

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

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



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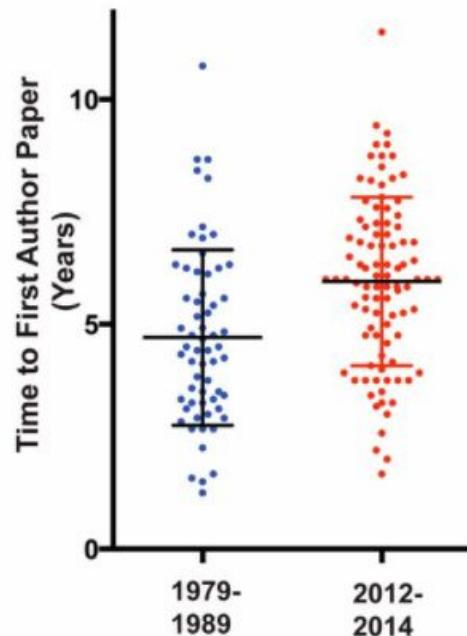


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Creating a publishable unit is slower than ever



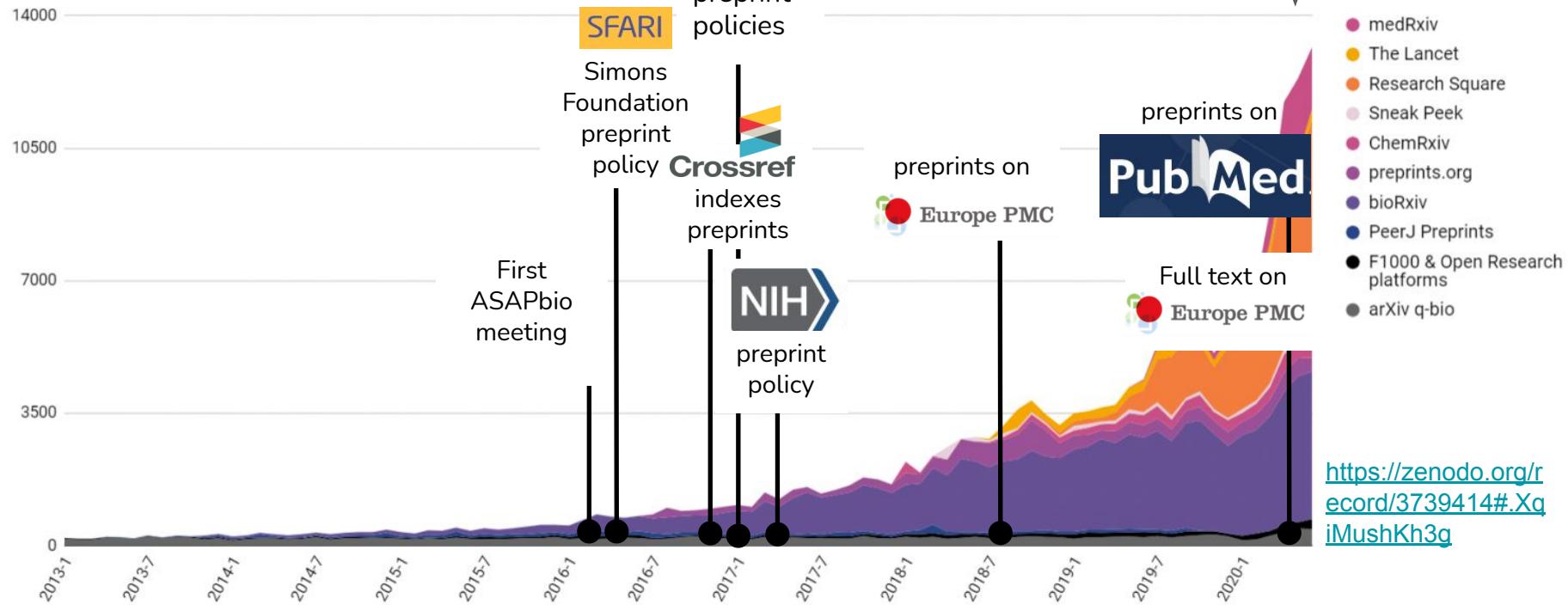
Accelerating scientific publication in biology

Ronald D. Vale

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

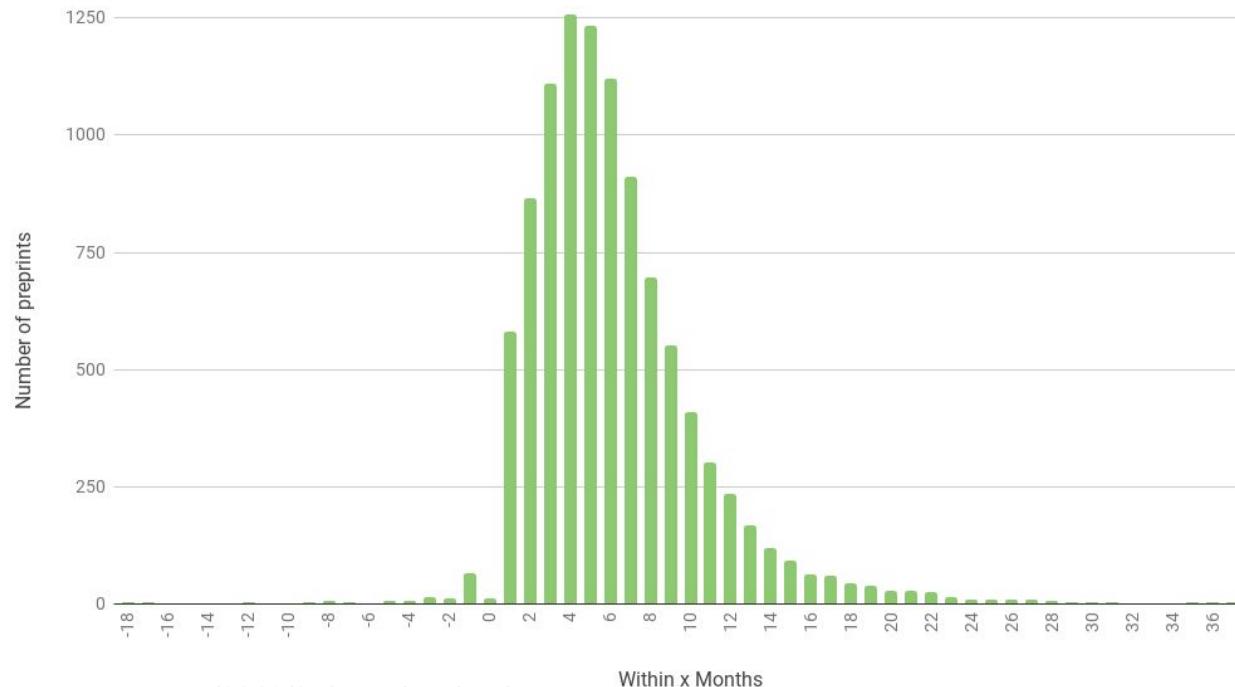
Biomedical preprints per month through 2020-06

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



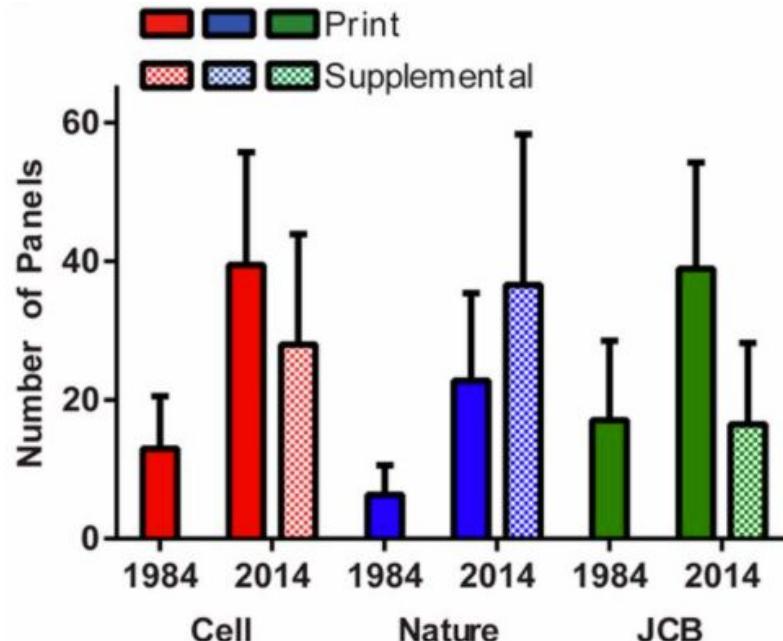
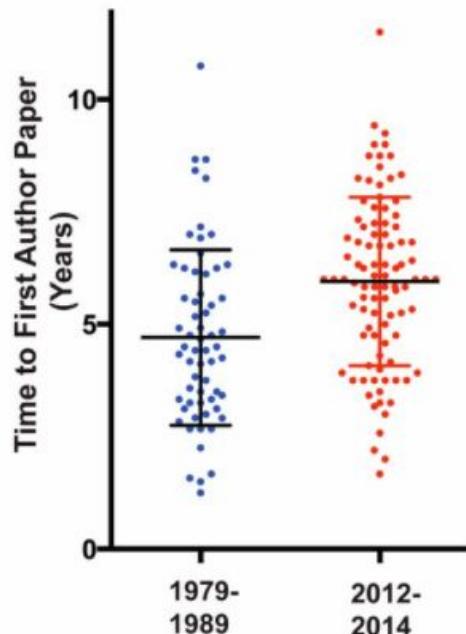
Preprints separate dissemination and evaluation

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



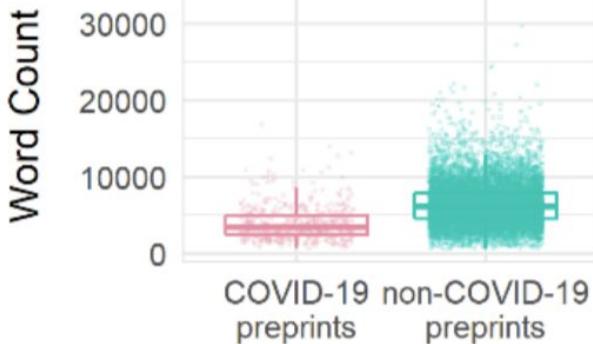
Median 4-5 months
between preprint
and journal article

Creating a publishable unit is slower than ever

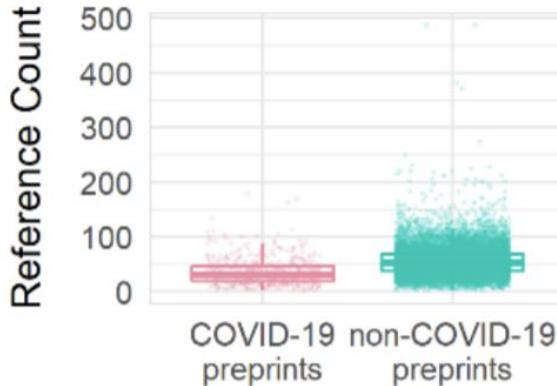


COVID-19 is changing preprints

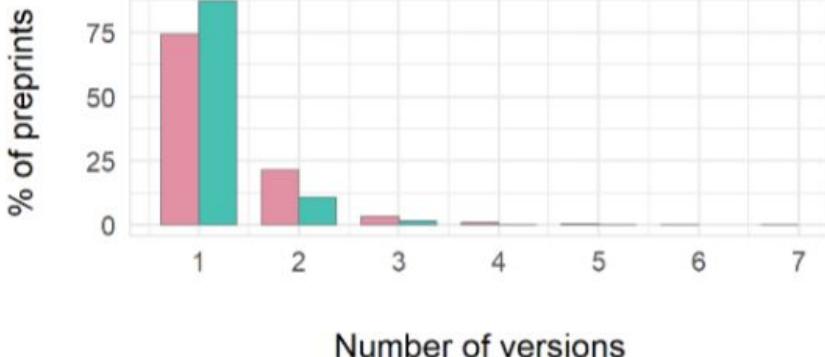
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Preprinting the COVID-19 pandemic

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

bioRxiv 2020.05.22.111294; doi:

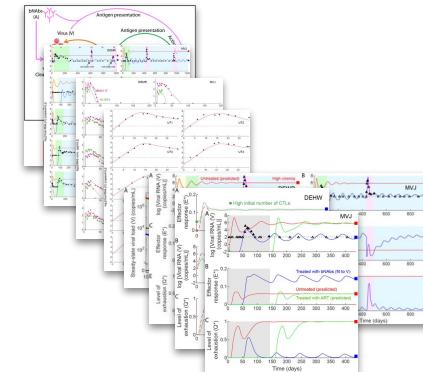
<https://doi.org/10.1101/2020.05.22.111294>

(Reviewed by RR:C19)

A potential use case for preprints

Journal
submission

Journal
publication



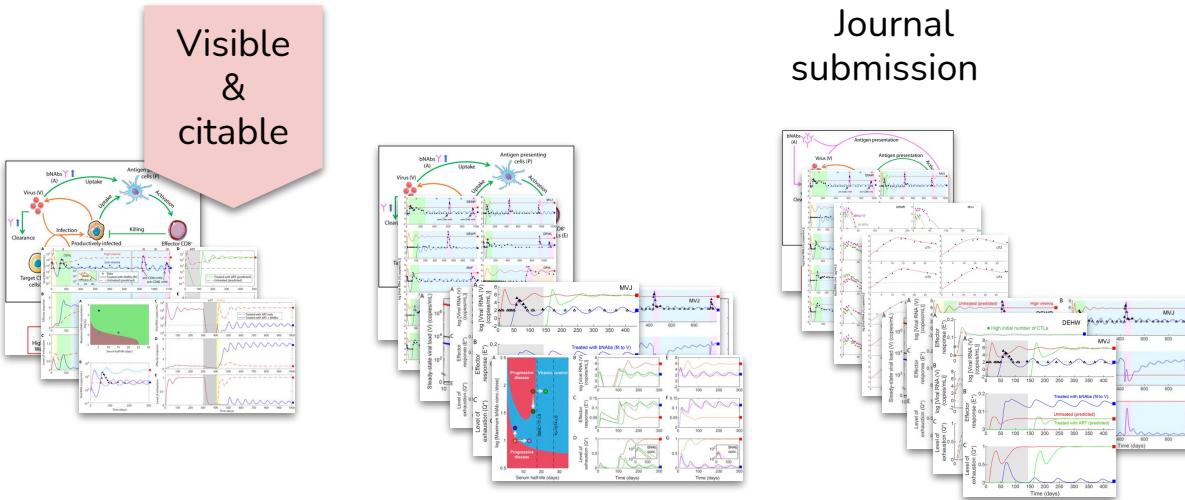
January 2020

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

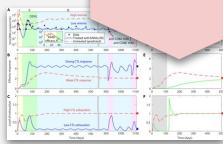


Early exposure to broadly neutralizing antibodies may trigger a dynamical switch from progressive disease to lasting control of SHIV infection
Rajat Desikan, Rubesh Raja, Narendra M. Dixit

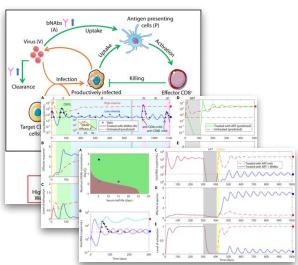
bioRxiv 548727; doi: <https://doi.org/10.1101/548727> Now published in PLOS Computational Biology doi: 10.1371/journal.pcbi.1008064

A potential use case for preprints

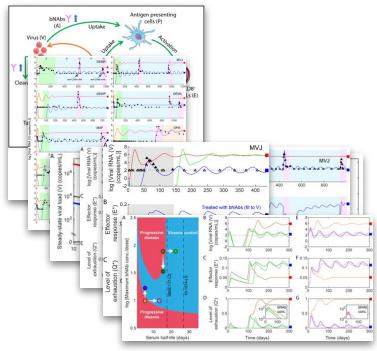
Visible & citable



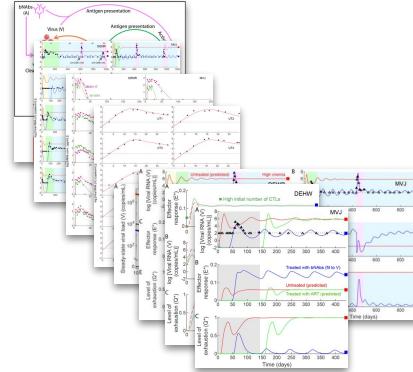
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February 2019



October 2019



January 2020

Journal publication

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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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

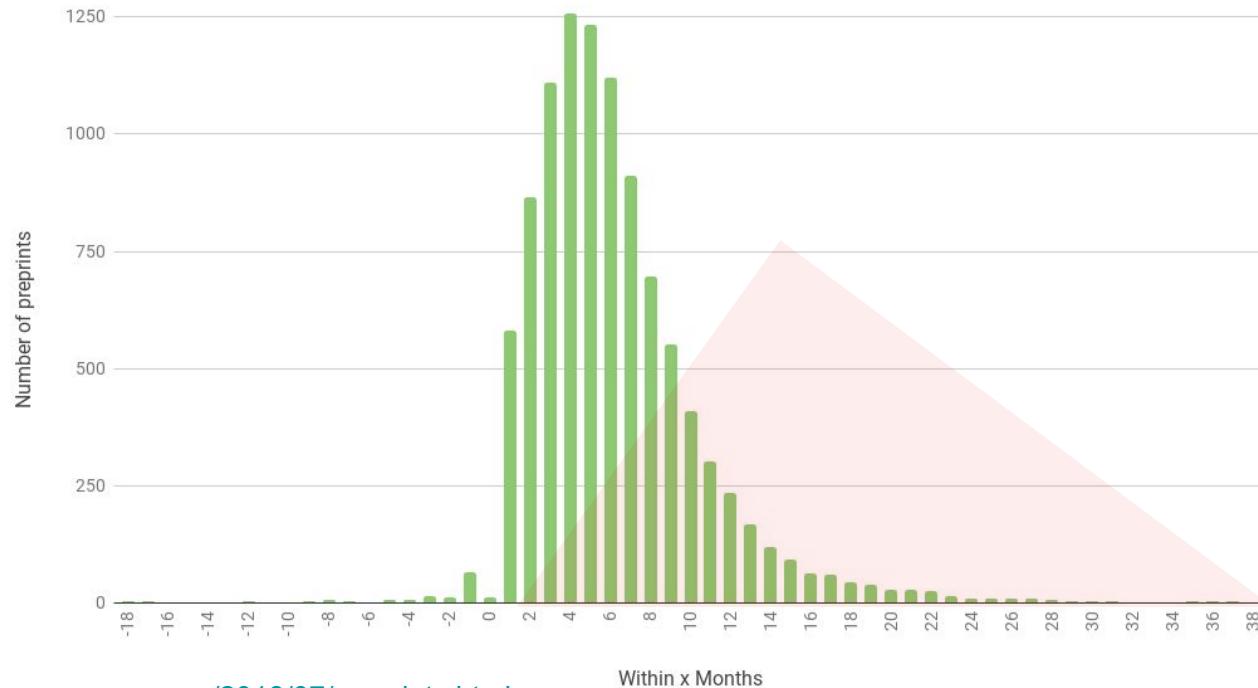


Published: August 20, 2020 • <https://doi.org/10.1371/journal.pcbi.1008064>

• >> 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

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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 testing

Joe Hasell , Edouard Mathieu, Diana Beltekian, Bobbie Macdonald, Charlie Giatospina, 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 a combination of confirmed cases and deaths. This data, however, can only be meaningful when considered alongside an accurate understanding of the extent of virus testing in different countries. We present a new database that brings together official data on the extent of PCR testing in 185 countries. We provide a time series for the daily number of tests performed in each country, together with metadata describing data quality and comparability issues.

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PyMatting: A Python Library for Alpha Matting

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



PyMatting: A Python Library for Alpha Matting

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

1 Department of Computer Science, Heinrich Heine University Düsseldorf

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 image. This is called alpha matting. In this paper, we present a Python library for alpha matting called PyMatting.

Software

- Review
- Repository
- Archive

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

Software repository | Paper review | Download paper | Software archive

Review

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

Authors

Thomas Germer, Tobias Uelwer, Stefan Conrad, Stefan Harmeling

Citation

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

Preprints servers offering clear links to data/code

bioRxiv

◀ Previous

Posted October 15, 2020.

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Supplementary Material

Data/Code

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Public Data: *(required)*

Available No Not applicable

Links to data: *(required)*

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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



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