

# Preprints mean peer review can be reimaged as it should always have been

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# Reimagining peer review is long overdue

- Often acknowledged as the “least worst” option<sup>1</sup>
- It can provide credibility to research, but a lack of transparency requires that is accepted on trust
- Slow, inconsistent, inefficient and biased<sup>2</sup>
- Perpetuates a power imbalance in academia, disproportionately affecting early-career researchers and underrepresented scholars<sup>3</sup>

1. *Smith. Breast Cancer Res. (2010)*
2. *Heesen & Bright. British Journal for the Philosophy of Science. (2021)*
3. *Silbiger & Stubler. PeerJ. (2019)*

# Preprints provides both impetus and opportunity

- Uncoupled and effectively inverted the review and dissemination stages
- Free to become more open, efficient and equitable



Image credit: NASA (Public domain)

# Peer review is already becoming more open

- A growing number of journals publish their peer reviews<sup>1</sup>
- 37% of researchers listed 'more peer reviews published alongside the relevant article' as a change that they most wanted to see more of in publishing<sup>2</sup>

1. Polka et al. *Nature*. (2018)

2. *eLife's 2023 Perception Survey* (n = 2,593)



Image credit: David Parkins in *Nature*

# eLife has innovated with peer review since its launch

- **2012:** Almost all papers published with decision letters
- **2016:** Decision letters published for all accepted papers
- **2020:** Exclusively reviewing preprints and posting reviews publicly
- **2023:** Eliminated "accept/reject" decisions; now provide public reviews for every preprint reviewed



# How it looks

eLife assessment:  
curation that **sits under**  
**the Abstract** and  
communicates the  
editors' and reviewers'  
assessment of the  
impact and quality of the  
science with **common**  
**vocabulary**

Indication that the work was made **available as**  
**a preprint and reviewed by eLife**

The screenshot shows the eLife article page for the paper: "The locus coeruleus broadcasts prediction errors across the cortex to promote sensorimotor plasticity" by Rebecca Jordan and Georg B. Keller. The article is marked as a "Reviewed Preprint". The "eLife assessment" section is located below the abstract, providing a summary of the study's findings and their significance. The assessment text states: "This important study provides convincing evidence that locus coeruleus is activated during visuomotor mismatches. Gain of function optogenetic experiments complement this evidence and indicate that locus coeruleus could be involved in the learning process that enables visuomotor predictions. This study therefore sets the groundwork for the circuit dissection of predictive signals in the visual cortex. Loss-of-function experiments would strengthen the evidence of the involvement of locus coeruleus in prediction learning. These results will be of interest to systems neuroscientists."

The article  
review history  
will be displayed  
(**average time 2-3**  
**months so far**)

**Public peer**  
**reviews** available  
within the eLife  
website

# The preprint review movement is growing



## Groups evaluating preprints on Society



[See all evaluating groups](#)

# Published reviews mean more can benefit from reviewers' insights

- More value derived from reviewers' time and effort
- Readers access rich assessments of individual articles
- More nuanced and representative than a journal name or impact factor could ever provide



# Published reviews shift focus to *what* people publish not *where*

- Accessible to decision-makers at funders and institutions
- Compatible with the practises recommended in the Declaration on Research Assessment (DORA)

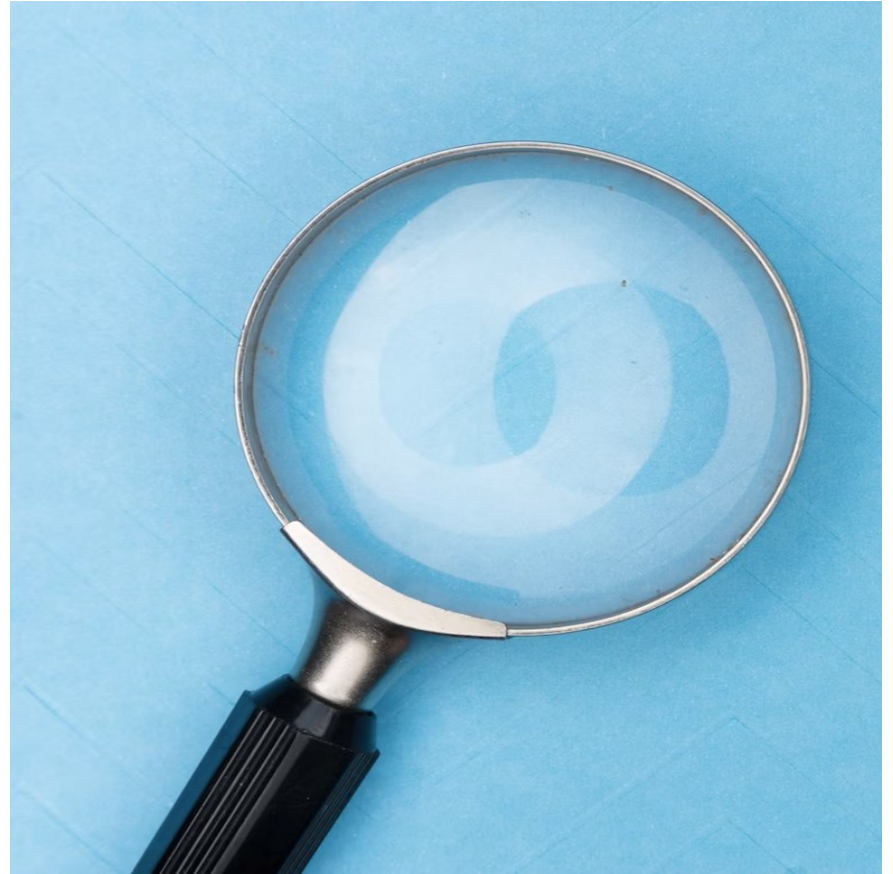


Image credit: Markus Winkler (Public domain)

# Publishing reviews alongside preprints has many benefits

- **Faster** (91 days from submission to publication; over 2.5x faster than our legacy model<sup>1</sup>)
- **Fairer assessments;** highly rated by authors (4.4 out of 5<sup>1</sup>)
- **Learning opportunities** for early-career researchers
- **Recognition for reviewers** as reviews are public

1. *eLife's New Model: One year on. (2024)*

# The remaining barrier is not technological but cultural

- Organisations doing transparent peer review prove its feasible
- Need more publishers to join and harness the potential of preprints



Image credit: Mabel Amber (Public domain)

# Research institutions need to act too

- Have clear and visible policies on preprints and reviewed preprints
- **40%** of researchers reported that their institutions did not recognise preprints; while **36%** didn't know if they did or not<sup>1</sup>

1. *eLife's 2023 Perception Survey (n = 2,220)*



Image credit: Patrick Fore (Public domain)

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# Thank you; questions?

<https://elifesci.org/elife-new-model>

- King (2023) “Preprints mean peer review can be reimagined as it should always have been” *Against the Grain*
- Pattinson and Packer (2023) “Why preprint review is the way forward” *Research Information*
- Eisen et al. (2022) “Scientific Publishing: Peer review without gatekeeping” *eLife*