Preprints from the perspective of (junior, basic) biologists

Jessica Polka (jessica.polka@gmail.com, @jessicapolka)

Visiting research fellow, Harvard Medical School
Future of Research
Director, ASAPbio
Strong consensus that broader use of preprints could become a valuable addition to the journal system

(Organizers: Daniel Colón-Ramos, Jessica Polka, Harold Varmus, Ron Vale)
ASAPbio.org
Moving preprints forward

Funding Agencies
University Promotion Committees
Journals
Scientists

Ron Vale
James Fraser
Daniel Colón-Ramos
Harold Varmus
Framing the perspective of junior scientists

Ghaffarzadegan et al 2015
NSF data via FASEB

Ron Vale, bioRxiv/PNAS 2015
Should I post a preprint?
Concern: We can’t be trusted to share our work before peer review

- We will guard our own reputation
Concern: Journals won’t accept my preprint

Nature and Nature journals,
Science,
PNAS,
Cell,
eLife,
J. Cell Biology,
EMBO,
ASM journals
Oxford Press journals,
J. Biol. Chemistry
MBoC
Genetics
J. Neuroscience

Search Wikipedia: list of academic journals by preprint policy
Contains links to original policies
Concern: I’m going to get scooped

*ie: preprints are public but not obviously well-respected*

Paul Ginsparg, founder of arXiv on scooping:

“It can’t happen, since arXiv postings are accepted as date-stamped priority claims.

Eventually I came to understand that biologists do not use “scoop” in the standard journalistic sense... Instead “scooping” in the context of biology research appears to mean using information or ideas without proper attribution.”

http://asapbio.org/preprint-info/preprint-faq

**Draft statement on disclosing & crediting scientific work**

“As responsible citizens of the scientific community, we...will fairly cite original work presented as a preprint in our own scientific papers, just as we would cite a journal publication. We will acknowledge such work, as appropriate, in our presentations at scientific meetings.”

http://asapbio.org/drafts/draft1
Concern: How can we ensure ethical disclosure of data?

Preprint servers should (and already do!):

• Screen for human subjects research
• Ensure that authors agree to posting
• Expect that methods are present and complete
Concern: How should preprints be covered in the media?

**Cell phones & cancer**

*Report of Partial findings from the National Toxicology Program Carcinogenesis Studies of Cell Phone Radiofrequency Radiation in Hsd: Sprague Dawley® SD rats (Whole Body Exposure)*

Michael Wyde, Mark Cesta, Chad Blystone, Susan Elmore, Paul Foster, Michelle Hoot, Grace Kissling, David Malarkey, Robert Sils, Matthew Stout, Nigel Walker, Kristine Witt, Mary Wolfe, John Bucher
doi: http://dx.doi.org/10.1101/055699

*This article is a preprint and has not been peer-reviewed [what does this mean?]*

**Vaccines & autism**

*RETRACTED: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children*

Dr A J Wakefield, FRCPath, SH Murch, MB, A Anthony, MB, J Linnell, PhD, OM Casson, MRCP, M Malik, MRCP, M Berelowitz, FRCPsych, AP Edhill, MRCPath, MA Thomson, FRCP, P Harvey, FRCP, A Valentine, FRCP, SE Davies, MRCPath, JA Walker-Smith, FRCP

doi: http://dx.doi.org/10.1016/S0140-6736(07)61066-0
Benefits of preprints

392 responses. Results at asapbio.org/survey
Current problem

Lack of access to publicly and privately funded scientific work

Preprints are immediately available to everyone around the world
Current problem

Information is being held within laboratories for longer periods of time

With preprints, new knowledge is immediately accessible, allowing research overall to advance.
With preprints, trainees have publicly disclosed work that can be evaluated for a PhD thesis, postdoc positions, fellowships, or jobs.
Preprints are public documents that enable committees to see the most recent work of an applicant.

**Current problem**
Recent work is “invisible” to grant and promotion committees.
The immediate visibility of preprints enables invitations to meetings, new collaborations, etc.

Also more feedback on your manuscript than 2-3 anonymous peer reviewers
**Current problem**

Lack of transparency and length of review creates difficulties for establishing priority of discovery.

Preprints have a time stamp and DOI number. They provide evidence of what a scientist has accomplished while the work is being improved through peer review.
Making preprints legitimate

“First, we changed our grant award letter to strongly encourage all SFARI Investigators to post preprints on recognized servers in parallel with (or even before) submission to a peer-reviewed journal. Second, our biosketch form was updated to include space for SFARI grant applicants to list manuscripts deposited in preprint servers;”

Simons Foundation, May 20 2016
Making preprints discoverable

Proposing an aggregator (similar to PubMed or PubMed Central) for preprints