Preprints: “Science in real time”

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New report

Also, preprint:
The precise definition of ‘preprints’ is contentious but general working definition we were using was:
A preprint is version of a research paper prior to peer review and publication in a journal

Five take-away messages

- Early and fast dissemination, increased opportunities for feedback and openness are seen as the main benefits of preprints.

- The main concerns over preprints are the lack of quality assurance, media potentially reporting inaccurate research and journals rejecting articles if a preprint has been posted.

- Twitter has been playing a key enabling role in the current second wave of preprints and preprint servers. It also appears to be the main way researchers are exposed to preprints in the first place.

- It is not clear who will be responsible for posting preprints in the long-term – researchers or publishers? This will partly be affected by the availability of sustainable business models.

- Traditional academic journals might have to reframe their value proposition should preprints grow significantly in popularity in the future.
Outline methodology

- Literature review (60+ sources)
- 38 interviews and transcription
- Qualitative coding
- Analysis and reporting
Study objectives

To explore the place of preprints in the current research lifecycle from the points of view of researchers, research performing organisations, research funding organisations and preprint servers/service providers. Particularly, we set out to investigate:

• Core benefits and usage in the case of researchers, including incentives and disincentives
• Attitudes of research performing organisations (RPOs) and research funders
• Values, strategies and aims of service providers
A wide range of international stakeholders contributed to this study.

A full overview of the project participants is available in Appendix. Engaged researchers are people who posted preprints in the past, while unengaged researchers are only aware of them and/or consume them.
The second wave of preprint servers

“Explosive” growth of preprints servers since 2016

Relevant to current debates on the future of scholarly communication – ‘Plan U’ advanced in response to Plan S

“The preprint agenda is a reaction against the very expensive Gold open access that is required by some funders. It may appeal to those who lack the funding for Gold open access.”
Researcher
Potential advantages

- Broader access to scientific research
- Early and fast dissemination
- Increased opportunities for feedback
- Preventing scooping
- Advantages for early career researchers
- Preprint servers as an outlet for "homeless" results

Key potential benefits of preprint posting
Potential challenges

- Lack of quality assurance
- Limited use of commenting/feedback features on the servers
- The Ingelfinger rule - journals rejecting submissions if they have been posted as reprints
- Questionable value of self-appointed reviewers
- Risk of the media reporting incorrect research
- Possible harm in the case of sensitive areas

Key potential challenges of preprint posting
The central role of social media

Twitter is increasingly being used by scientific communities to:

• Follow Twitter bots posting preprints as set up by individual preprint servers
• Share their own preprints
• Discuss preprints via comments (“replies”, in Twitter jargon)
• Contact publishers of high-impact journals if a preprint has received significant attention

“I would say that the momentum behind [name of the preprint server] owes a great deal to Twitter, and to Facebook, a bit less so.”

Researcher
## Researcher- or publisher-centric approach?

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*KE Knowledge Exchange*
Scenarios

- **Scenario 1** – Turn of the tide: the second wave of preprint servers fades, and preprints remain a major component of scholarly communication only in the fields where they already are, i.e. those served by arXiv and RePEC

- **Scenario 2** – Variable adoption: preprints grow in some additional fields such as those within the scope of bioRxiv, PsyArXiv and ChemRxiv but not all

- **Scenario 3** – Preprints by default: preprints grow in all fields (at different paces) and are accepted by the research community at large
Work on infrastructure, licenses and workflow (and value propositions) still needed
Moving forward

1. Is a researcher-centric model feasible in practice and would it be successful enough to drive uptake? If not would a publisher-centric model be acceptable?

2. Is control of preprints and preprint servers by commercial players (e.g. academic publishers) a deal-breaker? If so, how could national and international organisations collaborate to fund preprint servers and the cost of long-term preservation?

3. How can evidence on the potential advantages and disadvantages of preprint posting be effectively gathered?

4. What are the most suitable pathways to raise awareness and advocate for the posting of preprints?

5. What are the most effective pathways to provide researchers and other stakeholders with support to post, read and reuse preprints?
Thank you

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