



ONTARIO NEURODEGENERATIVE DISEASE RESEARCH INITIATIVE

Join the preprint party

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NEURODEGENERATIVE
DISEASE RESEARCH
INITIATIVE



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Overview

- What are preprints?
- How do they work?
- Misconceptions
- Preprint servers
- By the numbers
- Old and new initiatives
- Licensing
- Personal experiences

The short cut

- Go read all of these links on your own:
- ASAPbio's *ridiculously thorough* breakdown
 - <https://asapbio.org/preprint-info>
- And PLoS's:
 - <https://www.plos.org/preprints>
- bioRxiv: the preprint server for biology
 - <https://www.biorxiv.org/content/10.1101/833400v1>
 - <https://twitter.com/richabdill/status/1195441128851615746>

The short cut

- The servers (for us)
 - The OG: <https://arxiv.org/>
 - <https://www.biorxiv.org/>
 - <https://www.medrxiv.org/>
 - <https://psyarxiv.com/>
 - <https://osf.io/preprints/socarxiv>
- The peer review initiatives
 - <https://blogs.plos.org/plos/2019/11/community-comments-and-peer-review-a-preprint-commenting-pilot-at-plos/>
 - <https://elifesciences.org/inside-elife/e9091cea/peer-review-new-initiatives-to-enhance-the-value-of-elife-s-process>
 - <https://web.hypothes.is/>

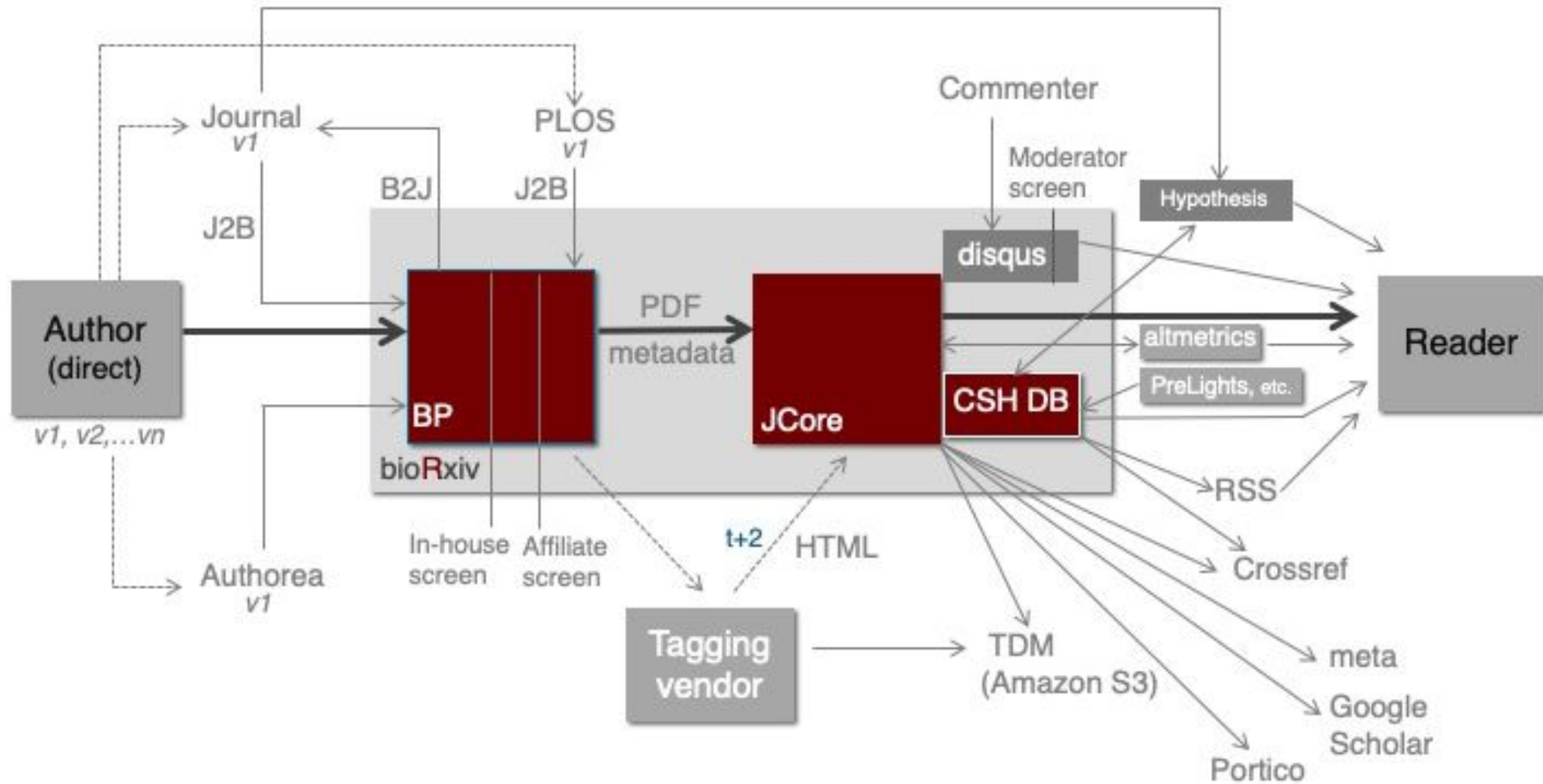
What are preprints?

- Scientific manuscript that is
 - Complete
 - Part of the permanent scientific record
 - Made publicly available
 - Prior to peer review/submission to editors/journals
- Preprints help
 - Disseminate information quickly
 - Open up to public peer review
 - You convey your intended message
 - See how manuscripts change

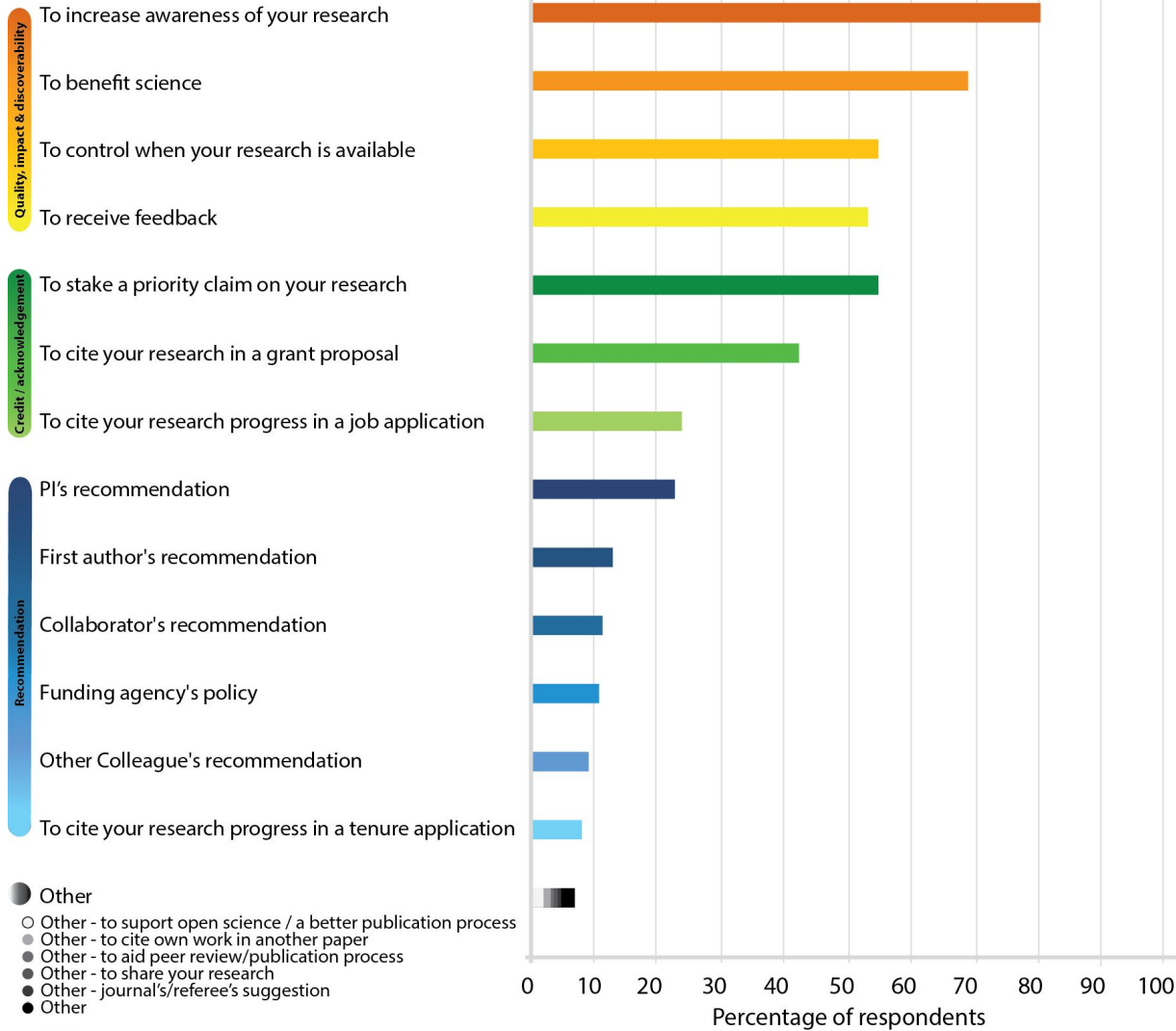
How do they work?

- Write the paper you want
- Format how you'd like
- Write the paper you want
- Submit it to one of the various preprint servers
 - Sometimes: Choose a license
 - Sometimes: Choose New Results, Contradictory or Confirmatory
- Wait about 24-48 hours
- Et voila, it appears* (in citable format)
- Tell all your friends & Tweet about it

How bioRxiv works

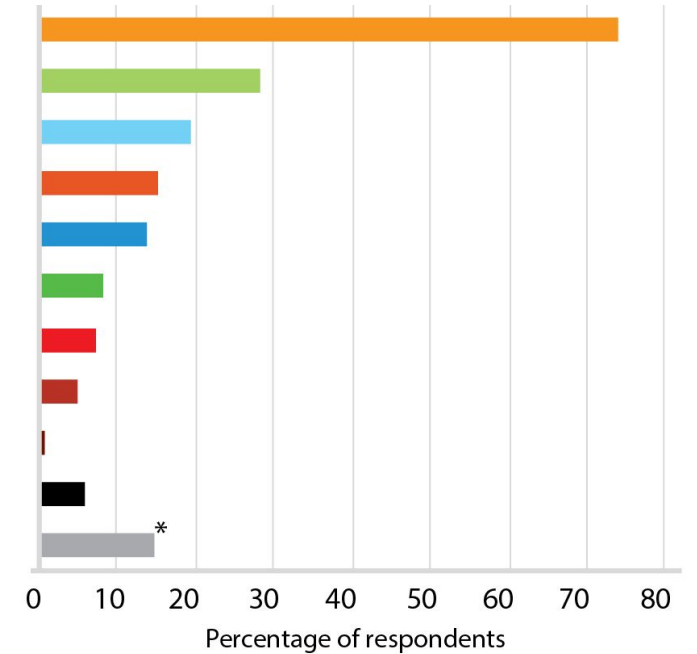


Why bioRxiv works



1. Increase awareness of your research
2. Helped stake a priority claim to your research
3. Helped you meet new people in your field
4. Helped you enter or progress in a field
5. Initiated new collaborations
6. Helped you receive a conference invite
7. Helped you receive a grant
8. Helped you receive a job offer
9. Helped you attain tenure
10. Other
11. No

n=3189



*of these respondents, only 4% answered "No" when asked if they anticipate posting a preprint on bioRxiv in the future (survey Q21)

n=3255



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<https://www.biorxiv.org/content/10.1101/833400v1>



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Misconceptions

- Not validated or quality (by way of peer review)
 - Peer review isn't perfect either
 - The only real peer review is if you judge something worth citing
- Not citable
 - Preprints receive DOIs and links
 - Journals & funding agencies indicate how to cite
 - Search committees & NIH encourage preprints vs. "in submission"
- "Scooping"
 - Time stamped
 - Permanent internet record
- Completely allowable
 - Few journals forbid making preprints available before submission

Preprint servers

- The OG: arXiv
 - Physics, math, CS, stats, economics, quant finance, quant biology, engineering & systems
- bioRxiv
 - Bio and bio adjacent (neuro, physio, pharma, paleo, scicomm)
- medRxiv
 - Clinical trials & Epidemiology (used to be on bioRxiv)
- PsyArXiv
 - Psych and psych adjacent (neuro, cog, social)
- SocArXiv
 - Social sciences

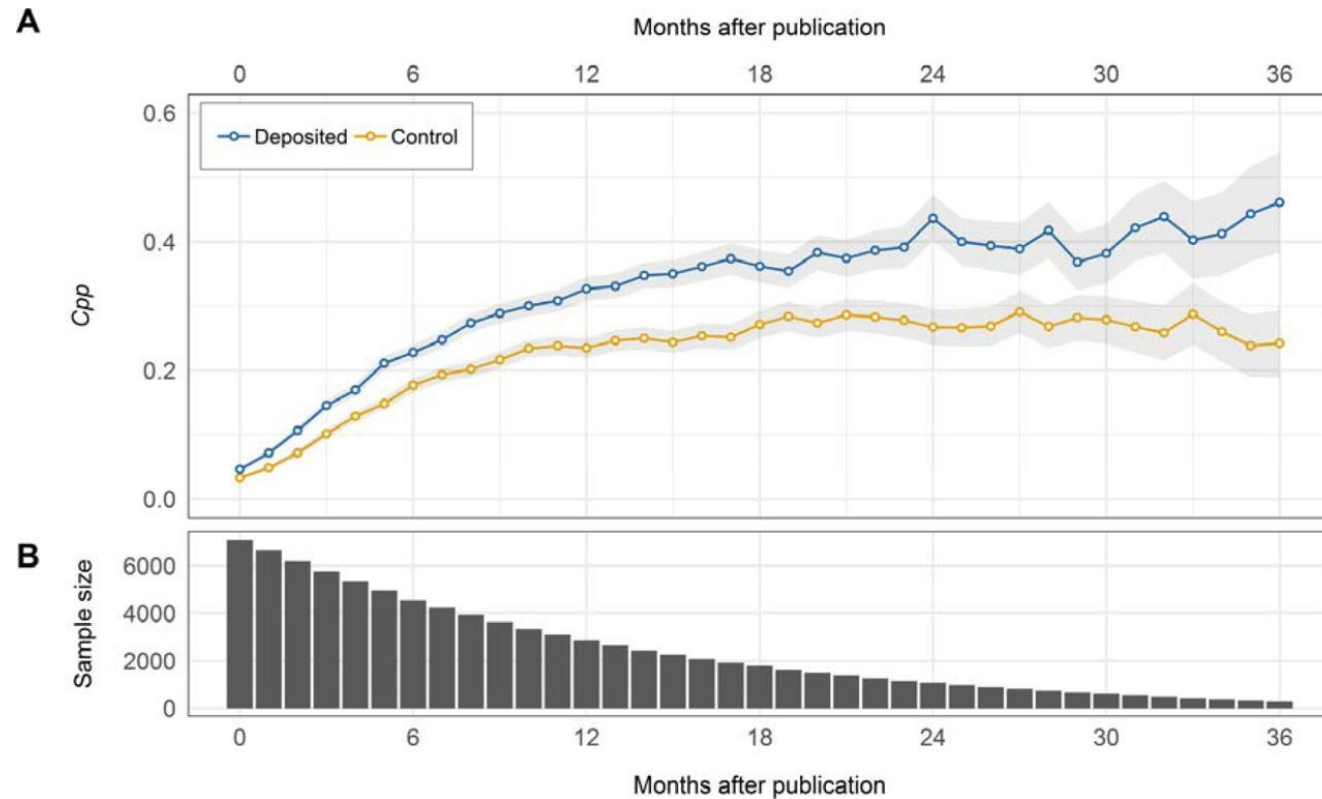
By the numbers

- Growth per field in bioRxiv
 - <https://twitter.com/cshperspectives/status/1195350481461284866>
 - Let's take a look

By the numbers

Preprints increase visibility & citations

Reduce wait time for ONDRI



Old and new initiatives

- Old: Peer review processes exists for preprints
 - You can email people
 - bioRxiv has a comment system
 - Twitter-based peer review is pretty common now
- New-ish
 - <https://web.hypothes.is/>
 - Annotation built into systems
- “Reverse submission”
 - PloS: Reading comments on bioRxiv to find papers
 - eLife: Submit preprint, get public reviews

<https://blogs.plos.org/plos/2019/11/community-comments-and-peer-review-a-preprint-commenting-pilot-at-plos/>

<https://elifesciences.org/inside-elife/e9091cea/peer-review-new-initiatives-to-enhance-the-value-of-elife-s-process>

Licensing

- Granted in perpetuity to servers
- Various creative commons licenses
 - Which means *you* own it and decide how it is redistributed

Creative Commons Licensing

- CC0
 - Public domain, any use without attribution
- **CC-BY**
 - Any use *with* attribution
- CC-BY+
 - NC: Forbids commercial use
 - ND: Forbids adaptations
 - SA: Adaptations must abide by the same license
- None
 - All rights reserved

Personal Experiences

- Multivariate genotypic analyses that identify specific genotypes to characterize disease and control groups in ADNI
- <https://www.biorxiv.org/content/10.1101/235945v3>
- 2017DEC - 2019NOV
 - Three versions 2017DEC18, 2018FEB25, 2018JUL10
 - Abstract views: 1,311; PDF downloads: 490
- Desk rejected 5 (6?) times
 - I've moved on
 - I'm happy it has a public home

Personal Experiences

- Generalization of the minimum covariance determinant algorithm for categorical and mixed data types
- <https://www.biorxiv.org/content/10.1101/333005v2>
- 2018JUN - 2019NOV
 - Two versions: 2018JUN11, 201912FEB
 - Abstract views: 1,341; PDF downloads: 734
 - 1 citation
- Troubles
 - Coordinating listed authors
 - 1 review for 5+ months (1 reviewer w/ 4 short comments)
- Back out again soon

Personal Experiences

- A generalization of partial least squares regression and correspondence analysis for categorical and mixed data: An application with the ADNI data
- <https://www.biorxiv.org/content/10.1101/598888v2>
- 2019APR - 2019OCT
 - Two versions: 201905APR, 2019OCT02
 - Abstract views: 1,373; PDF downloads: 388
 - Stupid amount of Tweets
- Haven't sent out yet

Take aways

- Rapid dissemination, increase exposure
- Control of *your* story
 - And even *your* copyright
- There's a preprint server for everything
- Publishers moving towards meaningful support
 - e.g., PLoS & eLife via reviews and solicitation
- Built in peer review
 - With new forms online now

Give it a try

- See these two in particular
 - Bourne et al., (2017) “Ten simple rules to consider regarding preprint submission”:
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005473>
 - <https://asapbio.org/preprint-info>

References, resources, and links

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- <https://twitter.com/cshperspectives/status/1195350481461284866>
- <https://twitter.com/richabdill/status/1195441128851615746>
- <https://www.natureindex.com/news-blog/preprints-boost-article-citations-and-mentions> or <https://www.biorxiv.org/content/biorxiv/early/2019/06/22/673665.full.pdf>
- <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005473>
- <https://blogs.plos.org/plos/2019/11/community-comments-and-peer-review-a-preprint-commenting-pilot-at-plos/>
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- <https://www.aje.com/arc/benefits-of-preprints-for-researchers/>
- <https://asapbio.org/licensing-faq/licensing-diagram-2018-10-04>