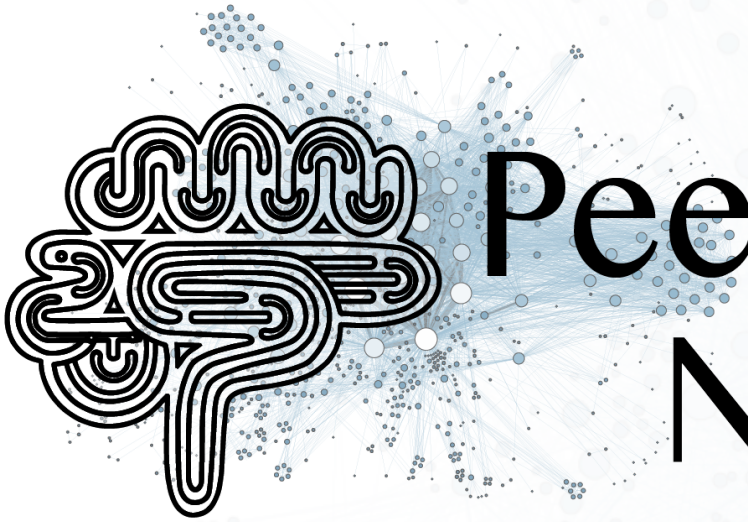

Peer Community In Neuroscience

Making Publishing Inclusive and Efficient Through Free Preprint Peer-Review

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https://neuro.peercommunityin.org/

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We’re facing several problems in journal publication

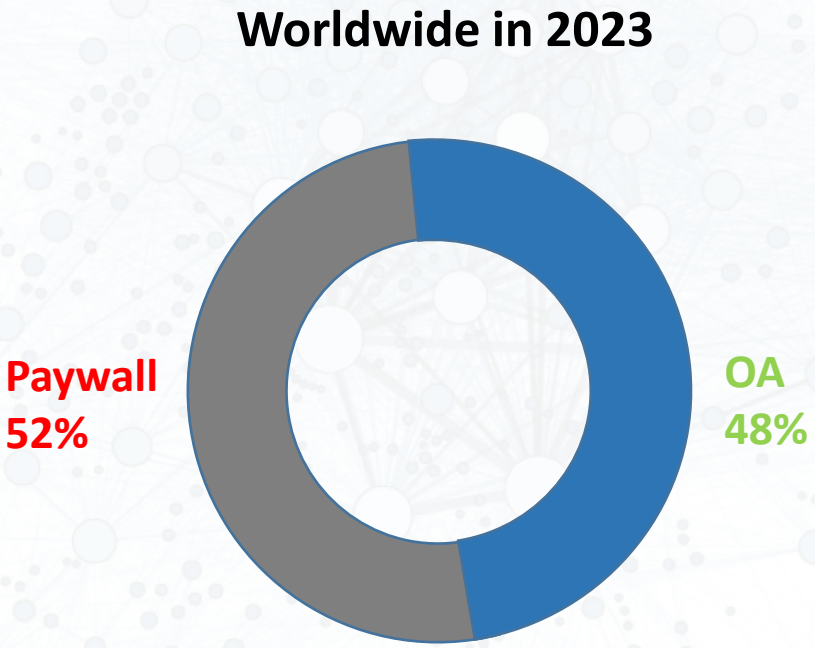
Inefficient system

- submissions/rejections in cascade
- > 1-2 years to publish
- waste of evaluation
- inclusivity issue – an ‘inner circle’ has early access

Closed system

-Less than 50% of publications are open access.

-This is an inclusivity issue.



https://www.stm-assoc.org/oa-dashboard-2024/

Costly system

Europe: ~ €3 B/year

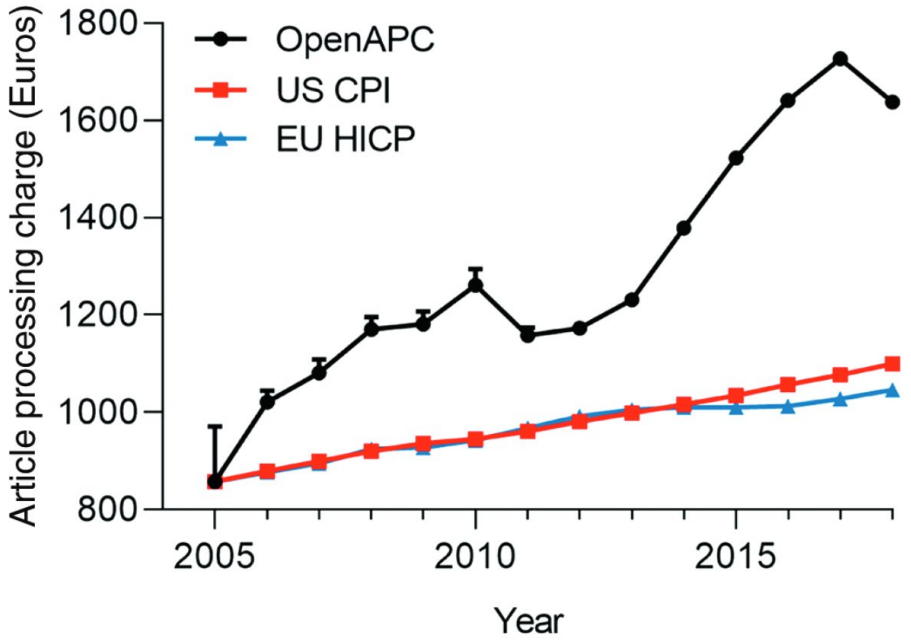
World: ~ €10 B/ year

But what are we paying for?

- We produce the data – often funded by public money
- We peer-review for free
- We edit – often for free

Jisc report (2016)

Increasing prices

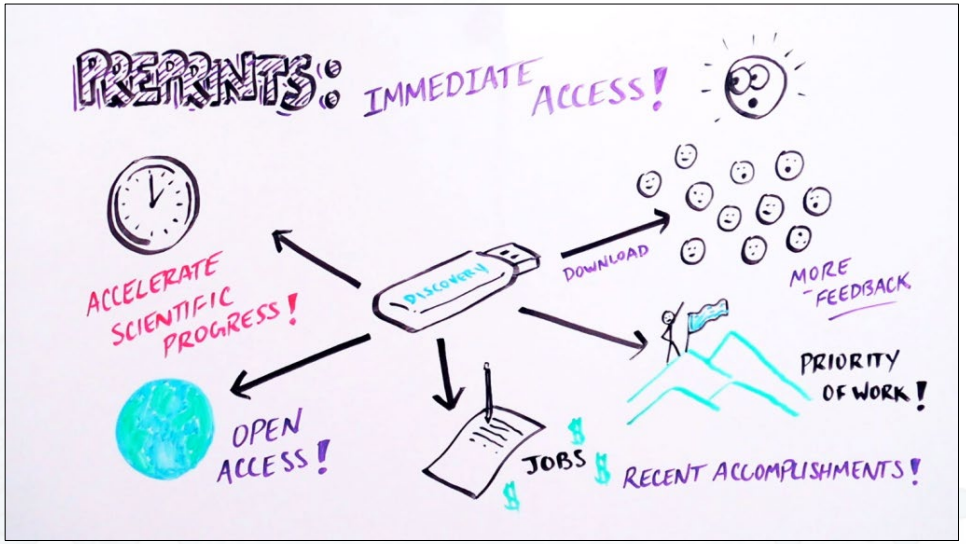


Article Processing Charges are insensitive to market competition.
(*Shaun Khoo **2019** Article Processing Charge Hyperinflation and Price Insensitivity. LIBER Quarterly 29*(1), 1-18.)

Preprints:
part of the solution

Preprints are good...

- Low cost (arXiv: 800 000 $/year, 120,000 art/year = **~ 7 $ /art**)
- Free for authors and readers
- Available immediately
- Versioned
- Proof of anteriority



But not peer-reviewed.

The aim of Peer Community In

Communities of researchers evaluating (through peer review) and **recommending preprints** in their field.

etc ...

PCI Ecology
PCI Evolutionary Biology
PCI Neuroscience
etc..

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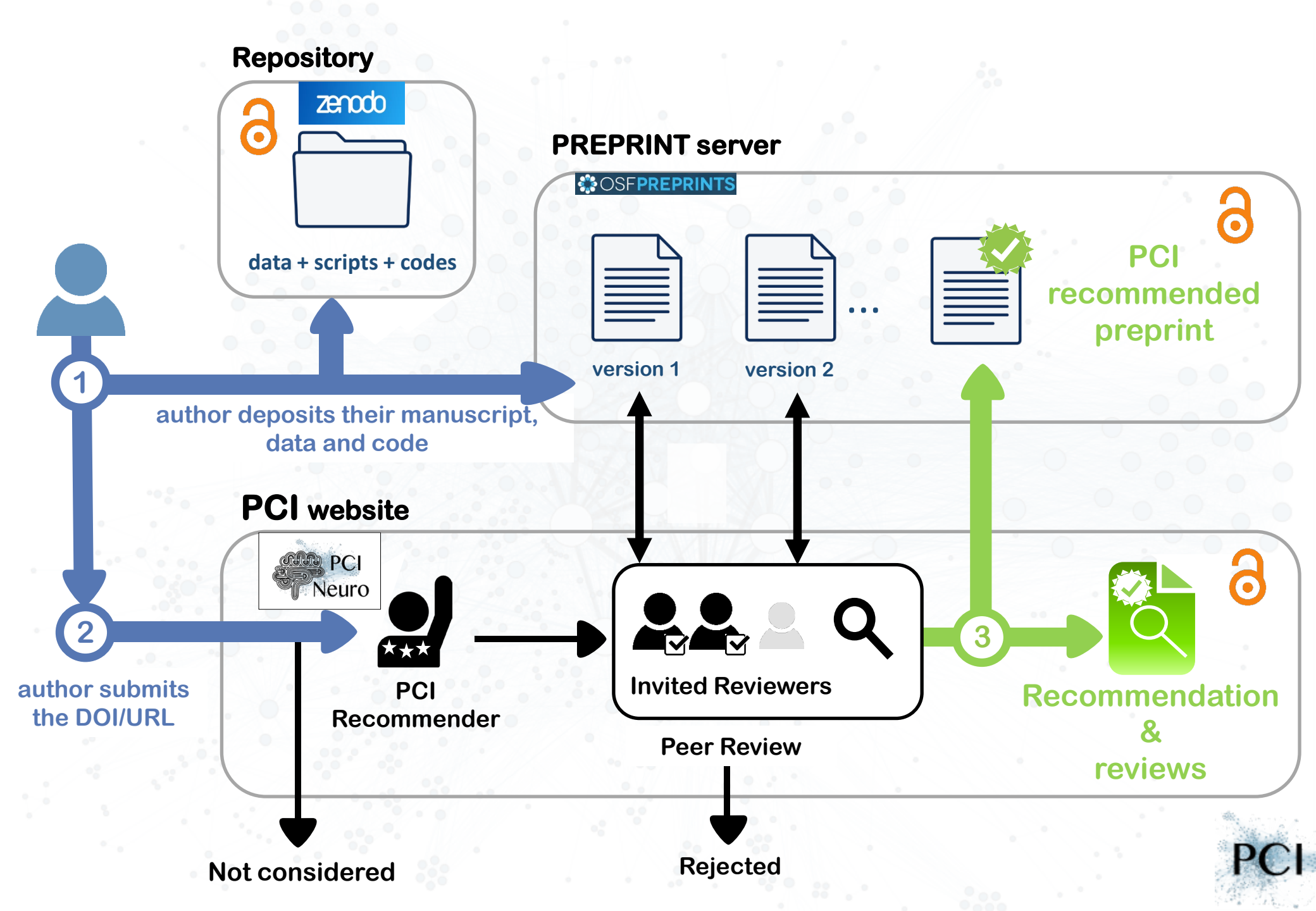
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RESEARCH ARTICLE

Open Access
Open Data
Open Code
Open Peer-Review

Functional correlates of immediate early gene expression in mouse visual cortex

David Mahringer[1,2], Pawel Zmarz[1,2,3], Hiroyuki Okuno[4], Haruhiko Bito[5] & Georg B. Keller*[1,2]

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Cite as
Mahringer, D., Zmarz, P., Okuno, H., Bito, H. and Keller, G.B. (2020) Functional correlates of immediate early gene expression in mouse visual cortex. bioRxiv, 2020.11.12.379909, ver. 4 peer-reviewed and recommended by Peer community in Neuroscience. https://doi.org/10.1101/2020.11.12.379909

Correspondence
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Recommender
Julia Harris, Sepiedeh Keshavarzi

Reviewers
Balázs Hangya and two anonymous reviewers

This version of the article has been peer-reviewed and recommended by
Peer Community in Neuroscience
https://doi.org/10.24072/pci.neuro.100005

ABSTRACT
During visual development, response properties of layer 2/3 neurons in visual cortex are shaped by experience. Both visual and visuomotor experience are necessary to coordinate the integration of bottom-up visual input and top-down motor-related input. Whether visual and visuomotor experience engage different plasticity mechanisms, possibly associated with the two separate input pathways, is still unclear. To begin addressing this, we measured the expression level of three different immediate early genes (IEG) (c-fos, egr1 or Arc) and neuronal activity in layer 2/3 neurons of visual cortex before and after a mouse's first visual exposure in life, and subsequent visuomotor learning. We found that expression levels of all three IEGs correlated positively with neuronal activity, but that first visual and first visuomotor exposure resulted in differential changes in IEG expression patterns. In addition, IEG expression levels differed depending on whether neurons exhibited primarily visually driven or motor-related activity. Neurons with strong motor-related activity preferentially expressed EGR1, while neurons that developed strong visually driven activity preferentially expressed Arc. Our findings are consistent with the interpretation that bottom-up visual input and top-down motor-related input are associated with different IEG expression patterns and hence possibly also with different plasticity pathways.

Keywords: Visual cortex, predictive processing, immediate early genes.

Recommendation text

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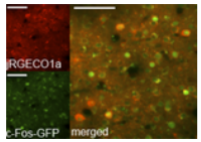
Bringing together immediate early genes and sensorimotor response properties in V1

Julia Jade Harris and Sepiedeh Keshavarzi based on reviews by Balázs Hangya and 2 anonymous reviewers

3

A recommendation of:



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(2020), bioRxiv, 2020.11.12.379909, ver. 4 peer-reviewed and recommended by Peer Community in Neuroscience

https://doi.org/10.1101/2020.11.12.379909

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Data used for results
Codes used in this study
Scripts used to obtain or analyze results
Abstract

Submitted: 14 December 2021, Recommended: 27 June 2022

Recommendation

The primary visual cortex (V1) does not just process vision: it also integrates self-generated motion signals (Niell, Stryker 2010; Keller et al. 2012; Saleem et al. 2013; Vélez-Fort et al. 2018; Meyer et al. 2018), enabling us to match our actions to the world we see. We know that the development of visuomotor representation in V1 depends on experience (Attinger et al. 2017; Widmer et al. 2022), but how exactly does each neuron acquire the right balance of visual and motor input? And how do some neurons become more responsive to visual or motor signals? Mahringer et al. (Mahringer et al. 2022) suspected that the answers may lie in experience-specific plasticity mechanisms.

Open Access
Open Peer-Review
Open Data
Open Code

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PCI-recommended preprint

What happens to PCI-recommended preprints?

PCI-recommended preprint

Peer Community Journal

Direct publication in diamond open access

OR

PCI-friendly journals

NB DT Neurons, Behavior, Data analysis, and Theory

PLOS BIOLOGY

OR

Other journals

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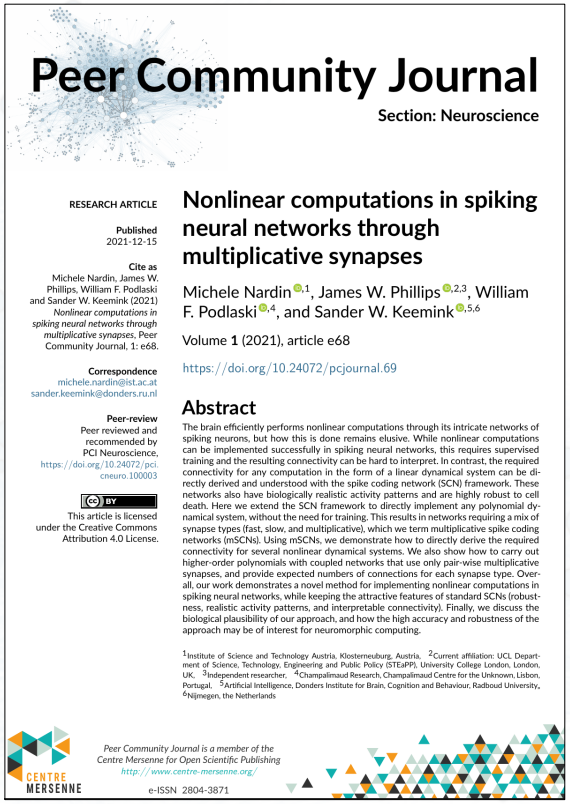

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PCI in figures

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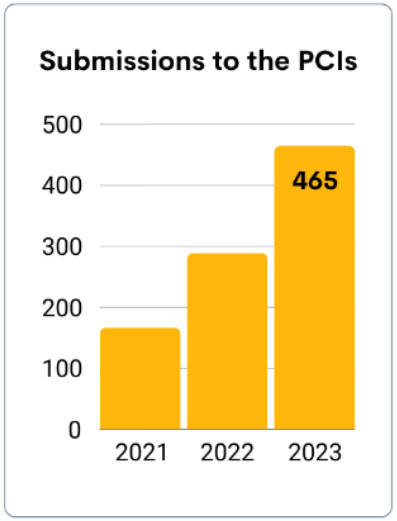

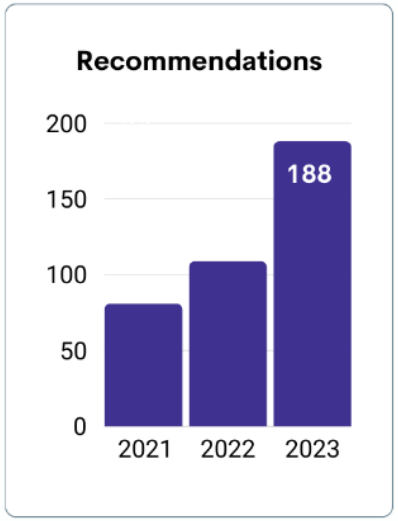

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> I commit to submitting, within 15 months following the signing of this manifesto, at least one of my best articles to a PCI for peer review...
>
> ..I will be bound by this promise only if at least 500 other researchers make the same commitment.

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- **Create new PCIs**
- **More generally participate in real open science (Diamond OA, society/university journals, ...)**

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Thanks!

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