FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

1st J-STAGE Seminar
28 July 2021

Dr Trevor Lane, COPE Council
Education Consultant, AsiaEdit

publicationethics.org

PROMOTING INTEGRITY IN SCHOLARLY RESEARCH AND ITS PUBLICATION

FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

Agenda

- Introduction to peer review & COPE (Committee on Publication Ethics)
- Aims & models of peer review
- Ethics of peer review

PROMOTING INTEGRITY IN SCHOLARLY RESEARCH AND ITS PUBLICATION

FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

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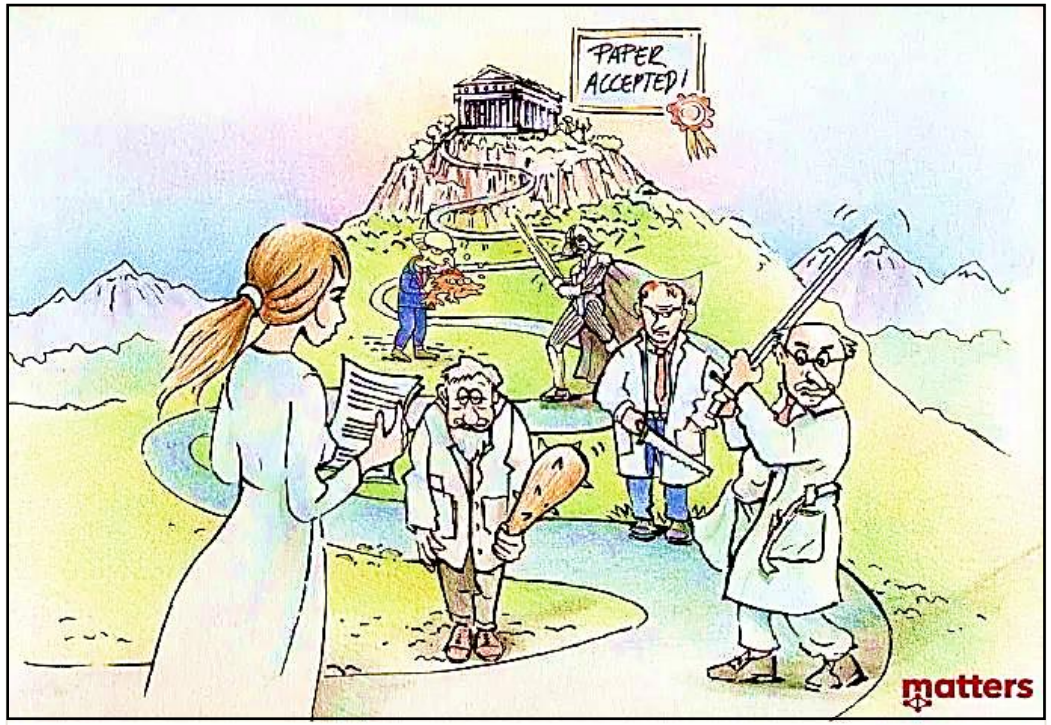
- **Introduction to peer review & COPE**
- Aims & models of peer review
- Ethics of peer review

PEER REVIEW



Most scientists regard the new streamlined peer review process as "quite an improvement"

Peer review

- Helps Editor select content
- Helps author/journal improve content

CC BY; Lawrence Rajendran https://zenodo.org/record/997470

PEER REVIEW

> A process where peer experts in a particular field of knowledge creation—from scientific research to creative arts production—are invited and accept to review, and provide learned and **critical evaluation of the scholarly merit** of the researchers' or creators' intellectual product.

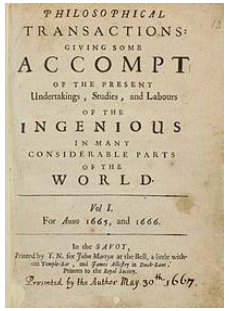
Deborah Poff, Past Chair, Committee on Publication Ethics, China COPE Seminar 2017, Beijing, China; 26 March 2017

> Peer review is the critical assessment of manuscripts submitted to journals by experts who are usually not part of the editorial staff. Because **unbiased, independent, critical assessment** is an intrinsic part of all scholarly work, including scientific research, peer review is an important extension of the scientific process.

http://www.icmje.org/recommendations/browse/roles-and-responsibilities/responsibilities-in-the-submission-and-peer-peview-process.html#two

PROMOTING INTEGRITY IN SCHOLARLY RESEARCH AND ITS PUBLICATION

PEER REVIEW LANDMARKS


PHILOSOPHICAL TRANSACTIONS: GIVING SOME ACCOMPT OF THE PRESENT Undertakings, Studies, and Labours OF THE INGENIOUS IN MANY CONSIDERABLE PARTS OF THE WORLD. Vol. I. For Anno 1665, and 1666.

First science journal: *Philosophical Transactions,* Royal Society, **1665**

First peer-reviewed journal: *Medical Essays and Observations*, Royal Society of Edinburgh, **1731**

Starts using external peer review ("refereeing"), **1832**

1950s-60s: *Science & Journal of the American Medical Association* start using peer review

1959

Photocopying

1970s: *Nature & Lancet* start using peer review

1999: *BMJ* switches to open-identity peer review; *BMC* journals start to publish signed peer reviews

2013: Post-publication open-platform peer review at *F1000*

2021: *eLife* peer reviews only preprints

CC BY https://en.wikipedia.org/wiki/Philosophical_Transactions_of_the_Royal_Society
https://blog.f1000.com/2020/01/31/a-brief-history-of-peer-review/

PEER-REVIEWED SCHOLARLY JOURNALS

Gatekeeping & curation

- Defines aims & scope, acceptance criteria

Registration

- Formal record, correction/retraction, indexing

Certification (peer review)

- Quality control

Production

- Layout, (editing,) coding, print/online formats

Dissemination

- Access, distribution, marketing

Archiving

- Persistent identifiers, backup system

Knowledge & capacity building

- Metadata/data sharing, education, resources

Community building

- News, editorials, user commenting, blogs, events

TRUSTED JOURNALS

https://thinkchecksubmit.org/

Reputation

- Do you know the journal & can find papers?
- Publisher contacts?
- Indexing?

Transparency

- Peer review process?
- Fees?
- Editorial board?

Industry recognised

- COPE member?
- If open access: DOAJ?
- INASP platform: Journals Online, AJOL?

PROMOTING INTEGRITY IN SCHOLARLY RESEARCH AND ITS PUBLICATION

PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

Website

Name of journal

Peer review process

Ownership and management

publicationethics.org

COPE

WEBSITE

A Journal's website, including the text that it contains, shall demonstrate that care has been taken to ensure high ethical and professional standards.

It should:

- contain an 'Aims & Scope' statement and the readership clearly defined.
- include a statement on what a journal will consider for publication including authorship criteria e.g. not multiple submissions, redundant publications)
- ISSNs displayed clearly (separate for print and electronic).

It must not:

- contain information that might mislead readers or authors.
- attempt to mimic another journal/ publisher's site.

NAME OF JOURNAL

The Journal name shall be unique.

It must not:

- be one that is easily confused with another journal.
- mislead potential authors and readers about the Journal's origin or association with other journals.

PEER REVIEW PROCESS

Journal content must be clearly marked as whether peer reviewed or not. Peer review is defined as obtaining advice on individual manuscripts from reviewers expert in the field who are not part of the journal's editorial staff.

The journal's website should:

- clearly describe this process, as well as any policies related to the journal's peer review procedures including the method of peer review used.

The journal's website should not:

- guarantee manuscript acceptance or very short peer review times.

OWNERSHIP AND MANAGEMENT

Information about the ownership and/or management of a journal shall be clearly indicated on the journal's website.

Publishers should not:

- use organizational or journal names that would mislead potential authors and editors about the nature of the journal's owner.

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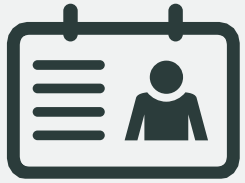
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

Governing body



Editorial team/ contact information

Copyright and licensing

Author fees

publicationethics.org

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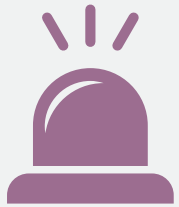
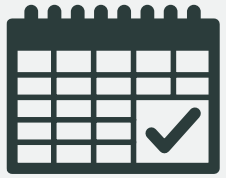
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

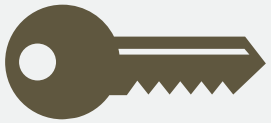


Allegations of research misconduct

Publication ethics



Publishing schedule



Access

publicationethics.org

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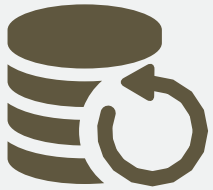
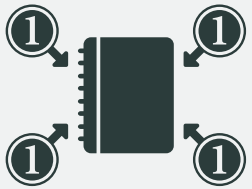
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING



Archiving

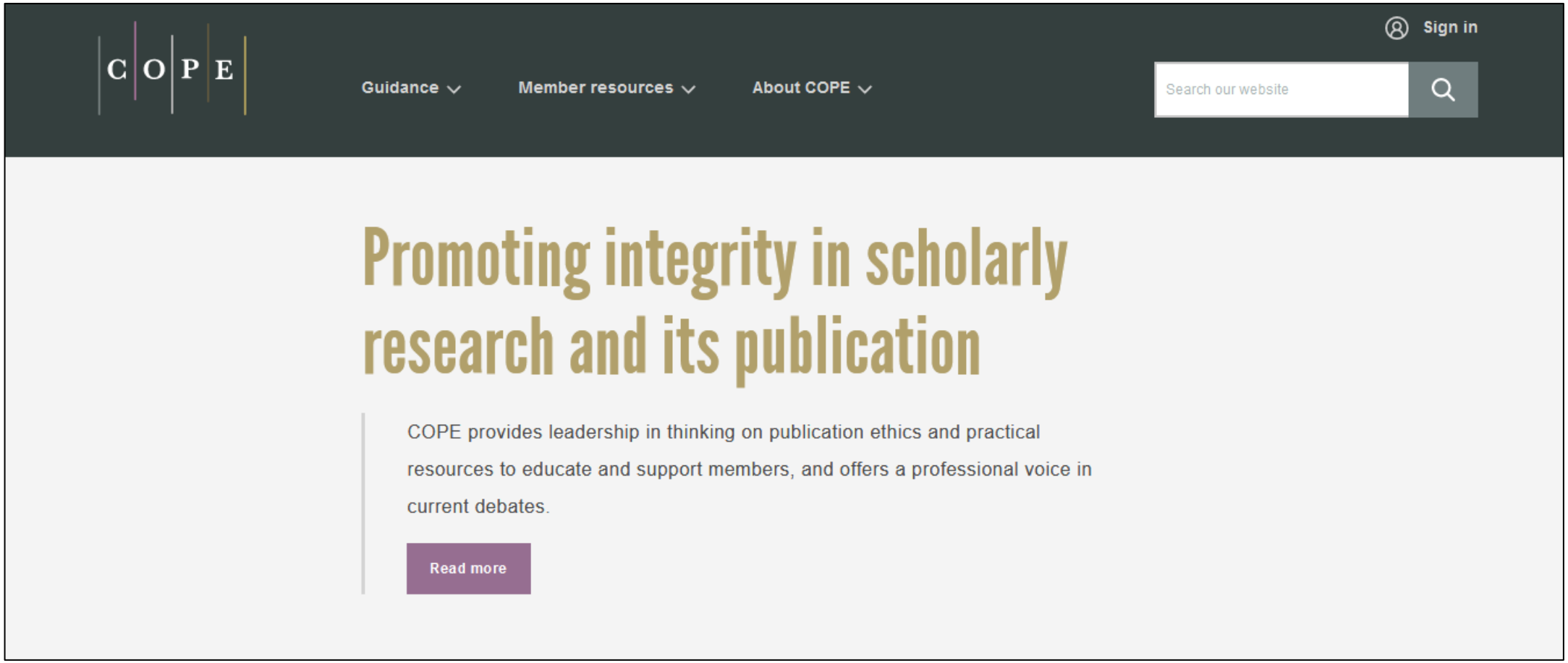


Revenue sources

Advertising

Direct marketing

publicationethics.org

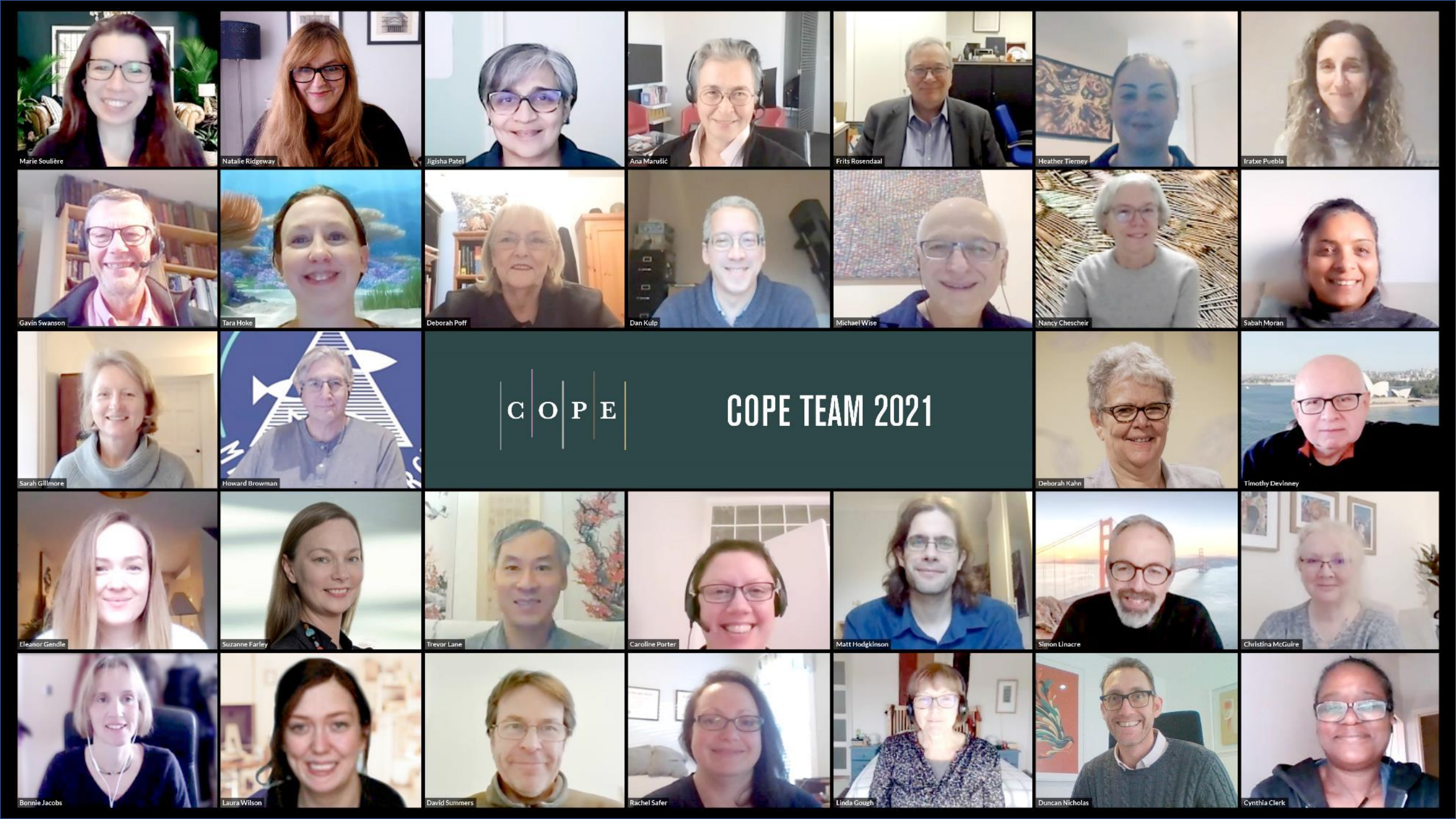

Sign in
Guidance
Member resources
About COPE
Search our website
Promoting integrity in scholarly research and its publication
COPE provides leadership in thinking on publication ethics and practical resources to educate and support members, and offers a professional voice in current debates.
Read more

ABOUT COPE

- Provides **support, leadership,** and a **professional voice** to help preserve and promote the integrity of the scholarly record through policies and practices that reflect current **best principles of transparency and integrity**

- Is an international membership organisation. Our **>12,000 members** are primarily editors and owners/publishers of scholarly journals of all disciplines. We are exploring **expanding membership**, eg research institutions

- Operates, manages, and governs the non-profit organisation with a small group of paid employees and a **group of volunteers** who serve on the Trustee Board and Council


Marie Soulière
Natalie Ridgeway
Jigisha Patel
Ana Marušić
Frits Rosendaal
Heather Tierney
Iratxe Puebla
Gavin Swanson
Tara Hoke
Deborah Poff
Dan Kulp
Michael Wise
Nancy Chescheir
Sabah Moran
Sarah Gillmore
Howard Browman
COPE
COPE TEAM 2021
Deborah Kahn
Timothy Devinney
Eleanor Gendle
Suzanne Farley
Trevor Lane
Caroline Porter
Matt Hodgkinson
Simon Linacre
Christina McGuire
Bonnie Jacobs
Laura Wilson
David Summers
Rachel Safer
Linda Gough
Duncan Nicholas
Cynthia Clerk

COPE

COPE MEMBERS

#C0PEMembers

JOIN US AT OUR NEXT COPE FORUM

to discuss publication ethics cases sent in by members

publicationethics.org

COPE RESOURCES

Examples of resources

From our Core practices and our guidelines to useful sample letters and flowcharts, **COPE** offers a range of useful tools for journal editors and publishers.

COPE CORE PRACTICES

Policies and practices required to reach the highest standards in publication ethics:

Allegations of misconduct

Authorship and contributorship

Complaints and appeals

Conflicts of interest/ Competing interests

Data and reproducibility

Ethical oversight

Intellectual property

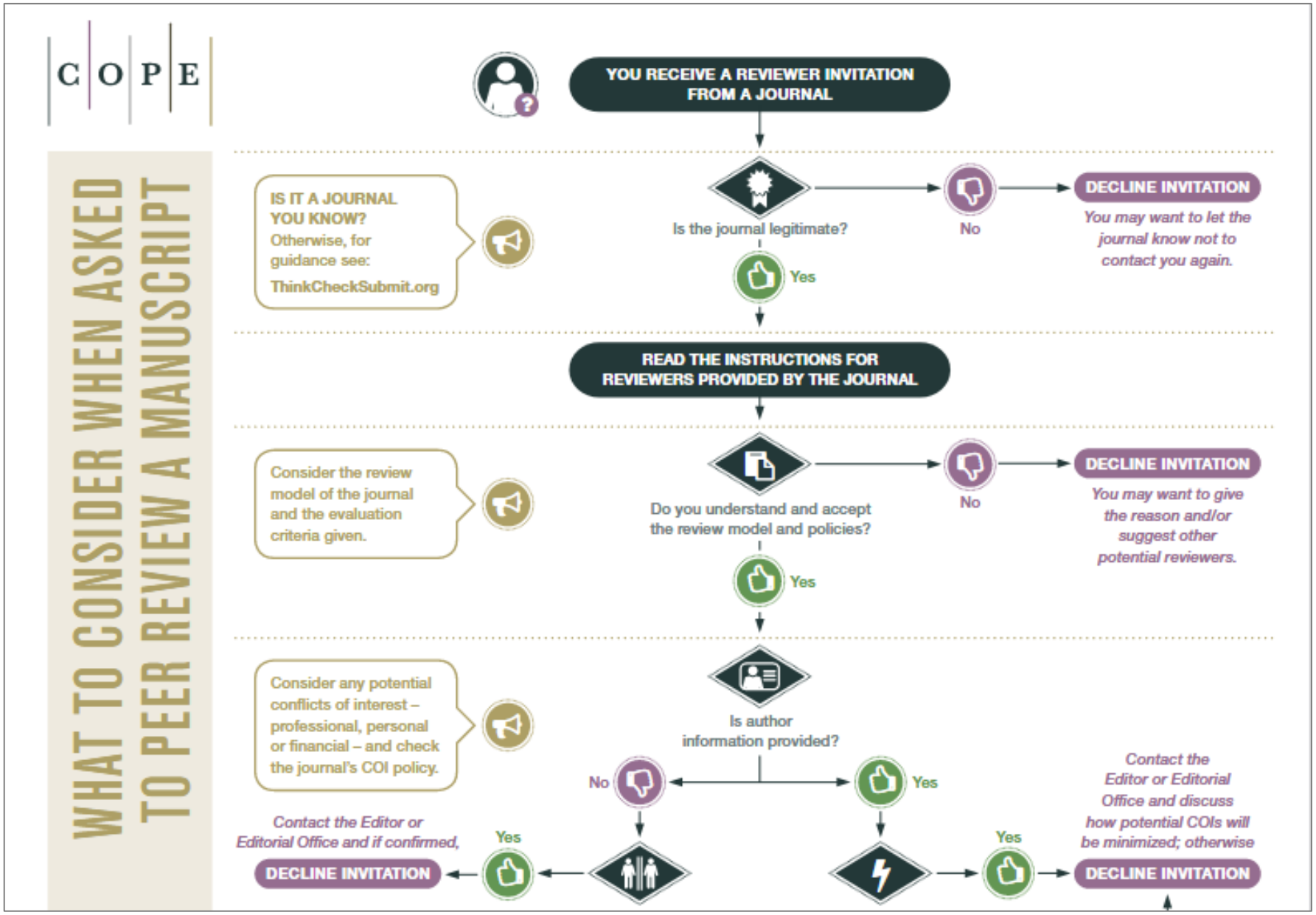
Journal management

Peer review processes

Post-publication discussions and corrections

COPE CORE PRACTICE
Peer review processes

> All peer review processes **must be transparently described and well managed**. Journals should provide **training** for editors and reviewers and have **policies** on diverse aspects of peer review, especially with respect to adoption of appropriate models of review and **processes** for handling conflicts of interest, appeals and disputes that may arise in peer review



https://publicationethics.org/resources/flowcharts/what-consider-when-asked-peer-review-manuscript

HOW TO RECOGNISE POTENTIAL MANIPULATION OF THE PEER REVIEW PROCESS

COPE

Peer reviewers may be suggested by:

- **the Editor handling the manuscript.**
- **authors on submission of their manuscript to a journal.**
- **another reviewer who is unable to peer review the manuscript.**

While there is an expectation that everyone involved in the process acts with integrity [Ref 1], the peer review process can be susceptible to manipulation [Ref 2-4] as discussed at **COPE's 2016 North American Seminar.** [Ref 5]

The features or patterns of activity shown opposite are suggested to help Editors recognise potential signs of peer review manipulation. Often it is the occurrence of these features in combination that may indicate a potential issue, and they may only become apparent at later stages in the peer review or publishing process.

Relevant COPE Cases:

Case 11-27: Author Creates Bogus Email Accounts for Proposed Reviewers
http://bit.ly/2eTOmVm

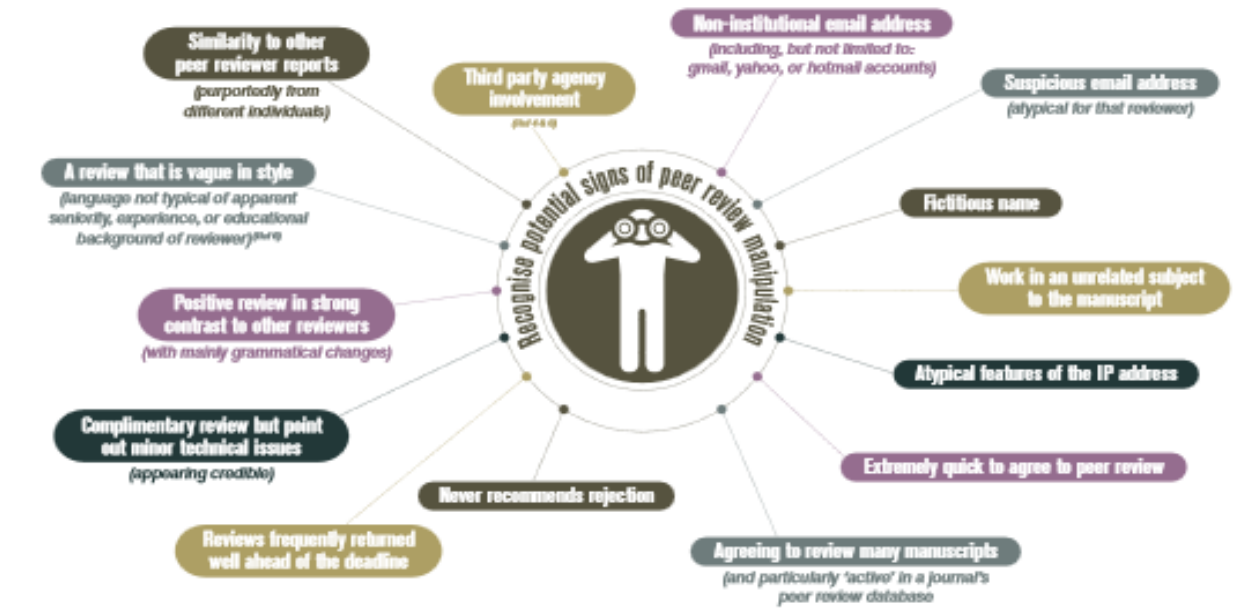
Case 12-12: Compromised Peer Review in Published Papers
http://bit.ly/2wVLkKU

Case 12-16: Compromised Peer Review *(Unpublished)*
http://bit.ly/2y2O4mr

References:

1. **COPE Ethical Guidelines to Peer Review.**
   http://bit.ly/2xZcZrk
2. **COPE Statement on Inappropriate Manipulation of Peer Review Processes.**
   http://bit.ly/2f2NRMw
3. **Who Reviews the Reviewers? *Jigisha Patel***
   http://bit.ly/1AgfKDc
4. **Inappropriate Manipulation of Peer Review. *Elizabeth Moylan***
   http://bit.ly/2w64bTN
5. **Can You Spot a Fake? The Trend of Fake Peer Reviews. *Alison McCook***
   Who Reviews the Reviewers? *Kristen Overstreet*
   Peer Review Manipulation. New Challenges and New Solutions. *Jigisha Patel*
   http://bit.ly/2vSjZoY
6. **Organised Crime Against the Academic Peer Review System. *Adam Cohen et al***
   http://bit.ly/1UmlH7Y

Recognised Features or Patterns of Reviewer Activity



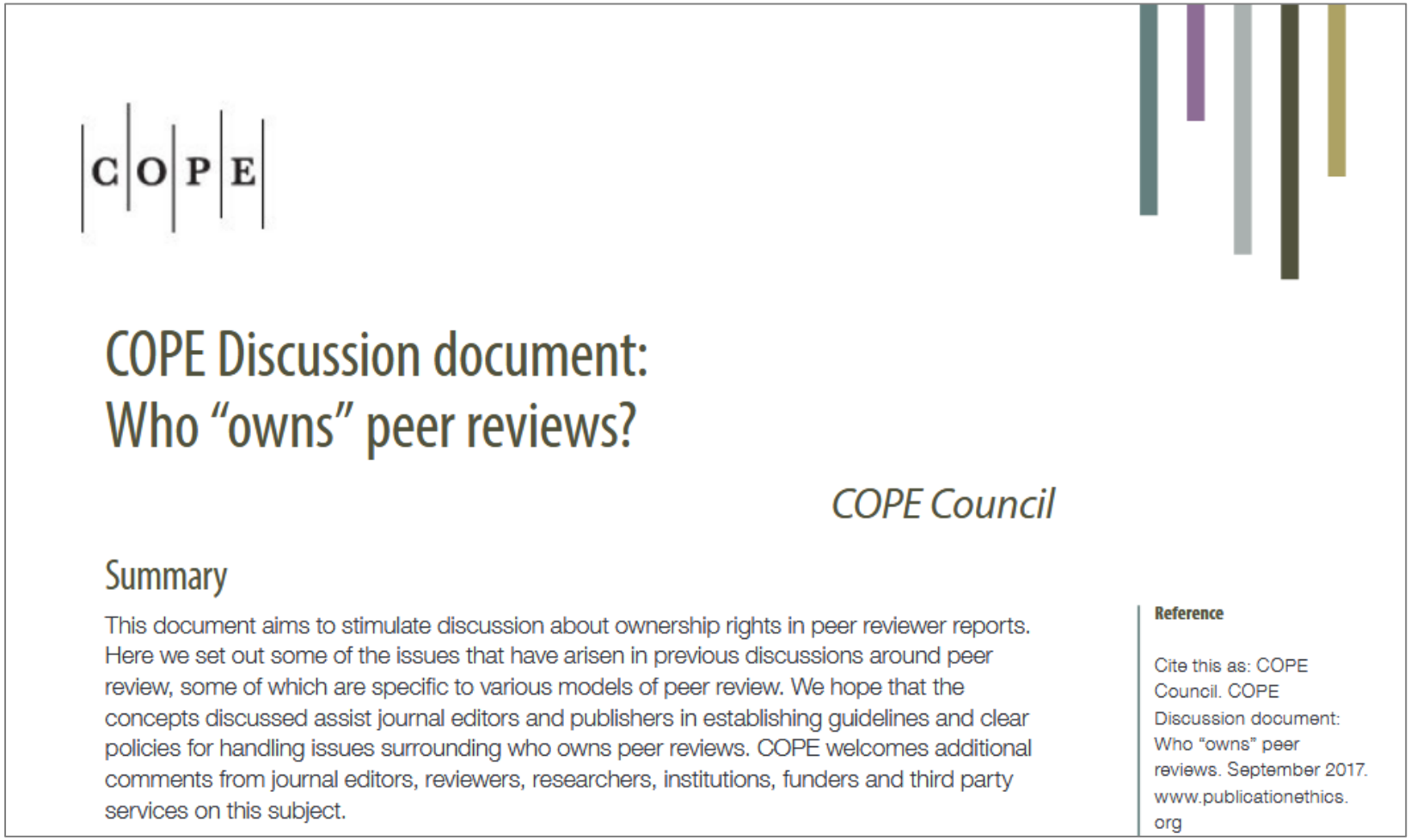
Best Practice to Minimise Peer Review Manipulation

https://publicationethics.org/files/COPE%20PR_Manipulation_Process.pdf

GUIDELINES:

ETHICAL GUIDELINES FOR PEER REVIEWERS

https://publicationethics.org/resources/guidelines-new/cope-ethical-guidelines-peer-reviewers



COPE

COPE Discussion document: Who "owns" peer reviews?

COPE Council

Summary

This document aims to stimulate discussion about ownership rights in peer reviewer reports. Here we set out some of the issues that have arisen in previous discussions around peer review, some of which are specific to various models of peer review. We hope that the concepts discussed assist journal editors and publishers in establishing guidelines and clear policies for handling issues surrounding who owns peer reviews. COPE welcomes additional comments from journal editors, reviewers, researchers, institutions, funders and third party services on this subject.

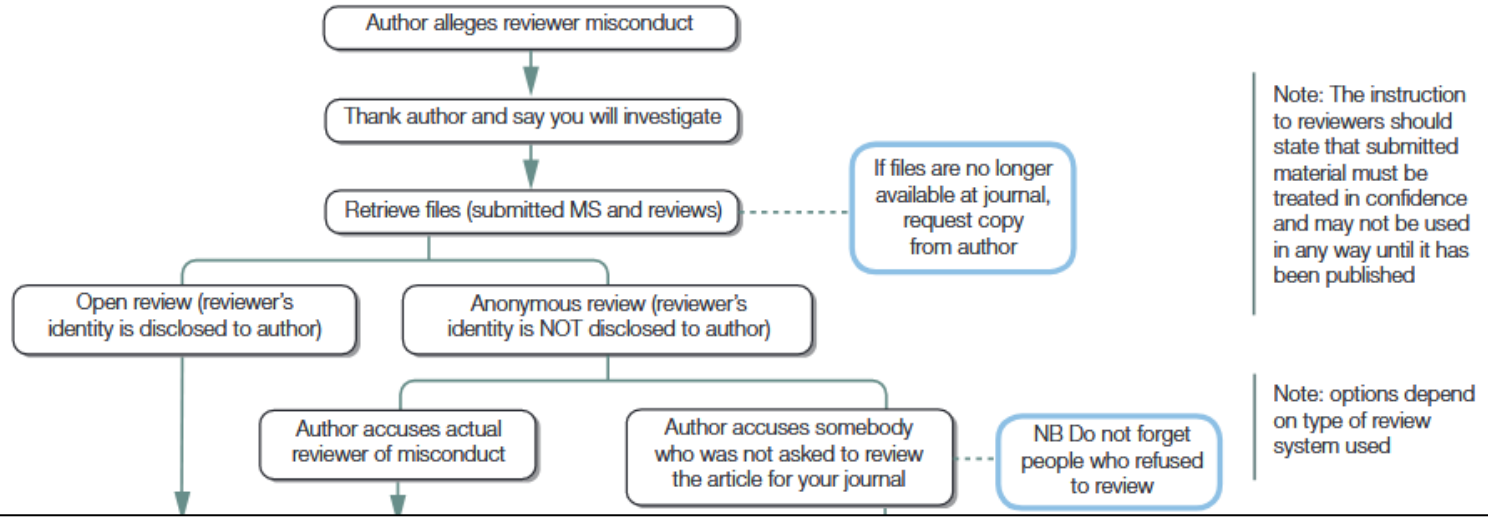
Reference

Cite this as: COPE Council. COPE Discussion document: Who "owns" peer reviews. September 2017. www.publicationethics.org

https://publicationethics.org/resources/discussion-documents/who-owns-peer-reviews-september-2017-0

COPE COMMITTEE ON PUBLICATION ETHICS

What to do if you suspect a reviewer has appropriated an author's ideas or data



https://publicationethics.org/files/u7140/Appropriated.pdf

FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

Agenda

- Introduction to peer review & COPE
- **Aims & models of peer review**
- Ethics of peer review

PRE-PUBLICATION PEER REVIEW

Editor (or Office)

Desk review checks:

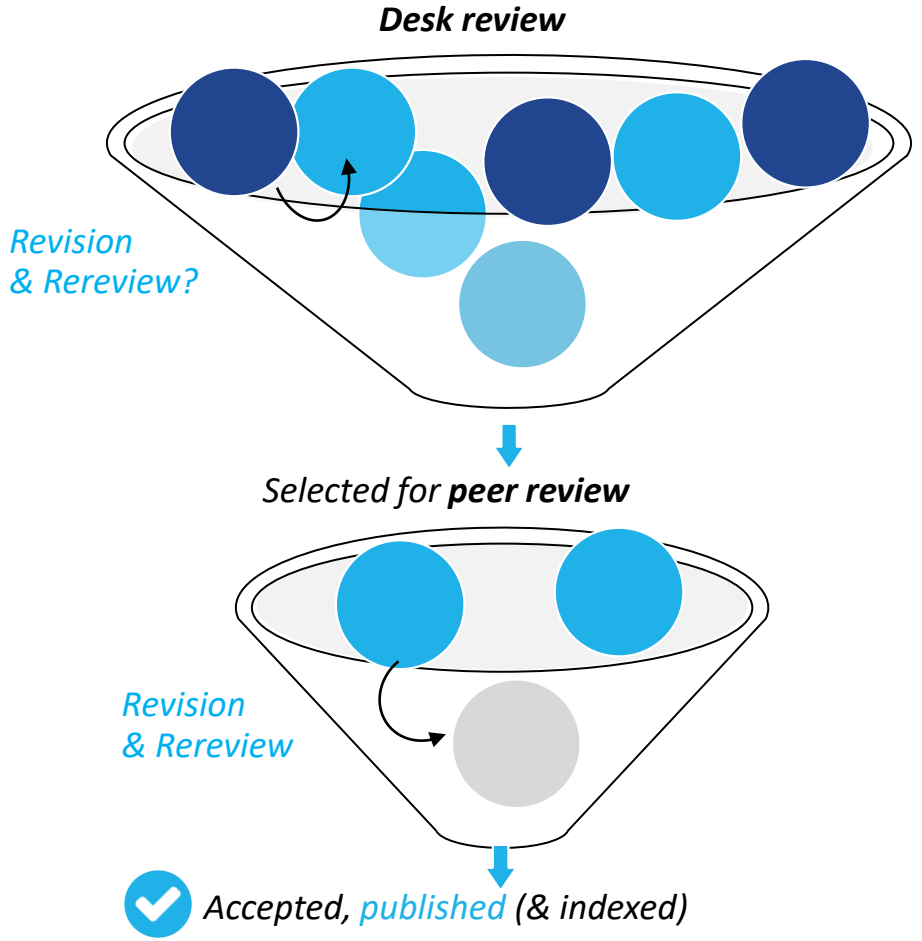
- *Completeness, adherence to guidelines, writing quality*
- ***Topic / article / study type, quality, bias, ethics***
- ***Data quality & availability, [+ study novelty/impact]***

Editor

2-3 Reviewers
Single / Double / Triple anonymised, or "Open identity" peer review

Peer review criteria:

- *Interest, coverage of literature, analysis / interpretation*
- *Writing style, organization*
- ***Method quality, originality, contribution to field***



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EDITORIAL DECISIONS

Accept

Accept as is (unconditional acceptance)

Accept conditional on (minor) revision

Revise

Resubmit for review after minor revision

Resubmit for review after major revision

Reject

Reject; invitation of resubmission ("soft")

Reject; no resubmission ("hard")

POST-PUBLICATION PEER REVIEW

Office

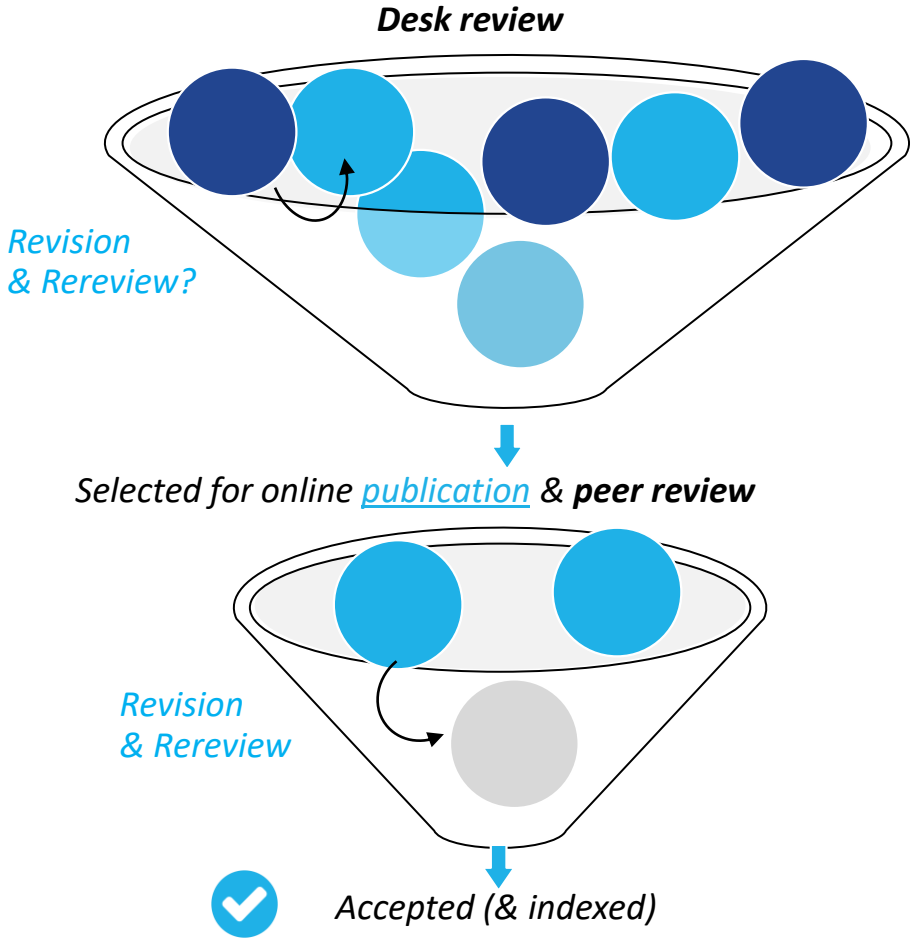
Desk review checks:
- *Intelligible & in good English*
- ***Appropriate (including content, quality, tone, format)***

https://blog.f1000.com/author-guidelines/

Editor

> 2 Reviewers nominated by authors (need approval from 2)

Transparent peer review:
- *Open identity*
- *Open, signed reviews*
- *Uses public platform*



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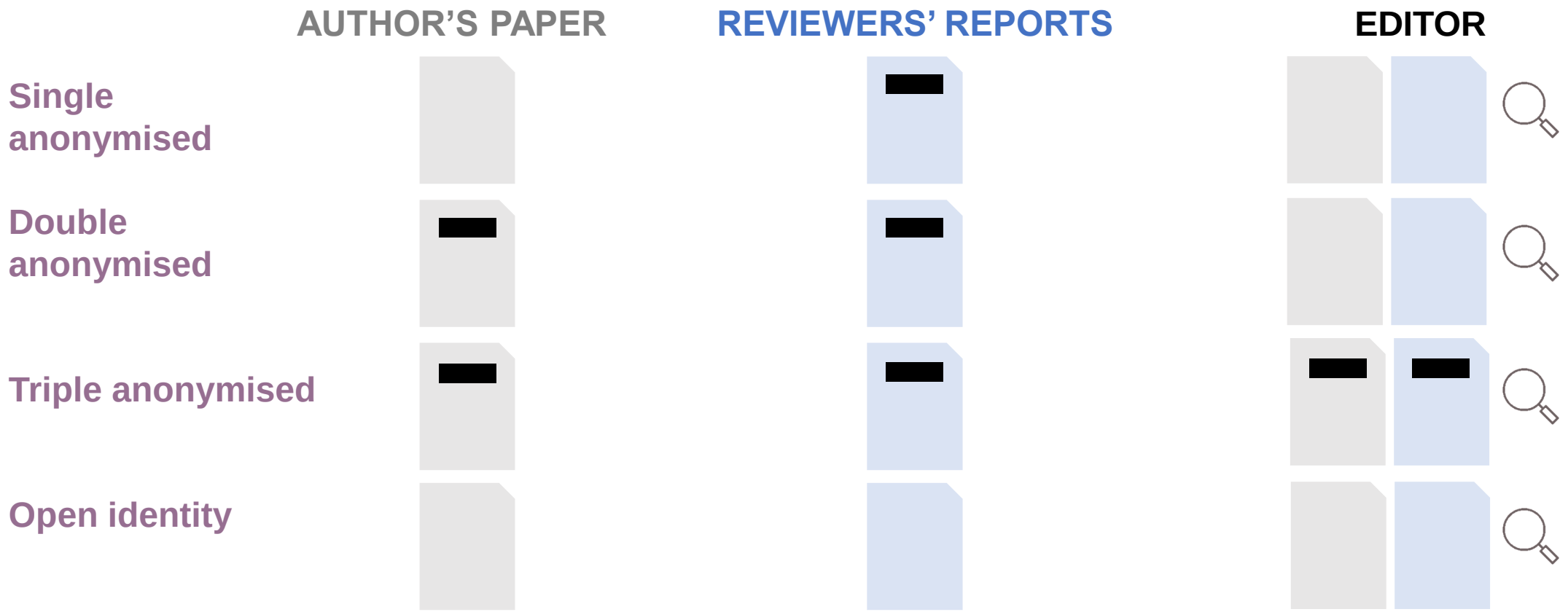
PEER REVIEW MODELS



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PEER REVIEW VARIATIONS

Author/reviewer choices

- Author picks model; reviewer can reveal name

Opened/semi-open review

- Reviewers' names revealed later & published

Open reports (transparent review)

- Reviews published +/- names; +/- revisions *(DOIs)*

Interactive/collaborative review

- Allowed interaction between parties (eg, cross-reviewing by reviewers; open interaction among parties directly)

Author recommendations

- Author can recommend/exclude reviewers

Portable (pre-submission) review

- Third-party peer reviews commissioned

Cascading/transferable review

- Rejected paper + reviews forwarded

Post-publication commenting

- Online public commenting on articles

https://publicationethics.org/files/Who_owns_peer_reviews_discussion_document.pdf
https://about.scienceopen.com/what-is-post-publication-peer-review/

PEER REVIEW INNOVATIONS

Registered reports

- Protocol peer reviewed before results obtained

Results-free review

- Results & discussion 1st withheld from reviewers

Re-review opt out

- Author chooses if revision goes only to editor

Assisted review

- Automated checks assist editor

Patient review

- Patients collaborate with editors & reviewers

Fast-track review

- Priority given to papers on urgent topics

Expedited review

- Rejected paper bypasses next journal review

Overlay review

- Preprints reviewed +/- formally published

https://www.biomedcentral.com/about/advancing-peer-review
https://europepmc.org/article/med/28580134
https://rapidreviewscovid19.mitpress.mit.edu/

PEER REVIEWERS

- **Characteristics**:
  - **2-3 experts in field**
  - **Know current literature & journal guidelines**
  - **Willing and available; can keep to deadline**
  - **Can perform impartial, professional review**
  - **Declare any conflicts of interest;** decline review if needed

- **Examples**:
  - **Qualifications**
    Typically hold a doctorate
    Supervisor could be co-reviewer
  - **Expertise**
    Published at least 3 articles as lead author in a relevant topic
    At least 1 article in the past 5 years
  - **Impartial**
    Not close collaborator or be personally associated with author
    (not co-authored 3 years before Version 1;
    not co-authored after Version 1;
    not same institution)
  - **Global**
    Reviewers from different countries

https://f1000research.com/for-authors/tips-for-finding-referees

TYPICAL REVIEWER CHECKLIST

1. Does article content/style fit journal's mission & readership? [+ Is the study novel/important enough?]
2. - Are Q / aim clear, timely, relevant, interesting?
   - Are references accurate & recent primary sources?
   - Is there enough theoretical grounding?
   - Are methods/analyses appropriate & reproducible?
3. - Are findings/illustrations presented well & discussed in context, with limitations/implications?
   - Are conclusions supported?
4. Is study complete (not salami; no selective/misleading reporting; follows EQUATOR Network guidelines)?
5. List strengths & weaknesses. Recommend improvements (for errors, flaws, arguments, title/abstract, style).
6. *Confidential notes to Editor:*
   - Any parts not reviewed / need other/statistics review?
   - Any plagiarism, potential legal/ethics problems (inc. fraud, multiple submission, multiple publication, citation bias, no trial registration, © problems)?
   [Recommendation: accept/revise/reject?]

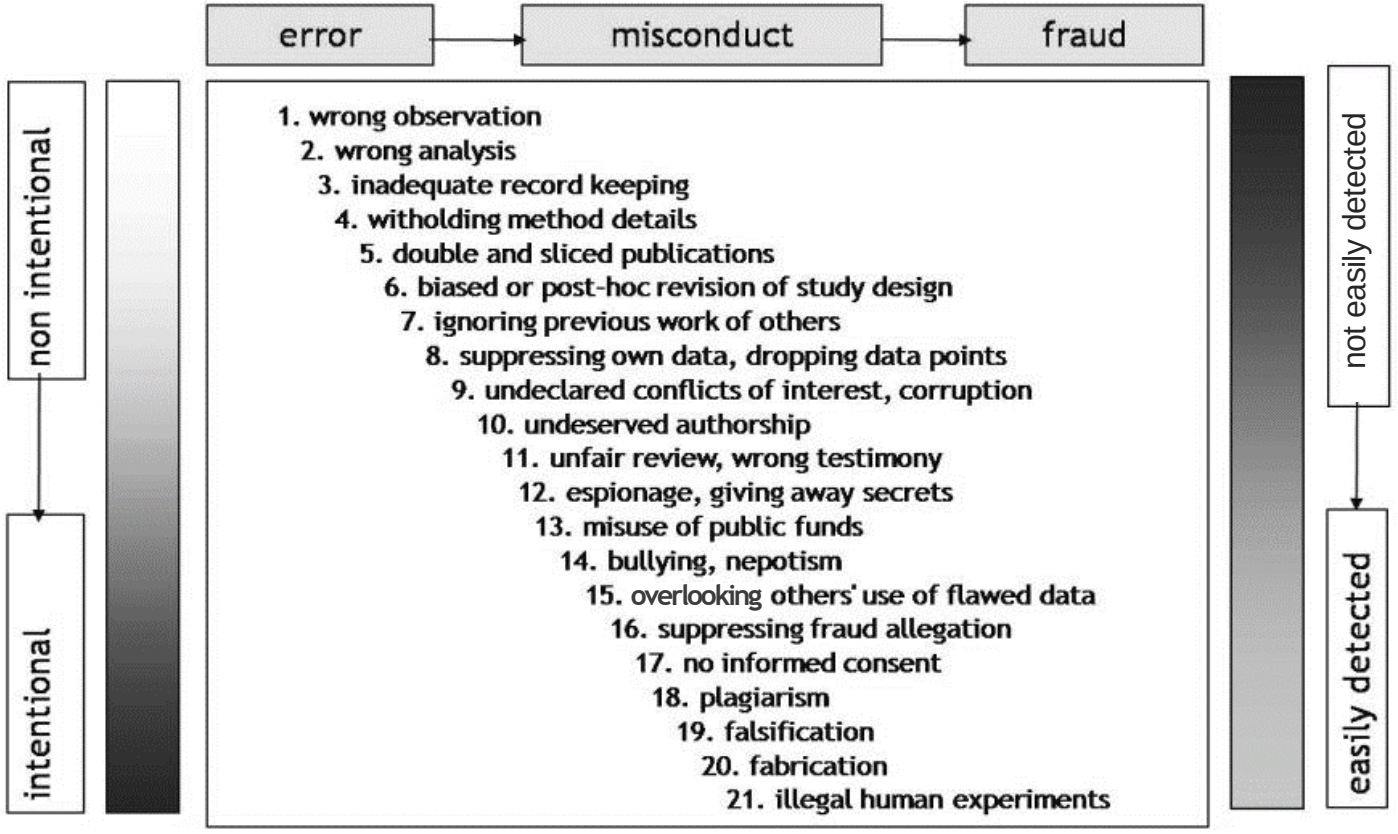
https://naepub.com/wp-content/uploads/2015/08/24329-Nursing-ReviewingMSS12ppselfcover_8.5x11_for_web.pdf
https://authorservices.wiley.com/Reviewers/journal-reviewers/how-to-perform-a-peer-review/step-by-step-guide-to-reviewing-a-manuscript.html

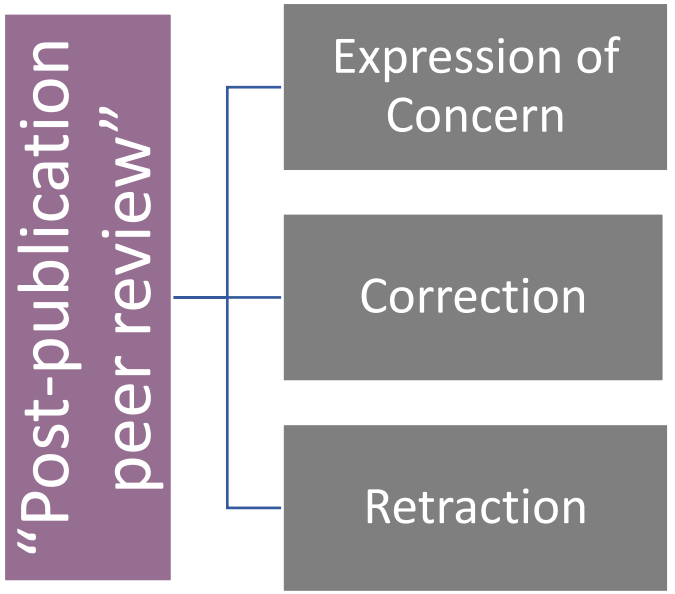
CRITICISMS

- Slow, inefficient; need to contact many reviewers to find 2-3
- Reviewer pool limited; lack of succession plan, training
- Subjective; variable quality; can be opaque
- Disagreement between reviewers likely
- Lack of diversity; groupthink
- Researchers know each other in some fields; difficult to anonymise
- Reviewer burnout; low incentive
- Difficult to detect fraud, irreproducible data

https://europepmc.org/article/med/28580134

ETHICAL ISSUES IN SCHOLARLY PUBLISHING





Marcovitch *et al.* Croat Med J. 2010 doi: 10.3325/cmj.2010.51.7
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2829174/ (CC BY)

REPRODUCIBILITY IN SCHOLARLY PUBLISHING

Reproducibility and reliability of biomedical research: improving research practice
Symposium report, October 2015
(The Academy of Medical Sciences, CC BY)

https://acmedsci.ac.uk/file-download/38189-56531416e2949.pdf

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- Aims & models of peer review
- **Ethics of peer review**

FAKE PEER REVIEW

…“peer review and citation ring,” 60 papers retracted

The Peer Review Scam: How authors are reviewing their own papers

…retractions… bring total fake peer review count to 250

Major publisher retracting more than 100 studies from cancer journal over fake peer reviews

PEER REVIEW FRAUD

- **Author level** (journal over-relying on & not checking author-recommended reviewers)
  - Mutual review among colleagues, hiding conflicts of interest
  - Fake name or known expert's name with fake email address owned by colleague or self (fake review by colleague or self)
  - With or without author's knowledge: unethical third party offers online submission assistance and recommends fake reviewer details (fake review by company)

- **Author or third party**
  - Hacks into & alters records in journal review system

- **Journal/publisher level**
  - Guaranteed publication for fee (peer review absent, too fast, of low quality, or faked)
  - Fake journal submission platform
  - Fake guest editor of theme/special issue organises fake/substandard review
  - Journal editorial board bypasses proper review to publish in own journal

https://publicationethics.org/files/McCooK_Can%20you%20spot%20a%20fake%20COPE%202016.pdf

UNETHICAL PEER REVIEW

Nightmare scenario: Text stolen from manuscript during review

Dear peer reviewer, you stole my paper: An author's worst nightmare

"I am really sorry:" Peer reviewer stole text for own paper

Chem journal yanks paper because authors had stolen it as peer reviewers

EXAMPLE COPE FORUM CASES

1. A peer reviewer notices ~2/3 data in a submitted paper have been described before. The editors suspect salami publication. What should they do?

2. An author references her past studies in a submitted paper, but some paragraphs are plagiarised. However, when the editor contacts the author's institution, it says the author has already been transparent by citing her past work. What should the editor do?

3. An author publicly but wrongly names and blames a reviewer for rejecting a paper. The editors/reviewers/authors agree to publish the positive peer review report in a journal blog. What else should happen?

4. A handling editor notices a reviewer has been recommending that authors cite many of the reviewer's own works. Apart from banning the reviewer from reviewing, what else can be done?

Case 05-07 https://publicationethics.org/case/salami-publication
Case 09-21 https://publicationethics.org/case/self-plagiarism
Case 16-12 https://publicationethics.org/case/author-rejected-paper-publicly-names-and-criticises-peer-reviewer
Case 19-01 https://publicationethics.org/case/reviewer-requesting-addition-multiple-citations-their-own-work

> Peer reviewers play a role in ensuring the **integrity** of the scholarly record. The peer review process depends to a large extent on the **trust and willing participation** of the scholarly community and requires that everyone involved behaves **responsibly and ethically**. …Journals have an obligation to provide **transparent policies** for peer review, and reviewers have an obligation to conduct reviews in an **ethical and accountable** manner. Clear communication between the journal and the reviewers is essential to facilitate **consistent, fair and timely review.**

COPE Ethical guidelines for peer reviewers

https://publicationethics.org/files/cope-ethical-guidelines-peer-reviewers-v2_0.pdf

ETHICAL PEER REVIEW 1

1. Declare conflicts of interest (before/during review)

   COIs: Connected to project / grant or funding, current collaborator, recent co-author/mentor/mentee, disagreement, public viewpoint

2. **Give correct personal details; do not impersonate others or manipulate peer review**
3. Reply quickly to invitation after checking abstract/manuscript
4. **Decline if no time, wrong area of expertise, or you do not accept journal's peer review model**
5. Recommend other peer reviewers neutrally and truthfully
6. **Do not forward (eg, to postdoc/colleague) without permission**
7. State if you had help or did not review parts
8. **Do not contact authors**

https://publicationethics.org/files/cope-ethical-guidelines-peer-reviewers-v2_0.pdf
www.icmje.org

ETHICAL PEER REVIEW 2

9. Keep to deadline and journal guidelines; do not delay review / publication for personal gain or revenge

10. Be concise, courteous, and constructive

11. No libel; no bias; no (self-)plagiarism

12. Recommend references only if relevant

13. Keep manuscript & peer review report/process confidential (check journal policy: who owns review?)

14. Destroy / delete materials after review

15. Do not use information/ideas until after publication and citation

16. Inform journal if you know author identity (double-anonymised review) or suspect ethical problems

Joint investigations (permission may be needed if peer review report is to be used in investigations)**:**

Cooperation & Liaison between Universities & Editors (CLUE): recommendations on best practice:

Wager, E., Kleinert, S. & on behalf of the CLUE Working Group. Res Integr Peer Rev 6, 6 (2021). https://doi.org/10.1186/s41073-021-00109-3

https://publicationethics.org/files/cope-ethical-guidelines-peer-reviewers-v2_0.pdf
www.icmje.org
https://publicationethics.org/resources/discussion-documents/who-owns-peer-reviews-september-2017-0

PEER REVIEW DEVELOPMENTS

Peer review standardisation

A Standard Taxonomy for Peer Review
https://osf.io/68rnz/

Review recognition, incentive

https://publons.com/

https://www.reviewercredits.com/

Public post-publication commenting

https://pubpeer.com/

Peer recommendations

https://facultyopinions.com/

https://prelights.biologists.com/

https://collectionsblog.plos.org/author/channels/

https://peeriodicals.com/

ScienceOpen Collections https://about.scienceopen.com/collections/

Reviewer training, diversity

https://researcheracademy.elsevier.com/navigating-peer-review/certified-peer-reviewer-course

https://www.acsreviewerlab.org/

https://ioppublishing.org/peer-review-excellence/

https://webofscienceacademy.clarivate.com/learn

Preprint peer review

https://peercommunityin.org/

https://www.reviewcommons.org/

https://prereview.org/

Peer review research, promotion

https://peerreviewcongress.org/

https://peerreviewweek.wordpress.com/

PEER REVIEW CORE PRINCIPLES (European Science Foundation, 2011)

5 Pillars supporting good practices of review with quality and equity

https://repository.fteval.at/148/1/2011_European%20Peer%20Review%20Guide.pdf

Monument to an Anonymous Peer Reviewer

Institute of Education, National Research University Higher School of Economics (HSE University), Moscow, 26 May 2017

5 faces showing results of peer review: Accept/Reject/Major changes/Minor changes/ Revise & Resubmit

"Reviewers are 'invisible heroes in science'"

Igor Chirikov, HSE University

https://www.nature.com/articles/nature.2017.22060

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THANK YOU

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