



# **How timely open research communication and open evaluation bolster research integrity**

*Katie Corker, Executive Director ASAPbio  
April 24, 2026*

# About ASAPbio - Our Vision

A life sciences communication ecosystem where all papers and other outputs are **shared rapidly** and **without restrictions** on access or reuse, and open and constructive exchanges take place on research products at all stages.

Preprints

Open  
Evaluation

Open  
Licensing

Open  
Outputs

# The costs of journal-based publishing

**\$2.5 billion** USD for APCs just to Elsevier, Frontiers, MDPI, PLOS, Springer Nature, and Wiley in 2023

([Haustein et al., 2024](#))

Elsevier in 2025: \$2.9 billion USD for subscriptions + \$732 million for “transactions” (Source: [RELX](#))

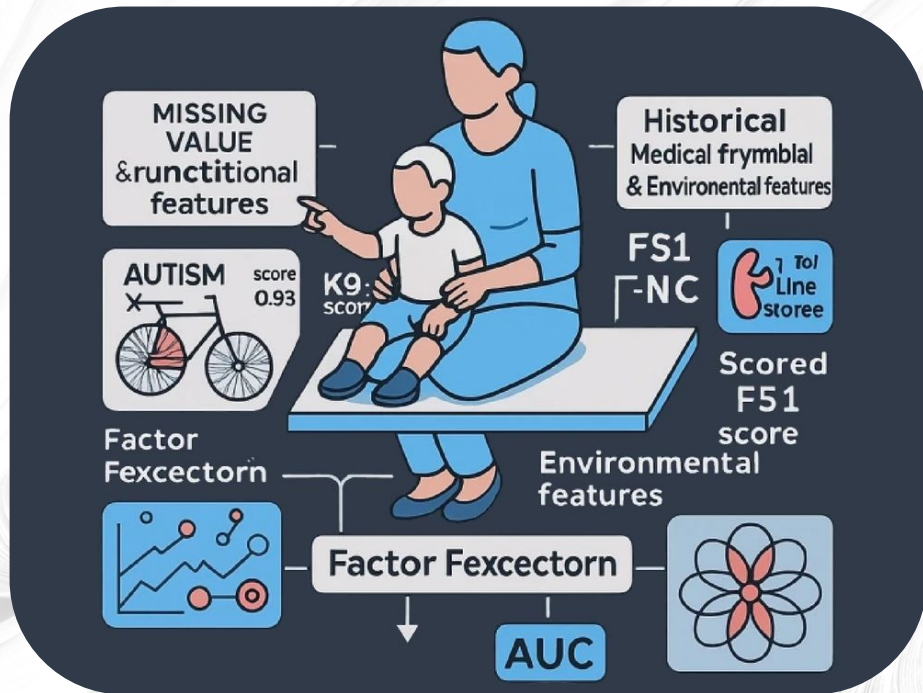
**100 million hours/year** (valued \$1.5 billion USD) for peer review ([Aczel et al., 2021](#))

# Value for the money?

The median paper cell biology paper is delayed 4-7 months while undergoing review, *per journal*. (Royle, 2026)



# Is journal peer review working?



NEWS | 12 December 2023

## More than 10,000 research papers were retracted in 2023 – a new record

The number of articles being retracted rose sharply this year. Integrity experts say that this is only the tip of the iceberg.

By [Richard Van Noorden](#)

# Traditional publishing falls short.

Slow

Expensive

Poor QC

Inequitable

Opaque

Static

**Preprints and open science present  
an opportunity to evolve publishing.**

We urgently need to change  
how we communicate our  
research and evaluate it.

# Solution 1: Publish First



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Timely: Research shared when researchers are ready.

Scalable: Already >24,000 papers/month at arXiv;  
>4,500 papers/month at bioRxiv; millions of monthly  
views and downloads

Open: Content accessible for people and machines  
and often licensed for reuse

# Solution 1: Publish First

Disciplinary area	Discipline	Africa		Americas		Asia		Europe				Oceania
			Latin America and the Caribbean		North America	Eastern Asia	Rest of Asia	Eastern Europe	Northern Europe	Southern Europe	Western Europe	
Physical Sciences/Technology	Built Environment and Design	1%	2%	2%		1%	1%	1%	1%	2%	2%	1%
	Chemical Sciences	4%	9%	15%		4%	4%	6%	15%	9%	14%	9%
	Earth Sciences	7%	7%	15%		7%	7%	8%	18%	12%	23%	11%
	Engineering	3%	6%	12%		4%	4%	7%	11%	8%	14%	7%
	Environmental Sciences	6%	5%	8%		5%	6%	5%	8%	5%	10%	6%
	Information and Computing Sciences	7%	13%	22%		9%	8%	14%	20%	14%	25%	18%
	Mathematical Sciences	13%	40%	43%		18%	19%	33%	46%	42%	51%	31%
	Physical Sciences	19%	48%	40%		16%	20%	28%	48%	49%	49%	38%
Life and Medical Sciences	Technology	4%	7%	13%		6%	6%	7%	14%	8%	14%	12%
	Agricultural and Veterinary Sciences	5%	4%	6%		5%	4%	4%	7%	3%	7%	6%
	Biological Sciences	9%	7%	13%		7%	8%	6%	16%	8%	15%	11%
	Medical and Health Sciences	8%	5%	5%		6%	5%	4%	7%	4%	7%	6%
Social and Behavioral Sciences	Commerce, Management, Tourism and Services	1%	3%	4%		2%	1%	4%	2%	3%	5%	2%
	Economics	3%	4%	6%		3%	3%	4%	4%	4%	5%	3%
	Education	3%	3%	2%		2%	2%	2%	3%	2%	5%	2%
	Law and Legal Studies	2%	3%	3%		4%	2%	1%	2%	2%	2%	1%
	Psychology and Cognitive Sciences	6%	6%	8%		7%	7%	7%	11%	6%	12%	8%
	Studies in Human Society	3%	2%	3%		2%	2%	2%	2%	2%	3%	2%
Humanities	History and Archaeology	1%	1%	0%		1%	1%	1%	1%	1%	1%	0%
	Language, Communication and Culture	1%	2%	3%		2%	3%	1%	2%	2%	5%	1%
	Philosophy and Religious Studies	3%	2%	2%		3%	2%	5%	2%	3%	4%	2%
	Studies in Creative Arts and Writing	0%	1%	1%		1%	1%	1%	1%	1%	3%	1%

(Source: [Rzayeva et al., 2025](#))

# Solution 2: Evaluate Second



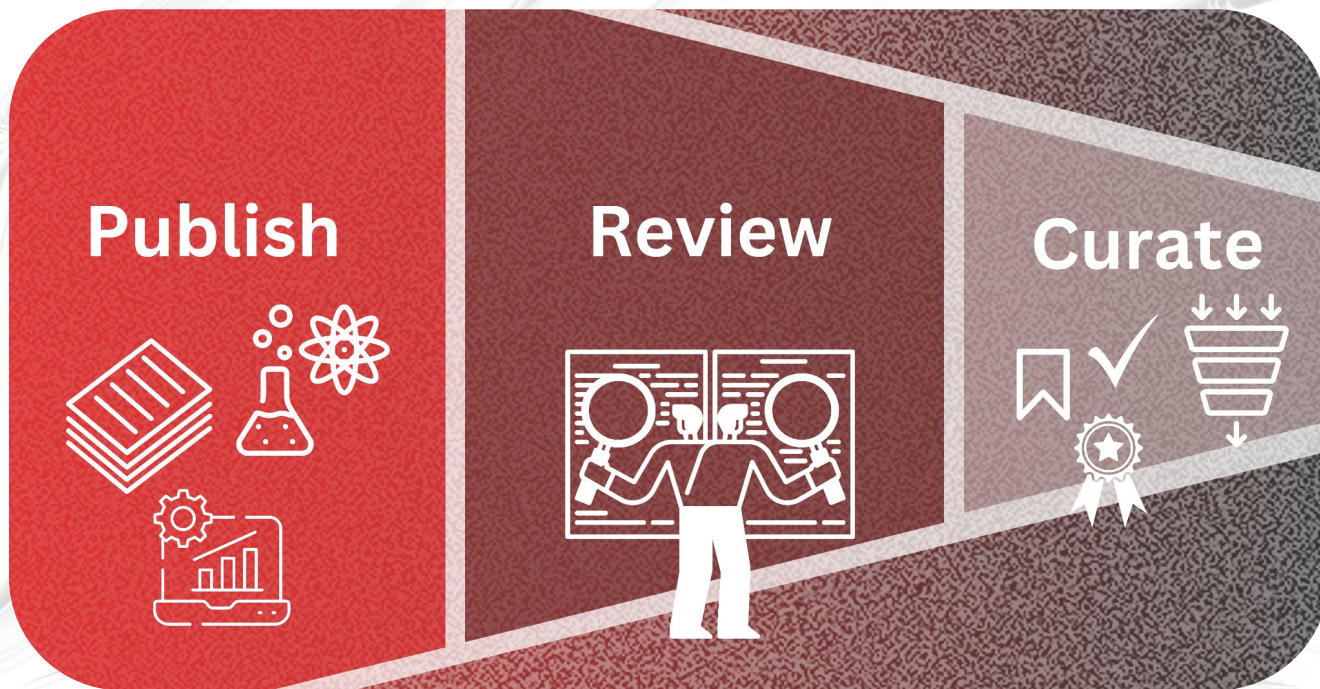
## Solution 2: Evaluate Second

Informative: Open evaluations allow information about quality and trustworthiness to inform the value of research outputs.

Specialized: Decentralization allows specialized evaluation, timed for usefulness.

Efficient: Surfacing evaluations allows maximal use of expertise

# Better research communication



Source: Corker KS, Waltman L, Coates JA (2024) Understanding the Publish-Review-Curate (PRC) Model of Scholarly Communication. doi: [10.31222/osf.io/h7swt](https://doi.org/10.31222/osf.io/h7swt)

## **Traditional Publishing**

**Review & selection  
before publication**

**Publisher-led**

**Often - slow, closed,  
expensive**

## **Publish-Review-Curate**

**Publish, then review**

**Decentralized**

**Researcher-led**

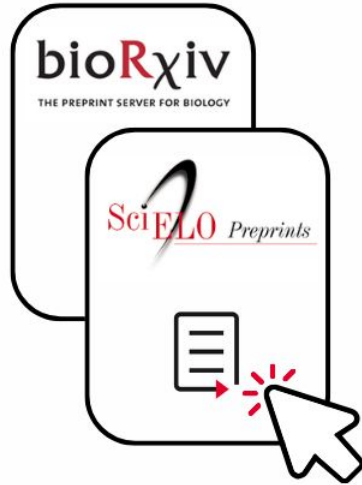
**Timely, open,  
efficient**

Any research output:  
PRC models generalize  
beyond articles,  
to data, code, more

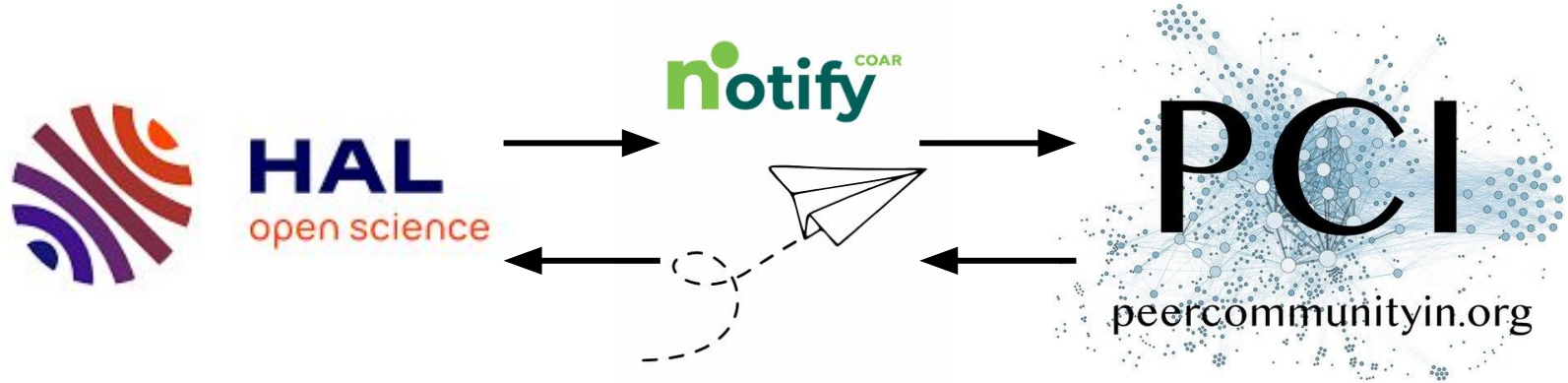
# How might PRC work?



# Case: Requesting a review for a preprint



# Case: Preprint endorsement by PCI

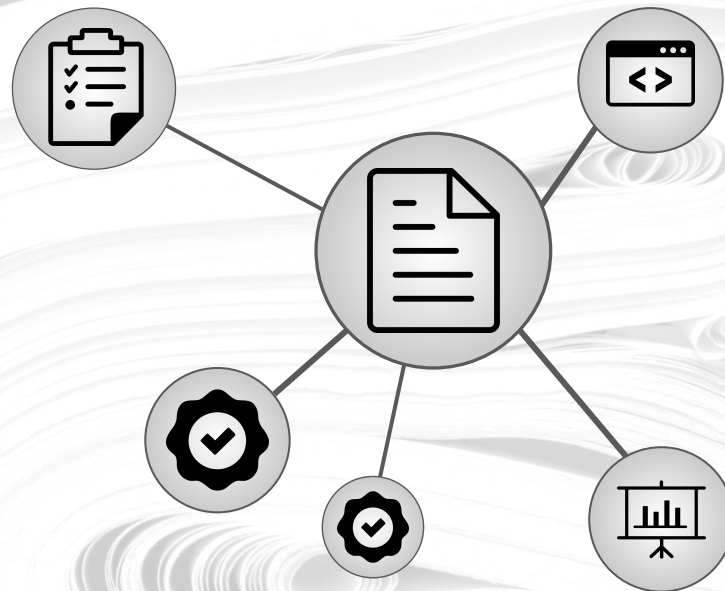


# An aside about “curation”



- Diverse and plentiful ways to curate, e.g.,
  - Building collections/lists
  - Quality evaluations
  - Summary editorial commentary
- Judgments can be binary (included or not), ordinal (star rating), or qualitative (narrative summaries).
- May involve metadata enrichment or other enhancement (e.g., badging), quality checking (e.g., certification)
- Research outputs can be **curated multiple times**, unlike journal articles.
- Many other types of packaging and bundling beyond what we can currently imagine

# Brand heuristics are not sufficient evidence of quality control



Current methods of quality control  
are failing.

We need **open, distributed, and  
continuous** evaluation alongside  
open research communication.

# Thank You

Read: [Corker, Waltman, Coates \(2024\) - osf.io/h7swt](#)

Slides: [https://doi.org/10.5281/zenodo.15112772](#)

Email: [katie.corker@asapbio.org](mailto:katie.corker@asapbio.org)

