

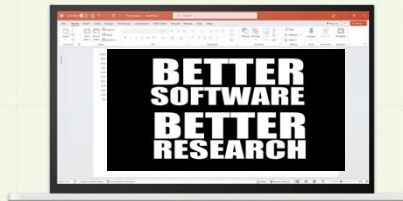
Writing Scientific publications
The scientific review process
Managing expectation

“Publish or Perish” Pros. & Cons.

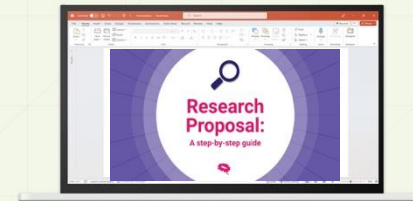
A series of three presentations



SCIENTIFIC PUBLICATIONS
LIFECYCLE



RESEARCH PROPOSAL
LIFECYCLE



RESEARCH SOFTWARE
LIFECYCLE

LIFECYCLE OF A SCIENTIFIC CAREER

About the speaker



Editor

Co-authored

- 2002-2023 ~90 scientific papers (journals, conferences, workshops, Posters)

Severed as member of many program committees/editorial boards

- 2006-2009 Guest editor for Special Issues International journals
- 2009-2016 Assistant to the EiC, Future Generation Computer Systems Journal, Elsevier
- 2015/16/19 Program Chair International conferences
- 2002-2023 Program Committee of many conferences and workshops



Author

Reviewed projects for many EU funding agencies

- 2023 Swiss National Science Foundation
- 2016-2023 EU commission: FP7, Horizon 2020, Horizon Europe
- 2012 French funding agency ANR,



Reviewer

Motivation to prepare these presentations



Closing statement of the presentation of Richard Hamming 1995 *“you and your research”*

“ ... this lecture is all about, revivalist preacher preaching. Well, now I've told you things, how to succeed. No one ever told me the things I've been telling you. Nobody. I had to find it for myself. I've told you how to succeed. You have no excuse for not doing better than I did. Thank you.”

Among other things Hamming is known In [information theory](#) for “the **Hamming distance** between two [strings](#) of equal length is the number of positions at which the corresponding [symbols](#) are different. “

who can benefit from this presentation



STUDENTS STRUGGLING
WITH GETTING THEIR FIRST
PUBLICATIONS



JUNIOR RESEARCHERS
AIMING TO SCORE A
PUBLICATIONS AT HIGH
IMPACT VENUES



RESEARCHERS WHO WANT TO
UNDERSTAND THE REVIEW
PROCESS
JOIN EDITORIAL BOARD

Motivations to write or Read **scientific papers**



Authors

- Necessary condition to get PhD
- Advance their scientific carrier
- Have an impact on Science (H index)
- Share scientific knowledge



Readers.

- Acquire scientific knowledge
- Do no re-invent the wheel (extend, Contribute, ...)
- Position their research

Type scientific papers



RESEARCH PAPERS
OR JOURNAL
ARTICLES



REVIEW ARTICLES



CONFERENCE
/WORKSHOP
/POSTER PAPERS



THESES AND
DISSERTATIONS



BOOKS



TECHNICAL
REPORTS



WHITE PAPERS



PATENTS

Constraints and limits when write **scientific papers**

Length Constraints
Number of pages /
words

Ethical
Considerations

Language
barrier

**Review
process**

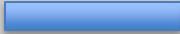















Biases
author reputation,
affiliation, ...

Publication
costs



The Scientific review process (Peer review process)



steps	Authors / editorial board
1. Conducting Research  	Author
2. Manuscript Preparation 	Author
3. Selecting a Journal /conference / 	
4. Submission 	
5. Editorial Review  	Editor
6. Peer Review  	Reviewers
7. Paper Revisions / <u>rebuttal</u> / and Resubmission 	Author
8. Editorial Review  	Editor
9. Peer Review  	Reviewers
10. Acceptance / Reject 	Editor
11. Proofreading and Author Approval 	Editorial office / Authors
12. publication	Editorial office

Fallacies about scientific publication process



- Only technical content matters

Editor

- Editors read the entire paper

Reviewers

- open-minded scientists (not biased by their own opinions.)
- “Experts” in the domain
- Able/willing to understand implicit messages
- Not bias by authors reputation and affiliation
- **Get compensation for their work and time**
- Default behaviour to accept papers

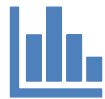


Note:

- Editors get credit for their work
- Reviewing is a service for the communittee 😞

The Scientific review process

1. Conducting Research



Empirical research

Data-driven
Observation
Measurement



Theoretical research

Concept-driven
conceptualization
and Deduction
Exploratory and
Conceptual



Note:

- Out of Scope of this presentation

The Scientific review process

2. Manuscript Preparation



Authors

Common mistakes

Missing

- Problem statement
- context

Ambiguous statements

- leaving room for multiple interpretations, implicit messages ..

Mixing content

- Related work with Background information
- Title of sections do not really match the content

imbalance between

- Design vs implementation
- why vs How



- **Danger: Good research work** can be rejected because of these simple and obvious mistakes
- The presentation counts as much as the content !!!

The Scientific review process

2. Manuscript Preparation



Simple rules

Clarity

- Use active form
- Be explicit use the correct signalling words

Highlight the contribution

- Use the related work to show the added value.

Presenting the result

- Baseline
- Identify the proper metrics

Discussion and Conclusion



- A Clear and easy to read paper with a small contribution has **more chance** to be accepted than
- a paper with **significant contribution** but difficult to read and not-well structured.

The Scientific review process

3. Selecting the venue



Authors



impact factor

Citation

Indexed

IEEE-explorer

ACM-

dblp

Scopus

web of science

google scholar



Scope of the Journal and the venue



Classification(s)

Journal Class A/B/C

Conferences Class (many ranking exist)



Suggestions:

- Be realistic in your choice
- look at papers published in the target journal/conference

The Scientific review process

4. submission

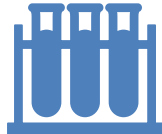


Most venues have
submission systems

Easychair

Conference Management Toolkit

...



Submission

paper following journal
conference pre-defined
template

Reproducibility of science* :
data and code



Important

submission systems include
plagiarism check



Suggestions:

- Monitor the progress of the review: under-Review/completed
- If the status does not change after a few months contact the editor

The Scientific review process

6. peer/expert Review



TODOs Editors

- **May** reject the paper
 - reason: out of scope
- Select the reviewers
- Read the rebuttal of revised papers
- Editors make decision based on:
 - Title
 - Abstract
 - Structure
 - The rebuttal for (revised) papers



suggestion:

- **Follow the status of the paper via the submission portal. If the paper does not move to the state “under Review” in a reasonable time contact the editor**

The Scientific review process

5. Editorial Review



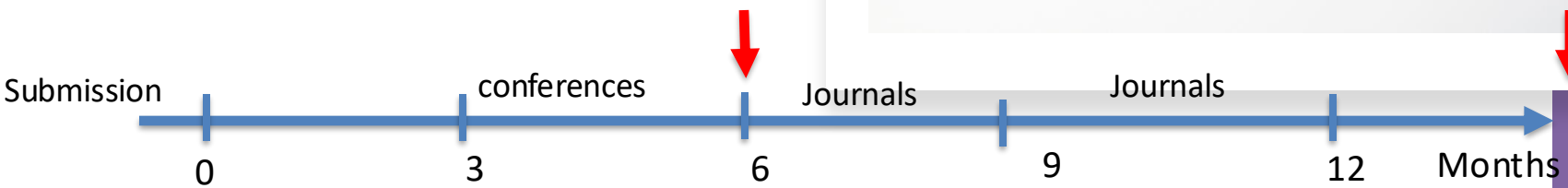
TODOs Reviewers

- Read the **entire paper**
- Give recommendation to editor
Accept/minor revision/ Major Revision/ Reject
Accept (strong/weak) / Reject (weak/strong)
- Read the **entire paper revisions**
- Read Rebuttals



Suggestions:

- Never give up quickly resubmit in case of rejection or major revision
- Write rebuttal that answers all the questions raised in the review



The Scientific review process

10. Acceptance/rejection



TODOs Editors

- Editor send the acceptance/rejection letter to the authors
- Send paper to the editorial office



Suggestions:

- Never give up quickly resubmit in case of rejection
- Take seriously the comments of the reviewers before resubmit in another venue.

The Scientific review process

10. Proofreading and Author Approval



Scientific Editors

read the paper and suggest improvement from Language point of view



Authors

Authors proofread the suggestions

- Accept them
- reject them if they change the meaning of the sentence



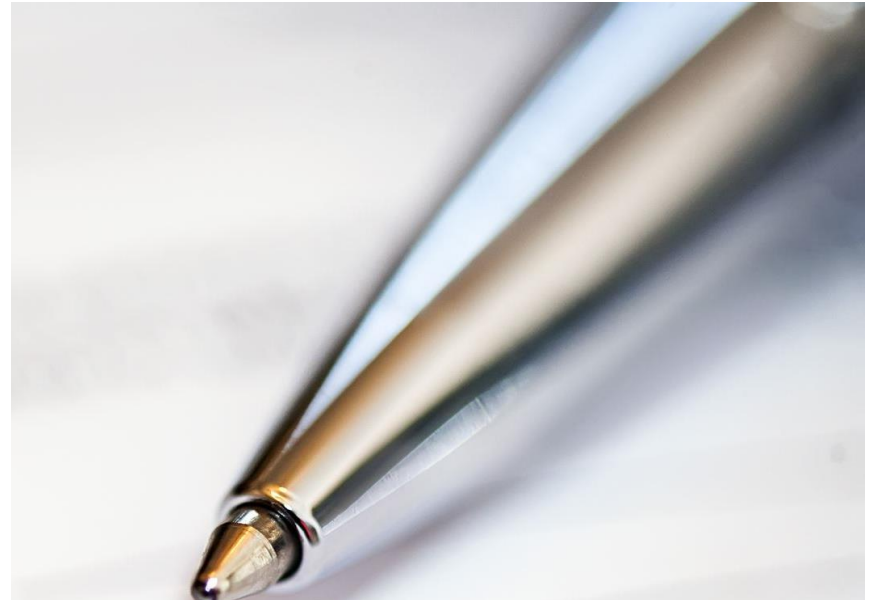
Suggestions:
Use this opportunity to improve your scientific writing skill. Look carefully at the corrections of the editor

The Scientific review process

(Peer review process)

Does Peer review process **guarantee** the **quality of the publications**?

- In principle **Yes**,
- but **not always** ...



Authors	Editors/Reviews
Selective Reporting	Conservative attitude
Bias in Authorship	Bias in the review (lack of knowledge)
Lack of Reproducibility	lack of time and Professionalism
Conflict of interests	

- The reviews are the first readers of the papers and could be last if the authors **do not convince them**

Misconduct incidents in Scientific publications



The screenshot shows the top navigation bar of The Guardian website with categories like News, Opinion, Sport, Culture, and Lifestyle. Below the navigation, there's a featured article titled "The Lancet has made one of the biggest retractions in modern history. How could this happen?" by James Heathers. A yellow banner above the article indicates it is "more than 3 years old". To the right of the article is an advertisement for Google with buttons for "Ad options", "Send feedback", and "Why this ad?".



The screenshot shows the Wikipedia search bar with the text "Search Wikipedia" and a "Search" button. The Wikipedia logo and "The Free Encyclopedia" text are visible on the left.

List of scientific misconduct incidents

Article Talk Read Edit View history Tools

From Wikipedia, the free encyclopedia

Scientific misconduct is the violation of the standard codes of [scholarly conduct](#) and [ethical behavior](#) in the publication of professional [scientific research](#). A *Lancet* review on *Handling of Scientific Misconduct in Scandinavian countries* gave examples of policy definitions. In Denmark, scientific misconduct is defined as "intention[a] negligence leading to fabrication of the scientific message or a false credit or emphasis given to a scientist", and in Sweden as "intention[a] distortion of the research process by fabrication of data, text, hypothesis, or methods from another researcher's manuscript form or publication; or distortion of the research process in other ways."^{[1][2]}

A 2009 [systematic review](#) and [meta-analysis](#) of survey data found that about 2% of scientists admitted to falsifying, fabricating, or modifying data at least once.^[3]

Incidents should only be included in this list if the individuals or entities involved have their own Wikipedia articles, or in the absence of an article, where the misconduct incident is covered in multiple reliable sources.

This is a [dynamic list](#) and may never be able to satisfy particular standards for completeness. You can help by [adding missing items](#) with [reliable sources](#).

Biology and biomedical sciences [edit]

- [Bharat Aggarwal](#) (US), a former Ransom Horne, Jr. Distinguished Professor of Cancer Research at the [University of Texas MD Anderson Cancer Center](#),^[4] resigned his position after fraud was discovered in 65 papers published by him in the area of [curcumin](#) as a treatment for cancer.^[5] As of 2022 Aggarwal has had 30 of his research papers retracted, with 10 others having received an expression of concern and 17 others having been corrected.^{[6][7]}
- [Anna Ahimastos](#) (Australia) resigned from her position at Melbourne's [Baker IDI Heart & Diabetes Institute](#) in 2015 after admitting to fabricating data in a trial of the blood pressure drug [ramipril](#) that analyzed if ramipril could reduce pain in people with [peripheral artery disease](#).^{[8][9][10]}
- [Elias Alsabti](#) (Iraq, US), was a medical practitioner who posed as a biomedical researcher. He plagiarized as many as 60 papers in the field of cancer research, many with non-existent co-authors.^{[11][12][13]}
- [Werner Bezwoda](#) (South Africa), formerly of the [University of Witwatersrand](#), admitted to scientific misconduct in trials on [high-dose chemotherapy](#) on [breast cancer](#), stating that he had "committed a serious breach of scientific honesty and integrity."^{[14][15][16]}



Suggestions:

Avoid to be on the wall of a shame or on a blacklist of conferences, it will hurt your career.

Don't apply "Publish or Perish" at all costs

Further reading:



1. Scientific Writing Made Easy: A Step- by- Step Guide to Undergraduate Writing in the Biological Sciences <https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/bes2.1258>
2. GUIDE TO SCIENCE WRITING: RESEARCH MANUSCRIPTS AND REVIEW ARTICLES
http://www.soest.hawaii.edu/GG/FACULTY/ITO/GG610/Guide_to_Science_Writing.pdf
3. Analyzing the Past to prepare the future: writing a Literatures review
https://web.njit.edu/~egan/Writing_A_Literature_Review.pdf
4. The Elements of Style by William Strunk Jr. <https://daoyuan14.github.io/elos.pdf>
5. Writing your dissertation in fifteen minutes a day by Joan Bolker
<http://courses.washington.edu/rdesign/Bolker%201998.pdf>
6. Writing Science: How to Write Papers That Get Cited and Proposals That Get Funded by Joshua Schime
https://www.kaznu.kz/content/files/news/folder23099/SchimeU_WritingScience_2011.pdf
7. Hamming, "You and Your Research" (June 6, 1995)
<https://www.cs.virginia.edu/~robins/YouAndYourResearch.pdf>
(<https://www.youtube.com/watch?v=a1zDuOPkMSw>)

Further reading:

Suggestions from Khaled Bounar
Senior Principal Engineer, PhD



“publish or Perish: Escaping the hamster wheel of academic research pursuits”

By John Howard

Dr John Howard is an economist, a science, research and innovation policy adviser, and a Visiting Professor at the University of Technology Sydney. He is also a Campus Visitor at the Taxation and Transfer Policy Institute, Crawford School, ANU

<https://johnmenadue.com/publish-or-perish-escaping-the-hamster-wheel-of-academic-research-pursuits/>

Core Principles of the IEEE Code of Ethics

- To uphold the highest standards of integrity, responsible behavior, and ethical conduct in professional activities.
- To treat all persons fairly and with respect, to not engage in harassment or discrimination, and to avoid injuring others.
- To strive to ensure this code is upheld by colleagues and co-workers.

<https://www.ieee.org/about/corporate/governance/index.html>

Topics for the Panel discussions

A proposal

- Ethics in scientific writing
- Writing scientific paper for non-native English speakers.
- Impact of AI (language processing model) on Scientific writing
- How to measure the impact of Scientific publications.
- Is the classical scientific review process still valid today are there alternatives.



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