

(Young) Editor's Guide to Preprints and Peer Review

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<https://researchintegrityjournal.biomedcentral.com/>

Positionality

Advocate/Endorse:

Publishing **protocols** with **analysis plans**

Using **reporting guidelines**

Posting **preprints**

Open science: sharing data, code, statistical program outputs, figures, graphs, and educational materials

Declaring what has changed due to peer review (current project)

Transparency in grant proposal submissions and job selections

Statements of Interest

Work/ed with:

Cochrane Croatia ~ love the idea of sys. reviews

Elsevier (funded), **Springer-Nature** (funds), **Wiley**

PEERE – New Perspectives on Peer Review – EU Cost action

Stanford

EASE Peer Review Committee

Co-editor in Chief of **Research Integrity and Peer Review** journal (BMC)

since March 2019 - <https://researchintegrityjournal.biomedcentral.com/>

History of Journals and Peer Review

1665. Journal des Sçavans (Paris)

1665. Philosophical Transactions (London)

1860. Slovinski prvenci o naravi i zdravlju (Croatia, Vienna)

1869. Nature (formal peer review [1967](#))

1879. Index Medicus

1890. Science

1994. [World Wide Web](#)

1997. PubMed (PubMed Central 2000)

2000. Croatian Medical Journal

2003. PLOS

[10.1017/S0018246X17000334](https://doi.org/10.1017/S0018246X17000334)

Usually editors made all the decisions

An the decisions were by-and-large either
Accept or **reject**

In learned societies - debates

Today > 40 000 journals

History of Peer Review cont.

*“Dear Sir, We (Mr. Rosen and I) had sent you our manuscript for publication and had **not authorized you to show it to specialists before it is printed.** I see no reason to address the—in any case erroneous—comments of your anonymous expert. On the basis of this incident I prefer to publish the paper elsewhere.”*

Albert Einstein

To note:

- Too few submissions
- Editors were the “peers” or “experts”

Around
1950s – 1970s most journals
started using external peer review

Peer Review Today

Focus:

- Scholarly article review

and more and more:

- Protocol Review

On average **2** reviewers per article (invited by the editor)

However:

- Grant review
- Book review
- Preprint or drafts review
- Post-publication review
- Conference (abstract) review
- Job applications review
- Movies and everything we grade/review

And reviewers spend on average
3 to 8 hours for review

Overall acceptance rate is **35% to 40%**

Analysis of 3,745 journals in PubMed –median time from submission to acceptance – **100 days** + 25 more days from acceptance to publication; 350 Md time for oncology papers

Types of Peer Review

- Single blind
- Double blind
- Triple blind
- Open
- Revision-less

New taxonomy STM - [Link](#)

What about evidence?

- Open was found to be more polite
- Reviewers recommended by authors tend to recommend acceptance or minor revisions more often
- Statistical/methodological reviewers tend to detect errors normal reviewers do not

So much we don't know

But what we do know is that inter-rater agreement, or agreement between peers/experts is very low

<https://doi.org/10.1371/journal.pone.0014331>

Problems with Peer Review

○ Inability to detect:

- (significant) methodological deficiencies of papers
- FFP, or questionable research practices
- spin in results interpretation and generalizability
- incorrect use of references
- lack of reporting of items needed to reanalyse or replicate studies
- lack of items needed to assess studies' risk of bias or quality

○ Scepticism toward innovative research

○ Gender and country bias

○ Long delays it imposes between study submission and publication

○ No CERTIFIED TRAINING PROGRAMS

○ Defining who is the PEER

○ Some authors do revision out of fear of rejection not as they agree with them

(BIG) BUT,

all of those fallacies are based on too few studies and on individual cases !!!!

(no. of retractions is <0.01 % of published literature)

“In lack of better alternatives peer review is still the best we have”

Many editors and Nobel prize winners

Few Things I wont cover (in detail)

- Motivation to do peer review – Sys review published
- Satisfaction with peer review
- Impact of intervention to improve peer review - Sys review published
- Tools to assess quality of peer review – Sys. review published
- Innovations in peer review (e.g. AI reviewers, crowd-reviewing, reviewing only methods of papers)
- Review credit (Publons, Elsevier, tenure promotions)
- Peer review training schools – **PUBLONS ACADEMY**

Questionable practices caused by peer review

- Fake peer reviews – ppl reviewing their own papers
- Reviewers or Editors forcing authors to cite their own papers
- Journals organizing to cite each other to boost their impact
- Editors boosting their journals by citing papers from them in their own papers
- Delaying or rejecting publications to steal ideas or publish first

The biggest unknow (to me) – what does peer review actually do – and do we need it?

- Review of 20 studies that looked at changes between submitted and accepted papers or preprints/conferences and published papers
- Conclusions – very little is changed, and most of changes have to with expanding introductions or improving clarity/reporting of the studies
- Since 2020 – I have been advocating that journals should clearly state what has changed because of peer review - <http://blogs.biomedcentral.com/on-medicine/2020/09/18/building-trust-in-peer-review-a-qa-with-dr-mario-malicki/>

Am I good enough to be a peer/expert/editor

PEER REVIEW EXPERIENCE

[Publons Profile Link](#)

Co-Editor-in-Chief of *Research Integrity and Peer Review* journal - <https://researchintegrityjournal.biomedcentral.com/>

I provide a full review for all journals I sent for external review. So far: 32 first round full review reports for my journal.

External peer reviewer for:

Alphabetical list of Journals (25):

Acta Medica Academica | Assessment | BMC Medical Ethics | BMC Medical Research Methodology | BMJ OPEN | Canadian Medical Association Journal | European Science Editing | Family Medicine | Health Expectations | Interscencia | JAHR – European Journal of Bioethics | JAMA | Journal of Clinical Epidemiology | Journal of Global Health | Journal of Universal Computer Science | Learned Publishing | Malaysian Journal of Medical Sciences | National Medical Journal of India | Nature Human Behaviour | PeerJ | PLOS One | Research Integrity and Peer Review | Science and Engineering Ethics | Srpski arhiv za celokupno lekarstvo | Therapeutics and Clinical Risk Management

No. of unique papers reviewed: 44

No. of second-third round reviews: 18

No. of review invites rejected: 9

Alphabetical list of conferences (4):

International Congress on Peer Review and Scientific Publication | International Symposium on Qualitative Research | PEERE International Conference on Peer Review | World Conference on Qualitative Research

No of unique abstracts/manuscripts reviewed: 24

Grant Peer Review:

Ethics review for European Commission (Research Executive Agency): 13

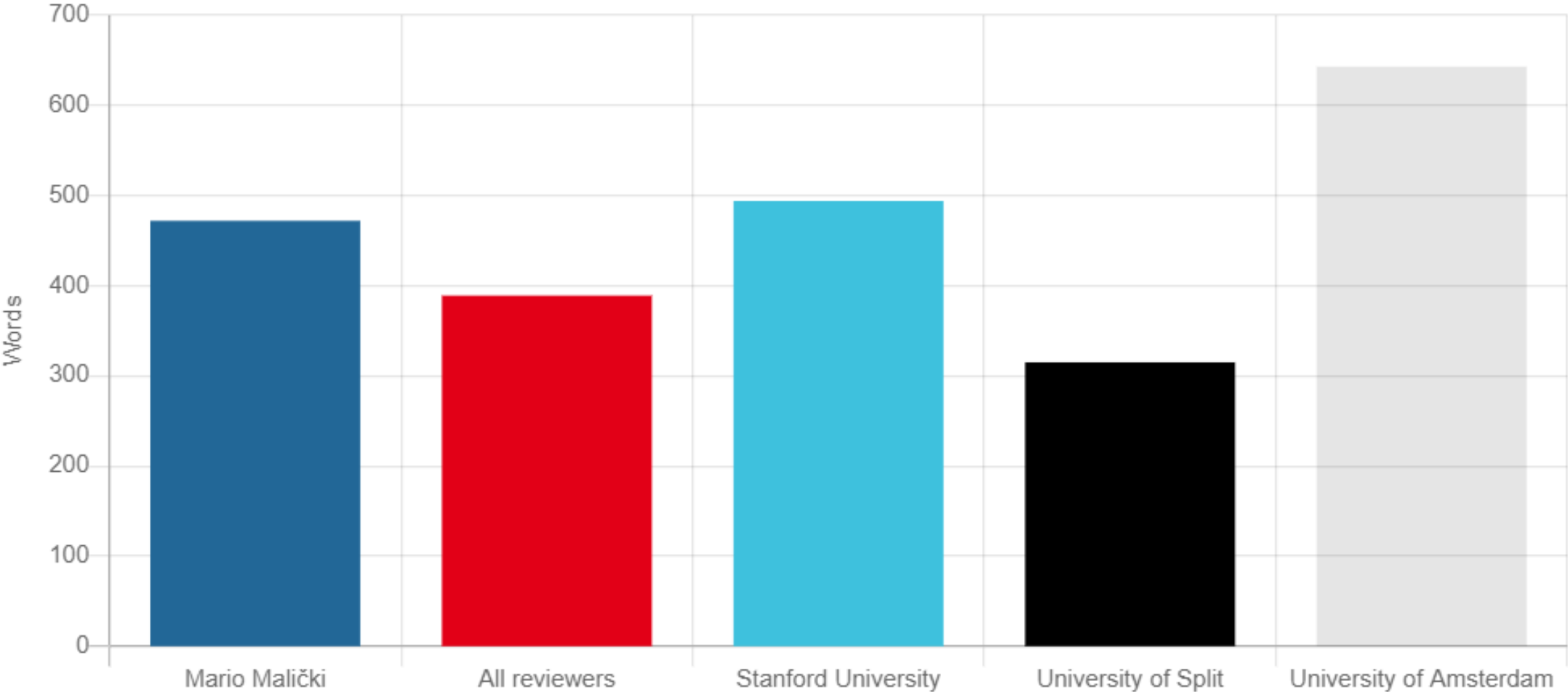
EU COST action proposals reviews: 2 Consensus Rapporteur: 1

Post-publication peer reviews on PubPeer: 4

Preprint reviews: 3

Average review length

The average number of words per review (for which we have content), compared to the average of All fields reviewers and the average of reviewers at affiliated institutions.



Negative Feedback

This was a rather distressing experience for the corresponding author. It never seemed to end. We had three rounds of major revision and the editor and the corresponding author exchanged many e-mails and even text messages and phone calls. Frankly, she found that rather intimidating.

We were very surprised when faced with a pompous, dishonest and intransparent editor. (tweet)

Positive Feedback

“Dear Editor,

I have to admit that when I first saw the number and specificity of your comments about this manuscript, I was a bit dismayed. However, after attempting to address all, I am very happy to tell you **this is the most thorough review I have had for a manuscript in over 40 years, but it was also one of the most valuable challenges I have had in the review stage. I believe your suggestions have made the manuscript much stronger,** and the process highlighted a couple of points that I had missed in my analyses. **Thank you.**”

How to be a good reviewer/Can I review this

1. Always ask your self how many (similar) studies have you read or conducted – and do you understand the methods, can you also evaluate the statistical methods?

While many will say you don't need to be able to run the analysis/statistics for your paper yourself – I have often found that its is actually that knowledge and a good grasp of **what the outcome variable is**, and **how it is measured and analysed** that gives me personally the greatest confidence as a reviewer/editor.

2. Are you being asked to review a specific aspect (e.g. statistics, literature search strategy, knowledge of the field)

My Template

Dear Authors,

Thank you for the opportunity to review this manuscript. I enjoyed reading it, and I would like to offer my suggestions for its improvement:

Statements: authors contributions, COI, data availability, ethics approval, funding declaration, presentation of the (preliminary) research at conferences, **reporting guidelines adherence**, study (protocol) registration (incl. sample size calculation)

Sections: Title ; Abstract; Introduction; Methods; Results; Discussion

In hopes my comments can help you improve your manuscript,

Kind regards,

Mario Malicki

MATCH taxonomy - MANuscript CHanges taxonomy

Overall impression

- Are there **serious flaws** that invalidate the study or make it unpublishable?

Introduction

- Does literature section needs expanding?
- Do hypothesis/goals need to be stated (more clearly)?

Methods

- Are different analysis, sub-analysis or increases of sample size needed?
- Do methods need additional clarifications?

Results

- Is additional statistical reporting needed (e.g. CIs, effect sizes)?

Discussion

- Does the main message (i.e. main result/outcome) need restating or toning down?
- Does generalisability or comparison with other studies need expanding?
- Do any limitations need to be added?

Structured PEER Review

Question	Reviewers		
	<u>1</u>	<u>2</u>	<u>3</u>
Overall			
serious flaws / unpublishable	No	No	No
Introduction			
literature section needs expanding or changing	No	No	No
objectives need to be stated (more clearly)	No	No	No
Methods			
adequate control or comparator	No	No	No
additional or different (sub)analyses needed	No	Yes	No
sample size increase needed	No	No	No
clarifications needed	No	Yes	Yes
Results			
additional/different statistical reporting needed	No	Yes	No
additional/different tables or figures needed	No	Yes	No
Discussion			
conclusion changes needed	No	Yes	No
comparison with other studies needed	No	No	No
additional limitations needed	Yes	Yes	Yes

My Vision for every published paper

Peer Review Statement

Handling editor: John Doe  **Reviewers:** Jane Joyce  Jim James 

Paper submitted: 19 January 2021

Paper published: 19 May 2021

Reports: [Structured review reports](#), [Rebuttal letter](#)

Checks: [plagiarism](#) – iThenticate; [reporting guidelines adherence](#) ✓; [FAIR data](#) ✓

Manuscript changes:

Introduction: [literature](#) - expanded (ref 12, 15, 17 added), [objective](#) – secondary goals listed

Methods: [sample size calculation](#) - added, [statistics](#) – t-tests replaced by Mann-Whitney tests

Results: [reporting](#) – confidence intervals added, [sub-group analysis](#) – gender analysis added

Discussion: [limitations](#) - expanded, [generalizability](#) – additional comparison with ref 46.

Brief history of preprints

1961 National Institutes of Health (NIH) – starts Information Exchange Groups (IEGs) - 7 groups, in total 3,600 participants

1965 Physics Information Exchange – send manuscripts to libraries

1980s Email/Internet Physics correspondences

1991 February - archive for Journal of Behavioural and Brain Sciences

1991 July - mathematical physics preprint archive

1991 August - arXiv (Paul Ginsparg)

1993 WoPEc – RePec (Research Papers in Economics)

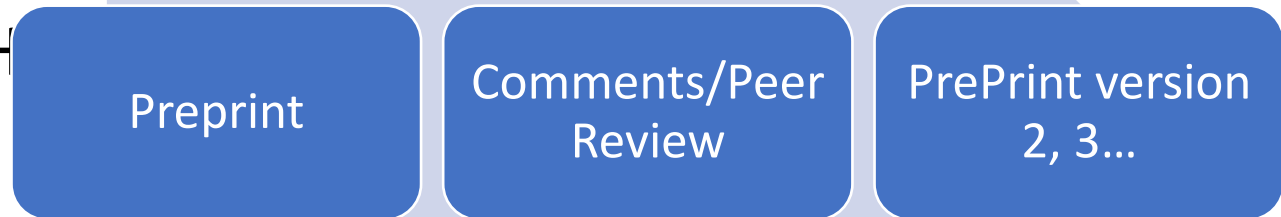
1994 SSRN – (Social Science Research Network)

> **60 servers**

- arXiv - 8
- bioRxiv
- CERN document server
- OSF preprint servers - 20
- SSRN - 50
- RePEc
- Hyper Articles en Ligne (HAL)

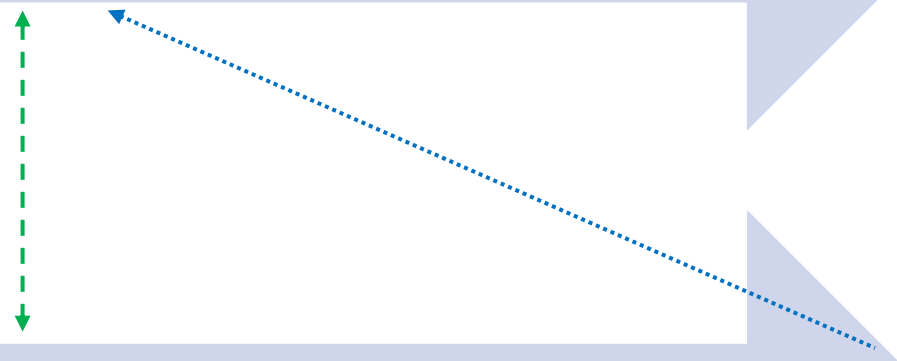
Traditional Journal Publishing

**Mandatory
run by journals**



PrePrint Publishing

**Non-mandatory
volunteers**



Pros

- Speed – no wait time till publication
- Versioning – make updates to your papers
- Feedback – obtain comments from the research community
- Open Access – almost all preprints are free for posting and reading
- Credit – cite and include in funding/tenure promotions
- One place for all – create project website, posters, presentations, link data

Cons

- no quality control
 - feedback is often lacking
 - sustainability concerns
- no clear definition of a preprint
working paper/draft

Specific use – public health emergencies

- Preprints posted during the Ebola and Zika outbreaks included novel analyses (90%) and new data (10%), and most of those that were matched to peer-reviewed publications were available more than 100 days before publication.
- COVID-19

Most research focused on citations

bioRxiv

- **Fu et al 2019** – posting a preprint leads to 1.36x increase in citations, and 1.56 in Altmetric score; 8% of articles from 26 journals in Pubmed had preprints; Md time to publication 182 days
- **Fraser et al 2019** – Md time to publication 154 days, 67% published, 29% more citation | first 6 months, 40% in a year, 50% 18 to 36 months
- **Serghiou et al 2018** – Altmetric score 9.5 vs 3.5, citations 4 vs 3

arXiv

- **Feldman et al 2018** – computer science preprints get 65% more citations in the following year after publication


















Additional findings








bioRxiv:







- less authors per preprint compared to published papers
- authors mostly from western countries
- Slight differences between preprints posted on bioRxiv and articles published in journals indexed in PubMed (peer reviewed), with peer reviewed articles having better reporting of reagents (i.e. drug suppliers and antibody validation) and experimental animals (i.e. reporting of strain, sex, supplier and randomization), while bioRxiv articles having better reporting of unit-level data, completeness of statistical results and exact p-values

arXiv:

- 1% of CS proceedings had preprints in 2007, 23% in 2017
- 36,000 survey – 95% (very) satisfied with arXiv, wanted better search, uploading presentations and data, reference sharing
- Post early or late in the day receive more readership and citations than those in middle

Transparency in reporting and research integrity	n	%	graphical %
Authorship	8	14%	
Conflicts of Interest	9	16%	
Committee of Publication Ethics (COPE)	2	4%	
Data Sharing	22	39%	
Errata	11	19%	
Ethics Approval	9	16%	
Funding	9	16%	
ICMJE	5	9%	
Image Manipulation	2	4%	
Limitations	2	4%	
Null Results	6	11%	
ORCID iD	14	25%	
Patents	3	5%	
Plagiarism	15	26%	
Replication studies	3	5%	
Reporting guidelines	3	5%	
Statistical guidance	0	0%	
TOP guidelines	2	4%	

Preprint Policies	n	%	graphical %
Instruction to Authors	27	47%	
Moderation	46	81%	
Versioning	30	53%	
Commenting	39	70%	
Preprint policies of journals	40	70%	
Direct transfer	10	18%	
Text mining	8	14%	

Submission requirements	n	%	graphical %
Scope	57	100%	
Study Type	31	54%	
Preprint structure	19	33%	
Abstract guidelines	12	21%	
Reference style	16	28%	
(La)Tex submission	10	18%	

<https://jamanetwork.com/journals/jama/fullarticle/2772748>

[Preprint: https://www.researchsquare.com/article/rs-153573/v1](https://www.researchsquare.com/article/rs-153573/v1)

Attitudes and Practices of Open Data, Preprinting, and Peer-review - a Cross Sectional Study on Croatian Scientists

Baždarić K, Vrkić I, Arh E, Mavrinac M, Gligora Marković M, Bilić-Zulle L¹, Stojanovski J, Malički M.

10.1371/journal.pone.0244529 – **21 June 2021**

- 546 responses, 196 (36%) from University in Rijeka and 350 (64%) from the Rudjer Boskovic Institute list of Croatian scientists
- 64 (12) – posted a preprint

Advice

- Accept (citing and submission) of preprints
- Ask authors to declare if they posted a preprint
- Let them cite their own preprint in their paper
- Ask them to declare changes between the preprint and the version submitted to you

Big question:

Do you and your reviewers have time to check their protocol and preprint when conducting peer review?

Thank you

**Lets Discuss Peer Review
and Preprints**