

OPEN SCIENCE AND *PREPRINT*

Ciência aberta e preprint

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The expression *open science* has been taking shape in the publishing industry for approximately 30 years, but in the past decade, it became a reference model of scientific practice that aims at sharing more information in the network. Until a few years ago, authors, reviewers, and journals were in charge of communication and evaluation. The journal, respecting the ethical and scientific premises of the publication, would accept or reject the manuscript submitted by authors, not always in an ideal or appropriate time to ensure the relevance of the information¹.

With the open science movement, several aspects considered essential when publishing a manuscript fell apart, replaced by other priorities. Authors became the holders of the information about their work. The process starts with an open evaluation (open peer review), that is, reviewers cannot hide in the anonymity of the assessment and must weigh all their comments about the quality of the manuscript with greater care. Another important factor to the scientific community in recent decades is evaluating how science can contribute more effectively and efficiently to solve emerging issues and develop a fairer and more sustainable society. This factor meets another one in defense of open science: open data, which allows researchers to support each other through the public access to databases stored in repositories, so different groups can consult them for further analysis, leading to the development of knowledge and the cure of diseases. We can only imagine how soon the cure for AIDS could have been found if studies had been shared immediately after each discovery of development mechanisms of the disease. Open science ends the withholding of knowledge and contributes to society.

The debate on the exclusive use of bibliometrics and the need to expand the way of monitoring science evaluation are expressed in recent manifestos organized by the global scientific community, such as the *Leiden Manifesto* (STI Conference, 2014), the *San Francisco Declaration on Research Assessment* (DORA, 2012), and

the *Slow Science* manifesto (Slow Science Academy, 2010), among others².

Another tool in agreement with open science and that aims to accelerate the dissemination of research results is called preprint. According to a group of researchers from the National Institutes of Health and the Whitehead Institute, a preprint submission is a complete written description of a scientific work that has yet to be published in a journal³.

A preprint can be a research article, editorial, review, or another type of document ready to be submitted to a journal for peer review, being reviewed, or even that has been rejected, but the authors are willing to make its content public, regardless of the final outcome⁴.

In 1991, the Physics field followed later by other disciplines, including Mathematics, Computer Science, and Quantitative Biology, began the tradition of sharing preprints in the arXiv repository, which currently has more than a million preprints. The availability of preprints in the Biomedicine field has attracted significant attention from the scientific community lately, resulting in the creation of a scientist-led effort – *ASAPbio* – to promote their use⁴.

In Brazil, in the past two years, the growth rate of preprint articles registered was ten times higher than the one of journal articles registered, making preprints one of the types of content that most grow. Among the benefits of preprints, authors mention that they accelerate the sharing of results, prioritize discoveries and ideas, facilitate career advancement, and improve the culture of communication within the academic community⁵.

We believe that all aspects exposed above foster new ways of producing, socializing, and discussing a more transparent and collaborative science, and, together, they approach what is understood as open science. The responsibility of researchers is not diminished in any respect, on the contrary, their exposure to a pointed, public, and immediate critic – when, for instance, the preprint opens the text to the scientific community, as well as the


general population – fills them with a broader sense of social and scientific responsibility. We underline that open science promotes not only access to study results in the form of qualified publications but also to data used as a research source.

Society, in general, and the scientific community, in particular, must be the watchful evaluators of what is being shared and decide whether the documents are reliable or not.

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