

# Open Peer Review workshop

13:30 - 17:00, Sunday 17th April 2016, FORCE 2016, Portland, Oregon

Venue: Room 1S006, OHSU Collaborative Life Sciences Building

Link to this document: <http://bit.ly/force2016peerreview>

Link to slides: <http://bit.ly/force2016peerreviewslides>

## Quick Links

- [Expected outcomes of workshop](#)
- [Agenda](#)
- [Practical breakouts descriptions](#)
- [Background reading](#) (please add any that you think are useful)

## Notes

### What is peer review?

GigaScience used to have an opt-out system, but open peer review is now mandatory (no-one had requested an opt-out)

What was broken with the old model?

Biases and plagiarism because of the secrecy

Where is the bias in double-blind system?

For BMJ, they were worried about conflict of interest from pharma - publishing clinical trials without interference

Lose time and quality in reviews e.g. hide behind anonymity

Does rejecting a high percentage of submissions work as a quality filter? When should we reject?

Who has responsibility for the quality of the articles? Authors or Reviewers/Editors?

Combative -> collaborative (could it also be considered developmental?)

Function and purpose of peer review is changing with OPR

-if you can't see or comprehend interaction between reviewer and author, is that peer review? (and does it matter if the ideas are good/valid/ and we learn? Seems to only really be a thing when it comes to promotion & tenure? Or status?)

## Moving toward different models/stages of inviting/providing feedback

Points in time - when does review happen

After publication, it's open for anyone to scrutinise, review and feedback, quite often the people who will spend the most time understanding the work - but they are often not the ones who are the invited reviewers

Having the review out in public vs having the reviewers name out in public

Would expect that researchers would contribute positively to review process, but have not yet measured.

Many aspects of traditional peer review are based around the idea that there is a single instance published, rather than a series of versions (like software or wikis)

What is a peer?

- Shortage of peer reviewers for classical journals

We can aggregate reviews, as we do articles, by assigning IDs

- E.g. Publons
- Young researchers can also point to non-traditional "work for the community" e.g. reviews, comments, ... to build a reputation

What are the real goals of open peer review? Are they in conflict?

- Radical transparency (e.g. BMJ)
- Improving understanding / explication (e.g. eLife)
- Depends on the community - each journal/community need to come up with purposes, mechanisms that work for them
- Annotations
  - Writing reports on reports leads to reduced readership (particularly as PDFs)
  - Annotations / commentary with filtering becomes useful to the reader, keeps it together in a way that humans understand but still machine mineable
- What if you just want it to be there so they \*could\* read the report, rather than actually want to read (c.f. F1000 views counts)
  - People only read if they think something has gone wrong, or they're trying to reproduce

Librarians

- Librarians are not the best writers. In an implementation of open review, using Google Docs to help write it helped the process but still was difficult to get well-written reviews
- Any way of stopping the editors from emailing faculty?
  - Can you improve the peer review mechanism to reduce these requests?

- Text mining to help target?
  - E.g. use tools like the author finder at <http://jane.biosemantics.org/> to find reviewers
- Should librarians/departments act as gateways for selecting reviewers?
- Should reviewers “sign up” to review particular areas?
  - Certainly being done manually per journal
- Systems to advertise yourself as a reviewer
  - AcademicKarma, Publons <https://publons.com/>
- Who decides?
  - Self reported, expert judged, machine identified

#### Open review barriers

- Research shows that people are less likely to review if it's open peer review
- BMC has good data on how to do open peer review (data not published, but it's 5% more difficult for open review - both reviews and reviewers made public)
- What happens with split decisions? E.g. you recommend rejection but decision is accept. Can you withdraw your review?
- Different disciplines exhibit different levels of openness.
- In mathematics, where a review may take years, the use of pre-print servers (like arXiv) means they only filter on “nonsense” before publication, reduce impedance of communication of the research.

#### Overlay journals

- Concept of overlaying a peer review process on top of a pre-print mechanism
- Nothing particularly different to other open review methods?
- Removes bottleneck to seeing results, but similar to other post-publication peer review journals
- Have to put on archive for it to be seen by the journal

## Expected outcomes

- Provide overview of open peer review
- Provide hands on experience of open peer review
- Understand what peer review models have been successful and why
- Understand how feedback finds its way to authors, reviewers or readers of the original object
- Summarize current review types, what they're used on, and examples of where they're used

## Agenda

13:30 Introduction to the workshop, introductions

13:45 Introduction to Open Peer Review: concepts, examples

- Definition of peer review and history (Samir)
- Different forms of Open Peer Review (Samir)
- Peer review of non-traditional outputs: data, software (Neil)
- Post-publication review and feedback (Daniel)

14:30 Practical breakouts

- A: Performing an open peer review

15:15 Break

15:45 Practical breakouts

- B: Examining peer review of recent research developments
- C: Pros and cons of peer review models

16:45 Wrap-up

17:00 Conclude

## Practical Breakouts

### A: Performing an open peer review

Pick a piece of research and perform and publish your own open peer review (working in pairs or individually).

This could be via:

- reviews on post-publication peer review platforms (e.g. F1000, ACP)
- comments posted on publication platforms (e.g. journal or preprint website, code or data repo)
- comments on aggregator sites (e.g. PubMed Commons, GLAM collections)
- annotations (Utopia, Hypothesis, non-open platforms)
- inclusion and commentary in Wikipedia
- comments on social media
- letters to the editors/ other classical commentary
- blog posts
- aggregators of blog posts (think ResearchBlogging)
- Tweets
  - [https://twitter.com/T\\_Inglesby/status/715905580653789184](https://twitter.com/T_Inglesby/status/715905580653789184)
    - Daniel: The tweet addresses the fact that the U.S. spent a lot of effort on mosquito control in the 1940s because mosquitos are vectors for transmitting infectious diseases, which affects broad parts of the population, including the armed forces. It provides a relevant reference - a video detailing these efforts - and goes on to claim that in order to control the current Zika outbreak, it will be necessary to rival those past efforts in several major dimensions. This is a reasonably accurate way of describing the amount of efforts required to tackle the Zika challenge, and providing the historic perspective is useful, as would be further details, e.g. on what to prioritize.
    - Post provides evidence that CDC has faced similar challenges and succeeded in garnering funding and attention for mosquito control for malaria prevention. Author may want to acknowledge that funding was slow to be provided 70 years ago too. Mosquito control in WWII military installations initially considered less important than STD control, so education (and many deaths/illnesses) were needed then too in order to get sufficient funding. (The Malaria Project by Karen Masterson.) - Diana
      - An example of a comment which provided additional references from an expert
  - <https://twitter.com/mbeisen/status/709057423374299136>
    - Has the author considered that perhaps it is not inherently the system of P&T that is at fault, but the social context and culture surrounding the system? I would also suggest that the author delve deeper into the economics of library budgets in the landscape of higher education, in order to strengthen his argument. It should also be noted that library subscriptions in Universities are used as markers of prestige by faculty, accreditors, and administrators-- another marker of the social context of a system, rather than the system itself. (Your institution does not subscribe to JAMA online? \*gasp\*) I suggest the author engage more deeply with the history and development of the P&T process, as well as examine and propose how to either improve the P&T system, or what other hiring, promotion, and tenure models could

ameliorate his concerns regarding subscription economics and scientific publishing. -Emily F.

- Ali read this review and gave Emily confidence to add to and improve her review - an example of how not siloing reviewers helps make reviewers comfortable
- Slobodan: I don't think that context and culture is problem as P&T system, since by the law in my home country I can't get promotion if I am not publishing in IF journals.
  - An example of a comment on a review which does not disagree with the review, but on whether the review was accurately targeting the original statement
  - Also an example of where the comment was posted on a review which was subsequently reviewed which might invalidate the comment
- <https://twitter.com/MackayIM/status/714056799209435137>
  - Scott: this is a 3 week old post, and a lot is happening in the Zika field very quickly. Had to dig into the blog post, but I would agree a lot of the points raised in it on correlation versus correlation are still fair. One area I would question this is it's all focussed on the Brazil data (and lack of data), and comparing data from other countries (particular historical data from French Polynesia and [new data from](#) Colombia is really going to help balance this and give us more confidence [on the role of ZIKV in foetal malformations](#).
    - This review by Scott focuses more on commentary of usefulness of post
  - This gives a lot context which makes it easier to evaluate
  - Review might focus on first statement "Zika virus is a testing problem for science" rather than the more subjective "Some random thoughts"
- <https://twitter.com/KinglaKing/status/714821245615755264>
  - Not enough context to review - as references are lacking apart from an author
  - Closed review means you don't have a channel to interact with authors / clarify understanding
    - Frontiers is an example where reviewers can communicate with each other
    - Other review systems allow this
  - [Probable Baumeister quote under consideration](#) (from [this paper](#))
- <https://twitter.com/gedankenstuecke/status/703578445641596929>
  - Courtney & Neil S.: It's useful to have the #FutureCommons hashtag so that the reader can get more background info. On the RT: Not re-inscribing is not the same thing as disrupting. Why are you glad? What aspect about that tweet are you glad about? It is almost like if you weren't there you might not get it. The author could provide more of a specific endorsement--if in fact this is an endorsement?
    - Example of a collaborative review
  - Tweet had 14 RTs & 18 likes, so was obviously popular. Did a reverse image search and seems to be a new image and probably from the #FutureCommons conference. Scott

- Like a paper where the figure and the legend imply different things
- How much do reviewers scrutinise figures?
  - Can you understand it (is the figure a “well-presented” figure)?
  - Is the information on how the figure was produced included?
  - Some journals (e.g. Journal of Cell Biology) employ an expert to check figures (e.g. has this been photoshopped)
- <https://twitter.com/Noleli/status/704174495288860672>
  - Not enough knowledge of area
    - No concrete experts in the room
    - Equivalent to refusal to review because of lack of expertise
- <https://twitter.com/johl/status/708610349654745088>
- [https://twitter.com/john\\_kratz/status/699777788945936384](https://twitter.com/john_kratz/status/699777788945936384)
  - Adam: That is almost certainly *part* of the reason for the difference in preprint sharing practices between those fields. But a much bigger factor is that physicists have been sharing preprints far longer than the arXiv has existed. University libraries actually had preprint repositories, containing paper copies of physics preprints from around the world, for decades before the arXiv was created in 1991. See <http://arxiv.org/abs/1602.08539> for more on the history of preprint sharing in particle physics.
    - An example of a very useful review comment
- <https://twitter.com/pollyp1/status/699239175808270337>
  - Mandy & Eva: We miss in the author’s perspective the idea of peer-review as a collaborative effort among scholars. She presents peer-review process as an obligation of unknown scholars not interested in the field rather than part of the scholarly communication ecosystem.
    - (there are now “peer reviewers” for hire, which means that author suggested reviewers are increasingly not used. Open peer review might make it easier to detect this, but this might also lead to more “intelligent” fake reviewers. Doesn’t stop identity theft.)
    - Many journals undertake plagiarism detection, however even the best tools can’t detect this if the parts of system are hidden e.g. multiple submissions at the same time
- <https://twitter.com/SenSanders/status/698990643255885826>
  - Slobodan: “Ready for publication as is” :)
  - I am interested in further research in this area, so I would have liked a pointer to the data and analysis to back up your hypothesis that we are discouraging students from attending college based on the income of their parents. It’s also not completely clear whether the correlation you are drawing is that potential students from poorer income families are discouraged, that it’s students from higher income families, or indeed that it is students from some other categorisation of income. - Neil CH

- <https://twitter.com/nntaleb/status/720951206860992513>
  - Elizabeth: Comparing psychologists to astrologers is totally unwarranted. The social sciences could use some help with current statistical practices, but there is a lot of solid psychology research. Many psychologists design excellent experiments where they attempt to control for as many variables as possible. Human behavior is inherently messy, and behavioral data is noisier than in other disciplines, but this does not mean psychologists are not scientists.
    - Psychology is not always classified as a social science
    - Q: Is this the kind of comment a peer reviewer would make?
    - A: Difference between annotation and comment. It comments on the quality of the argument.
    - This tweet is deliberately inflammatory
    - I'm interested in reviewing the literature, can Elizabeth point to studies showing research on the quality of experimental design in psychology?

Open peer review changes the conflict of interest “models” as

- You can allow for less restrictive conflict models
- The community can see what the conflicts are and make their own judgements
- Reduces bureaucracy
- Different disciplines have different Col norms

Final thoughts

- Potential for informing extended peer review
- Ask different questions, looking at things differently
- Lots of questions raised that hadn't been considered
- Concept of reviewers collaborating (with authors / with reviewers)
  - But does this just extend the review process
- Concept of reviewing the reviewers
  - A conversation
- Refreshing to hear different expertise on peer review, different styles
  - More engaging to hear about it in workshop rather than just reading the material
- How difficult this can be for an early career researcher who feels they don't have the confidence to undertake reviews (e.g. expertise, established)
  - Library science is very interdisciplinary so feel that it takes a long time to get the expertise
  - However many reviews are written by early career researchers and then submitted under the names of their supervisors
  - And can be the case that early career researchers provide more comprehensive reviews on entire paper rather than focussing on a specific part of the article
  - Open peer review (with both early career and supervisor co-signing review) can take some of the pressure off





## B: Examining peer review of recent research developments

Take a look at a recent or ongoing major research development (e.g. gravitational waves, Ebola, Zika) and identify how traditional and non-traditional open peer review helps different audiences make sense of the material.

## C: Pros and cons of peer review models

Take one of the identified open peer review models and identify the advantages and disadvantages of the model and document it. E.g:

- Open peer review requested by journal
- Commentary on journal / publication platforms
- Commentary on annotation platforms
- Commentary on social media / blog posts
- Commentary via “Letters to the Editor”

You could look at the review you did earlier, or existing reviews of research objects you’ve published.

## Background reading

- History of peer review
  - Burnham, J.C., The Evolution of editorial peer review, Journal of the American Medical Association, Vol. 263, n°10, p. 1323-1329, 9 Mars 1990
  - The British Academy, Peer review : the challenges for the humanities and social science : a British Academy report, The British Academy, London, 2007, p.iii
  - Brown, Tracey, Ed., Peer review and the acceptance of new scientific ideas: Discussion paper from a Working party on equipping the public with an understanding of peer review., November 2002-May 2004, Sense about Science, London, 2004, p.7. (<http://www.senseaboutscience.org>)
  - Sojka, R.E. , Mayland, H.F., Driving science with one eye on the peer review mirror, Forum proceedings, "Ethics, Values, and the Promise of Science", San Francisco, 25-26-02-1993, p.202 (<http://eprints.nwisrl.ars.usda.gov/1062/1/816.pdf> )
  - Zuckerman, Harriet, Merton, Robert K., Patterns of evaluation in science : institutionalisation, structure and functions of the referee system, Minerva, Vol.9, n°1, p.76, Janvier 1971
  - Bailar, John C. III, and Patterson, Kay, Journal peer review: the need for a research agenda, New England Journal of Medicine, Vol. 312, p.654-657, 7 Mar 1985
  - Schmelkin, L. P., Peer review: Standard or delusion? Presidential Address delivered at The annual meeting of the American Psychological Association, Division 5, Toronto, Canada (August 2003).
- Peer review in practice - analysis of effects of peer review models
  - Hall, J., Author review of reviewers , American Psychologist , Vol .34, 1979, p.798
  - Peters, Douglas P. and Ceci , Stephen C., Peer-review practices of psychological journals: The fate of published articles, submitted again, Behavioral and Brain Sciences, Vol. 5, n°2, June 1982, pp 187-195
  - Fish, Stanley, No bias , no merit : the case against blind submission, Publications of the Modern Language Association, Vol.103, n°5, p. 739-748, October 1988
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- Godlee, F, [et al], Effect on the quality of peer review of blinding reviewers and asking them to sign their reports: a randomized controlled trial, *Journal of the American Medical Association*, 1998, Vol.280,p.3740
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- Morrow Brown, Harry, Peer review should not be anonymous, *British Medical Journal*, Vol.32, 12 April 2003, p.824.
- [Snodgrass R \(2006\) Single- Versus Double-Blind Reviewing: An Analysis of the Literature, SIGMOD Record, Vol. 35, No. 3, Sep. 2006](#)
- Experiences of switching to double blind review:
  - <http://www.sciencedirect.com/science/article/pii/S0169534707002704>
  - <http://www.sciencedirect.com/science/article/pii/S0169534708001389>
  - <http://www.sciencedirect.com/science/article/pii/S0169534708001390>
- Ford E. Open peer review at four STEM journals: an observational overview [version 2; referees: 2 approved, 2 approved with reservations]. *F1000Research* 2015, 4:6 (doi: [10.12688/f1000research.6005.2](https://doi.org/10.12688/f1000research.6005.2))
- Ethics of Peer Review
  - De George, Richard T. and Woodward, Fred, Ethics and manuscript reviewing, *Journal of scholarly publishing*, Vol..25, n°3, 1994, p.134-142
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  - The #ArsenicLife affair, a prime example of post-publication peer review: [http://blogs.discovermagazine.com/loom/category/arsenic-life/#.VxPKYj\\_Fyr8](http://blogs.discovermagazine.com/loom/category/arsenic-life/#.VxPKYj_Fyr8)
  - [Peer Review Openness Initiative](#)

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[http://pdxscholar.library.pdx.edu/ulib\\_fac/1](http://pdxscholar.library.pdx.edu/ulib_fac/1)