

Where to publish our next paper? – Letter to a group member

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Hi X

Thank you for sending your draft. Really nice work! I will give you more detailed feedback in the next couple of days, but I want to answer now your question about where we should submit our paper.

In the last couple of years, partly because of my involvement in the stripy controversy (more below), I have thought a lot about publishing... and concluded (along with many other people) that the system is absurd, worse, toxic. Public funds are paid to commercial publishers to put publicly-funded research behind paywalls. The (unpaid) hard work of reviewers (which may or may not have led to improvements in the article) remains confidential and does not benefit the community. Publicly-funded researchers waste their time reviewing articles which have already been reviewed several times by other researchers for other journals. Researchers are evaluated on the impact factor of the journals in which they publish even though this is not at all a measurement of the quality of an article.^[1,2] There is a serious reproducibility crisis^[3] but no incentive to reproduce or criticise published work. Those flaws and their consequences can be illustrated by briefly looking at two recent controversies.

It took us three years to publish “Stripy Nanoparticles Revisited”.^[4] The numerous (and still unfolding^[5]) events that followed this publication opened a window into our disfunctioning scientific system,^[6] highlighting the failure of journals and institutions to promote correction of the scientific record. The stripy controversy also shows the role that (open) post-publication peer review and social media can play in enabling those discussions which are almost impossible to get through the traditional journals.^[7] A positive example of these new dynamics is the case of Brian Pauw, who came across the controversy via Twitter, made interesting contributions on his blog^[8] and in the online discussion (PubPeer^[9]) of the arXiv pre-print of our follow-up paper, and eventually became an author of the revised version.

Announced as a major discovery with two publications in Nature and massive media coverage, the generation of stem cells through an acid bath (STAP) rapidly turned into a scientific and human disaster, which culminated with the suicide of one author (see tribute^[10]). It is hard to overestimate the impact that this disaster had on Japanese science and on

stem cell science more generally. Yet, severe flaws in these articles had been identified before publication by reviewers at Science^[11] (where the work had been initially submitted) and by reviewers at Nature.^[12] All of this could have been avoided if Nature had decided to reject the article, or, if the work had been published alongside the reviews that cast serious doubts on its validity, leaving it to the readers to make up their mind or wait for replications (which never came in spite of attempts).^[13]

The system is so severely flawed that it threatens scientific progress and the fabric of science. Not all those problems are due to the publishing model, but it certainly plays a key role.

We need to change the ways we share scientific progress and we have the opportunity to do so: innovative publishing platforms can transform the way scientists share, discuss and evaluate their findings. I believe that this is the future and embracing this future will be beneficial to young researcher’s careers but I know that this is a gamble because many colleagues and institutions still evaluate researchers through the impact factor of where they publish. In our own institute, at a recent research strategy event, colleagues one after the other argued the excellence of their research groups on the basis of the number of articles published in high impact factor journals. I do not underestimate the gamble and this is one with your own career so it is not one I can make on your behalf. If you are happy to try one of these platforms, I’ll be delighted. If you prefer to go for a more traditional venue, I’ll help you as much as I can and we will pay the fees to make the article open access (all journals offer to make your articles open access though this hybrid model is further filling the pockets of publishers and does not seem to help the transition to full open access; see paragraph entitled Get value for money in this post^[14] by Stephen Curry).

The ideal system would be a high quality platform combining these three features: #1 not-for-profit, #2 open access (and reasonably priced), and, #3 with articles published immediately followed by open peer review. There are a lot of experiments in publishing at the moment and I list below just a few which are relevant to our area of research.

All the best,

Raphaël

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Journal/Publication platform	not-for-profit	open access	immediate publication followed by open peer review
ScienceOpen ^[15]		✓	✓
F1000 Research ^[16]		✓	✓
Beilstein Journal of Nanotechnology ^[17]	✓ (and free)	✓	
PloS One ^[18]	✓	✓	
Royal Society Open Science ^[19]	✓	✓	
Chemical Science ^[20]	✓ (and free in 2015/16)	✓	

Read more:

[1] <http://occamstypewriter.org/scurry/2012/08/13/sick-of-impact-factors>

[2] <http://www.theguardian.com/science/political-science/2013/may/17/science-policy>

[3] <http://www.prospectmagazine.co.uk/blogs/philip-ball/the-replication-crisis>

[4] <http://raphazlab.wordpress.com/2012/11/23/stripy-nanoparticles-revisited/>

[5] <http://julianstirling.co.uk/when-it-comes-to-scientific-publishers-i-just-dont-know-who-to-trust-anymore/#comment-15893>

[6] <http://raphazlab.wordpress.com/2013/11/27/the-stripy-controversy-as-a-window-into-the-scientific-process/>

[7] <http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=422337>

[8] <http://www.lookingatnothing.com/index.php/archives/1361>

[9] <https://pubpeer.com/publications/B02C5ED24DB280ABD0FCC59B872D04>

[10] <http://www.ipscell.com/2014/08/stem-cell-community-tribute-to-yoshiki-sasai/>

[11] <http://retractionwatch.com/2014/09/10/truly-extraordinary-simply-not-credible-suspiciously-sharp-a-stap-stem-cell-peer-review-report-revealed/>

[12] <http://news.sciencemag.org/asiapacific/2014/09/exclusive-nature-reviewers-not-persuaded-initial-stap-stem-cell-papers>

[13] <http://www.ipscell.com/stap-new-data/>

[14] <http://occamstypewriter.org/scurry/2014/04/20/open-access-yes-you-can/>

[15] <https://www.scienceopen.com/home>

[16] <http://f1000research.com>

[17] <http://www.beilstein-journals.org/bjnano/home/home.htm>

[18] <http://www.plosone.org>

[19] <http://rsos.royalsocietypublishing.org/about>

[20] <http://www.rsc.org/publishing/journals/sc/about.asp>