

Types of interim research products your or your organization create/and or host.

I am a computational biologist, working independently of late, with interests in both structural analysis of protein structures (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0028470>, <https://f1000research.com/articles/3-295/v2>, <http://biorxiv.org/content/early/2016/11/14/087411>, <https://f1000research.com/articles/5-1150/v2>) and sequential analysis of genomes and transcriptomes (<https://f1000research.com/articles/5-2689/v1>, <http://biorxiv.org/content/early/2016/10/04/079186.abstract>, <https://f1000research.com/articles/5-2394/v1>).

Feedback on what are considered to be interim research products, and how they are used in your field.

Most computational predictions (<http://biorxiv.org/content/early/2016/11/14/087411>) are in essence always interim, since they need validation (in vitro or in vivo). Pre-print allows faster deployment of computational ideas, since wet lab work can be time-consuming. However, some methods (for example the lack of proper annotations of widely used computational tools <https://f1000research.com/articles/5-2689/v1>) are not really interim since they can be easily verified. As, my colleagues and me found over a period of time, it was difficult to have journals accept these blatant shortcomings. Open reviewing is another important factor that helps accountability, in case of conflict of interests.

Interim research products that I could use are genomes and transcriptomes that can be made available early, without waiting for the final paper. The 'Googling' of subjects would be really blind to the nature (pre-print), and would help me get access to data.

Insight on how particular types of interim research products might impact the advancement of science.

In my opinion and experience, the delay (arising out of inherent biases in peer-reviewing) has a significant impact on the advancement of science. The fight to publish, and publish high, squeezes out the fun and possibly negates the real reason researchers do science. Also, the costs of OA, the new paradigm, might be a deterrent to many (since I have found waivers are not granted in most cases). Science is a basic human right, and should not be held hostage to institutions, many with financial interests. In other words, if one finds something unique interesting, and wants to tell the world, she/he should be able to do so if it meets the basic standards. Thus, a site like <http://biorxiv.org/> is a boon for a person like me.

Feedback on potential citation standards.

Validation of results or quality of context will always be an issue, even with peer-published papers. For example, I have written to the editor of <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0117499> to highlight the complete lack of previous results (which includes a lot of work I have done with others), in vain. I do not have the answer, but I believe in time with a fair system in play, original work will get highlighted even with pre-prints. For example, for the above mentioned paper, there is no citation to the above mentioned paper.

Insight on the possible need and potential impact of citing interim products on peer review of NIH applications.

Advice on how NIH reviewers might evaluate citations of interim research products in applications

One possible way is to encourage established researchers to comment on interim research, using the comment box on <http://biorxiv.org/>. I don't know how this can be incentivized, which would help get "reviews". Journals could use these as potential reviews - after the usual checks of conflict of interest, etc. For example, I am willing to make a contribution of \$5 for every review, with say a maximum of 10 reviews. But, this can not be mandatory.

Any other relevant information.