

Preprints peer review: Europe PMC user research report



Michele Ide-Smith

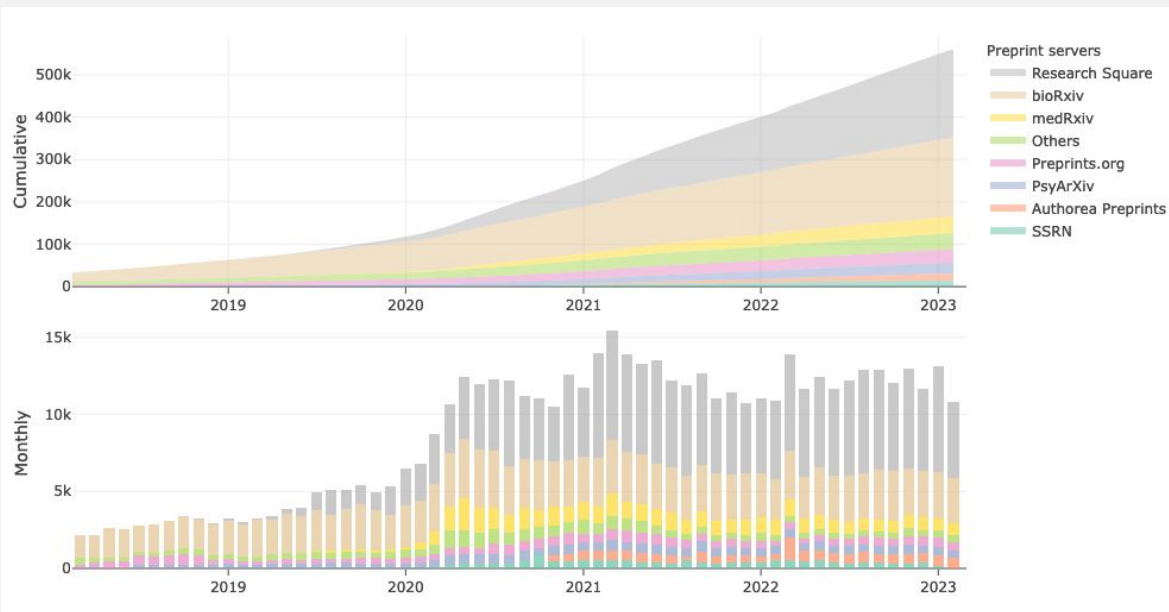
Service Coordinator, Europe PMC

December 2022

Introduction

Europe PMC has been indexing preprint abstracts, using a metadata feed from Crossref, since 2018. There are over 525k preprints in Europe PMC from over 24 preprint servers.

In July 2020 Europe PMC started indexing full text COVID-19 preprints, supported by Wellcome, The Medical Research Council and the Swiss National Science Foundation. And in 2022 full text preprints supported by Europe PMC funders have been indexed.



Preprints in Europe PMC

Preprints in Europe PMC link to the published, journal version and other versions of the preprint where possible.

[Abstract](#)
[Figures \(5\)](#)
[Free full text ▶](#)

[Data](#)

Reduced sensitivity of commercial Spike-specific antibody assays after primary infection with the SARS-CoV-2 Omicron variant

Springer DN¹, Perkmann T², Jani C¹, Mucher P², Prüger K¹, Marculescu R², Reuberger E¹, Camp JV¹, Graninger M¹, Borsodi C¹, Deutsch J³, Lammell O⁴, Aberle SW¹, Puchhammer-Stöckl E¹, Haslacher H², Höltl E⁵, Aberle JH¹, Stiasny K¹, Weseslindtner L¹

Author information ▶

Preprint from **Research Square**, 20 Jul 2022
DOI: 10.21203/rs.3.rs-1669740/v4 PPR: PPR521514

[Preprint v4](#) [Free to read & use](#) ⓘ

⚠ This article is a preprint. A journal published article is available.

Preprint version history ▼

- Version 4 [20 Jul 2022]
- Version 2 [25 May 2022]
- Version 3 [25 May 2022]
- Version 1 [19 May 2022]

[Annotations \(233\)](#)
[Get citation](#)
[Open PDF](#)
[Claim to ORCID](#)

Links from preprints to review materials

Preprints in Europe PMC are also linked to peer review materials in preprint peer review platforms. This include reviews, recommendations and commentary from Outbreak Science Rapid PREreview, Peer Community In, PreLights and other platforms such as Review Commons, available via Sciety.



The screenshot shows the Europe PMC interface with a sidebar on the left and a main content area. The sidebar contains links for 'Abstract', 'Full text' (with a green lock icon), 'Citations & Impact', and 'Reviews' (which is highlighted with a blue vertical bar). The main content area has a header 'Reviews' with a dropdown arrow, followed by the subtitle 'Reviews, recommendations & commentary from expert sources.' Below this is a box titled 'The home of public preprint evaluation' containing a link: <https://sciety.org/articles/activity/10.1101/2022.12.05.519185> with an external link icon.

As preprint peer review platforms and practices evolve, aggregated peer review ‘events’ are now available in a standardised format called [DocMaps](#), via services like Sciety and Review Commons.

Research goals

Our research goal was to inform how to integrate open peer review information into Europe PMC from peer review services like Sciety or Review Commons. We wanted to understand:

- Users' experiences of preprints and open peer review
- Users' attitudes to seeing peer review events
- Where do users expect to find open peer review information on article pages?
- What peer review information is useful/valuable?
- How should we display peer review information?
- How should we handle reviews in relation to preprint versions?
- Is providing a link to read peer review on external sites sufficient?
- Do users want to see / filter preprints with peer reviews when scanning search results?

Methodology

A prototype was created using real peer review data for preprints in Europe PMC from Society.

Participants were recruited via Slack groups and mailing lists. Remote research interviews were scheduled via Zoom and lasted 45-60 minutes. Sessions were recorded with the consent of participants.

The interviews had three parts:

1. Some opening interview questions about the participant's experience of preprints and open peer review.
2. A usability test using a prototype where peer review 'events' from DocMaps for real preprints in Europe PMC were shown on preprint pages.
3. Closing questions.

Participants

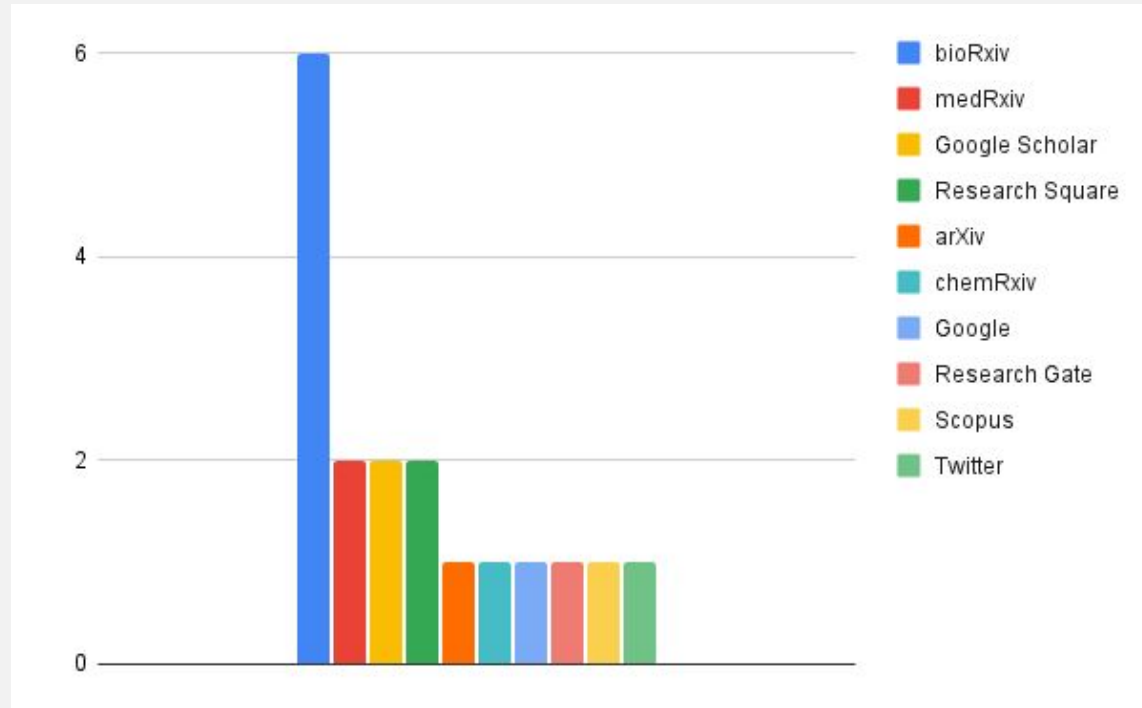
Participant ref.	Role	Location
P01	Managing an open peer review platform	United States
P02	Open science officer at a research institute	United Kingdom
P03	Program Officer at a Funder	United States
P04	Public health veterinarian	Nigeria
P05	Postdoc researcher in immunology	United Kingdom
P06	Neuroscience researcher	Israel / United States
P07	Project manager for a professional society	Netherlands
P08	Public and Environmental Health researcher and lecturer	Nigeria
P09	Researcher / PI in University Hospital Pathology Department	Germany

Where participants look for preprints

bioRxiv was the most frequently used website used to find preprints by participants.

None of the participants reported using Europe PMC to find preprints.

One participant found out about Europe PMC because he received an email about his Covid-19 preprint and had been using Europe PMC ever since to find literature.



Experiences of pre-printing and peer review



6 out of 9 participants had posted a preprint themselves.



4 out of 9 participants had received reviews for their preprints and found it a positive process, except one comment on Twitter which was felt not to be constructive.



3 participants had reviewed a preprint publicly and all 3 were happy for their reviews to be attributed to them.

Feedback on the prototype

Participants were shown a prototype with the following screens:

1. Search results - with reviewed preprint label
2. Preprint page - preprint has been published in a journal
3. Preprint page - peer review section cards option
4. Preprint page - peer review section timeline option
5. Preprint page - preprint not yet published
6. Preprint page - peer review section with SciScore
7. Preprint page - peer review section with eLife reviews

1. Search results - with reviewed preprint label

Search only

Type

- ☐ Research articles (963)
- ☐ Reviews (241)
- ☐ Preprints (41)

Free full text

- ☐ Free to read (1,108)
- ☐ Free to read & use (917)

Date

- ☐ 2022 (213)
- ☐ 2021 (264)
- ☐ 2020 (199)

[Custom date range](#)

Safety and genetic stability of African swine fever virus **vaccine** candidate "ASFV-G-ΔMGF" in an in vivo "reversion to virulence" study

Blome S, Deutschmann P, Forth J, Sehl-Ewert J, Carrau T, Viaplana E, Mancera J, Urniza A, Beer M

Research Square, 17 Aug 2022

African swine fever (ASF) has gained panzootic dimensions and commercial vaccines are still unavailable... in-depth safety characterization is needed for live ASF vaccines, one should still conduct a thorough benefit

Cited by: 0 articles | PPR: PPR532883

[+ Add to export list](#)

Reviewed preprint

[Export citations](#)

[Subscribe to RSS](#)

Inguinal lymph node sample collected by minimally invasive sampler helps to accurately diagnose **ASF** in dead pigs without necropsy.

Li X, Li Y, Fan M, Fan S, Gao W, Ren J, Liu Q, Li J, Wu W, Li J, Yu Q, Wang X, Yan Z

Front Vet Sci, 9:1000969, 28 Sep 2022

(1). Since its emergence in Kenya in the 1920's, ASF remains endemic in sub-Saharan Africa, the Indian... additional data file. Introduction African swine fever (ASF) is a devastating swine viral disease that is reportable

Cited by: 0 articles | PMID: 36246330 | PMCID: PMC9554536

[+ Add to export list](#)

Free to read & use

Taking a Promising **Vaccine** Candidate Further: Efficacy of ASFV-G-ΔMGF after Intramuscular Vaccination of Domestic Pigs and Oral Vaccination of Wild Boar

Deutschmann P, Carrau T, Sehl-Ewert J, Forth JH, Viaplana E, Mancera JC, Urniza A, Beer M, Blome S

Preprints.org, 02 Aug 2022

African swine fever (ASF) is a pandemic threat to the global pig industry and wild suids. A safe and ... subsequent challenge. All non-responders developed ASF upon challenge with two acute lethal infections and

Cited by: 0 articles | PPR: PPR527195

[+ Add to export list](#)

Preprint

Immunobiological Characteristics of the Attenuated African Swine Fever Virus



The majority of participants understood that this label meant the preprint had been reviewed and peer reviews were available.



Some participants found the label a bit ambiguous. One participants didn't know if 'reviewed preprint' means it is reviewed by a journal or the community. Another participant thought it might infer that the preprint has been revised based on the review.



One participant wanted to see the number of reviews.



Some participants felt separate labels might help e.g. 'preprint' and 'peer reviews available'



One participant was confused by the 'reviews' filter on the left and assumed that it would filter the search by peer reviews.

2. Preprint page - preprint has been published in a journal

Search life-sciences literature (41,104,240 articles, preprints and more)

PPR379469

Search

Save & create alert

Advanced search

Abstract

Full text 

Citations & impact

Reviews

Microtubule rescue at midzone edges promotes overlap stability and prevents spindle collapse during anaphase B

Lera-Ramirez M , Nédélec FJ, Tran PT 

Author information 

Preprint from bioRxiv, 06 Aug 2021

DOI: 10.1101/2021.08.06.455369 PPR: PPR379469

Preprint

Annotations (23)

Get citation

Claim to ORCID

 This article is a preprint. A journal published article is available.

Share this article    

Abstract



Participants understood that they were looking at a preprint article page and noticed the notification saying a journal article was available.



Not all participants found the 'Reviews' link quickly but some would scroll down (and then find it). Some were distracted by the 'Annotations' link. It was not always clear that 'Reviews' led to peer reviews of the preprint.



One participant did not know what PPR was but assumed it was similar to a DOI



One participant wanted to see the link to open peer reviews in the orange notification box with the link to the journal article



One participant wasn't clear what stage this preprint was at.

Would that be the final version? Is it still undergoing the review process? (P04)

3. Preprint page - peer review section cards option

The screenshot shows a preprint page with a sidebar on the left containing links: Abstract, Full text, Citations & Impact, and Reviews. The main content area is titled 'Reviews' and includes a sub-header 'Reviews, recommendations & commentary from expert sources.' On the right, there are links for 'Annotations (23)', 'Get citation', and 'Claim to ORCID'. The review section contains several cards:

- Author response**: A red arrow points to this card. It shows a response from an anonymous referee to a review article from ASAPbio Crowd Review, dated 13 May 2022, with a URL.
- Reviewer #1 (Public Review)**: Shows a review from an anonymous referee on eLife, dated 4 Mar 2022, with a URL.
- Reviewer #2 (Public Review)**: Shows a review from an anonymous referee on eLife, dated 4 Mar 2022, with a URL.
- Reviewer #3 (Public Review)**: Shows a review from an anonymous referee on eLife, dated 4 Mar 2022, with a URL.
- Evaluation Summary**: Shows a summary from eLife, dated 4 Mar 2022, with a URL.
- Bottom card**: A red arrow points to this card. It states 'This review reflects comments and contributions by Ricardo Carvalho, Omayra Dudin, Sónia Gomes Pereira, Samuel Lord, and Arthur Molines' and includes a URL.

✓ All participants understood that these were peer reviews of the preprint.

✓ Participants liked seeing the logos of the platforms and found this page visually appealing.

i It wasn't clear to some participants if these were journal or community reviews. And one felt 'expert sources' needed more explanation.

i Some participants wanted to see the links from each platform grouped and found it strange that the ASAPbio review and author response were separated.

i One participant felt that there were too many links and that all the links could be collapsed into one link to save time for the user


! Several participants felt that the order of items on this page should be reversed. They wanted to see the reviews before the author response.

It would have been better if all the dates could be on the same side so you can view them at a glance (P04)

Well it's ok but I would have preferred it the other way round. The other way round in the sense that all the reviewers' comments will be together in one link and the author's response to the reviewers' comments should now follow suit. (P08)

I found it a bit strange to have the response before I had the comments. (P09)

4. Preprint page - peer review section timeline option

Abstract
Full text 
Citations & Impact
Reviews

Reviews
Reviews, recommendations & commentary from expert sources.

Annotations (14)
Get citation
Claim to ORCID

13 May 2022
Author response
Referee: Anonymous
Review article from ASAPbio crowd review
<https://hypothes.is/a/Djwx7BtMEeyK2k-UzXbtDw>

4 Mar 2022
Reviewer #1 (Public Review)
Referee: Anonymous
eLife
<https://hyp.is/VINL3jvvEey3C8M9fgPRUg/www.biorxiv.org/content/10.1101/2021.08.06.455369v1>

4 Mar 2022
Reviewer #2 (Public Review)
Referee: Anonymous
eLife
<https://hyp.is/VdJlOQpvyEeyTaifQMMyReRw/www.biorxiv.org/content/10.1101/2021.08.06.455369v1>

4 Mar 2022
Reviewer #3 (Public Review)
Referee: Anonymous
eLife
<https://hyp.is/VTh7lpvEeyqRvPhJgr-hw/www.biorxiv.org/content/10.1101/2021.08.06.455369v1>

4 Mar 2022
Evaluation Summary
Referee:
eLife
https://hyp.is/VtE_TjvvEeyZGVsAXGCnbQ/www.biorxiv.org/content/10.1101/2021.08.06.455369v1

13 Sep 2021
This review reflects comments and contributions by Ricardo Carvalho, Omaya Dudin, Sónia Gomes Pereira, Samuel Lord, and Arthur Molines
Referee: Anonymous
ASAPbio crowd reviews
<https://hyp.is/VINL3jvvEey3C8M9fgPRUg/www.biorxiv.org/content/10.1101/2021.08.06.455369v1>



Most participants preferred this 'timeline' view of the information because the dates were easy to see and there was a sense these items were connected together.



Several participants found this less visually appealing and missed the logos of the providers, but thought it was 'functional'.



Three participants wanted to know if the reviews had resulted in the author updating the preprint, and posting a new version.



One participant stressed that they wanted to see the names of the reviewers for credibility and felt that the process should always be open.



One participant felt that the connections implied a link between the author response and the review and wasn't sure that was the case.

I immediately see that what is on top is the latest author response, and if I go down I have the history of what happened (P09)

One thing I would like is if they were, if you were able to link up with versions, subsequent versions at each point. That would be quite useful, because what you'd miss here is, you might have a change between the response here and here in the pre-print. (P05)



Search life-sciences literature (41,088,813 articles, preprints and more)

PPR109323

Search

Advanced search

Abstract

Full text

Citations & Impact

Reviews

Antibody evasion by SARS-CoV-2 Omicron subvariants BA.2.12.1, BA.4, and BA.5

Wang Q, Guo Y, Iketani S, Nair MS, Li Z, Mohri H, Wang M, Yu J, Bowen AD, Chang JY, Shah JG, Nguyen N, Chen Z, Meyers K, Yin MT, Sobieszczyk ME, Sheng Z, Huang Y, Liu L, Ho DD

Preprint from bioRxiv, 26 May 2022

DOI: 10.1101/2022.05.26.493517 PPR: PPR499147

Preprint

This article is a preprint. Open peer review reports are available

Share this article

Abstract

SARS-CoV-2 Omicron subvariants BA.2.12.1 and BA.4/5 have surged dramatically to become dominant in the United States and South Africa, respectively 1,2 . These novel subvariants carrying additional mutations in their spike proteins raise concerns that

Annotations (5)

Get citation

Claim to ORCID

Oh this actually makes me want to go here directly. Will I get the same result? Ok I think this actually gives a better description than the previous one. (P04)



The majority of participants understood that this label meant the preprint had been reviewed and peer reviews were available.



Some participants were not sure that these two links went to the same place.



One participant didn't feel that a warning triangle was necessary here.

6. Preprint page - peer review section with SciScore

The screenshot shows a web interface for a preprint's peer review section. On the left, a sidebar contains links: 'Abstract', 'Full text' (with a green icon), 'Citations & impact', and 'Reviews'. The main content area is titled 'Reviews' and includes the subtitle 'Reviews, recommendations & commentary from expert sources.' Below this, there are two review entries. The first entry is for a 'SciScore for 10.1101/2022.05.26.493517' by 'TBC from ScreenIT, 29 May 2022', with a URL: <https://via.hypothes.is/https://www.biorxiv.org/cgi/...>. The second entry is 'Review 1: "SARS-CoV-2 Omicron BA.2.12.1, BA.4, and BA.5 Subvariants Evolved to Extend Antibody Evasion"' by 'Referee: Nathaniel Landau', dated 'Referee report from Rapid Reviews COVID-19, 2 Aug 2022', with a URL: <https://rapidreviewscovid19.mitpress.mit.edu/pub/biim2jpr/release/1>. To the right of the reviews, there are links for 'Annotations (14)', 'Get citation', and 'Claim to ORCID'. At the bottom of the page, there is a 'Follow us' section with icons for News blog, Technical blog, Twitter, and YouTube. Below that is a footer with five columns: 'About' (About Europe PMC, Funders, Joining Europe PMC, Governance, Roadmap, Outreach), 'Tools' (Tools overview, ORCID article claiming, Journal list, Grant finder, External links service, RSS feeds, Annotations, Annotations submission service), 'Developers' (Developer resources, Articles RESTful API, Grants RESTful API, API case studies, SOAP web service, Annotations API, OAI service, Bulk downloads), 'Help' (Help using Europe PMC, Search syntax reference, Contact us), and 'Contact us' (Helpdesk, Feedback, Twitter, Blog, Tech blog, Developer forum).



Most participants did not understand what the 'SciScore' was. When it was explained or shown to them, most felt it didn't belong next to reviews.




One participant wanted to see the score straight away, like the Altmetric badge

I thought maybe something that relates to some kind of ranking of something. But I have no idea for what. (P06)

I don't think it should be in the review section, because it's not, It's not a recommendation or a commentary either...it should have like a little badge or something with it, so you can really tell it's not been done by a person, and it's just some kind of..it's almost a tick box exercise. (P05)

7. Preprint page - peer review section with eLife reviews

Abstract


Full text 


Citations & Impact


Reviews


Reviews


Reviews, recommendations & commentary from expert sources.


**eLife Assessment**
Referee: Anonymous
eLife, 6 Sep 2022
<https://via.hypothes.is/https://www.biorxiv.org/content/10.1101/2022.06.24.497502v1>


**Reviewer #1 (Public Review)**
Referee: Anonymous
eLife, 6 Sep 2022
<https://hyp.is/hmP-bi3DEe2C9QtcFZcxmQ/www.biorxiv.org/content/10.1101/2022.06.24.497502v1>

**Reviewer #2 (Public Review)**
Referee: Anonymous
eLife, 6 Sep 2022
<https://hyp.is/hgzitC3DEe2SBN9NIUxw5A/www.biorxiv.org/content/10.1101/2022.06.24.497502v1>

**Reviewer #3 (Public Review)**
Referee: Anonymous
eLife, 6 Sep 2022
<https://hyp.is/hVq6MC3DEe2ERdPL5ARqAA/www.biorxiv.org/content/10.1101/2022.06.24.497502v1>

 Annotations (23)

 Get citation

 Claim to ORCID



One participant was suspicious about the process because the dates for all reviews and the assessment were the same.



One participant stressed that they wanted to see the names of the reviewers for credibility and felt that the process should always be open.

What participants liked

- Participants liked the fact that Europe PMC is making this information available and easy to discover
- They thought the information was mostly clear
- They liked the timeline with clear dates and linked peer review events
- They liked provider logos which clearly indicate where reviews are from

What participants didn't like

- Participants didn't like ambiguous labels which needed to be clearer
- Sometimes there was repetition of information and participants felt the provider name/logo could be shown once, rather than repeated

Future design considerations

- Consider merging the two ‘views’ of peer review events:
 - to group review events from one provider under one logo to minimise repetition; and
 - to show a nested timeline of events.
- Use consistent and unambiguous terminology such as ‘open peer review’ rather than just ‘reviews’ on article pages.
- Reviews versions should be clearly linked, so that readers can see if a review resulted in a revision of the preprint by the author in the timeline.
- Indicate if reviews are from a journal or community source.
- Don’t show automated ‘scores’ alongside reviews.

Thank you

Thank you to all the participants who kindly gave up their time to participate in this study.

If you would like to discuss this research further, please contact:

Michele Ide-Smith

Service Coordinator, Europe PMC

michelei@ebi.ac.uk

Acknowledgements



We are grateful for the support of Europe PMC's 37 funders.

This research was funded in whole, or in part, by the Wellcome Trust Grant number 221523,

<https://doi.org/10.35802/221523>

For the purpose of open access, the author has applied a CC BY public copyright licence.