

Introduction to PLOS

Elaine Tham | Regional Director, Publishing Development (Asia)

Why PLOS was founded

... to catalyze a revolution in scientific publishing by providing a compelling demonstration of the value & feasibility of Open Access publication.

PLOS CO-FOUNDERS:

Patrick O. Brown Professor, Stanford University School of Medicine

Michael Eisen Associate Professor, University of California, Berkeley

Harold Varmus Nobel Laureate





Breaking boundaries. Empowering researchers. **Opening Science.**

PLOS is a nonprofit, Open Access publisher empowering researchers to accelerate progress in science and medicine by leading a transformation in research communication.

About PLOS





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CURRENT ISSUE

December 2023





(Germany) and Singapore

Overview: our journal portfolio







Publishing your research in trustworthy journals



Speakers:



Dr. Johnson Cheung Senior Lecturer, HKU Section Editor, PLOS ONE



Dr. Emily Chenette Editor-in-Chief PLOS ONE



Dr. Jamie Males Executive Editor PLOS Climate



Trustworthiness of Journals

Johnson Chun-Sing, CHEUNG

Senior Lecturer, HKU Section Editor (Sociology), PLOS ONE





Does impact factor really matter?



For university administrator, YES.

Help determine the academic ability of a candidate that applying for an academic position.

But...







Impact factor in itself is not trustworthy enough

Impact factor = Quality?

Impact factor = Prestige?

Impact factor = Impact?

nature index

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NEWS · 5 OCTOBER 2021

When seeking promotion, defining success is everything

For academic researchers, 'quality and impact' is crucial, yet few agree on what these terms mean.

Benjamin Plackett





Solutions

Schimanski says rehashing institutional guidelines to counter the lack of consensus on terms used in assessing research may not be the solution. "It may be about culture. Faculty and administrators should be talking about it, to make sure we all know what each other is thinking."

She says part of the problem may be that metrics such as impact factor are used as a shortcut by overloaded faculty when evaluating the work of candidates for tenure. (In a recent survey of 5,888 academics in the United Kingdom, published in <u>Studies in Higher Education</u> in January 2020, 57% said they wanted professional help for anxiety and depression.)

Moher, meanwhile, calls for open science to be taken more seriously. "There's almost nothing in these results about open science practices, such as registering clinical trials, how transparently results are reported and full data sharing," he says. "You can easily measure these things as quality indicators."

PLOS BIOLOGY

Check for updates ESSAY

The Hong Kong Principles for assessing researchers: Fostering research integrity

David Moher^{1,2*}, Lex Bouter^{3,4}, Sabine Kleinert⁵, Paul Glasziou⁶, Mai Har Sham⁷, Virginia Barbour⁸, Anne-Marie Coriat⁹, Nicole Foeger¹⁰, Ulrich Dirnagl¹¹

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Abstract

For knowledge to benefit research and society, it must be trustworthy. Trustworthy research is robust, rigorous, and transparent at all stages of design, execution, and reporting. Assessment of researchers still rarely includes considerations related to trustworthiness, rigor, and transparency. We have developed the Hong Kong Principles (HKPs) as part of the 6th World Conference on Research Integrity with a specific focus on the need to drive research improvement through ensuring that researchers are explicitly recognized and rewarded for behaviors that strengthen research integrity. We present five principles: responsible research practices; transparent reporting; open science (open research); valuing a diversity of types of research; and recognizing all contributions to research and scholarly activity. For each principle, we provide a rationale for its inclusion and provide examples where these principles are already being adopted.





About the Journal

About Scope Content Features History Abstracting and indexing services

MIND has long been a leading journal in philosophy. For well over 100 years it has published the best new work in all areas of the subject. The journal continues its tradition of excellence today. The journal aims to take quality to be the sole criterion of publication, with no area of philosophy, no style of philosophy, and no school of philosophy excluded. Each issue also contains a selection of book reviews that summarize and evaluate some of the most interesting recent publications in the discipline.



Impact factor in itself is not trustworthy enough

Impact factor = Quality?

Impact factor = Prestige?

Impact factor = Impact?

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Volume LIX, Issue 23 October 1950	36 http Put	https://doi.org/10.1093/mind/LIX.236.433 Published: 01 October 1950			
Article Contents	A	▶ PDF ■ Split View			
 The Imitation Gam Critique of the New 	e Problem				
3. The Machines conce the Game	rned in				
4. Digital Computers	1.	1. The Imitation Game			











Content

Review at *MIND* is 'triple-anonymous' — the identity of authors is not revealed to editors or referees unless and until a paper is accepted for publication. New submissions are sent by the Managing Editor to a member of the editorial team who makes an initial assessment about suitability. To reduce the time that authors wait for decisions, many submissions will be rejected at this stage without comments. Even highly creditable submissions will be rejected at this stage. Other submissions are sent for peer review by specialist referees. We ask referees to return reports and recommendations to us within eight weeks, and we aim to provide authors with a decision within four months. Once we receive reports, a member of the editorial team will make a decision regarding the submission, taking into account the advice that we have received from referees.

For further information about the review and submissions process, please refer to the Author Guidelines.





Markers of Journal's Quality

- 1. Acceptance rate (Has it been shown?)
- 2. Speed (Rapid publication?)
- 3. Competitors (Google Scholar / CV)
- 4. Reviewers (Editorial board / Thank you note)
- 5. Editorials (Who wrote that?)
- 6. Backlog (Is it active?)
- 7. Most viewed papers (Do you want to read them?)
- 8. Incentives (Journal prize / Editor's choice)

Identify trusted publishers for your research

Through a range of **tools and practical resources**, this international, cross-sector initiative aims to **educate researchers, promote integrity**, and **build trust in credible research and publications**.



Journals >



Think

Are you submitting your research to a trusted journal or publisher? Is it the right journal or book for your work? Check

Use our check list to assess the journal or publisher.

Submit

Only if you can answer 'yes' to the questions on our check list.

Things to watch out for

A predatory journal/publisher may display one or more of these characteristics:

- A journal title which can be easily confused with another journal or that might mislead potential authors and readers about the journal's origin, scope or association with other journals
- Very wide scope
- Displays of unofficial impact factors
- False claims of being indexed in major services like PubMed or DOAJ
- No publisher address or contact information
- Unclear ownership of the journal
- Spams researchers with many emails inviting submissions, often unrelated to expertise
- Advertises very fast times from submission to publication
- Publishes out-of-scope articles
- Publishes nonsense articles
- Poor or non-existent editing of articles (many spelling mistakes or very poor grammar)
- · Hides information on charges
- No editorial board is listed, or the editorial board comprises dead or retired scholars or scholars who are not specialised in the topic
- Lack of information on the policies of the journal, such as peer review, licensing and copyright





Reference this list for your chosen journal to check if it is trusted.

Do you or your colleagues know the journal?

Have you read any articles in the journal before?

 \checkmark Is it easy to discover the latest papers in the journal?

Name of the journal: the name is unique; it is not the same or easily confused with another journal.

Can you cross check with information about the journal in the **ISSN portal**?

Can you easily identify and contact the publisher?

 $\boxed{}$ Is the publisher name clearly displayed on the journal website?

Can you contact the publisher by telephone, email, and post?

Is the journal clear about the type of <u>peer review</u> it uses?

Does the website mention whether the process involves independent/external reviewers, how many reviewers per paper?

Is the publisher offering a review by an expert editorial board or by researchers in your subject area?

The journal doesn't guarantee acceptance or a very short peer review time.

Are articles indexed and/or archived in dedicated services?

Will your work be indexed/archived in an easily discoverable database?

- ✓ Does the publisher ensure <u>long term archiving and preservation</u> of digital publications?
- Does the publisher use permanent digital identifiers?

Is it clear what fees will be charged?

- Does the journal site explain what these fees are for and when they will be charged?
- Does the publisher explain on their website how they are financially supported?
- \checkmark Do they mention the currency and amount of any fees?
- \checkmark Does the publisher website explain whether or not waivers are available?

Are guidelines provided for authors on the publisher website?

- For open access journals, does the publisher have a clear **license** policy? Are there preferred licenses? Are there exceptions permitted depending on the needs of the author? Are license details included on all publications?
- ✓ Does the publisher allow you to retain **copyright** of your work? Can you share your work via, for example, an institutional repository, and under what terms?
- ✓ Does the publisher have a clear policy regarding potential conflicts of interest for authors, editors and reviewers?
- Can you tell what formats your paper will be available in? (e.g. HTML, XML, PDF)
- Does the journal provide any information about **<u>metrics of usage or citations</u>**?

Is the publisher a current member of a recognized industry initiative?

- Are they a **current member** of the **Committee on Publication Ethics (COPE**) and follow its **guidelines**?
- ✓ If the journal is open access, is it listed in the <u>Directory of Open Access Journals</u> (DOAJ)?
- ✓ If the publisher offers an open access option, is it a <u>current member</u> of the <u>Open</u> <u>Access Scholarly Publishers' Association (OASPA)</u>?
- ✓ Is the journal hosted on one of INASP's Journals Online platforms (for journals published in Bangladesh, Nepal, Sri Lanka, Central America and Mongolia) or on African Journals Online (AJOL, for African journals)?
- ✓ If the journal is open access, is it hosted on Scielo (for Latin American scientific journals)?
- ☑ If the journal is open access, is it indexed in **Latindex** (for journals that are published in Latin America, the Caribbean, Spain, and Portugal)?
- ☑ If the journal is open access, is it indexed by **<u>Redalyc</u>** (for journals that are published in Latin America and the Caribbean, Spain, and Portugal)?
- \checkmark Is the publisher a member of another trade association?



If you have been able to check most or all of the items on the list.

Complete the checklist and submit your manuscript only if you can answer 'yes' to most or all of the questions above.



Thank you!

cjcs@hku.hk

How journals support trustworthy, reproducible research

Emily Chenette, Editor in Chief, PLOS ONE February 2024





Economist.com

Britain's angry white men How to do a nuclear deal with Iran Investment tips from Nobel economists Junk bonds are back The meaning of Sachin Tendulkar

OCTOBER 19TH-25TH 2013





October 2013



rely on published data on potential drug targets?

Nat Rev Drug Disc 2011 doi: 10.1038/nrd3439-c1

Florian Prinz, Thomas Schlange and Khusru Asadullah



COPE & STM 2022 doi: 10.24318/jtbG8IHL

NEWS SCIENTIFIC COMMUNITY

Fake scientific papers are alarmingly common

But new tools show promise in tackling growing symptom of academia's "publish or perish" culture

9 MAY 2023 · 4:45 PM · BY JEFFREY BRAINARD

Science 2023 doi: 10.1126/science.adi6523

(Note: Active discussion around the strength of the methodology in associated preprint)

What are markers of quality and reproducibility in published papers?

Indicators of quality in published literature





Integrity



Journals must check for adherence to core values and norms in academic research. These are usually set out as journal policies

- Conflicts of interest
- Credit and attribution
- Research ethics



Disclosure of relevant relationships



Fair and reliable credit to contributors

Journals have policies about what constitutes authorship

Journals can help develop, deploy and maintain open digital infrastructure

- Detecting plagiarism
- Tracking diverse contributions

Connecting Research and Researchers









Research Ethics

An Update to the Human Subjects Research Policy on PLOS ONE

March 1, 2023 / PLOS ONE Editors / News & Policy

"...nearly two-thirds of submissions did not meet PLOS ONE's human subjects research requirements and were therefore rejected."

<u>https://everyone.plos.org/2023/03/01/an-update-to-the-</u> human-subjects-research-policy-on-plos-one/

ChatGPT is fun, but not an author

H. HOLDEN THORP Authors Info & Affiliations

"...text generated by ChatGPT (or any other AI tools) cannot be used in the work, nor can figures, images, or graphics be the products of such tools. And an AI program cannot be an author."

Science 2023 doi: 10.1126/science.adg787

Journals develop and enforce robust ethics standards

- Human participants
- Research involving animals
- Large Language Model (LLM) and other AI tools
- Biosecurity



Rigor



Journals can deploy **discipline-specific solutions** via instructions to authors, peer reviewers and editors

- Choice of experimental design
- Proper use of statistics
- Validation of reagents
- Etc...



Risk of bias in animal research

Validation through peer review and additional checks:

- Study design
- Proper use of statistics



PLOS Biology 2015 doi: 10.1371/journal.pbio.1002273

MDAR reporting framework



Joint effort across publishers developed a consensus reporting framework and checklist

PNAS 2021 doi: 10.1073/pnas.2103238118



Open Research

Open Research is more than Open Access



- Responsible data sharing
- Access to code
- Access to detailed step-by-step protocols
- Sharing preprints
- Access to peer-review reports

Also: new article types and journal-funder partnerships focusing on the **research question** and **quality of execution**, instead of the subjective assessment of results



Responsible data sharing

Sharing Detailed Research Data Is Associated with Increased Citation Rate

Heather A. Piwowar 🖾, Roger S. Day, Douglas B. Fridsma

PLOS ONE 2007 doi: 10.1371/journal.pone.0000308



PLOS 2022 doi: 10.6084/m9.figshare.21687686.v2

The citation advantage of linking publications to research data

Giovanni Colavizza, Iain Hrynaszkiewicz, Isla Staden, Kirstie Whitaker, Barbara McGillivray 🖾

PLOS ONE 2020 doi: 10.1371/journal.pone.0230416



Access to code

Survey of PLOS Comp Bio authors:

- 70% access code to aid understanding of article
- 48% access code reuse or repurpose it
- 21% access code to assess quality of the research
- 12% access code to replicate study using their own data

https://osf.io/tys8p/





Sharing preprints





■ Author posted % ■ PLOS opt-in %

Meta-Research: Releasing a preprint is associated with more attention and citations for the peer-reviewed article

Darwin Y Fu, Jacob J Hughey eLife 2019 10.7554/eLife.52646

The relationship between bioRxiv preprints, citations and altmetrics

Nicholas Fraser 🖾 💿 , Fakhri Momeni 💿 , Philipp Mayr 💿 , Isabella Peters 💿

Qualitative Science Studies 2020 doi: 10.1162/qss_a_00043





Integrity, rigor and Open Research support quality and reproducibility





Quality and Reproducibility: roles for journals and publishers

How can we support quality and reproducibility?

House of Commons

Science, Innovation and Technology Committee

Reproducibility and Research Integrity

Sixth Report of Session 2022–23

https://publications.parliament.uk/pa/cm5803/cm select/cmsctech/101/report.html

- "Journals should collectively encourage researchers to employ the FAIR (Findability, Accessibility, Interoperability, and Reuse of digital assets) principles within their research..."
- "Journals...should mandate the deposition of research data in open-access repositories alongside the publication of research outputs."
- "Publishers should review their journal portfolios to ensure that there are sufficient options for the **publication of negative and confirmatory science**, in line with the proportion of submissions which demand such routes"
- "Publishers should support academics who report issues with published research in their journals and should commit to timely publication of research error corrections and retractions where necessary..."
- "Publishers should also commit to timely deployment of technology to support the quality of the published record"

How can we support quality and reproducibility?

- Partner with the research community
 - Identify and resolve barriers to Open Research
- Develop robust editorial and publishing policies
 - Check for and enforce adherence
 - Investigate opportunities for automation
 - Support editors and reviewers during review
- Focus on the research question, experimental design, and quality of execution, not the "hotness" of the conclusions
 - Pre-registration of research
 - Outlets for null and confirmatory research



How can we support quality and reproducibility?

Transparency is key

- For editors
- For reviewers
- For readers
- For the community

"...without transparency, claims only achieve credibility based on trust in the confidence or authority of the originator. Transparency is superior to trust." Munafò et al. *Nat Hum Behav* 1: 0021 (2017). doi: 10.1038/s41562-016-0021



Thank you!



PLOS Climate: Towards increased community impact and action on the **SDGs**

Jamie Males, Executive Editor

Introducing PLOS Climate

PLOS CLIMATE

advanced search

Pebruary 1, 2022 PLOS Climate: a new, inclusive home for open climate research

PLOS Climate's Editor-in-Chief and Executive Editor lay out their vision for how the journal will promote ethical and open research, support decision-makers, and amplify perspectives from under-represented voices and regions as we engage with diverse communities and stakeholders investigating and responding to climate change around the world.

Image credit: PLOS

✓ Open Access✓ Non-profit

plosclimate.org



Editor-in-Chief: Emma Archer,

South Africa

University of Pretoria,



PLOS Climate: Journal Scope

 Primary research articles, including systematic reviews & meta-analyses, replication studies, negative results, methods papers, software, databases and tools

Commissioned Reviews & Opinions

- Atmospheric Science & Climatology
- Hydrology
- Adaptation
- Mitigation & Nature-Based Solutions
- Urban Climate
- Ecology
- Policy & Governance
- Oceanography
- Economics
- Social Science & Anthropology
- Technology & Engineering
- Energy
- Palaeoclimatology
- Behaviour & Psychology
- Philosophy & Ethics



PLOS Climate: Our Mission

"PLOS Climate will rapidly disseminate **rigorous research**, with a commitment to **open research** principles that empower **academic researchers**, **policy-makers**, **governments**, **international organizations and industry** to understand dynamic, changing climates and take positive, evidence-based action in the face of climate change. We will catalyze practical solutions and amplify perspectives from **under-represented voices** and regions about issues across the breadth of climate research."

Tackling exclusivity in climate science publishing

• Carbon Brief analysis of 100 highly-cited climate papers: "Less than 1% of authors in the sample are based in Africa, while almost three-quarters are affiliated with European or North American institutions."



 Reuters 'Hot List of Top 100 Climate Scientists' 2021 (and the responses...)



PLOS Climate: Community focus

- Co-creation of editorial strategy and journal policies with our Section Editors & Academic Editors
- Collaboration with regional partners
- Forging relationships with ECR networks
- Connecting research with decision-makers
- Latitude blog and social media activities

PLOS CLIMATE

PLOS BLOGS

Latitude

Welcome to Latitude - the blog for environmental studies at

PLOS, discussing global and regional topics that are important for improving and maintaining a safe and sustainable world.

Supporting Early Career Researchers (ECRs)

- Training workshops on scientific writing and peer review
 - Kyoto University
 - UK university doctoral training partnerships
 - CGIAR centres
- Collaborations with ECR networks:
 - Association of Polar Early Career Scientists (APECS)
 - PAGES Early Career Network
 - Permafrost Young Researchers Network (PYRN)



Encouraging inter-/trans-disciplinarity

- Collaborations across disciplines
- Co-design/-production with non-academic stakeholders
- Benefit sharing



Making connections at the interface of research and policy

Cross-journal environmental policy Collection with PLOS Water and
 PLOS Sustainability & Transformation

https://collections.plos.org/collection/environmental-policy/

- Commissioned Policy Perspective and Essay articles
- COP Commission project

Open Science- our EarthArXiv preprinting partnership



plos.io/preprints

Supporting the SDG Publishers' Compact







