

Long lists are eroding the value of being a scientific author

May 27 2015, by Ernesto Priego



Enough with the long author lists - we are running out of space! Credit: summonedbyfells/Flickr, CC BY-SA

This month, a [scientific paper](#) by teams working at the Large Hadron Collider at CERN set the record for the number of authors on a paper – with [more than 5,000 contributors](#). In the same week, a genomics paper had [more than 1,000 authors](#).

The trend of increasingly long author lists on research papers is clearly getting out of hand. In addition to being impractical, it is also threatening to the entire system in which [academic work](#) is rewarded. Radical reform is needed. One way forward could be to completely remove authors on papers and replace them with project names.

Publications pay

Scientific publications have traditionally been the pinnacle of success in academia. Arguably, they are the main vehicle for academics to communicate their research to each other and, ideally, the world. Decisions about hiring – and academic career progression – are also still judged largely on an academic's publication record.

However, these days research papers are increasingly collaborative and multiple authors are the norm in many fields. A big number of authors can boost the reach, readership and eventually citations of a paper. Many worry that long author lists can therefore be a strategy to "game" the impact of individual papers, or to exponentially increase the length of each author's publication lists.

This will make it harder for universities and funding agencies to assess researchers based on those records. In addition, if the same rules for assessment are used across fields, this can leave fields where single authors or smaller teams are still the norm at a disadvantage. For this reason, we need to fundamentally rethink the concept of authorship, especially when it comes to large-scale collaborations.

The shift towards multiple authors has been going on for some time – especially for LHC research. Over the last decade, two published experiments from the LHC also had the highest number of authors in papers indexed by Thomson Reuters. In 2010, an ATLAS paper counted 3,221 authors, and a 2008 CMS paper listed 3,101 [author names](#).

This rise of multiple authors in academic [research papers](#) has been dubbed "[hyperauthorship](#)", and is seen in biomedicine as well as in high-energy physics. Information scientist [Blaise Cronin](#), who coined the term, argued that while this is a common problem across many disciplines, attitudes to the trend vary across fields. For example, publishing in high-energy physics is mostly conducted by very large teams spanning several institutions and even countries. It does often make sense to have a large number of authors, and researchers are often comfortable with it.

In biomedicine, however, there is more concern about the possibility of fraudulent practice, especially the addition of people as authors who have done no work on the project. There is also concern about data integrity and quality control when so many hands have been at work in creating single paper. But both fields struggle with how best to provide credit when co-authorship is counted not only in the dozens, but the hundreds and the thousands.

Meanwhile, to a humanities scholar, the hyperauthorship at the scale seen in high-energy physics seems completely alien. But [even in the humanities](#), an increasing reliance on data is leading to more collaboration and less work by lone scholars.

The fact that so many people are surprised every time a new paper breaks the record for number of authors just goes to show that the model we currently have might be outdated for some disciplines. Current systems for academic assessment (for example citation metrics) might give the misguided impression that the same mechanics and units of measurement can be used more-or-less uniformly [across disciplines](#).

The alternatives

Even taking into consideration that, in some fields, thousands of authors

for a single paper has been the norm for some time, it seems essential to change the way authorship is attributed. Listing students and other collaborators in the acknowledgements rather than in the author list is an alternative.

To truly leave the classical ideal of the lone scholar behind, [authors](#) involved in very large collaborations, as well as scholarly publishers, could consider leaving personal names behind to give credit instead to the collective, multi-institutional project's name.

What is at stake is not merely a question of academic ego, but the system to reward academics based on their work. In fact, for the changes to work, the whole scholarly communications, dissemination and reward system needs to be radically renovated. As suggested by the signatories of the [San Francisco Research Declaration on Research Assessment](#), funding bodies and universities cannot keep relying on publication lists and, in particular, citations as the main measures for academic success. Collaboration also needs to be more actively rewarded in its own right.

Hyperauthorship has transformed – and eroded – the concept of authorship having a unique value. This means that authorship cannot be taken to mean the same thing as it used to. There are no easy solutions to this problem, but embracing difference, rather than uniqueness, should be a start.

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