

Rethinking preprints

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2020-10-15
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Disclosures

- PhD: UCSF, Biochemistry/Cell Biology
- Postdoc: Harvard Medical School, Synthetic biology
- ASAPbio Director: UCSF
- Executive Director: ASAPbio

Other affiliations:

- Current: cOAlition S Ambassador, Knowledge Futures Group (MIT), Rescuing Biomedical Research, PREreview advisory board
- Past: Whitehead Institute, Future of Research, *Publications* (MDPI), NASEM NGRI, ASCB public policy committee

ASAPbio

a 501(c)(3) promoting transparency & innovation in life sciences publishing



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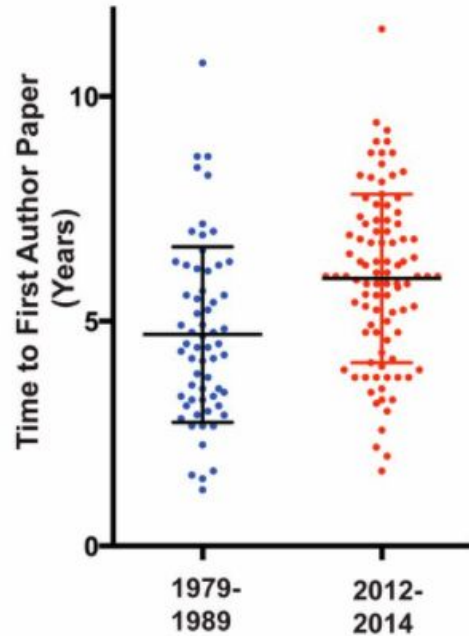


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Creating a publishable unit is slower than ever



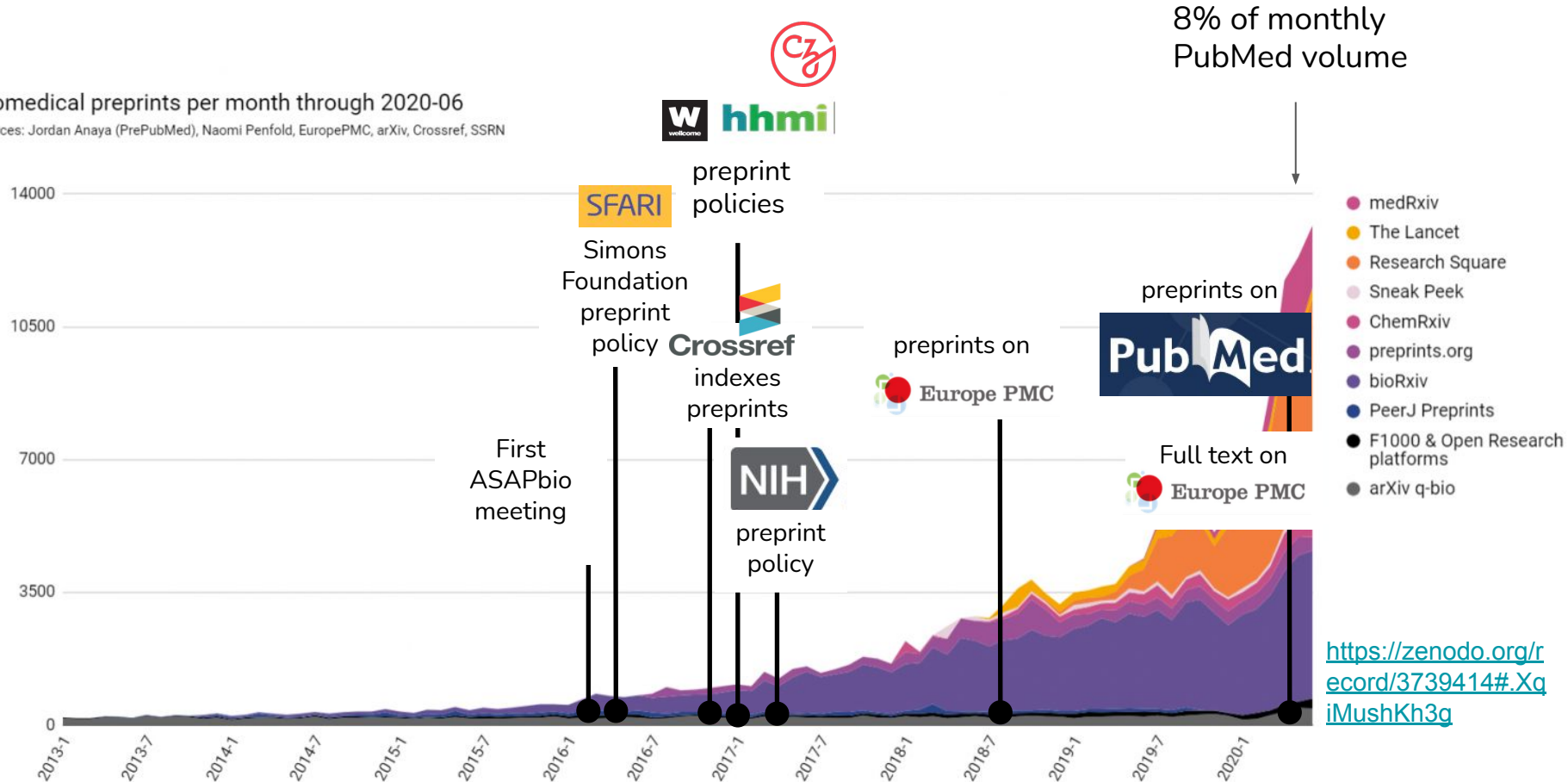
Accelerating scientific publication in biology

Ronald D. Vale

Proceedings of the National Academy of Sciences Nov 2015, 112 (44) 13439-13446; DOI: 10.1073/pnas.1511912112

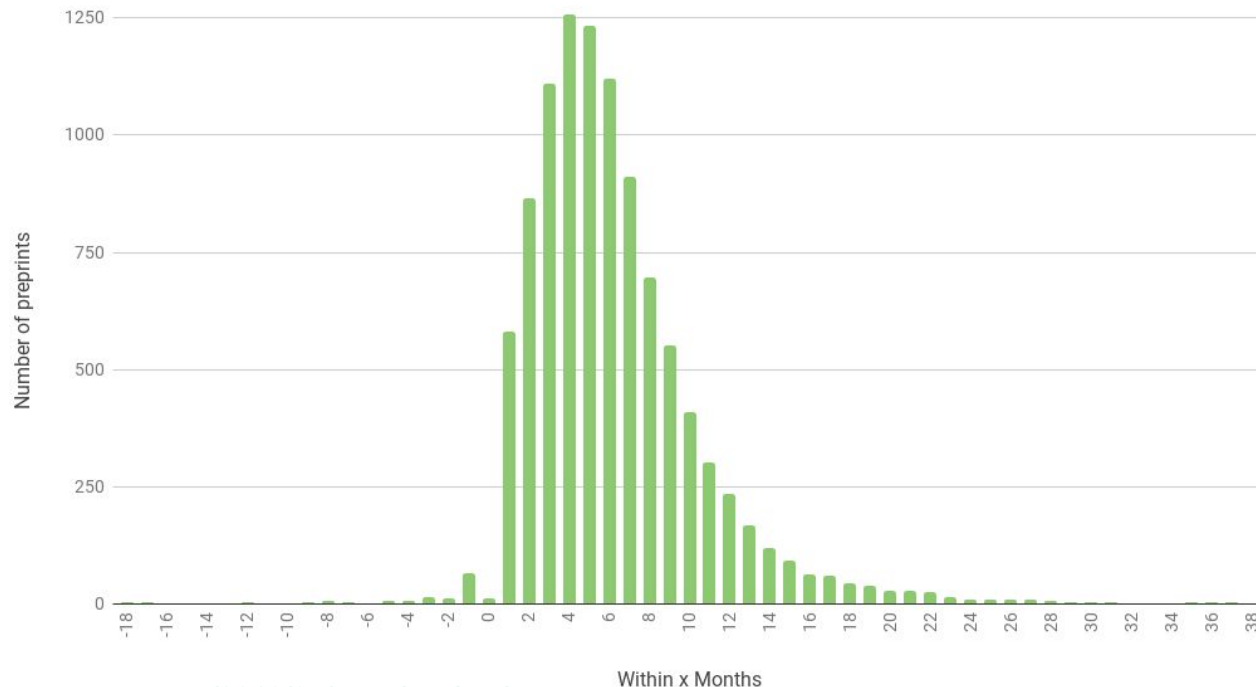
Biomedical preprints per month through 2020-06

Sources: Jordan Anaya (PrePubMed), Naomi Penfold, EuropePMC, arXiv, Crossref, SSRN



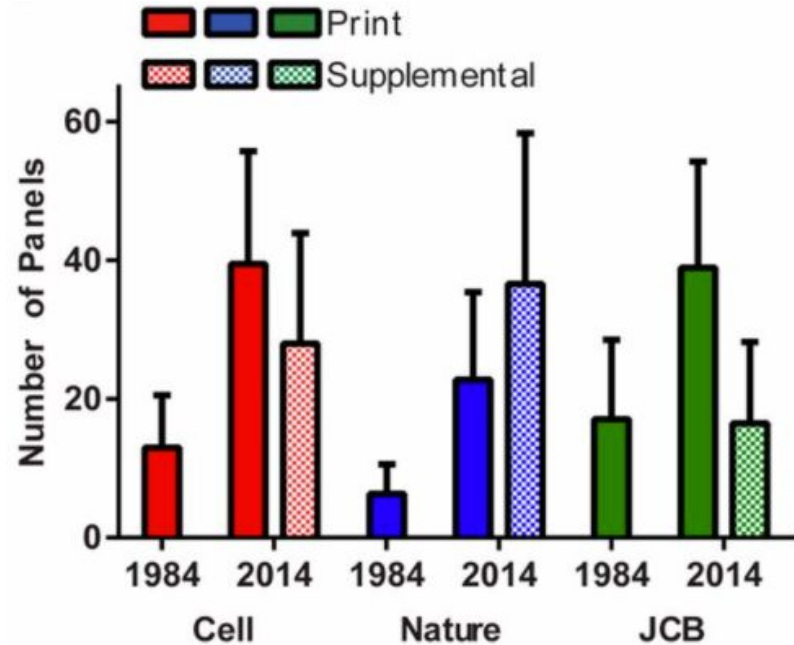
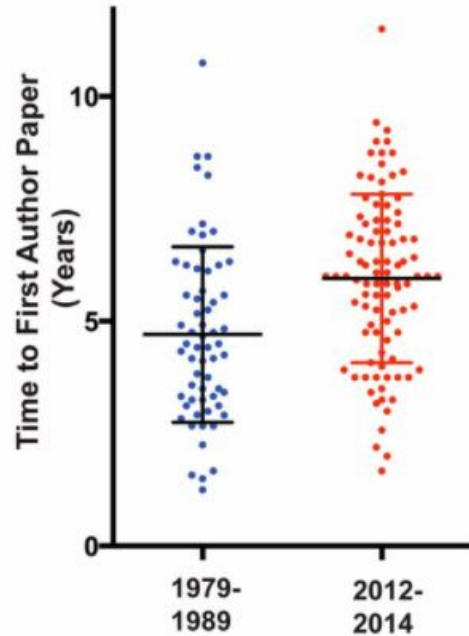
Preprints separate dissemination and evaluation

Time between posting preprint and first publication of final peer reviewed paper



Median 4-5 months
between preprint
and journal article

Creating a publishable unit is slower than ever

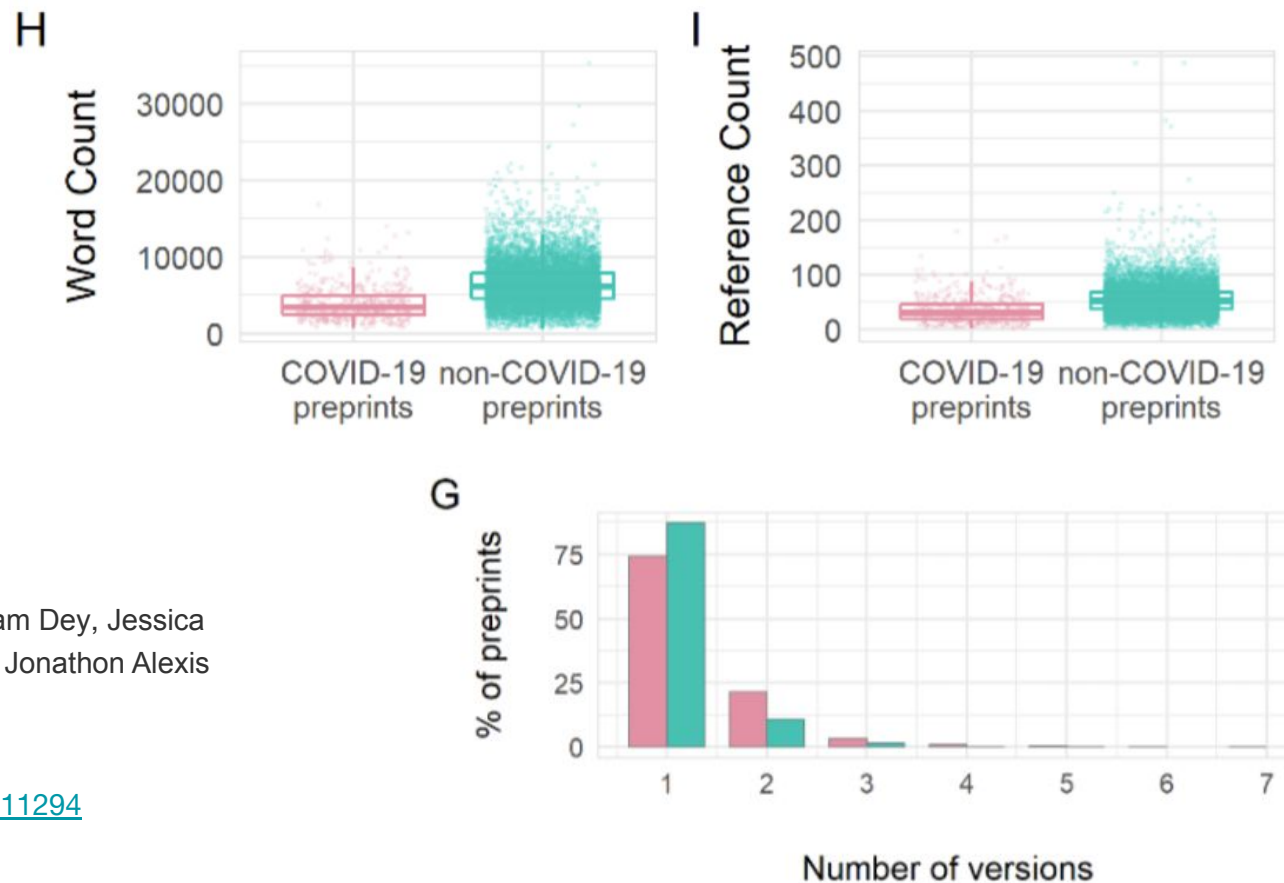


Accelerating scientific publication in biology

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COVID-19 is changing preprints



Preprinting the COVID-19 pandemic

Nicholas Fraser, Liam Brierley, Gautam Dey, Jessica K Polka, Máté Pálffy, Federico Nanni, Jonathon Alexis Coates

bioRxiv 2020.05.22.111294; doi:

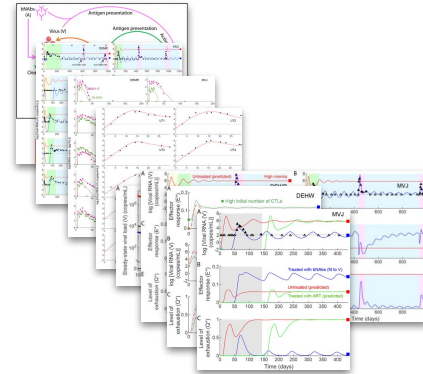
<https://doi.org/10.1101/2020.05.22.111294>

(Reviewed by RR:C19)

A potential use case for preprints

Journal
submission

Journal
publication



January 2020

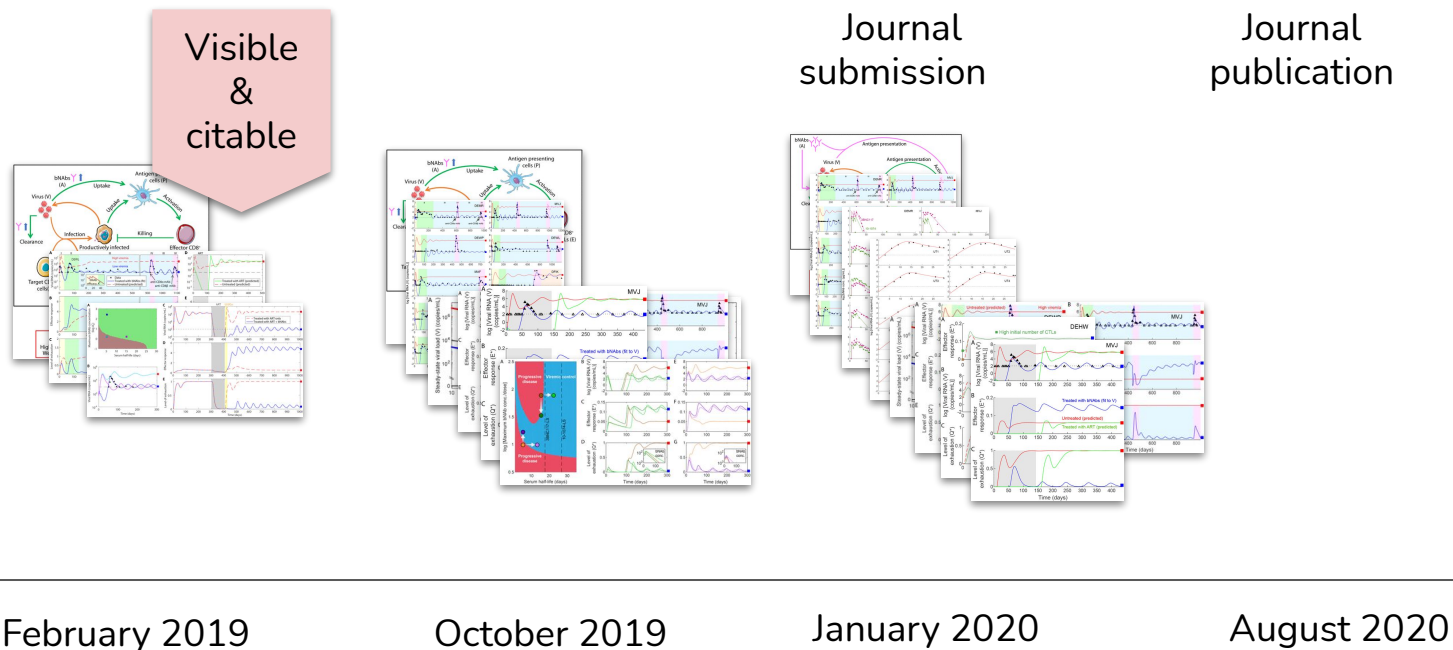
August 2020

Early exposure to broadly neutralizing antibodies may trigger a dynamical switch from progressive disease to lasting control of SHIV infection

Rajat Desikan, Rubesh Raja, Narendra M. Dixit

bioRxiv 548727; doi: <https://doi.org/10.1101/548727> Now published in PLOS Computational Biology doi: 10.1371/journal.pcbi.1008064

A potential use case for preprints



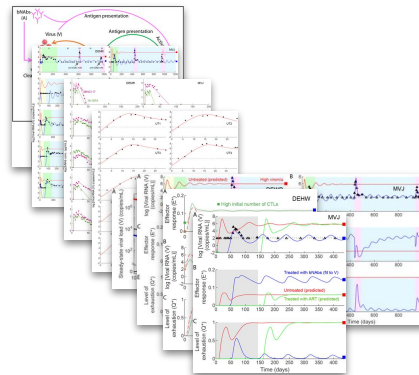
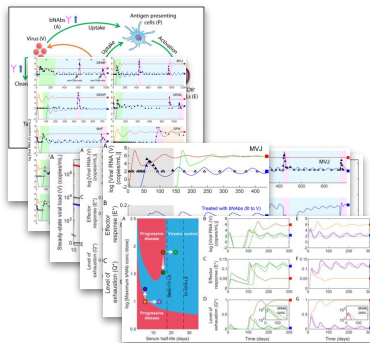
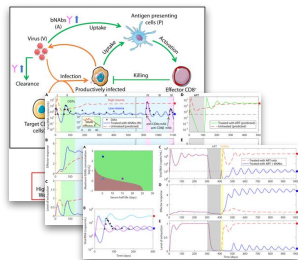
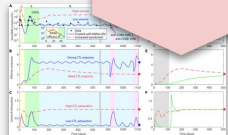
Early exposure to broadly neutralizing antibodies may trigger a dynamical switch from progressive disease to lasting control of SHIV infection

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bioRxiv 548727; doi: <https://doi.org/10.1101/548727> Now published in PLOS Computational Biology doi: 10.1371/journal.pcbi.1008064

A potential use case for preprints

Visible
&
citable



Journal
submission

Journal
publication

???

February 2019

October 2019

January 2020

August 2020

Early exposure to broadly neutralizing antibodies may trigger a dynamical switch from progressive disease to lasting control of SHIV infection

Rajat Desikan, Rubesh Raja, Narendra M. Dixit

bioRxiv 548727; doi: <https://doi.org/10.1101/548727> Now published in PLOS Computational Biology doi: 10.1371/journal.pcbi.1008064

Posted January 18, 2020.

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 Supplementary Material

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 Revision Summary

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REVISION SUMMARY

-  Shared first authorship.
- The underlying mechanisms are established more robustly by considering additional model variants. The key conclusions remain unaltered.

PLOS COMPUTATIONAL BIOLOGY

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RESEARCH ARTICLE

Early exposure to broadly neutralizing antibodies may trigger a dynamical switch from progressive disease to lasting control of SHIV infection

Rajat Desikan  , Rubesh Raja , Narendra M. Dixit 

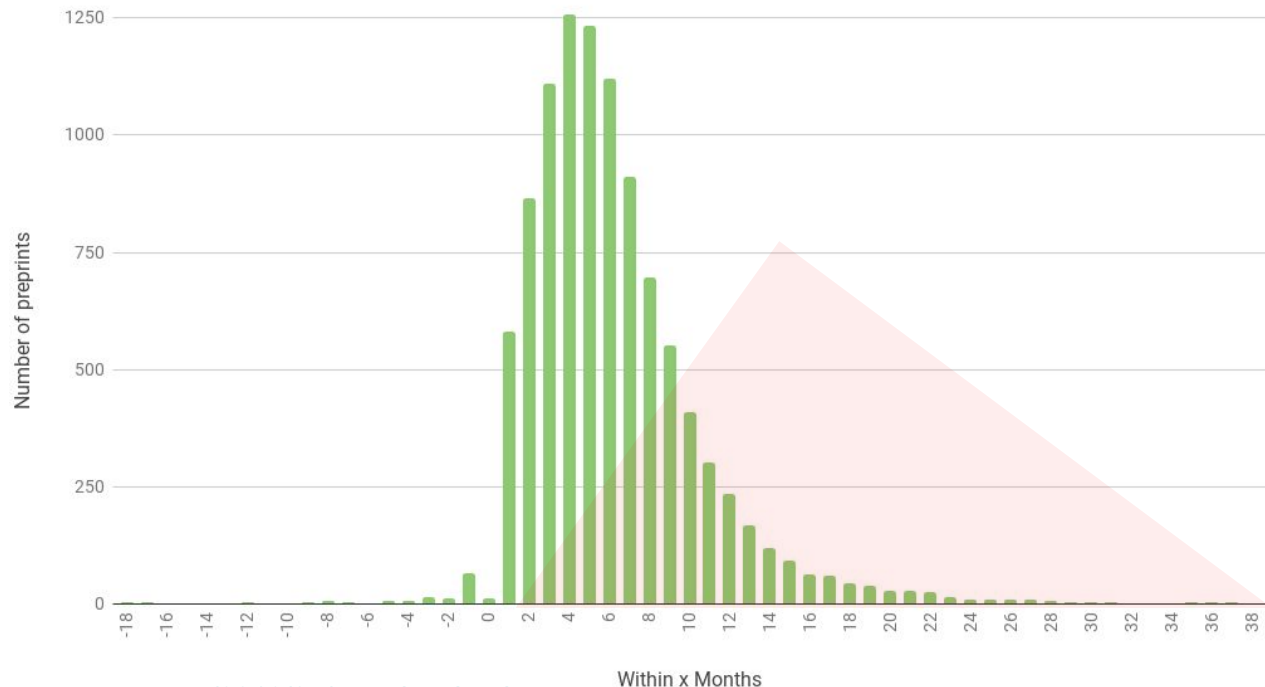
Version 2 

Published: August 20, 2020 • <https://doi.org/10.1371/journal.pcbi.1008064>

• >> See the preprint

Preprints separate dissemination and evaluation

Time between posting preprint and first publication of final peer reviewed paper



How much time
would be saved by
earlier
dissemination?

“Science is not article-shaped.”



- Louise Page



... but articles are the coin of the realm

Data and code papers

scientific data

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nature > scientific data > data descriptors > article

Data Descriptor | [Open Access](#) | Published: 08 October 2020

A cross-country database of COVID-19 test results


Joe Hasell  Edouard Mathieu, Diana Beltekian, Bobbie Macdonald, Charlie Giattino, Max Roser & Hannah Ritchie



Scientific Data **7**, Article number: 345 (2020) | [Cite this article](#)

2076 Accesses | **7** Altmetric | Metrics


Abstract


Our understanding of the evolution of the COVID-19 pandemic is built on data on confirmed cases and deaths. This data, however, can only be meaningful alongside an accurate understanding of the extent of virus testing in different countries. This new database brings together official data on the extent of PCR testing in different countries. We provide a time series for the daily number of tests performed together with metadata describing data quality and comparability issues.

 The Journal of Open Source Software

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PyMatting: A Python Library for Alpha Matting

Python C++  Submitted 02 July 2020 • Published 13 October 2020




 The Journal of Open Source Software

PyMatting: A Python Library for Alpha Matting

Thomas Germer¹, Tobias Uelwer¹, Stefan Conrad¹, and Stefan Harmeling¹

DOI: [10.21105/joss.02481](https://doi.org/10.21105/joss.02481)

Software

- [Review](#) 
- [Repository](#) 
- [Archive](#) 

Summary


A fundamental problem of many image processing tasks is the extraction of specific objects from an image in order to place them in a scene of a movie or compose them onto another background. PyMatting describes the problem of compositing multiple objects in the background.


1 Department of Computer Science, Heinrich Heine University Düsseldorf


Review
Editor: [@gkthiruvathukal](#) (all papers)
Reviewers: [@zlatdinovmax](#) (all reviews), [@macrocosme](#) (all reviews)


Authors
[Thomas Germer](#), [Tobias Uelwer](#), [Stefan Conrad](#), [Stefan Harmeling](#)

Citation
Germer et al., (2020). PyMatting: A Python

 Software repository

 Paper review

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 Software archive

Preprints servers offering clear links to data/code

OSF

bioRxiv

← Previous

Posted October 15, 2020.

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Supplementary Material

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Public Data: (required)

☒ Available ☐ No ☐ Not applicable

Links to data: (required)

<https://osf.io/43z28/>

<https://osf.io/43z28/>

Data refers to raw and/or processed information (quantitative or qualitative) used for the analyses, case studies, and/or descriptive interpretation in the preprint. Public data could include data posted to open-access repositories, public archival library collection, or government archive. For data that is available under limited circumstances (e.g., after signing a data sharing agreement), choose the 'No' option and use the comment box to explain how others could access the data.

Recommendations for preprint data/materials statements:

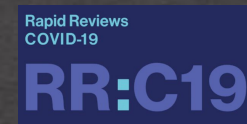
Beck, Jeffrey, et al. "Building Trust in Preprints: Recommendations for Servers and Other Stakeholders." OSF Preprints, 21 July 2020. Web. <https://osf.io/8dn4w/>

Preprints as adapter



- Code, data
- Micropublications
- Short reports
- Work that will be updated

- Infrastructure
- Visibility
- Credit and funder recognition
- Peer review initiatives





Encouraging Preprint Curation and Review: a Design Sprint

November 13 & December 3

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Thank you

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Iratxe Puebla
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