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How timely open research communication and open evaluation bolster research integrity

Katie Corker, Executive Director ASAPbio

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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

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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)

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Value for the money?

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

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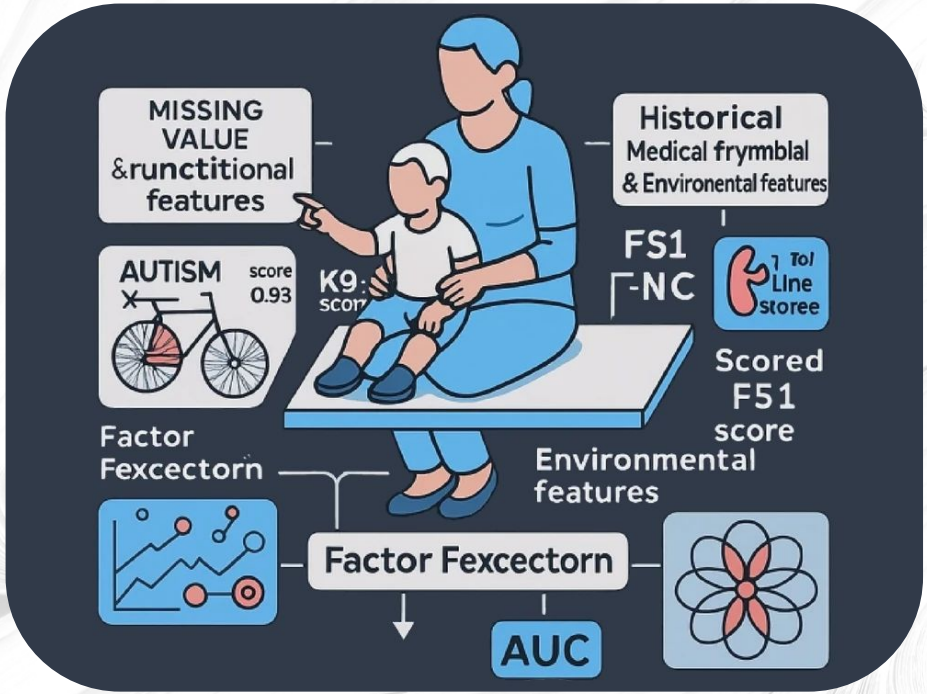
Is journal peer review working?



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

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Traditional publishing falls short.

Slow

Expensive

Poor QC

Inequitable

Opaque

Static

Preprints and open science present an opportunity to evolve publishing.

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

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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

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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	Sothern 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%
	Technology	4%	7%	13%	6%	6%	7%	14%	8%	14%	12%
Life and Medical Sciences	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)

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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

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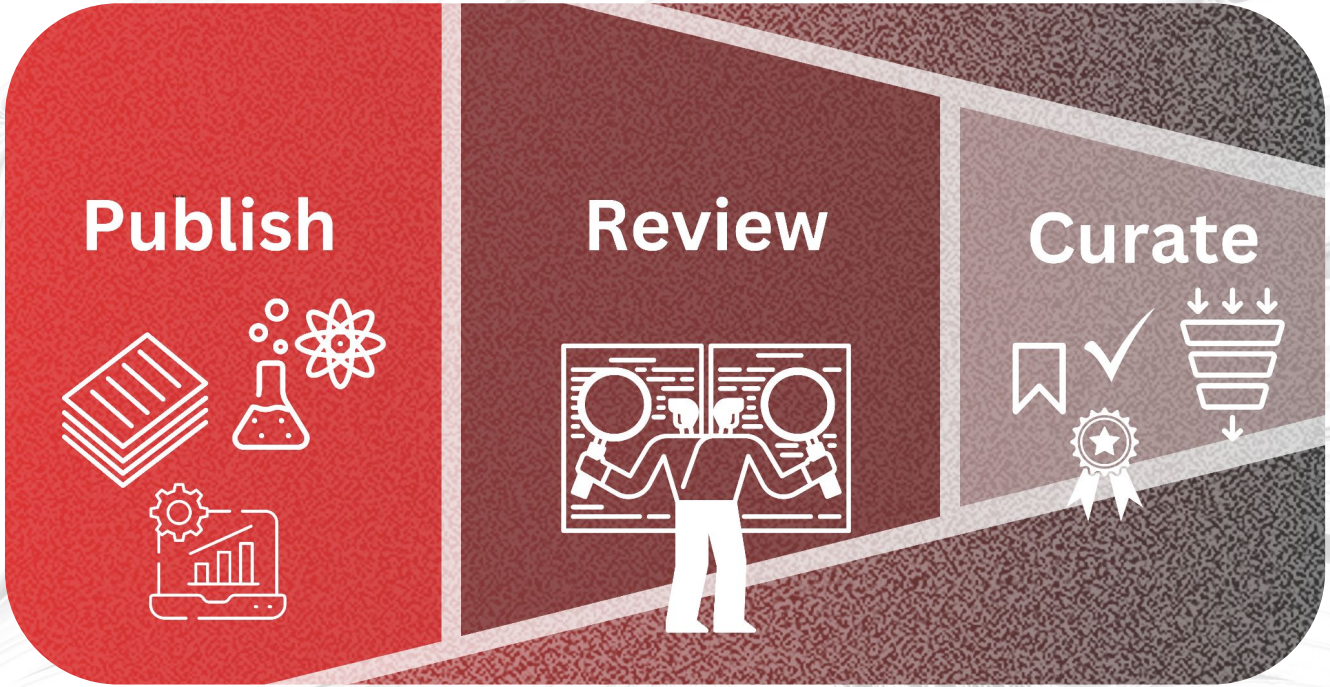
Better research communication



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

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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

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How might PRC work?

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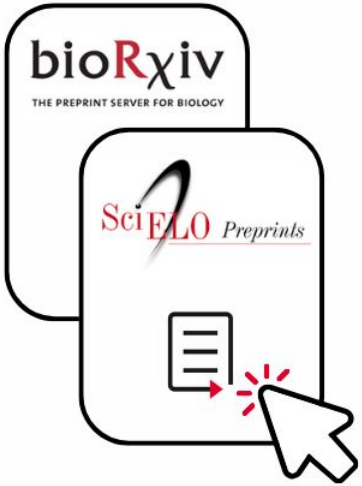
Case: Requesting a review for a preprint



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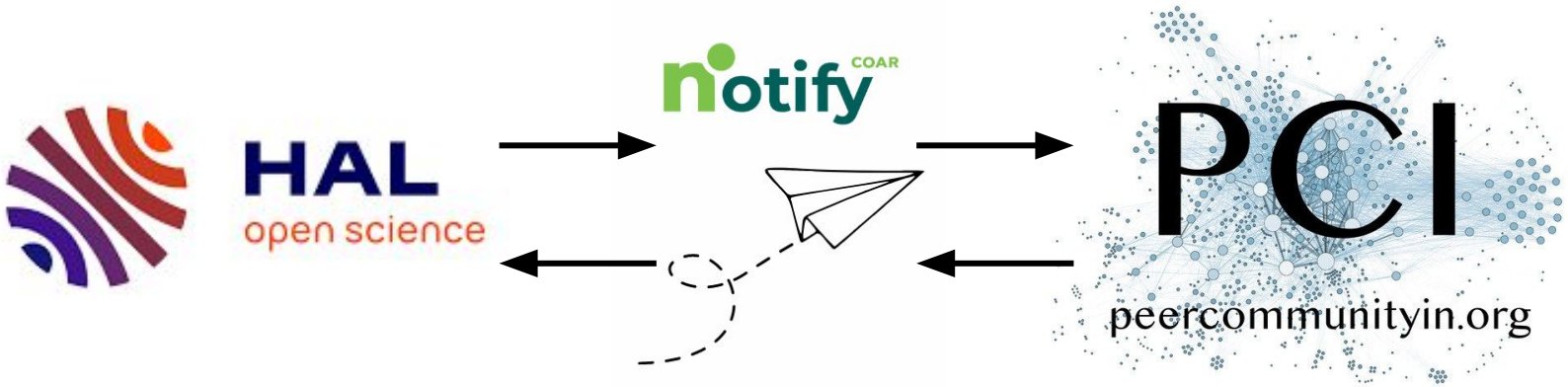
Case: Preprint endorsement by PCI



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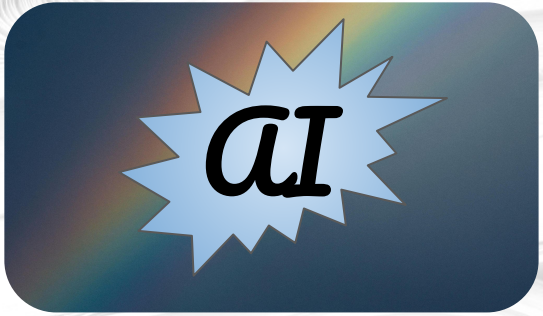
An aside about “curation”



- 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

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Brand heuristics are not sufficient evidence of quality control

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Current methods of quality control are failing.

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

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Thank You

Read: Corker, Waltman, Coates (2024) - osf.io/h7swt

Slides: https://doi.org/10.5281/zenodo.15112772

Email: katie.corker@asapbio.org

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