

## AN OVERVIEW OF SELF ARCHIVING BENEFICIARY FEATURES FOR RESEARCHERS IN R&D INSTITUTIONS

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### **Abstract**

*Self-archiving habitually meets the candidness criteria of research financiers. It is suggested for researchers to declare the ingenuousness of their previous publications in their funding applications. In other words, self-archiving makes the research widely visible, accessible, harvestable, searchable, and re-useable, thus increasing its reach and impact, and possibly the number of citations it receives. The complete study on the research topic can be published in the relevant journal of their choice. This has an impact on the acceptability of archiving within` Colors that are used as categories by publishers according to the degree to which they allow self-archiving. This provides a simple way of identifying the general self-archiving policy of a particular publisher. As most conditions do not prevent an author from self-archiving straight away, these requirements do not have a negative effect on a publisher's self-archiving status, i.e., they do not result in loss of color. By carrying out the conditions, as specified by the publisher, authors are permitted to self-archiving their work. Conditions therefore, do not affect the color categorization of a publisher. A large proportion of authors are unaware of the option of self-archiving and its benefits. Therefore, even if the authors' institutions have repositories, authors themselves don't bother with self-archiving unless their institutions mandate it. Researchers affiliated to smaller institutions that cannot afford extensive journal subscriptions would not be able to access these papers. Moreover, the chances of such research reaching a wider audience to lay people and experts in unrelated fields are slim. Today, the world is increasingly moving towards a system where the intellectual output of the research community can be freely disseminated to the world at large.*

**Keywords:** *Self-Archiving, Archiving, Digital Preservation, Color Coding*

### **Introduction:**

Self-archiving is the process of placing digital versions of scientific literature online. When self-archives makes it accessible without any restraint to somebody on the Internet. In other words, self-archiving makes the research widely visible, accessible, harvestable, searchable, and useable, thus increasing its reach and impact, and possibly the number of citations it receives. So it completes the study and helps to publish the paper in the journal of their choice. Now the contributors want to make their paper accessible to more and more readers within and outside the scientific community so as to increase its impact. One way to increase the visibility of the paper is through self-archiving.

### **Definition of self-archiving**

There are various definitions given to self-archiving, so it was felt important to identify one which could then be used as a benchmark throughout the analyses of self-archiving policies. The decision was made to adopt the definition of Open Access provided in the Bethesda Statement on Open Access Publishing, which states that the authors retain the right to reuse their work without any restrictions, and so can self-archive their work straight away in open access online repositories.

The Bethesda definition states that a complete version of the work and all supplementary materials which is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving. Self-archiving, therefore, depends on the ability to archive within independent noncommercial archives. This has an impact on the acceptability of archiving within, for example, a publisher's archive which has no guarantee of longevity, permanent free and open access and independence.

### The self-archiving colors

Colors are used to categories publishers according to the degree to which they allow self-archiving. This provides a simple way to identify the general self-archiving policy of a particular publisher. The system of self-archiving colors white, yellow and green was developed during the original RoMEO Project and is highly used in open access circles. It was developed for use in the SHERPA/RoMEO database with the addition of blue color. Publishers have assigned a particular self-archiving color, depending on what they allow to be self-archived.

The self-archiving colors are:

- ❖ white (neither pre-prints nor post-prints can be self-archived)
- ❖ yellow (only pre-prints can be self-archived)
- ❖ blue (only post-prints can be self-archived)
- ❖ green (both pre-prints and post-prints can be self-archived)

Another gold color is not used. As it is independent of self-archiving rights, relating to publishers which publish Open Access journals, i.e., journals that are always free at the point of use and for which no subscription fee is payable.

### Different types of self-archives

- ❖ **Pre-print:** A pre-print has been defined such as the primary, draft version or form of the Work, up to and during the peer review process. In other words, a pre-print is any version of the work which is still being revised prior to, or during, the peer review process.
- ❖ **Post-print – author version:** A post-print has been defined such as the definitive version or form of the Work, after peer review, which has been accepted for publication, for which copyright has been assigned or a license agreement has been signed. The author version of a post-print is one which is produced by the author, with all peer-review comments and revisions integrated into the text, but which has not been typeset or edited by the journal publisher.
- ❖ **Post-print – publisher version:** The publisher version of the post-print is similarly defined as one which has been peer reviewed, has been accepted for publication, and for which copyright has been assigned or a license agreement has been signed. However, the publisher version of a post print is one which has the publisher's copy-editing and formatting are in place, i.e., a publisher-produced PDF falls under this category. When assigning a self-archiving color, each of these types are considered, along with conditions or restrictions that are attached to these.

### Conditions of self- archiving

The definition of a condition is that it is a requirement which publishers ask is met in order to self-archive, but which does not prevent an author from self-archiving their work immediately.

Some of the conditions are:

- ❖ An electronic link must be provided to the journal's homepage/Web site.
- ❖ The copyright holder of the Work must be acknowledged.
- ❖ The archived Work must not be used for any systematic external distribution by a third party.

As most conditions do not prevent an author from self-archiving straight away, these requirements do not have a negative effect on a publisher's self-archiving status, i.e., they do not result in a loss of color. By carrying out the conditions, as specified by the publisher, authors are permitted to self-archive their work. Conditions therefore do not affect the color categorization of a publisher. For instance, a publisher indicating that a pre-print can be self-archived as long as it is linked to the publisher's homepage would still be assigned a yellow color. If the same publisher allowed a post-print to be self-archived with a similar condition, then that publisher would be assigned a blue color. Publishers assigned both yellow color and blue colors are re-designated as green color (yellow and blue make green). Anything considered a condition therefore does not preclude publishers from being assigned yellow, blue, or green color.

Although, in most cases where an author can self-archive is considered a condition, there are two instances in particular where it does have a negative effect on self archiving status. These are discussed below.

- Some publishers only permit work to be mounted on a secure network, such as intranets and electronic reserves, which require an authentication mechanism to access the work. In this case, not only is an author not free to choose where to mount the work, but it also restricts its access to specific groups. Therefore, this does not constitute self-archiving, and so results in the publisher losing a color and being classified as white.
- There are also some publishers who specify that a work must only be self archived in a specific digital archive/repository, or only on their online version of the journal. In many cases, publishers insist on the author only mounting work on PubMed, so as to accommodate the NIH self-archiving policy which at the moment also allows an embargo to be specified.

This policy, however, is currently under review. In other cases, publishers only offer an open access option using the author-pay model, where authors, or funding bodies on their behalf, pay for the work to be openly accessible. While considering on how to categorize these publishers it was decided that if only allowable archive is a commercial site, such as journal archive, then this does not constitute open access archiving as described by the Bethesda definition. Therefore, in such case, the publisher loses the appropriate color. However, the publisher specifies a digital repository, or online version of the journal, but still allows the author to self archive elsewhere of their choice that does not result in loss of color. Although both these instances result in loss of color, they are not technically considered restrictions since, they prevent self-archiving ever to take place. Restrictions, such as embargoes, only delay self-archiving

### **Restrictions when self archiving**

The definition of a restriction is that it is a requirement which publishers' ask is met in order to self-archive, but which prevents an author from self-archiving immediately.

Some of the restrictions are:

- ❖ Formal permission from the publisher must be sought if the Work is to be posted electronically.
- ❖ The previous version of the Work must be replaced with its abstract and full citation.
- ❖ The Work can only be self-archived 6 months after its publication in the journal.

If the restriction is specified by the publisher then self-archiving of the work is not allowed, at least straight away, thereby resulting in publisher not being assigned the relevant color. For instance, if a publisher allows the self-archiving of pre-prints, but also stipulates that the post-print can only be self-archived in a year's time, i.e., after a one year embargo, then that publisher is awarded the yellow color, but not the blue or resulting green color.

### The benefits of self-archiving

Self-archiving refers to open-access filing of an article such as published in publication channel, e.g. a journal, an edited book or conference proceeding to a publication archive of the organization or the discipline. The filed version of the article can be either the published article or a manuscript.

- By self-archiving, researchers can make their scientific work freely and easily accessible to the world at large.
- Making a research article accessible by self-archiving will significantly increase the article's visibility. Search engines find excellent articles saved. Greater visibility also increases the number of potential citations.
- Self-archiving saves the researcher's time and effort: When an article is freely available, it decreases personal requests for the article.
- Self-archiving usually meets the openness criteria of research financiers. It is recommended for researchers to mention the openness of their previous publications in their funding applications.
- Every self-archived item brings one or more research publication available to a great number of researchers who would otherwise be partially excluded from such scientific knowledge because of the high price of journals. At the same time, scientific knowledge becomes available to larger audiences, both nationally and internationally.

### Copyright issues related to self-archiving

- Self-archiving the pre-print version of your article does not infringe any copyright agreement since it is done prior to submission to the publisher. Hence, it is not a legal matter. Sometimes, though increasingly rare journals might disallow self-archiving pre-prints, which is a matter of journal policy and not copyright. There tend to be some discipline-based differences here, with self-archiving being a common and accepted practice in the physical sciences, but not so much so in the biomedical sciences.
- On the other hand, the copyrights of refereed post-prints usually belong to the journal, and self-archiving these can lead to a legal breach if the journal's policy is not followed. Journals/publishers have different copyright policies with regard to self-archiving post-prints. The table below shows the differing policies of some popular publishers with respect to self-archiving. Most publishers allow self-archiving of some sort, but remember to check your journal/publishers policy before self-archiving.

### Problems in self-archiving

If self-archiving carries such benefits, why is it not widely prevalent? Here are some of the reasons for this and counter arguments in support of self-archiving:

- ❖ **Lack of awareness of its benefits:** A large proportion of authors are unaware of the option of self-archiving and its benefits. Therefore, even if the authors' institutions have repositories, authors themselves don't bother with self-archiving unless their institutions mandate it.
- ❖ **Concern about the quality of self-archived articles:** In some field of study, such as computer science, pre-prints are archived much more than post-print. Self-archiving pre-prints allows for research to be scrutinized by the larger scientific community before it goes through peer review. Further, in all archiving repositories, pre-prints are clearly marked as such. As for post-prints, their quality need not be questioned because they are merely a copy of the journal's peer-reviewed published version.
- ❖ **Fear of infringing the journal's copyright policies:** Most journals, in their instructions for authors, clearly state their copyright policies with regard to self-archiving. As long as you read and understand these policies, most of which allow authors to self-archive, you do not risk infringing any agreements.

- ❖ **Perception that self-archiving is time consuming and cumbersome:** Contrary to this belief, self-archiving takes only about 10 minutes for the first paper when you have to create a profile/account, and only a small percentage of people find it “very difficult.” For all subsequent papers, the process is even easier and faster.
- ❖ **Fear of disrupting the current scholarly publishing model:** Institutions may refrain from creating repositories for fear that such archives may be seen as a substitute for journals. Two major publishers in physics such as the American Physical Society (APS) and the Institute of Physics Publishing Ltd. (IOPP) confirmed that the physics pre-print server arXiv did not in any way threaten their own business models. Thus, publishers and self-archiving servers may well be able to coexist peacefully.

**The role of self-archiving in open access:** Self-archiving constitutes what is called the green route to open access. This means that authors can make their research papers available and readers can access them both free of cost. This is different from publishing in an open access journal, such as Public Library of Science (PLOS) publications, where authors pay the journal a publication fee, after which the published study is made available to the public for free a model known as the gold route to open access. It is important to note that self-archiving is not an alternative to publishing in learned journals, but an adjunct, a complementary activity where an author publishes his or her article in whatever journal author chooses and simply self-archives a copy.

**Future of article access:** Papers published in subscription journals are usually accessible only to researchers whose institutional libraries have subscriptions to those journals. Researchers affiliated to smaller institutions that cannot afford extensive journal subscriptions would not be able to access these papers. Moreover, the chances of such research reaching a wider audience of lay people and experts in unrelated fields are slim. Today, the world is increasingly moving toward a system where the intellectual output of the research community can be freely disseminated to the world at large. New journals adopting the gold route of open access, that is, with an article-processing charge for authors, are emerging, and even traditional publishers that work with a subscription fee-based model are offering more open access options. Funding bodies are encouraging scientists to embrace the concept of allowing free access to published literature. Public institutions like the US National Institutes of Health (NIH) mandate that all articles arising from NIH funds be archived in PubMed upon acceptance for publication. For a substantial number of journals, the NIH public access policy requires that the final published version of all NIH-funded research articles be made available on PubMed Central not later than 12 months after publication. Newer models of open access are also being explored.

## Conclusion

In sum, self-archiving is freed, easy, and immensely beneficial. Moreover, it is in line with the noble evolving trend of free widespread dissemination of research findings for rapid global advancement of science. So go ahead and consider self-archiving a viable option to contribute to the progress of science and to increase the own research impact by making the work more accessible. Researchers affiliated to smaller institutions that cannot afford extensive journal subscriptions would not be able to access these papers. Moreover, the chances of such research reaching a wider audience of lay people and experts in unrelated fields are slim. Today, the world is increasingly moving towards a system where the intellectual output of the research community can be freely disseminated to the world at large.

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