



# The Importance of Preprint in Scientific Publication: Perspectives and Challenges

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## Abstract

Currently, the possibility and interest in publishing in the preprint format are increasing, with more or less incidence in practically all scientific areas. Under these circumstances, the aim of this perspective opinion paper is to contribute to the discussion of the possible interest in publishing preprint. In order to meet this task of discussing preprint challenges and perspectives, we will analyse preprint, its potential advantages and limitations in comparison with other types of academic publications, looking at the future of preprint publication at two levels: in terms of communication and dissemination of science; and in terms of benefits for the academic career of the author of preprint publications.

**Keywords:** Preprint; Open science; Scientific publication; Post peer review; Academic publishing.



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## 1. Introduction

1. Academic publishing is undergoing a deep and rapid transformation, generating new challenges. For example, several leading publishers such as Elsevier, MDPI (Multidisciplinary Digital Publishing Institute), SAGE and the SCIELO (Scientific Electronic Library Online) indexing system itself were faced with the need to create platforms where it is possible to publish online manuscripts in their preprint form (Teixeira da Silva, 2017a); (Teixeira da Silva, 2018); (Packer *et al.*, 2017); (Tennant, 2017); (Hu *et al.*, 2015); (Spinak, 2017). Thus, and using the suggestive image offered by Teixeira da Silva (2017a) to illustrate this phenomenon, we are witnessing a “[...] tsunami of new preprint servers, as well as chatter about a centralized preprint service”.

2. For a long period of time, the academic norm was that scientific journals should accept for evaluation and possible publication only original manuscripts, or those that had, at most, been published solely as an abstract or a poster (Bachelet, 2017). However, since the 1990s, in the field of physics, with the *arXiv* server, there is a growing tendency in the various scientific areas for the editors of scientific journals, even the most reputable ones, to accept the submission of manuscripts for peer review considering possible versions of previous publications of these manuscripts in preprint, as preparatory or draft versions of the final product (Bachelet, 2017); (Teixeira da Silva, 2017a); (Laporte, 2017); (Elmore, 2018); (Ginsparg, 2016). In this process, the editor is required to be informed of these previous publications, in a process that demands total transparency (Bachelet, 2017).

3. The reasons for this growing importance, visibility and acceptance of the preprint phenomenon are varied. One of the reasons is related to the delay in the peer evaluation process and subsequent possible publication. After submitting a manuscript, this delay begins to be excessive, especially at a time when publishing is essential for the scholar. Thus, there are increasing expectations due to the need of celerity that did not exist in the past (Elmore, 2018); (Polka, 2017); (Spinak, 2017); (Pulverer, 2016). As an example of the delay in the evaluation and publication in scientific journals, see (Flaherty, 2018), who emphasizes that, in relation to The Review of Higher Education (RHE) (a highly regarded journal in which it is very difficult to publish and which has an impact factor of 1,297 (Impact Factor, 2018), it may be found, in the official website of this journal, the following message that is due, in particular, to the difficulty in finding reviewers to carry out a quality evaluation of the growing number of manuscripts submitted to the journal:

Due to the large number of high-quality manuscripts received to date, and with a commitment to ensuring timely publication timelines for authors, RHE is temporarily closed for manuscript submissions. Manuscripts already in process are unaffected. Please check back for updates (The Review of Higher Education, Author Guidelines, 2018).

4. There is, thus, the emergence and even the need, for reasons that have to do with the academic and/or research career, but also for institutional reasons, to publish (Ferreira and Serpa, 2018) more and more in open access (Schiltz and Sheldon, 2018); (The European Research Council, 2018). This sort of scientific publications, sometimes even through informal means that allow obtaining for free articles that would imply subscription or, at least, some type of payment to a publisher (Pequenino, 2018), is one of the crucial elements that fit the current context and that are the future of academic publications, which are taking on increasing relevance.

5. Preprint publications are beginning to gain greater institutional recognition by international political bodies (The European Research Council, 2018). This body maintains that “Preprints are highlighted as accepted publication of the part of applicants’ track records” (p. 2). In the same vein, on August 20, 2018, Markin writes that

The ERC [European Research Council] intends to allow preprints as indicators of scientific achievements relevant for research grant applications for their funding, if they are published in Open Access at institutional repositories, are referenced in scientific databases and have permanent links to or digital object identifiers (DOIs) associated with the corresponding papers (para. 1).

6. Pulverer (2016) positioning on the current preprint situation is that this will have potentially huge benefits, including transparency, visibility, democratization of publication and dissemination of research results, participation of the public, and cooperation in science. This is without forgetting the improvement of the quality of the final version to be published in a journal in a more classic way:

Preprints reduce delays in sharing research results and increase the amount and diversity of data available to the scientific community. Support of this communication mechanism through appropriate policies by journals, funders and institutions will encourage community engagement. Widespread adoption would benefit both individual scientists and research, and it might improve publication in scientific journals. Preprints are one step towards an Open Science future (p. 2617).

7. It is in this context that we seek to contribute to the discussion on the preprint topic, looking forward to its role in the future. In this sense, issues that deal with the following topics are discussed: preprint, its potential advantages and limitations, with an analysis of this form of publication, as well as its implications in both scientific communication and the academic and research career. To this end, sources of information considered pertinent were selected, and this manuscript uses, with intentionality and awareness, not only commonly named scientific articles (subject to peer review) but also both preprint, blogs and comments on the subject under analysis that seemed relevant to us. This choice was made on the following grounds: 1. This is a current topic; 2. This is a novelty in terms of scientific communication and; 3. The use of social networks and other information circulating on the Internet, if filtered, seems unavoidable in order to better understand this topic.

## 2. Preprint, What Does it Consist of?

### 1. What is preprint?

We offer the following definition of preprint, as they seem to clearly depict what this type of publication is:

The traditional definition of a preprint is a document that has been uploaded to a preprint server, is freely accessible to the public, and has not previously been published in a journal. Posting generally occurs the day of submission or the next day. There is typically no formal peer review of the article before it is posted online; however, it is checked for plagiarism and offensive/ dangerous content. The only requirement is that the article be scientific in nature. There is no typesetting or editing before posting online. Because they are not journals, preprint servers have no impact factor and authors retain copyright of their articles. Each online version of an article allows comments to be posted by the public Elmore (2018).

2. Then, putting it in a direct way, a preprint is the equivalent to a draft or a working paper, tending to be a work-in-progress, with all the components of a scientific article, with the only difference that it is made available to the public before being evaluated by peers. Preprint currently covers several scientific areas, in principle with the ultimate purpose of being published in a more rigorous later version by mobilizing the various suggestions that may arise in the form of comments on the preprint server (Polka, 2017); (Wikipedia, 2018); (PeerJPreprints, 2018).

3. Currently, as a very important element is that each version of the manuscript is usually assigned a Digital Object Identifier (DOI) (Teixeira da. Silva, 2017b), (Teixeira da. Silva, 2018) and preprint publications increasingly tend to be indexed to some databases, such as Google Scholar. These factors facilitate either the search for these publications on the Internet or their citation by other articles. Furthermore, they tend to encourage the presentation of updates or versions in relation to older versions of the manuscript. According to Teixeira da. Silva (2017b), this DOI-related policy made preprints more attractive to academics and publishers, and also allowed several aspects to be more closely integrated, such as DOI and ORCID (Open Researcher and Contributor ID). Preprints would thus allow academics to publish "first version" of their papers to the public, in open access (OA), and at no cost (in most cases at present), provided that initial screening by an advisory board was approved (p. 1).

4. However, some researchers regard preprint as “grey literature” (Lawrence *et al.*, 2015), in the sense that these articles may not offer high confidence in their rigour and credibility because they lack the traditional peer review.

5. As we can see from the aforementioned, preprint raises several very current and pertinent questions (Ginsparg, 2016); (Teixeira da. Silva, 2018), which we will address next:

Preprint proponents claim that preprints are a way to build up trust in academic publishing, that they provide an additional 'quality' screen prior to traditional peer review, that they can assist with the replication crisis plaguing science in part by making negative or contradictory results public, and that they speed up the publishing process because fundamental results can be presented early, serving the timely reports for the purposes of tenure or grant funding. Preprint sceptics and critics claim that preprints may represent risk and quality-based academic publishing because they are documents that have been vetted prior to their release into the public domain (Teixeira da. Silva, 2018).

## 2.1. Advantages of Preprint

1. As an example of the announced advantages of the preprint publication, we refer to those stated in the Preprints platform:

Preprints authors benefit from making their latest research available and citable to others working in their field. Here are just a few reasons to preprint:

- Ensure that your research is visible as early as possible.
- Get feedback on your work via comments from peers.
- Avoid having to wait weeks or months for peer review before your work is publicly available.
- Make your early results citable, to include in your resume, and in job and grant applications.

Additional benefits from Preprints include:

- Link to ORCID
- Altmetrics, view and download data on every abstract page
- A link to the journal article if your paper is published
- A digital object identifier (DOI) issued by Crossref to make your preprint permanently citable (Preprints, 2018).

2. In summary, some of the possible advantages of publishing in preprint are: speed of publication, visibility, possibility of feedback, very low costs or even free publication in some platforms, being assigned a DOI and, thus, being identified and archived in the digital world, democratization in this type of publication, possibility of establishing precedents of research, possibility of being commented on a global level and, consequently, of being improved in a later version (Ginsparg, 2016); (Mudrak, 2018); (PeerJPreprints, 2018); (Preprints, 2018); (Pulverer, 2016); (Bourne *et al.*, 2017); (Laporte, 2017); (Curry, 2015). As Mudrak (2018) puts it, “Preprints are not the final form of research paper for most authors. Preprints can serve to bring new readers to your published paper.”

3. For example, the Crossmark instrument enables that

Publishers can reassure readers that they're keeping their content up-to-date and showcase additional metadata. Researchers and librarians can easily see the changes to the content they are reading, find out who funded the research, what licenses apply to the content and more. Anyone can access the Crossmark metadata through our REST API, providing myriad of opportunities for integration with other systems and analysis of changes to the scholarly record (Meddings, 2018).

4. The relationship between preprints and journals itself can be complementary (Bourne *et al.*, 2017) and can contribute to improving the quality and innovation of articles submitted to journals Polka (2017). It is in this sense that (Polka, 2017) presents the preprints as a potential complement to the journals by putting forward a possible solution to each problem (Table 1).

**Table-1.** Key problems and the solution preprints provide

| <b>Problem</b>   | <b>Solution</b>  |
|--|--|
| Lack of access to literature   | Preprints are immediately available to everyone around the world               |
| Students and postdocs stay in training programs longer to publish                        | Preprints can be evaluated for a thesis and job application                    |
| Your recent work is invisible to grant and award committees                              | Preprints make you most recent work visible                                    |
| Your colleagues can't see your recent work   | Preprints stimulate collaborations   |
| Peer review is based on a small number of opinions                                       | Preprints allow the whole world to provide feedback                            |
| Lack of transparency in the review process creates confusion about priority of discovery | Preprints are permanent and time-stamped – evidence of what work was done when |
| Laboratories are keeping knowledge secret  | Preprints are immediately accessible, allowing research to advance overall     |

Source: (Polka, 2017).

5. With all these (potential) advantages of publishing in preprint, we would summarize this publication format as a possible *a posteriori* legitimization of the publication, being the preprint of a manuscript with review after the publication, to a certain extent, close to the Open Post-publication peer reviewer (Ferreira and Serpa, 2018). Moreover, this publication format offers a quick publication with greater transparency of the evaluations of the same articles, “opening the black box of peer review” (Rittman and Vazquez, 2018).

6. The question then arises of the reasons that lead to the resistance to this “preprint culture” (Laporte, 2017), as well as the inherent limitations of preprint.

## 2.2. Limitations of preprint

1. The preprint culture is not installed in all areas. Focusing on Humanities, (Laporte, 2017) emphasizes the absence of this culture in this area by stating that

When comparing the differences in publication culture that exist between diverse fields, the humanities display a very conservative attitude. Scholarly papers that are written in the humanities only really come into intellectual existence after they are published in a peer reviewed journal (p. 338).

2. In addition, several researchers consider that, in very specific cases, preprints should not be cited in scientific works (Teixeira da Silva, 2017c); (Teixeira da Silva, 2017f); (Ginsparg, 2016); (Bachelet, 2017). For Teixeira da Silva (2017c), “[...] in general, preprints should not be cited as incompletely scrutinized documents, in this case, they serve the purpose of advancing the discussion related to how the literature could be more effectively corrected” (p. 10), in what tends, *per se*, to be a new publishing market associated with open access (Teixeira da Silva, 2017d).

3. However, according to Tennant (2017), “Scholars should cite literature based on relevance and quality, not just because it has been published in the journal” (p. 11), which leads to a greater critical responsibility on the part of the scientific community:

Some researchers have claimed that it is bad scholarship and that preprints, due to their preliminary nature, are different from other 'gray literature', such as non-peer-reviewed reports, articles, correspondence, etc.

This is part of our academic culture where typically only research has been explicitly peer reviewed, and therefore has a stamp of certification, is cited. [...]

Preprints tell us that the responsibility of the citation lies with the citer, and for some researchers this is scary. However, evaluating the quality and context of research is part of our job. There are good and bad preprints, just as good and bad papers. As research communities we should not be using journals as an excuse to absolve ourselves of the ability to think critically (Tennant, 2017).

4. On the other hand, there is the potential risk that there will be a great discrepancy between media advertising, for example by social media, and the scientific value of a preprint publication, which may potentially hinder the communication of a scientific culture: “Weak work that has not been reviewed could get overblown in the media. Conversely, better work could be ignored” (Schiltz and Sheldon, 2018).

5. One of the main limitations of preprint seems to lie in a dimension that is extreme in two antagonistic poles: on the one hand, there is an unnecessary duplication of publications in order to increase the number of published research. On the other hand, there is also a more traditional culture, in which a published article tends to be regarded as the final scientifically “perfect” and finalized possible version.

The traditional system of publication of scientific journals does not encourage researchers to make necessary post-publication changes to an article, including recommending and acting in good faith. In addition, there is a reluctance by authors to publish change notes under the label “retractions”, since the term includes many shades ranging from non-significant, major, or complete changes to retractions for serious errors, plagiarism, data fabrication, and bad faith. [...] Online scientific communication under the paradigm of open access, preprints servers and open peer review requires procedures that are ideologically and technologically distinct from traditional methods inherited from paper. Published articles might not be stable for all eternity. Corrections, errors, amendments and any other modifications should leave their marks on the way and the scientific community should have the means to follow the trail in a quick, simple and efficient way (Spinak, 2017).

6. Bearing in mind all the above, (Teixeira da Silva, 2017a); (Teixeira da Silva, 2017e) alerts us to the danger of “intellectual phishing”, as well as to the gatekeeper control function of accepting to publish a manuscript in preprint (Teixeira da Silva, 2017a); (Teixeira da Silva, 2017e); (Teixeira da Silva, 2017f); (Teixeira da Silva, 2018), in a context where the entire publishing industry of scientific articles handles millions of euros (Pequenino, 2018).

7. In summary, (Elmore, 2018), in his in-depth analysis of this topic, presents the advantages and disadvantages of preprints, depicted in Table 2.

**Table-2.** Advantages and disadvantages of preprints

| <b>Advantages</b>  |
|--|
| _ Work is immediately available to the public and free of cost.  |
| _ Democratizes the flow of information (equal access for everyone).  |
| _ Information is globally available.   |
| _ Authors can obtain feedback from a wider audience compared to a few peer reviewers.  |
| _ Documentation of the history of ideas. Establishes priority of discovery since the preprint creates a “date stamp” and thus attributes the scientific findings to researchers.   |
| _ May help early career scientists in terms of hiring and promotion.   |
| _ Can use preprint citations in grant applications, progress reports, and curriculum vitae.  |
| _ Can be used by review panels as evidence of author’s most recent work.   |
| _ Clinical research benefits from open and timely access to new data.  |
| _ Judgment of one’s work can be based on the merit of the data alone rather than the name or impact factor of the journal.   |
| _ Reviewers can read public comments and researcher responses thus helping to make the subsequent formal review process more efficient and result in an improved final manuscript. |
| _ Preprints receive digital object identifier numbers and are citable.   |
| <b>Disadvantages</b>   |

- \_ No guarantee that the study was designed appropriately or that the conclusions reached are supported by the data presented because there was no formal peer review.
- \_ Selection of articles to archive is based solely on the requirement that they be scientific (i.e., research doesn't have to be current or unique or add in a positive way to the body of published literature).
- \_ Not all journals accept preprint posting before or after peer review.
- \_ Preprints are not given as much weight as peer reviewed manuscripts for those applying for promotions or new jobs therefore may not work for younger colleagues who need to show a track record of journal publications to help advance their careers.
- \_ Annual reports from funding agencies focus on peer reviewed research outputs.
- \_ Grant reviewers must review the entire preprint themselves because there was no formal peer review, and therefore, there may be a bias against applicants who cite material that has not yet been published.
- \_ Not all journals have a current mechanism to link preprints with subsequently published peer reviewed articles.
- \_ Once a peer reviewed article is published, the preprint may be cited instead if there is no mechanism to link the two.
- \_ There could be premature posting of research to "stake claims" and establish discovery priority.
- \_ Data may be posted that raises ethical concerns.
- \_ If used by the press or public, may be promoted as "published work" rather than non-peer reviewed data.
- \_ No method to screen preprint submissions for conflicts of interest.
- \_ Preprints are not indexed by services such as PubMed, Scopus, or Web of Science.

Source:(Elmore, 2018)

### 3. Discussion

1. It cannot be assumed that all academics are using or will use preprint in an ethical and professionally responsible way (Teixeira da Silva, 2017d). As a form of control and verification of a growing pre-market,

Preprint servers must have clear ethical and retraction policies in place, and these must be enforced. Academics must also be aware that there is a political and economic struggle in the emerging preprint market, with some of the most passionate preprint proponents also being some of the most passionate critics of status quo publishing, that is, preprints are a threat to the multi-billion dollar publishing oligopoly (Teixeira da Silva, 2018).

2. Pulverer (2016) refers to the current situation by stating that, "In our view, it is better to share science in two forms: carefully peer reviewed and not peer reviewed than the 'modest peer review and quality control' that many journals can muster now in the face of pressure to publish more at lower costs" (p. 2618).

3. Preprint publications can become one of the essential elements in the academic careers themselves, as they are increasingly valued in academics' professional appraisal (Bachelet, 2017). Likewise, "many funding agencies are reevaluating their policies (or lack of policies)" Bourne *et al.* (2017).

4. However, as sustained by Teixeira da Silva (2017a),

[...] much still remains unknown about the future of preprints, and many lingering doubts and potential risks, including the possibility of introducing 'junk science' into the literature, the possible usurpation of preprints by for-profit commercial publishers as a new model to generate authors and revenues, and a debate whether the vestigial document, i.e., the preprint, should be eliminated once the document becomes published in a final version (p. 74).

Furthermore, and according to the same author (Teixeira da Silva, 2017d),

This is because the current preprint system may be easy to abuse, being in a highly experimental and thus volatile stage. As for other aspects of the publishing industry, even though good intentions are meant to benefit academics, ultimately, with this preprint tug-of-war, academics may in fact land up being, to some extent, victims.

5. The role of editorial screening and peer review continues to be very important in assessing the scientific quality and trustworthiness of a publication (Pulverer, 2016); (Ferreira and Serpa, 2018) and, ultimately, there is always the possibility of correction after publication through, for example, "manuscript versioning, amendments, partial retractions and retract and replace" (Teixeira da Silva, 2017c). For Arnheiter (2016); Elmore (2018) and Bourne *et al.* (2017), preprints may function as a complement to peer-reviewed publications.

### 4. Conclusion

This study predicts that the preprint will take on a growing centrality among academic publications, allowing a greater speed in the dissemination of knowledge that can be beneficial for the scholar's academic career and for society itself.

However, (Elmore, 2018) sustains that the preprints can serve a valuable role in disseminating information and obtaining feedback from the scientific community. However, preprint publications should be an interim step in the process, and the ultimate goal should be to publish in a journal that has clearly stated and rigorous peer review process and follows best practices promoted by professional scholarly publishing organizations.

## References

- Arnheiter, H. (2016). Preprints. *Pigment Cell & Melanoma Research*, 29(3): 257.
- Bachelet, V. C. (2017). What are preprints? *Medwave*, 17(9): 7091.
- Bourne, P. E., Polka, J. K., Vale, R. D. and Kiley, R. (2017). Ten simple rules to consider regarding preprint submission. *PLOS Computational Biology*, 13(5): 5.
- Curry, S. (2015). The power of preprint. *The Biologist*, 62(6): 9.
- Elmore, S. A. (2018). Preprints, What role do these have in communicating scientific results? *Toxicologic Pathology*, 46(4): 364-65.
- Ferreira, C. M. and Serpa, S. (2018). Publicising the identified peer-reviewer, Legitimacy and quality of the scientific publication. *The International Journal of Interdisciplinary Educational Studies*, 13(1): 11-17.
- Flaherty, C. (2018). Don't even think of publishing in this journal. Inside higher ed. Available: <https://www.insidehighered.com/news/2018/08/16/major-higher-education-research-journal-suspending-submissions-clear-out-two-year>
- Ginsparg, P. P. d. v. T. E. J., 35(24), 2620-2625. Available: [doi: 10.15252/emj.201695531](https://doi.org/10.15252/emj.201695531). (2016).
- Hu, B., Dong, X., Zhang, C., Bowman, T. D., Ding, Y., Milojević, S., Ni, C., Yan, E. and Larivière, V. (2015). A lead-lag analysis of the topic evolution patterns for preprints and publications. *Journal of the Association for Information Science and Technology*, 66(12): 2643-56.
- Laporte, S. (2017). Preprint for the humanities – fiction or a real possibility? *Studia Historiae Scientiarum*, 16:
- Lawrence, A., Thomas, J., Houghton, J. and Weldon, P. (2015). Collecting the evidence, Improving access to grey literature and data for public policy and practice. *Australian Academic & Research Libraries*, 46(4): 229-49.
- Meddings, K. (2018). Crossmark. Available: <https://www.crossref.org/services/crossmark/>
- Mudrak, B. (2018). What are preprints, And how do they benefit authors? : Available: <https://www.aje.com/en/arc/benefits-of-preprints-for-researchers/>
- Packer, A. L., Santos, S. and Meneghini, R. (2017). Scielo preprints a caminho, Scielo preprints on the way. Available: <https://blog.scielo.org/blog/2017/02/22/scielo-preprints-a-caminho/#.W36K3uj7TIU>
- PeerJPreprints (2018). What is a preprint? : Available: <https://peerj.com/about/preprints/what-is-a-preprint>
- Pequenino, K. (2018). Sci-hub. O site que dá acesso gratuito a artigos científicos sci-hub. The site that gives free access to scientific articles. Available: <https://www.publico.pt/2018/08/28/tecnologia/noticia/sci-hub-de-neurocientista-a-pirata-da-ciencia-1841217>
- Polka, J. K. (2017). Preprints as a complement to the journal system in biology. *Information Services & Use*, 37(3): 277-80.
- Preprints (2018). Instructions for authors. Available: [https://www.preprints.org/instructions\\_for\\_authors](https://www.preprints.org/instructions_for_authors)
- Pulverer, B. (2016). Preparing for preprints. *The EMBO Journal*, 35(24): 2617-19.
- Rittman, M. and Vazquez, F. (2018). Sci – An open access journal with post-publication peer review. *Sci.*, 1(1): 1.
- Schiltz and Sheldon, T. (2018). Preprints could promote confusion and distortion. Available: <https://www.nature.com/articles/d41586-018-05789-4>
- Spinak, E. (2017). Comment. Available: <https://blog.scielo.org/blog/2017/03/31/eu-escrevi-isso-eu-nao-escrevi-isso-agora-escrevo-outra-coisa/#.W4a4Zuj7TIU>
- Teixeira da Silva, J. A. (2017d). Preprints should not be cited. *Current Science*, 113(6): 1026-27.
- Teixeira da Silva, J. A. (2017e). Intellectual phishing, hidden conflicts of interest and hidden data, New risks of preprints. *Journal of Advocacy, Research and Education*, 4(3): 136-46.
- Teixeira da Silva, J. A. (2017a). Preprints, Ethical hazard or academic liberation? *KOME*, 5(2): 73-80.
- Teixeira da Silva, J. A. (2017b). The preprint wars. *AME Medical Journal*, 3: 1-3. Available: <http://dx.doi.org/10.21037/amj.2017.05.23>
- Teixeira da Silva, J. A. (2017c). Evolving the correction of the literature, Manuscript versioning, error amendment, and retract and replace. *Preprints*, 1: 1-26.
- Teixeira da Silva, J. A. (2017f). Comment. Available: <https://www.preprints.org/manuscript/201708.0029/v1>
- Teixeira da Silva, J. A. (2018). The preprint debate: What are the issues? *Medical Journal Armed Forces India*, 74(2): 162-64.
- Tennant, J. (2017). Preprints and best practice. *The Biologist*, 6(4): 11.
- The European Research Council (2018). Main changes expected in the ERC Work Programme 2019. Available: <https://erc.europa.eu/sites/default/files/content/pages/pdf/ERC-2019-Work-Programme-main-changes.pdf>
- Wikipedia (2018). Preprint. Available: <https://en.wikipedia.org/wiki/Preprint>

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