, the journal editor, the peer reviewer, the publisher and the society of society-owned or sponsored journals. Elsevier, as the world's leading journal publisher, takes its duties of guardianship over the scholarly record extremely seriously. Our journals record "the minutes of science" and we recognise our responsibilities as the keeper of those "minutes" in all our policies and ethical guidelines. Elsevier plays a leading role in establishing standards and policies that improve scientific communications, promote business ethics, and encourage continued, sustainable growth in the field of scholarly publishing.

## Publishing Ethics Resource Kit

Over the past few years, Elsevier editors have noticed a significant increase in the number of cases of plagiarism that they have had to deal with. Examples of publishing ethics issues that editors face include an author copying a substantial part of another's work without acknowledgment or passing another's work off as her or his own; fraudulent research; and authorship disputes. Elsevier believes that monitoring publishing ethics is a major aspect of the editorial and peer-review process, and as such lies within the area of responsibility of the editor-in-chief, or scientific editor, of each journal. As part of our commitment to the protection and enhancement of peer review, our publishing team offers editors assistance and guidance in these matters. The Publishing Ethics Resource Kit was developed in response to requests from editors for helpful tools to manage these challenging situations. It provides flowcharts to guide editors through processes required to deal with different forms of publishing ethics abuse, template letters to adapt and use for various situations, Q & A information and much more.

## Other initiatives

Besides providing this online resource, Elsevier is also active in other publishing ethics initiatives, internally and externally. Elsevier has signed up to the [Committee on Publication Ethics](#) (COPE), a charitable organization that provides a forum for scientific journal editors and publishers to discuss issues relating to the integrity of the work submitted to or published in their journals. Enlisting journals in COPE ensures our editors have an independent source to refer to when dealing with publishing ethics issues. For more information on our membership with COPE, click [here](#).

In addition, in partnership with the [CrossRef Association](#), Elsevier is involved in a plagiarism software project called [CrossCheck](#). Other examples are tools for Editors in EES (our online submission tool), such as 'Scopus author search' and 'Scirus title search'. These link to other articles by the same authors including citation history and to related published articles respectively. See [Related Elsevier policies, documents and initiatives](#) for more information.

## Elsevier Publishing Ethics policy (duties)

- Editors: fair play, vigilance & engagement
- Reviewers: disclosure (COI), confidentiality, promptness
- Authors: compliance or disclosure:
  - originality, multiple publication, authorship, disclosure (COI), research standards
- Elsevier: help determine & communicate policies, support editors, help formulate industry approaches
  - [http://www.stm-assoc.org/2008\\_03\\_01\\_Preservation\\_of\\_the\\_Objective\\_Record\\_of\\_Science.doc](http://www.stm-assoc.org/2008_03_01_Preservation_of_the_Objective_Record_of_Science.doc)



## Elsevier Publishing Ethics policy (key topics)

- Disclosure & Conflicts of Interest:
  - Any financial or other substantive Col that might be “construed to influence the results or interpretation”
  - All sources of financial support disclosed
- Research standards:
  - Reporting standards: papers should present accurate account & objective discussion (& acknowledge all sources)
  - Data retention: data should be retained for possible peer-review
  - Research subjects: compliance with relevant laws, standards (informed consent)

# Reporting standards

- Recommended minimum set of items for reporting data
- Each standard is developed and maintained by an expert group
- To achieve complete and transparent reporting, and critical appraisal and interpretation of reported data
- Endorsed/upheld by journals

# Reporting standards

Study type	Reporting standard	
Clinical trials	<u>CONSORT</u>	CONsolidated Standards Of Reporting Trials
Animal preclinical studies	<u>ARRIVE</u>	Animal Research: Reporting of In Vivo Experiments
Observational cohort and case-control studies	<u>STROBE</u>	STrengthening the Reporting of OBservational studies in Epidemiology
Systematic reviews and meta-analyses	<u>PRISMA</u>	Preferred Reporting Items for Systematic reviews and Meta-Analyses
Genetic association studies	<u>STREGA</u>	Strengthening The REporting of Genetic Associations
Genetic risk prediction studies	<u>GRIPS</u>	Genetic Risk Prediction Studies
Diagnostic tests	<u>STARD</u>	STAndards for the Reporting of Diagnostic accuracy studies
Microarrays	<u>MIAME</u>	Minimum Information About a Microarray Experiment

## Elsevier Publishing Ethics policy (author issues)

- Originality: work is original to author, and third party content appropriately quoted/cited
  - Notes that “plagiarism” takes many forms, from passing off others’ research as one’s own, copying or paraphrasing (without attribution)
- Multiple/redundant/concurrent publication:
  - improper to publish or seek to publish papers describing essentially same research in more than one journal (or republish article previously published– “self-plagiarism”)
- Authorship = significant contribution to concept, design, execution & interpretation (others should be acknowledged)

# 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 Authors: leaving out authors who should be included
  - Gift Authors: including authors who did not contribute significantly

## COPE membership

- Some Elsevier journals long-time participants (The Lancet)
- Several “cases” per year referred to COPE



The screenshot shows the homepage of the Committee on Publication Ethics (COPE). The header is dark grey with the COPE logo (|C|O|P|E|) and the text "COMMITTEE ON PUBLICATION ETHICS" on the left. A "Sign in" button is in the top right. A search bar is located below the header. A navigation menu includes: Home, About COPE, Resources, Cases, Become a member, Members, Events, News & Opinion, and Contact Us. The main content area features a decorative graphic of vertical bars in teal, purple, black, and gold on the left. The central text reads "Promoting integrity in research publication" followed by a paragraph: "COPE is a forum for editors and publishers of peer reviewed journals to discuss all aspects of publication ethics. It also advises editors on how to handle cases of research and publication misconduct. [Read more about COPE...](#)". On the right, there is a green arrow-shaped button with the text "Join here" and "What are the benefits of COPE membership?" below it.

## CrossCheck initiative

- Huge database: 35m articles, 87k journals, 425 publishers
- iThenticate software shows similarities
- But similarities  $\neq$  plagiarism
- Documents checked 2012: 630k
  - 46% increase over 2011
- Now done automatically (nearly 1m submissions annually)

The screenshot displays the iThenticate software interface. At the top right, a yellow box highlights the 'Similarity Index' at 32%. The main window shows a document titled '320\_exclude small similarities' with a similarity score of 32% as of Feb 16, 2010. The interface includes a 'Mode' dropdown set to 'Similarity Report', a 'Jump to' field, and a list of matches. The matches list includes:

Match ID	Similarity	Source
1	1,059 words / 9%	Internet from Apr 19, 2009 (meaweb.org)
2	584 words / 5%	CrossCheck
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6	122 words / 1%	Internet (www.amf.org.ae)

The interface also shows a list of matches on the left side, with some matches highlighted in red boxes. The matches include:

- Arabia, Tunisia, and Turkey.
- monetary policies to stock market price movements are far from homogeneous across countries.
- paper attempts to put forward some explanations. Key Words: Monetary policy, Stock markets, MENA countries, SVAR methodology.
- interest in understanding the interaction between asset markets and monetary policy.

## 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 ...





## 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)

# Figure manipulation

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



Must be disclosed in the figure legend

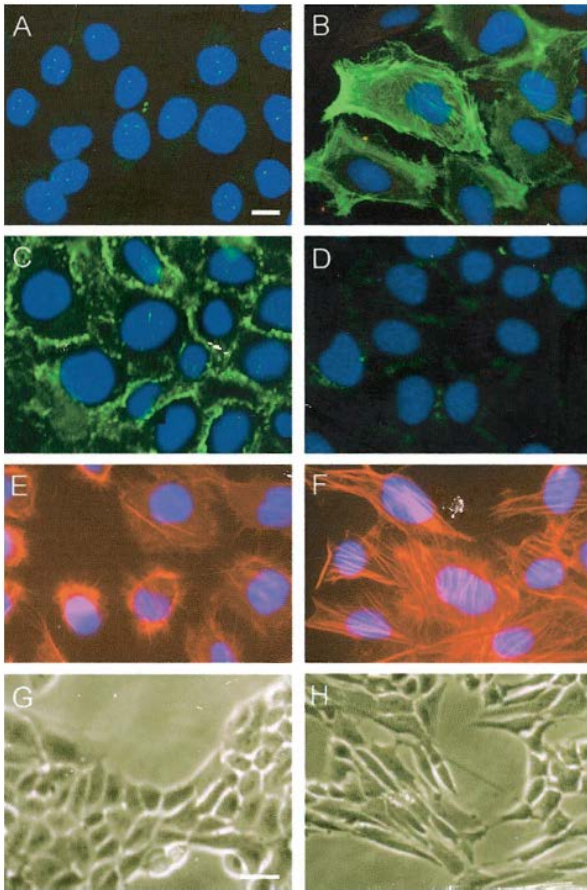


# Figure Manipulation

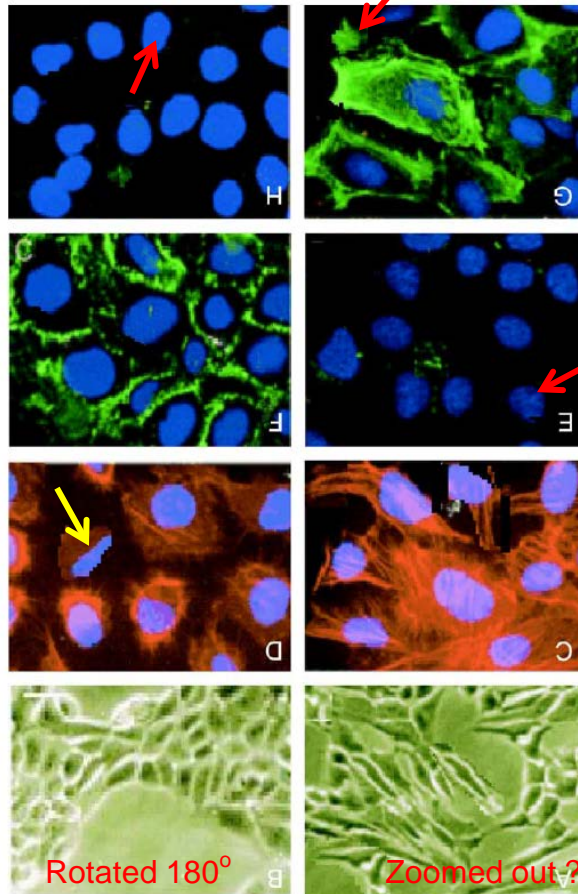
Example - Different authors and reported experiments



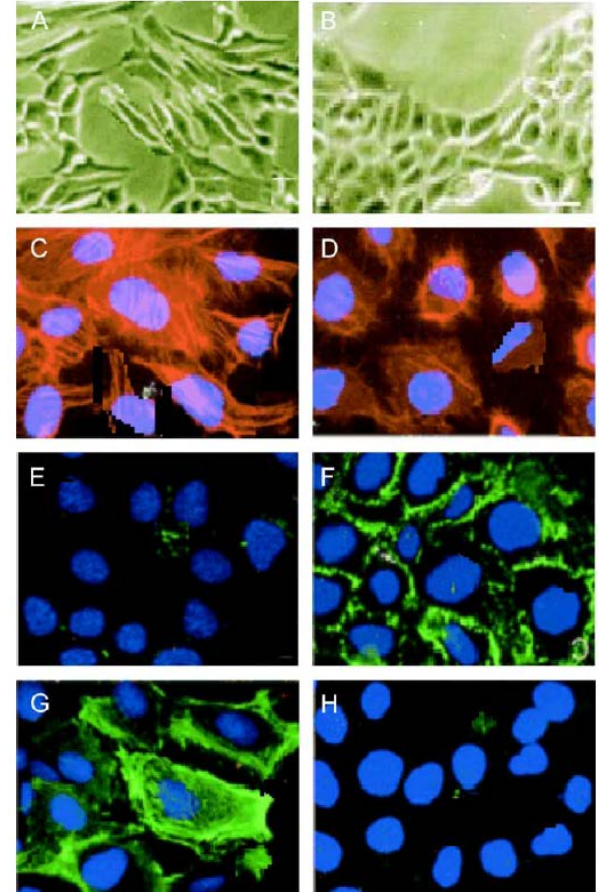
Am J Pathol, 2001



Life Sci, 2004  
Rotated 180°



Life Sci, 2004



doi:10.1016/j.sigpro.2005.07.019 Cite or Link Using DOI  
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**RETRACTED: Matching pursuit-based approach for ultrasonic flaw**



Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher. Please see <http://www.elsevier.com/locate/withdrawalpolicy>.

Reason: This article is virtually identical to the previously published article: "New matching pursuit-based algorithm for SNR improvement in ultrasonic NDT", *Independent Nondestructive Testing and Evaluation International*, volume 38 (2005) 453 – 458 authored by N. Ruiz-Reyes, P. Vera-Candeas, J. Curpián-A Mata-Campos and J.C. Cuevas-Martínez.

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 (SNR<sub>in</sub>) is lower than 0dB (the level of echoes matching the structures 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

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  $l^1$  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 adaptive local 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

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

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

The weight  $\alpha_i^n$  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  $r^m[n]$ :

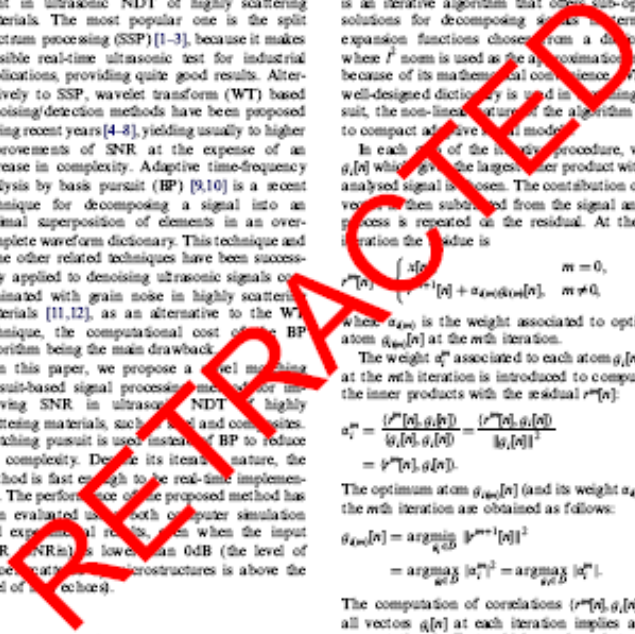
$$\alpha_i^m = \frac{\langle r^m[n], g_i[n] \rangle}{\langle g_i[n], g_i[n] \rangle} = \frac{\langle r^m[n], g_i[n] \rangle}{\|g_i[n]\|^2} = \langle r^m[n], g_i[n] \rangle. \quad (2)$$

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

$$g_{i(m)}[n] = \underset{g_i[n]}{\operatorname{argmin}} \langle r^{m-1}[n] \rangle^2 = \underset{g_i[n]}{\operatorname{argmax}} |\alpha_i^m| = \underset{g_i[n]}{\operatorname{argmax}} |\langle r^{m-1}[n], g_i[n] \rangle|. \quad (3)$$

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:

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



The article of which the authors committed plagiarism: it won't be removed from ScienceDirect. Everybody who downloads it will see the reason of retraction...



# Article in Nature

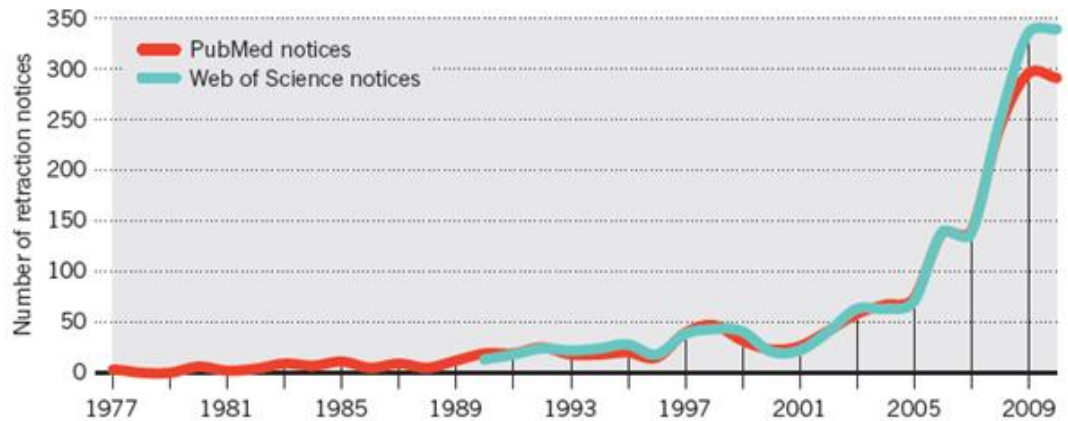
Instead, it is more probable that the growth in retractions has come from an increased awareness of research misconduct, says Steneck. That's thanks in part to the setting up of regulatory bodies such as the US Office of Research Integrity in the Department of Health and Human Services. These ensure greater accountability for the research institutions, which, along with researchers, are responsible for detecting mistakes.

The growth also owes a lot to the emergence of software for easily detecting plagiarism and image manipulation, combined with the greater number of readers that the Internet brings to research papers. In the future, wider use of such software could cause the rate of retraction notices to dip as fast as it spiked, simply because more of the problematic papers will be screened out before they reach publication. On the other hand, editors' newfound comfort with talking about retraction may lead to notices coming at an even greater rate.

"Norms are changing all the time," says Steven Shafer, editor-in-chief of the journal *Anesthesia & Analgesia*, who has participated

## RISE OF THE RETRACTIONS

In the past decade, the number of retraction notices has shot up 10-fold (top), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (middle). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (bottom).

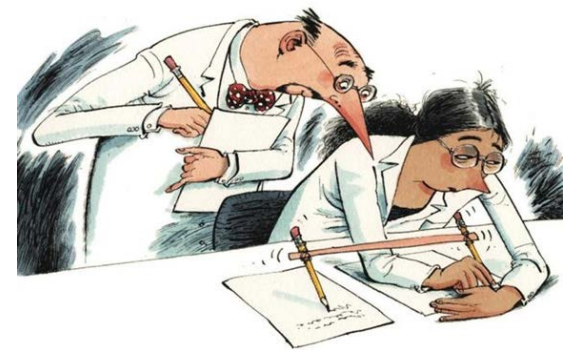


## Lessons learned

- No simple solutions:
  - Editors: not always sure this is their job
  - Publishing staff: often feel out of depth
  - Institutions are not always responsive or responsible
- Collective & community approaches
- Communicate & communicate

## Publish *and* Perish – if you break ethical rules

- Ethics problems with scientific articles are on the rise *globally*.
- 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.



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

# Publication Ethics – how it can end

“I deeply regret the inconvenience and agony caused to you by my mistake and request and beg for your pardon for the same. As such I am facing lot many difficulties in my personal life and request you not to initiate any further action against me.

I would like to request you that all the correspondence regarding my publications may please be sent to me directly so that I can reply them immediately. To avoid any further controversies, I have decided not to publish any of my work in future.”

A “pharma” author  
December 2, 2008

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24 February 2011 Last updated at 11:38 GMT f t g+ e

## 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.**

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.



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

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