

Russian Scientific Publications for the COVID-19 Period

Mikhail Gorbunov-Posadov^[0000-0002-7044-8287]

Keldysh Institute of Applied Mathematics. Miusskaya sq., 4. Moscow, 125047, Russia
gorbunov@keldysh.ru

Abstract. The impact of the COVID-19 pandemic on the world of scientific publications: rapid publication and simplified access for articles about the virus, the jump in popularity of preprints, open access to scientific publications for a time of self-isolation in the world and in Russia. There is an impressive difference between the number of readers for Russian scientific articles in open access and in paid access. The paradox of the lack of open access to the journals of the Russian Academy of Sciences. CyberLeninka is a scientific electronic library based on the open science paradigm. Impressive growth in readership of CyberLeninka: 52 million readers in 2019, 250 million articles read. Online meeting of the dissertation council. eLibrary news: opening the API, but no direct access to the list of publications that cite this topic. Comprehensive publication activity score from the Ministry of education and science: stifling Russian scientific journals, lowering the prestige of monographs, ignoring newly emerging journals.

Keywords: scientific publication, COVID-19, open access.

1 COVID-19

Apparently, the most significant events of this year in the field of scientific publications related to the COVID-19 pandemic. First of all, it is a vigorous response to the need for the rapid exchange of scientific data about the virus. Almost all publications about COVID-19 quickly became publicly available, regardless of the policy pursued by the publishers. Worldwide, the period for reviewing scientific papers on COVID-19 has been reduced by more than half (with a very slight slowdown in reviewing other articles) [1].

Preprints, where authors published the most urgent scientific reports, found a new breath. The number of preprints produced has increased many times. The operational information that became available in this way proved extremely popular: the number of requests to individual relevant preprints reached up to 4 million. The publishers' attitude to preprints is becoming increasingly positive for a long time [2–4]. The coronavirus has only accelerated this process.

Over the past few years, leading scientific journal publishers have opened Preprint servers for their authors: Springer – Research Square [5], Wiley – Under Review [6], Elsevier – First Look [7]. In 2020, the Preprint server appeared in IEEE – TechRxiv

Copyright © 2020 for this paper by its authors.

Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

[8]. In 2016, a specialized Preprint service was offered in Crossref [9]. In particular, Crossref membership was allowed for Preprint servers, and custom metadata was implemented that reflects the researcher's workflow from Preprint to official publication.

Since the quarantine, scientific and educational institutions' employees lost access to their libraries with having a subscription to many journals. Journal publishers opened free online access to their publications for this time. However, the transition of the EU world of scientific publications to universal open access, which was promised according to plan "S" for 2021, has once again been postponed for at least a year, but rather until 2024 [10, 11].

The Russian Academy of Sciences did not stay away from the covid-19 mass movement towards open access. At the time of the self-isolation regime announced in the spring, free access to 138 journals published by the Russian Academy of Sciences was opened [12]. Such a short-term opening of access had already happened at the end of 2018 when the Accounting chamber made a harsh remark to the Russian Academy of Sciences, which receives budget funding for the publication of its journals and yet does not open free access to them.

2 Open Access in the Academy

Here, once again, the deficiencies of the Russian Academy of Sciences' journal policy, which still focuses on paid access to full texts of articles, was clearly shown. I will illustrate this with the fate of three of my recent articles on related topics.

The first article [13] was published in the academic journal "Programming" in 2019. For six months of stay in paid access at the price of 220 rubles for downloading, it was purchased by two readers. By the time the coronavirus appeared, the article was already partially outdated, and only 16 people had read it during the open access period. Further, for unknown reasons, the article was completely denied access, now it cannot be obtained even for money.

The second article [14] was published in the journal "Bulletin of the Russian Academy of Sciences" in 2020, on the eve of the coronavirus's appearance. Thus, free access to it was opened almost immediately, and 50 people managed to read it for free. Now the article is available for reading for 253 rubles, and, of course, the number of readers is practically not growing.

Finally, the third (chronologically first) article [15] was published in 2018 in the non-Russian Academy of Sciences publication "Troitsky variant – Nauka" and was placed in the public domain. Its fate can be confidently attributed to the successful – 190 thousand visits.

Why don't scientists read magazines published by the Russian Academy of Sciences? Of course, the point is not only and not so much in the reluctance to part with 250 rubles – the amount is not so terrible. The process of transferring money makes them stay away because they will have to report some personal data in the course. We also note that during the free access, the readers faced many obstacles. In particular, they were hindered by the sluggish notification of short-term access, the mandatory regis-

tration, and the inability to save a direct link to the article's full text. Thus, it is understandable that the number of readers who managed to get to the full texts of articles in academic publications turned out to be 10,000 times or 100,000 times less than those who read such an article in the public domain.

The priorities of the RAS remain unclear. The unavailability of "Programming" can still be explained by the Russian Academy of Sciences' usual disdain for the IT industry. But "Herald of the RAS" – the flagship publication of the Academy. Why was it necessary to make his materials practically inaccessible to the general reader? You are completely perplexed if you remember that all this is happening against the background of regular meetings of the Russian Academy of Sciences' Presidium dedicated to the popularization of science. Unfortunately, the future of open access to academic publications also raises serious concerns: the existence of the European plan "S" continues to be overlooked in academic circles.

But the popularization of scientific results is widely in demand in our country. Cyberleninka open access repository (cyberleninka.ru) in 2019 showed explosive growth in the audience, which reached 52 million people – 80% more than a year earlier. In total, 250 million articles were read by Cyberleninka users in a year, which indicates a massive request for scientific knowledge [16]. Surprisingly, the publications of the RAS to this day stubbornly refused to use the trump card in the success of Cyberleninka – open access to full texts of scientific publications.

3 Online Defense of Dissertation

And another event in the scientific world caused by COVID-19. In May 2020, the Russian Federation government issued a decree on the procedure for defending a dissertation during a pandemic [17]. During this time, it is allowed to conduct the defense online, where up to two-thirds of the dissertation council members participate in the meeting remotely. In this case, the voting is open: as always, the IT sector is lagging in science – after all, Russia already has a successful experience of conducting responsible online secret voting on the draft amendments to the Constitution.

Of course, if some members of the dissertation Council secretly vote in person, and some remotely, then during the counting of votes, the preferences of both parts become known, which could only be attributed to a classic secret vote with some stretch. However, no one prevents everyone, including full-time participants, from secretly voting, say, through the mechanism provided by Zoom [18], and such secret voting is in no way inferior to face-to-face voting. It is not clear why officials did not decide to legalize such a simple secret voting scheme but forced the dissertation councils to so thoroughly break the key procedure for conducting the defense.

4 E-Library

Several events of the past year in the field of scientific publications are related to eLibrary (elibrary.ru). In the fall of 2019, peer-reviewed publications indexed in the RSCI received a message about the possibility of transferring reviews to eLibrary.

The publisher was given the freedom to choose the mode: by its decision, the submitted reviews could be published or not published in eLibrary with or without the reviewer's indication. Open reviews are a powerful modern trend, and if the eLibrary initiative in this form takes root on Russian soil, the world of Russian scientific publications will become richer and more interesting.

СПИСОК СТАТЕЙ, ЦИТИРУЮЩИХ ДАННУЮ ПУБЛИКАЦИЮ

Цитируемая публикация
ИНТЕРНЕТ-АКТИВНОСТЬ КАК ОБЯЗАННОСТЬ УЧЕНОГО
Горбунов-Посадов М.М.
Информационные технологии и вычислительные системы. 2007. № 3. С. 88-93.

Журнал

Автор

Год

Название

Сортировка по числу цитирований

Порядок по убыванию

Очистить

Выборка

	Публикация	Цит.
1	КИБЕРСОЦИАЛИЗАЦИЯ ЧЕЛОВЕКА. ОТ НОМО SAPIENSA ДО НОМО CYBERUSA Глешаков В.А. Москва, 2012.	101
2	УПРАВЛЕНИЕ ЖИЗНЕННЫМ ЦИКЛОМ ЭЛЕКТРОННЫХ ПУБЛИКАЦИЙ В ИНФОРМАЦИОННОЙ СИСТЕМЕ НАУЧНОГО ЖУРНАЛА Елизаров А.М., Зуев Д.С., Липачев Е.К. Вестник Воронежского государственного университета. Серия: Системный анализ и информационные технологии. 2014. № 4. С. 81-88.	13
3	ИНФОРМАЦИОННЫЕ СИСТЕМЫ И СЕРВИСЫ КОМПЛЕКСНОЙ ПОДДЕРЖКИ ПЕРИОДИЧЕСКИХ НАУЧНЫХ ИЗДАНИЙ Ахметов Д.Ю., Елизаров А.М., Липачев Е.К. В сборнике: Научный сервис в сети Интернет. труды XVII Всероссийской научной конференции. ИПМ им. М.В.Келдыша. 2015. С. 16-25.	11
4	ОЦЕНИВАНИЕ И РАНЖИРОВАНИЕ ВЕБ-САЙТОВ. ВЕБОМЕТРИЧЕСКИЕ РЕЙТИНГИ Поляк Ю.Е. Научный редактор и издатель. 2017. Т. 2. № 1. С. 19-29.	10
5	НАУЧНЫЕ ЭЛЕКТРОННЫЕ БИБЛИОТЕКИ: АКТУАЛЬНЫЕ ЗАДАЧИ И СОВРЕМЕННЫЕ ПУТИ ИХ РЕШЕНИЯ Семячкин Д.А., Кисляк Е.В., Сергеев М.А. Научная периодика: проблемы и решения. 2013. № 2 (14). С. 20-29.	9
6	ИНФОРМАЦИОННОЕ ПРОСТРАНСТВО РОССИЙСКОЙ АКАДЕМИЧЕСКОЙ НАУКИ КАК ИНТЕГРИРОВАННАЯ ПРОФЕССИОНАЛЬНО-ИНТЕЛЛЕКТУАЛЬНАЯ СРЕДА: ПЕРСПЕКТИВЫ ФОРМИРОВАНИЯ И УПРАВЛЕНИЯ Соколова М.Е. В сборнике: Концепция "общества знания" в современной социальной теории. Сб. науч. тр. Сер. "Теория и история социологии" Центр социал. науч.-информ. исслед. Отд. социологии и социал. психологии; Отв. ред. Д.В. Ефременко. МОСКВА, 2010. С. 134-158.	8

Fig. 1. List of citing publications in eLibrary.

Then eLibrary announced [19] the appearance API – an application programming interface designed to implement automatic queries and extract information from the eLibrary database. Unfortunately, the API's capabilities were not rich: you can only use it to find out the bibliographic indicators of an individual author, a separate journal, and a separate publication.

The list of works that cite this publication is not included in the bibliographic indicators available via this API. But this list is one of the most popular types of bibliographic information for readers; it allows you to get the latest information about the scientific direction under consideration. This list is generated by eLibrary and is available on the corresponding page of the site for an authorized user of eLibrary (Fig. 1 – List of citing publications in eLibrary). Still, for some reason, the list was not included in the API.

This circumstance significantly impoverishes the content of the publication card of the Russian scientific article. Card developers are forced to limit themselves to information provided by foreign bibliographic databases.

For example, if a hyperlink of the following type is included in the article card

<https://scholar.google.com/scholar?q=link:https://keldysh.ru/gorbunov/duty.htm>

where the part written after the "link:" prefix is the URL of the cited article, the reader can go to the list of publications quoting this article in one click, according to Google Scholar data (Fig. 2). A similar construction exists for the Web of Science bibliographic database, but here it is necessary to specify as a parameter the number ("Accession Number") assigned to the article in this database. It is somewhat more complicated, but it is still possible to create such a list for the Crossref bibliographic database (using a special API). And the only eLibrary, for some reason, did not include this useful feature in its opened API.

5 Integrated Publication Performance Score

In conclusion, a few words about vigorously discussed [20] letter [21] from the Ministry of education and science "on the methodology for calculating the integrated publication performance score" (IPPS). The most significant two arguments of numerous critics of this methodology.

First, the method leads to the suffocation of Russian scientific journals that, due to obvious inertia, have positions in the Web of Science rating that do not correspond to their real scientific weight. The most powerful authors are forced to refuse to publish in such journals because of the scanty points of the IPPS. But without strong articles, magazines will never make it to the grandees of the rating. Nevertheless, it is easy to help Russian journals get back on their feet: it would be enough to keep the current methodology for calculating the IPPS and count the quartile Q of the Russian journal using the formula " $Q=W-2$ ", where W is the quartile of the journal in the Web of Science rating. However, the proposal for an even weaker " $W-1$ " formula did not receive the support of decision-making officials.

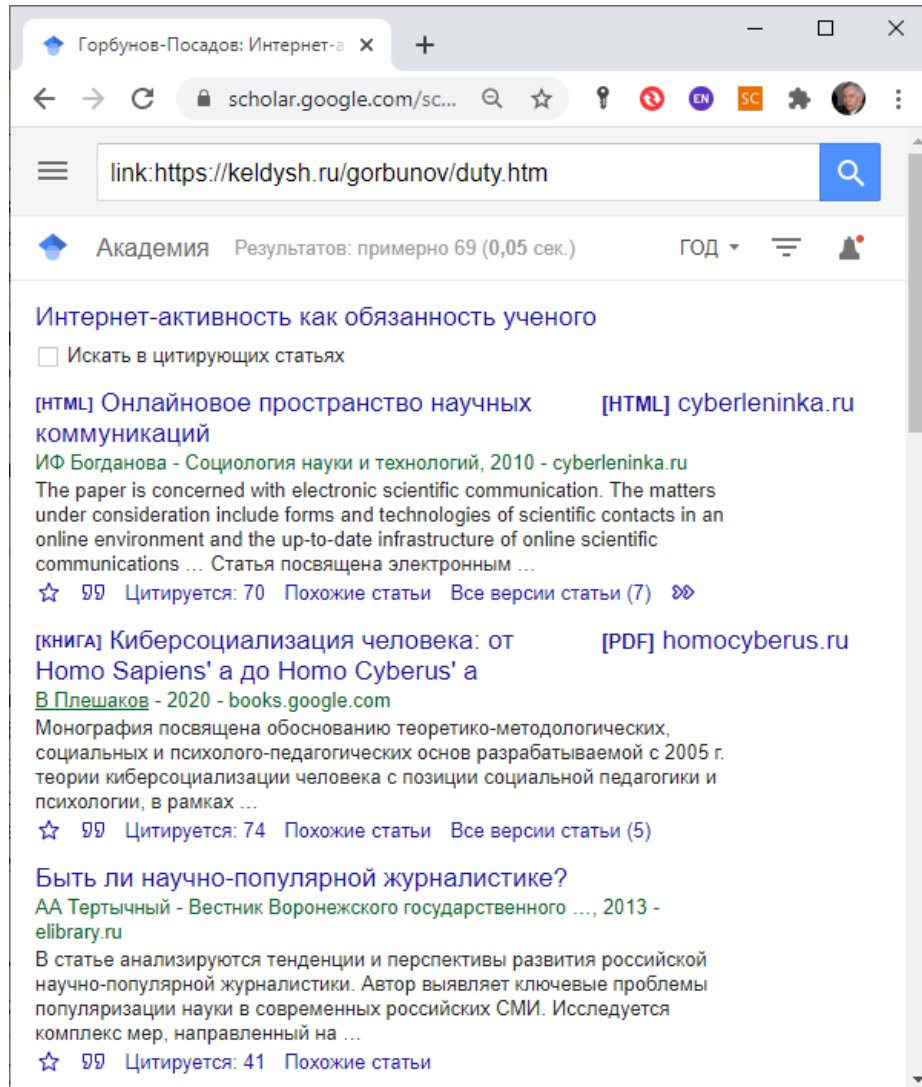


Fig. 2. Generated by Google Scholar list of publications citing the specified article.

Secondly, the monograph assessment, which equates it to the publication of an article in an ordinary journal from Scopus, sounds simply ridiculous and humiliating for a serious scientist. Unfortunately, Russian officials have been bullying monographs for many years, either not recognizing them as a scientific result at all or charging insignificant points for a monograph that do not reflect either the work spent on writing it or the benefits it brings to science. The results of this policy are deplorable. For example, employees of the Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences published more than 20 monographs in 2006 and only two in 2019.

There is another, rarely mentioned argument of the IPPS critics. The most relevant science areas from time to time cease to be satisfied with the established community of journals. A new journal is then created, where the most powerful works in the new current direction are immediately directed and where the reader's interest will first be directed. However, the Russian scientist is cut off from this extremely popular stream from such a magazine. After all, according to the existing rules, the magazine will win the formal high positions required by the Ministry in the Web of Science rating only in a few years, and all these years, the KBPR will mindlessly and mechanically prevent Russian researchers from publishing there.

References

1. Smart, P.: Publishing during pandemic: Innovation, collaboration, and change // *Learned publishing*. 3(33), 194–197 (2020). <https://doi.org/10.1002/leap.1314>.
2. Otnoshenie k preprintam davno i ustoychivo tepleet, <https://indicator.ru/humanitarian-science/springer-nature-preprint-16-05-2019.htm>, last accessed 2020/11/20.
3. In Review. Journal-integrated preprint sharing from Springer Nature and Research Square. <https://www.springernature.com/gp/authors/campaigns/in-review>, last accessed 2020/11/20.
4. Coles, P.: The Age of Preprints. September 23, 2020. <https://astro.theoj.org/post/674-the-age-of-preprints>, last accessed 2020/11/20.
5. Research Square. An expanded suite of services and tools to help promote your research, <https://www.researchsquare.com/>, last accessed 2020/11/20.
6. Under Review. Preprint your article with Under Review, Powered by Authorea. <https://authorservices.wiley.com/author-resources/Journal-Authors/submission-peer-review/wiley-under-review.html>, last accessed 2020/11/20.
7. First Look program to share your newest latest research with a wider audience faster than ever before. <https://www.elsevier.com/solutions/ssrn/institutional-value/first-look>, last accessed 2020/11/20.
8. TechRxiv preprint server. Powered by IEEE. <https://www.techrxiv.org/>, last accessed 2020/11/20.
9. Preprints are go at Crossref! <https://www.crossref.org/blog/preprints-are-go-at-crossref/>, last accessed 2020/11/20.
10. Sudba plana S otkrytogo dostupa. <https://indicator.ru/humanitarian-science/open-access-bitva.htm>, last accessed 2020/11/20.
11. Plan S otodvinut s 2020 na 2021 god, no i eto pod bolshim voprosom. <https://indicator.ru/humanitarian-science/realizaciyu-plan-s-reshili-otlozhit-31-05-2019.htm>, last accessed 2020/11/20.
12. O svobodnom besplatnom dostupe k zhurnalom RAN. <http://www.ras.ru/news/shownews.aspx?id=a18fbb23-d2cf-430e-9df6-05ffa9fe31ce>, last accessed 2020/11/20.
13. Gorbunov-Posadov, M., Polilova, T.: Instrumenty podderzhki onlainovoi nauchnoi publikatsii. *Programmirovaniye*. (3), 38–42 (2019). <https://doi.org/10.1134/S013234741903004X>.
14. Gorbunov-Posadov, M.: Nauchnaia publikatsiia v Rossii: dlia chego i kak? *Vestnik RAN*. 1(90), 35–39 (2020). <https://doi.org/10.31857/S0869587320010053>, <https://sciencejournals.ru/view-article/?j=vestnik&y=2020&v=90&n=1&a=Vestnik2001005GorbunovPosado>, last accessed 2020/11/20.

15. Gorbunov-Posadov, M.: Tsifrovaia nauka v RAN. Troitskii variant — nauka 5, 14 (2018). <https://trv-science.ru/2018/03/13/cifrovaya-nauka-v-ran/>, last accessed 2020/11/20.
16. Populiarizatsiia nauki pokazyvaet vzryvnoi rost. Assotsiatsiia «Otkrytaia nauka». 18/02/2020, <https://open-science.ru/2020/02/popularization-of-science-shows-high-growth.html#more-1160>, last accessed 2020/11/20.
17. Ob osobennostiakh provedeniia zasedaniy sovetov. <http://publication.pravo.gov.ru/Document/View/0001202005270020?index=0&rangeSize=1>, last accessed 2020/11/20.
18. Video Conferencing, Web Conferencing, Webinars, Screen Sharing – Zoom. <https://zoom.us/>, last accessed 2020/11/20.
19. Interfeis programirovaniia prilozhenii API. https://www.elibrary.ru/projects/api/api_info.asp, last accessed 2020/11/20.
20. Obsuzhdenie Metodiki rascheta kompleksnogo balla publikatsionnoi rezultativnosti (KBPR), <http://www.sib-science.info/ru/ras/predlozhennaya-09022020>, last accessed 2020/11/20.
21. O metodike rascheta kompleksnogo balla publikatsionnoi rezultativnosti (KBPR). <http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=EXP&n=421632&dst=100001#025803375598292577>, last accessed 2020/11/20.