

How The Digital Revolution Can Fix Scientific Publishing

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<https://poynterdean.wordpress.com/2014/09/02/how-the-digital-revolution-can-fix-scientific-publishing/>

Note from March 2021: Some links in this posting may no longer function. To search for digital content previously available in the USFSP Digital Archive, visit the new repository at: <https://digital.stpetersburg.usf.edu/>. Search the [USFSP Library](#) and [USFSP](#) web sites, as well other secondary sites, if you encounter other links that no longer work.

The [TechCrunch blog](#) recently posted an article by Daniel Marovitz, CEO of [Faculty of 1000](#), discussing the need to revolutionize scientific publishing. The article, entitled [How The Digital Revolution Can Fix Scientific Publishing And Speed Up Discoveries](#) outlines the need for open access publishing and sharing of new research, including failed research, without ever using the words Open Access. He discusses the stranglehold that a few publishers have on scientific publishing, noting that:

The primitive publishing model employed by these publishers is actually a detriment to science. Research paid for by taxpayers is often restricted behind pay walls, major breakthroughs that could potentially save lives languish in articles whose publication is delayed for no reason. In some cases, published findings that have passed a traditional peer review process are subsequently found to be fraudulent.

In this brief article, he outlines a series of problems and solutions such as **Delays in publishing**. The solution he proposes includes a new breed of journal that “arranges formal, invited peer review for articles that have been published online before review, thereby allowing access to information usually months before a traditional journal.”

He also identifies **Anonymity** of peer reviewers as another problem with the current scholarly publishing model, noting that “Expert peer reviewers are by default working in the same area which may also make them competitors, creating incentives to be overly critical, or even to deliberately try to hold back a study that competes with their own work.” The solution he proposes is for journals to follow the lead of [BioMed Central](#) and publish the names of reviewers, which he believes will “foster a culture of transparency and dialogue, which are fundamental to good science.”

A third problem Marovitz identifies is what he calls the **File Drawer Effect** which is when “Scientists try to publish in the top journals in their field to compete for a small number of jobs” and “As a side effect, scientists don’t publish work that will not directly advance their career.” The solution he puts forward is to “encourage the publication of negative results, and even allow “research notes,” which can describe just a single experiment rather than a complex study. Researchers can also upload slide decks to Slideshare, and deposit data in repositories such as Figshare, or topic-specific databases.”

The final problem he identifies is Lack of **Available Research Data** which he defines as when “The underlying data behind published studies are also typically kept hidden while researchers try to build their careers by maximizing the number of new discoveries they can get out of the data they produced.” His proposed solution is to publish the research data and the analysis code. and he notes that there are an increasing number of repositories where such data can be hosted.

It’s a good article and it outlines many of the key issues succinctly. It would have been an even stronger piece, I believe, if he had acknowledged the efforts of the worldwide [Open Access movement](#) and the role that institution-based digital repositories, like the [USFSP Digital Archive](#), can play in helping to revolutionize scientific publishing (indeed, all scholarly publishing). It would also have been a stronger piece had he acknowledged the effect that the Office of Scientific and Technology Policy has had by [directing Federal agencies with more than \\$100M in R&D expenditures to develop plans](#) not only to make the published results of federally funded research freely available to the public within one year of publication but also to require researchers to account for and manage the digital data resulting from federally funded scientific research. As I wrote in a previous blog post on [Data Management](#), several library faculty received an internal research grant to investigate the needs for USFSP in this area.

Open Access to research results and research data matters to our faculty, our students, and our community. It’s a complex issue but it merits wide discussion within the University.