

RESEARCHERS AT THE CENTRE: CONTENT DISCOVERABILITY, VISIBILITY, AND ACCESS

An evaluation of the content syndication partnership
between Springer Nature and ResearchGate



This white paper informs you about:

- How the unique partnership works and its goals
- The benefits identified so far for researchers, authors, librarians, and others
- Areas for further analysis, discussion, and future developments.

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Foreword

Springer Nature and ResearchGate believe that collaboration is key if scientists are to drive discovery and tackle today's challenges. One way to enhance collaboration is to enable it to take place on the platforms researchers and authors are already using. In March 2019, Springer Nature and ResearchGate entered a unique partnership to explore new ways for researchers to share content. The goal was to combine Springer Nature's expertise in publishing high-quality research with ResearchGate's online platform of millions of scientists, and deliver a better experience for the communities served by both organisations.

Communicating scholarly research is rarely static, yet in recent years — and perhaps even more so in the past few months — the landscape in which research is carried out and communicated has shifted dramatically. The volume of published research continues to increase annually. Easy access to peer-reviewed articles, preprints, datasets, and peer review reports is ever more important for furthering discovery and enriching the academic record. We have seen how the profile of open access (OA) publishing has increased through initiatives like Plan S and national transformative agreements such as Projekt DEAL in Germany. Now the Covid-19 pandemic has provided a further push to many of these trends, and has ensured that the fast publication of reliable and robust results has made its way into the political and public agenda while accelerating new remote ways of working.

In this white paper, we share our findings from the Springer Nature-ResearchGate partnership so far and outline potential improvements and plans for the future.



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Executive Summary



In March 2019, Springer Nature and ResearchGate, the professional network for researchers, entered into a unique partnership. Initially as a pilot, Springer Nature provided ResearchGate with full-text articles that had been published in Nature-branded research journals and the journal *Nature* since November 2017. These version-of-record (VoR) articles were uploaded (syndicated) directly to publication pages and can therefore be connected with authors' profiles. The first pilot was expanded to a second pilot phase in July of that year to include high-volume Springer journals.

The overall goal of the partnership was to make it easier for researchers to discover and access research papers while enhancing the reader experience. For ResearchGate, this meant enabling authors to share work on their platform more easily, whereas for Springer Nature, the partnership formed part of a broader approach to improving user and customer experience by providing content and services directly on the platforms these communities are using.

Following a period of the two pilot phases, Springer Nature and ResearchGate are now planning a long-term content sharing partnership. This white paper summarises the key findings from the partnership so far, and considers how this and similar partnerships can be developed in the future.

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Key findings

To evaluate the success of the Springer Nature-ResearchGate partnership, we carried out an author survey of nearly 700 researchers after the first phase of the pilot partnership in April 2019. Following the second pilot phase, we also conducted in-depth interviews with librarians from North America and Europe. Furthermore, we analysed usage data of the content from Springer Nature that was syndicated to ResearchGate, and compared authentication data from ResearchGate with that of Springer Nature.

Our data indicates that the partnership brought numerous benefits to librarians, researchers, and authors, while also allowing us to identify areas for development.

Benefits for libraries

- Entitlement recognition is improved through the use of researcher profiles alongside IP identification ensuring that libraries' subscriptions to journals are fully utilised.
- Library users have an additional validated place where they can access the version of record on which to build their own research.
- Richer insights into content usage are provided, enabling both partners and libraries to learn more about researchers' requirements.

1. The version of record (VoR) refers to the final published version of a manuscript after it has been peer reviewed, typeset, and edited.

Benefits for researchers

- Articles are brought directly to researchers on a platform they already use for networking and collaborative purposes.
- Researchers can be sure they are accessing the VoR of an article rather than a previous draft or unauthorised version.
- The discoverability of articles on ResearchGate is improved, making it easier for researchers to find relevant content.

Benefits for authors

- On publication, Springer Nature automatically sends the version of record to ResearchGate who automatically upload it to their publication page so that authors do not need to do this themselves.
- Springer Nature content that is syndicated to ResearchGate shows increased 'reach' (usage and discoverability).
- The partnership removes the need for authors to upload drafts or to worry about breaching possible licensing agreements by uploading the VoR to ResearchGate.

Areas for further analysis and development

Feedback from librarians showed that there is scope for Springer Nature to be more transparent about how data is exchanged between the two organisations. This could mean jointly finding a way to share usage generated on ResearchGate which is compliant with industry standards (COUNTER), while also being fully transparent about this exchange so that librarians can trust the off-platform usage of their subscriptions.

There is also potential for Springer Nature and ResearchGate to continue to work on optimising the authentication process. The multi-layer approach to authentication ensures improved accuracy in identifying and authenticating entitled users, but there is still room to refine the mapping of Springer Nature institutional customers to ResearchGate.

Furthermore, a small number of authors in the survey indicated that they would prefer to choose whether their article is uploaded to the publication page on ResearchGate automatically. Feedback on this aspect of the partnership will continue to be monitored going forward.

Introduction



Springer Nature and ResearchGate share a common goal of delivering frictionless access to research content. In March 2019, a groundbreaking collaborative pilot project was launched which saw Springer Nature provide full-text articles published since 2017 in selected Nature-branded research journals and the journal *Nature* for syndication to researchers' publication pages. This arrangement allowed ResearchGate users to read and download the articles via ResearchGate on or off campus. Following positive feedback, the initial pilot phase was extended and expanded in July 2019 to include high-volume Springer journal content. There are now plans to extend the partnership in the long-term to include all Nature Research content from 2017 onwards and content from other Springer Nature-owned titles from 2015 onwards.

By entering the partnership, Springer Nature and ResearchGate aimed to address the following challenges and goals:

- **Helping researchers use content available to them through library subscriptions** by connecting researchers to libraries through their own networks.
- **Enabling access to VoR articles** alongside author-submitted content.
- **Finding relevant content from the volume of research available** by improving the discovery of relevant research and its context.
- **Reducing complex, time-consuming authentication processes** by enabling researchers, authors, editors, and librarians to access content easily on ResearchGate – regardless of location, device, or origin.
- **Addressing incomplete usage data** by closing gaps in usage data to make reporting more accurate.
- **Minimising unauthorised uploading of content to ResearchGate** by supporting authors in the uploading of their VoR articles to ResearchGate.

The purpose was to help Springer Nature authors harness ResearchGate's collaborative power, increase visibility and discoverability of their work, and measure impact across Springer Nature and ResearchGate platforms.

How the partnership works

Selected full-text articles published in *Nature*, Nature-branded research journals, and Springer-branded journals are directly uploaded (syndicated) at the point of publication via a dedicated content feed to ResearchGate and onward to the relevant authors' ResearchGate profiles. In total, around 50,000 articles were uploaded during the course of the pilot partnership.

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Authentication

The Springer Nature-ResearchGate partnership allows entitled users convenient, uninterrupted access with minimal authentication steps. ResearchGate and Springer Nature are able to measure and learn how best to augment entitlement decisions with ResearchGate unique profile data.

Registered ResearchGate users who have access to an article included in the Springer Nature-ResearchGate partnership through their institution can read and download the full-text PDF of the article with no additional login or verification required. During the pilot phases, non-entitled users could read an in-line version of the final article. The partnership agreement now allows non-entitled users to view a preview version of the final article. Authors can still publicly share earlier versions of manuscripts, subject to licensing conditions. Preprints can also be shared.

How data is exchanged between Springer Nature and ResearchGate

The data exchanged between Springer Nature and ResearchGate supports the syndication model — the cross-posting of content from one site to another. Springer Nature provides content in PDF and XML format to ResearchGate together with authentication (IP) and entitlements at the journal level with the date range. In return, ResearchGate provides Springer Nature with usage data on the institutional level and aggregated analytics data to better understand how content is being used on ResearchGate. No personal data about users is exchanged between the parties.

Findings and Discussion



1. Springer Nature content that is syndicated to ResearchGate shows increased usage, peer engagement, and improved discoverability

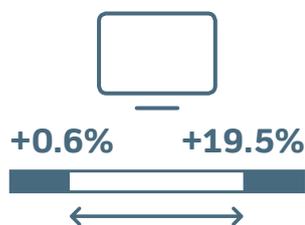
Content on ResearchGate benefited from being set in context among other related publications

The Springer Nature-ResearchGate partnership allows content to be brought to researchers directly, via a platform they already use for collaboration and networking. Our findings show that content that was syndicated to ResearchGate was used more than if it had not been syndicated. Regarding discoverability, the content on ResearchGate benefited from being set in context among other related publications. Authors and researchers also found that they could more easily discuss their publication with their peers.

Usage

Springer Nature and ResearchGate analysed the relative comparison of total usage based on Springer Nature usage for August 2018. This was compared with ResearchGate “consumes” (engagement with the publication file) and ResearchGate “reads” (engagement with the publication page of the article). The percentage of ResearchGate usage from the total usage was calculated.

ResearchGate consumes /
(ResearchGate consumes
+ Springer Nature usage)



ResearchGate reads /
(ResearchGate reads
+ Springer Nature usage)



The usage figures show a very broad variation in the increase in consumes and reads across individual journals: consumes increased between 0.6% and 19.5% across different titles, while reads increased between 3.6% and 59.7%.

Discoverability

Researchers who responded to the feedback survey conducted after phase one emphasised the importance of reviewing research in context so that they can see connections between publications, researchers, projects, and labs.

ResearchGate enables researchers to quickly find articles most relevant for their work by providing the context and the type of interactions described above. For example, the home feed from the user's network together with citations and personalised recommendations help researchers discover related content. The pilot phases of the partnership showed that the Springer Nature publications syndicated to ResearchGate had increased exposure and visibility to members of the research community.

The ResearchGate publication page

The screenshot shows a ResearchGate article page. At the top, there are tabs for 'Article' and 'Full-text available'. The article title is 'Far-red absorption and light-use efficiency trade-offs in chlorophyll f photosynthesis'. Below the title, there is a 'natureresearch' logo (A), the date 'August 2020 · Nature Plants 6(8)', and the DOI '10.1038/s41477-020-0718-z'. The project name 'Project: Photosynthesis with chlorophyll f' (B) and the lab 'Lab: Roberta Croce's Lab' (C) are also visible. The authors listed are Vincenzo Mascoli, Luca Bersanini, and Roberta Croce (D). A navigation bar (E) includes 'Overview', 'Stats', 'Comments', 'Citations', 'References (57)', and 'Related research (10+)'. A 'View full-text versions' button (F) is present. On the right, social statistics (G) show 'Research Interest' at 8.0, 'Citations' at 0, 'Recommendations' at 6 (with '0 new'), and 'Reads' at 176 (with '13 new').

The publication page contains metadata about a publication, including bibliographic data, and information about how it has been used, shared, and recommended on ResearchGate.

Publication branding (A) shows that a version of the full-text of this publication has been provided by the publisher.

Information about authors, including links to their ResearchGate profile pages (D), their lab (C), and project pages (B) on ResearchGate, allows the user to read all other research by the contributing authors as well as following them (or their projects) to receive updates about future publications and their activity on ResearchGate.

Detailed information about the publication is accessible via the tabbed interface (E), which enables easy access to research referenced in this publication, publications citing this article, and to similar publications. ResearchGate members can also discuss the publication using the comments tab. Users can access various versions of the full-text of this publication (F), which may include early author-submitted drafts alongside the version of record provided by the publisher.

Social statistics (G) show information on how much activity and interest the publication has generated on the network.

Interaction

Authors also explained that feedback from readers is important, and having the opportunity to engage with readers to discuss, comment, and recommend a publication is a valuable service offered by ResearchGate.

Syndication of Springer Nature publications to ResearchGate allows authors to get detailed and timely insights into their publications via statistics generated by ResearchGate, such as read counts.

Easy remote access to content

Accessing content remotely has become acutely important, especially as during COVID-19 lockdowns many researchers have been forced to work away from their institution or lab. There are many ways to enable remote access for users, such as proxies, VPNs, and federated access. Projects like the seamlessaccess.org initiative or GetFTR also aim to make it easier and more reliable to access content remotely while reducing the administrative workload for librarians, which can absorb time and budget. Content syndication to ResearchGate is another way to ensure that researchers have access to VoR articles remotely and easily, wherever they are located.

The library community also commented on the improved visibility and discoverability of articles included in the pilot. One librarian explained that their library receives a lot of requests from users for articles that are actually already accessible through a licence, but were not found by the user in the library's discovery system. If these articles were made available on ResearchGate, then library users may find them there and such requests to the library could decrease.

The library community also commented on the improved visibility and discoverability of articles included in the pilot

2. More comprehensive measurement of usage

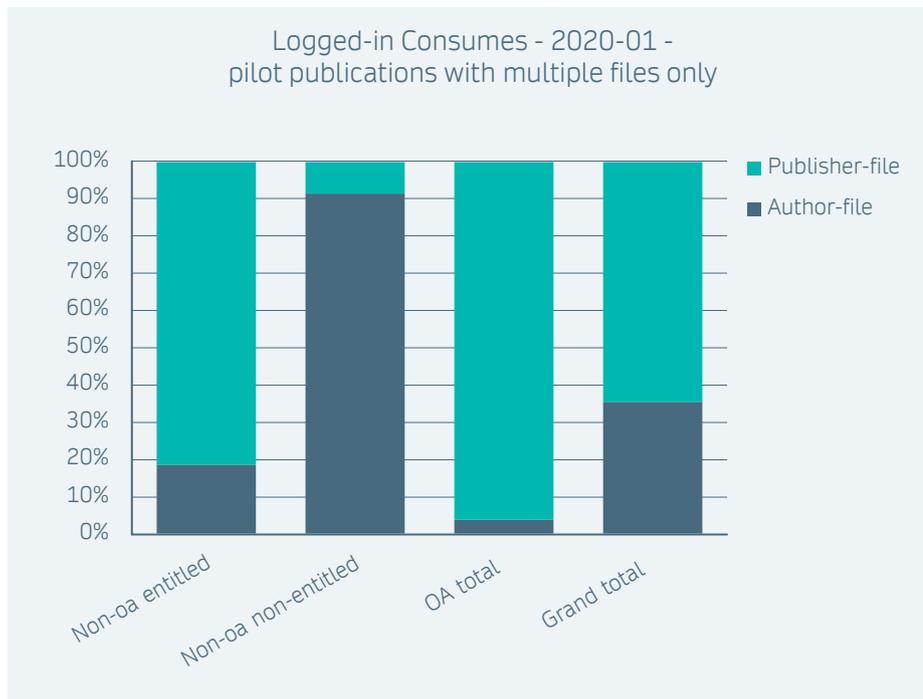
Researchers search for the content they need in a wide range of places, from search engines, institutional databases, and publisher websites, to social media and unauthorised sites. "Leakage" refers to usage of content which cannot be captured and measured; for example peer-to-peer exchange by email or when a researcher accesses content through unauthorised routes. Uploading Springer Nature content to ResearchGate reduces this leakage because usage on ResearchGate can be easily captured and measured using industry standards like COUNTER. Overall, the partnership gives librarians a more comprehensive picture of how content they have subscribed to is used.

3. Versions of record are added to ResearchGate publication pages and accessed by researchers

The version of record (VoR) refers to the final published version of a manuscript after it has been peer reviewed, typeset, and edited. When researchers use the VoR article, they can be sure that they have the most up-to-date version, and that if any errors or changes have occurred, they can be tracked by the appropriate errata. The VoR also contains live links to all underlying data sets and other information used in the research.

ResearchGate allows authors to upload preprints, accepted manuscripts, and VoRs, and display them on a single publication page. One important benefit of the partnership is that VoRs are added automatically to an author's ResearchGate publication page as they become available. This not only saves authors the effort of doing this themselves, it also means that they do not need to worry or find out whether they have the permission to upload the article.

During the two phases of the pilot partnership, Springer Nature and ResearchGate collaborated on user analytics concerning access to VoR vs accepted manuscripts. The data shows that when users have access to the publisher file via an institutional subscription, or if the journal is OA, they are more likely to use the VoR rather than the accepted manuscript.

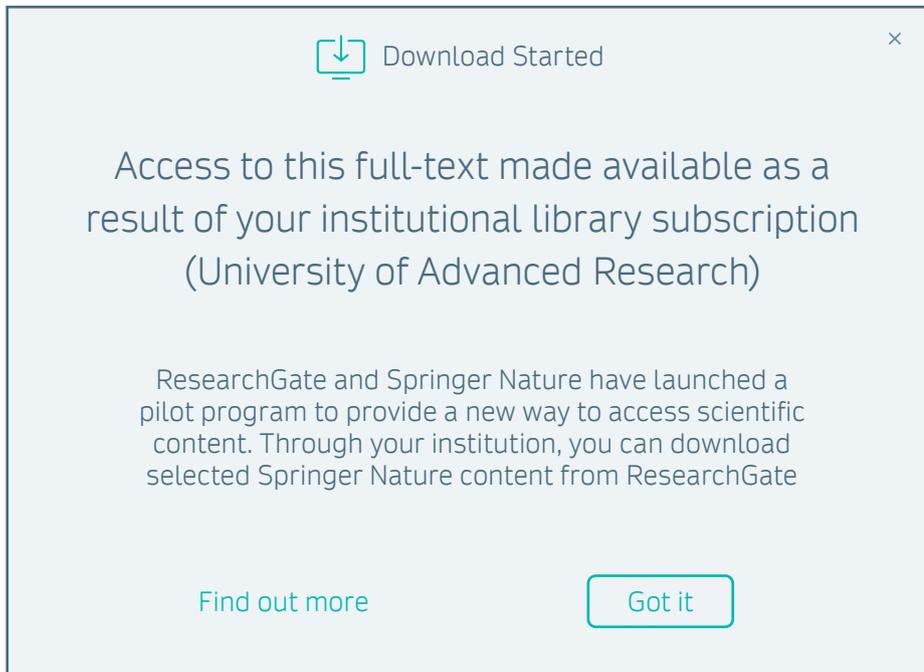


As Springer Nature and ResearchGate discuss plans for a permanent partnership, in the future, ResearchGate should receive a daily feed of content from Springer Nature to be indexed and hosted. For OA content, the version of record will be available for all. Entitled users will have access to subscription content, and non-entitled users will be able to view a preview version which includes metadata, the abstract, figures, captions and the full first page of the article.

4. The name of the institution that has subscribed to the content is shown when entitled users download it

When a researcher downloads a Springer Nature article that has been syndicated to ResearchGate, a short message is shown on the screen indicating how this content has been made available.

“The collaboration is a way for the library to get visibility on a platform where it has not been shown before, which is great.”



In-depth surveys carried out with librarians following the second phase of the pilot indicate that this feature was appreciated by them.

One librarian told us: “The collaboration is a way for the library to get visibility on a platform where it has not been shown before, which is great.”

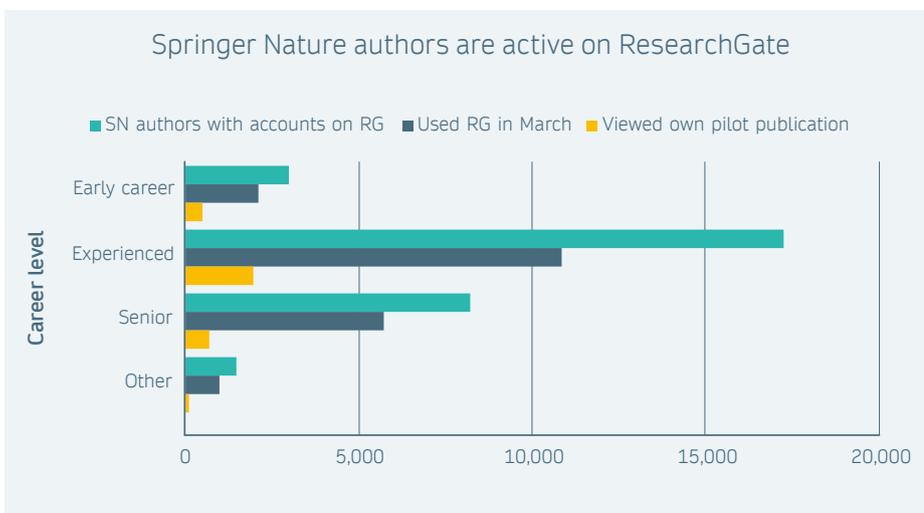
Another librarian described how the partnership helps users understand that they have gained access to content through a subscription from their library: “Very kind to give credit to the library. [...] It is sometimes, in a world of electronic resources, hard for the library to get patrons to understand that the library makes the content available.”

5. The partnership received very positive feedback from authors

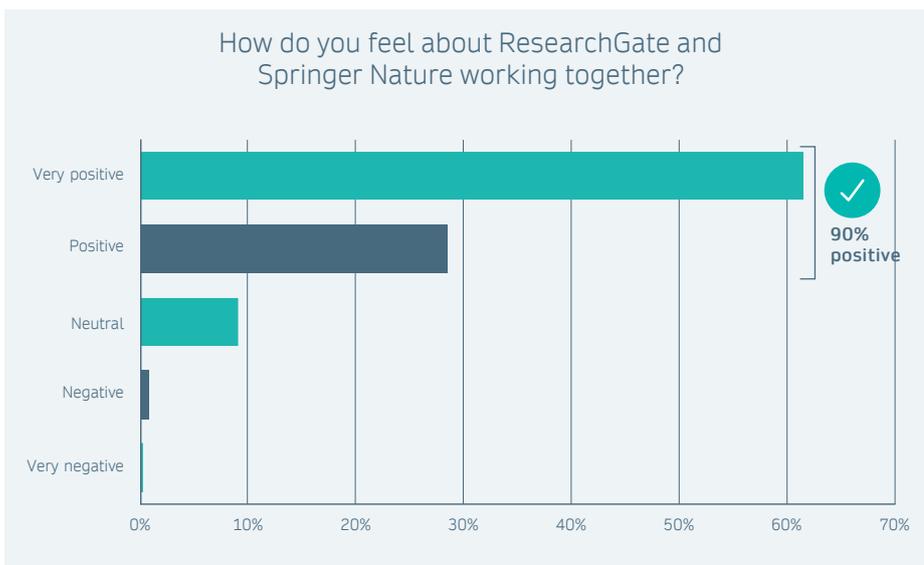
Detailed feedback from nearly 700 authors was collected in April 2019 through a survey conducted after phase one of the pilot.

- Half of the authors on the pilot publications had ResearchGate accounts
- Two thirds of Springer Nature authors with ResearchGate accounts used ResearchGate in March 2019
- 17% of early-career authors viewed their own pilot publication

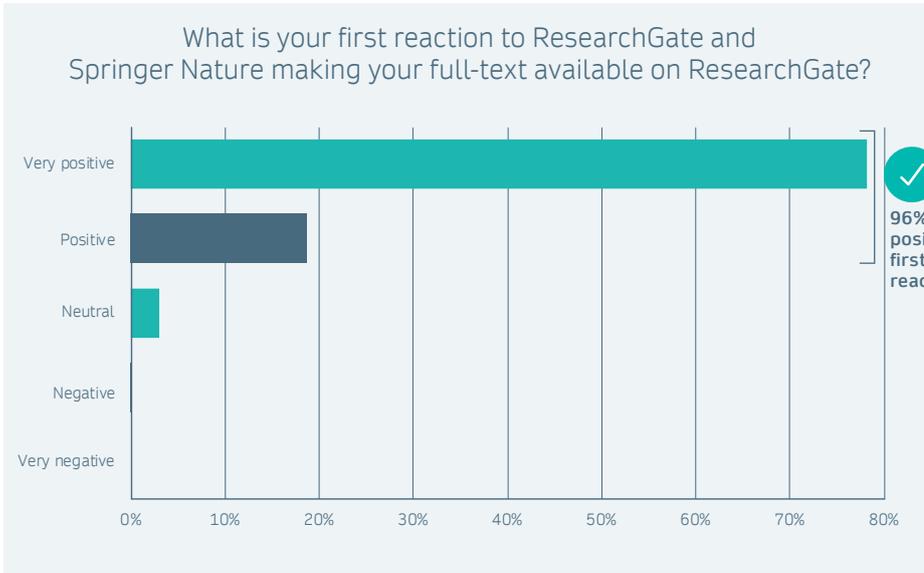
The highest number of Springer Nature authors who had a ResearchGate account and who used ResearchGate in March fell into the “experienced” or “senior” category.



The feedback shows that authors viewed the partnership positively.

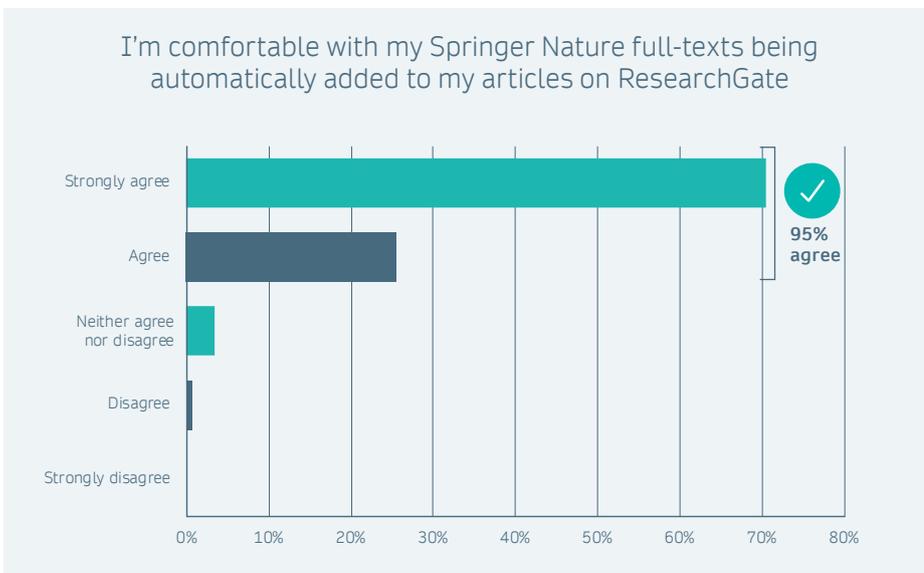


90% of authors were positive or very positive about the partnership between ResearchGate and Springer Nature.

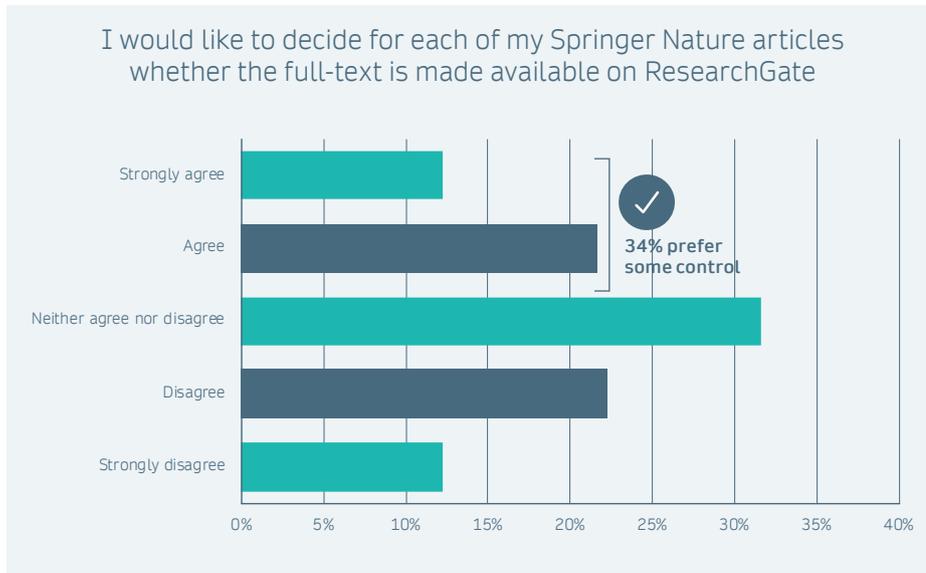


“Thank you for doing this. I hope articles from the Nature journals will be freely available through Researchgate in the future as well. It also makes Nature publishing [a] more attractive venue for publishing.”

96% of authors had a positive first reaction when hearing about the partnership.



96% reported being comfortable or very comfortable with their Nature full-texts being automatically added to their publication pages on ResearchGate.



34% of authors surveyed would prefer some control over whether their articles are included on ResearchGate.

“Actually I hope this kind of initiative will soon include other publishers!”

“Please, try to make similar arrangements with other important publishers and societies.”

“I fully support this initiative.”

Comments from authors surveyed.

6. Improved entitlement recognition through the partnership

Determining whether users have access to subscription publications (their entitlement) usually occurs through IP identification. This is made more difficult when users are not on campus — circumstances that have become common due to the COVID-19 pandemic which has forced many researchers to work from home.

By adding Springer Nature content to ResearchGate, the entitlement process is enhanced by profile information. This makes it easier for researchers to access content remotely, directly through ResearchGate.

How are users authenticated?

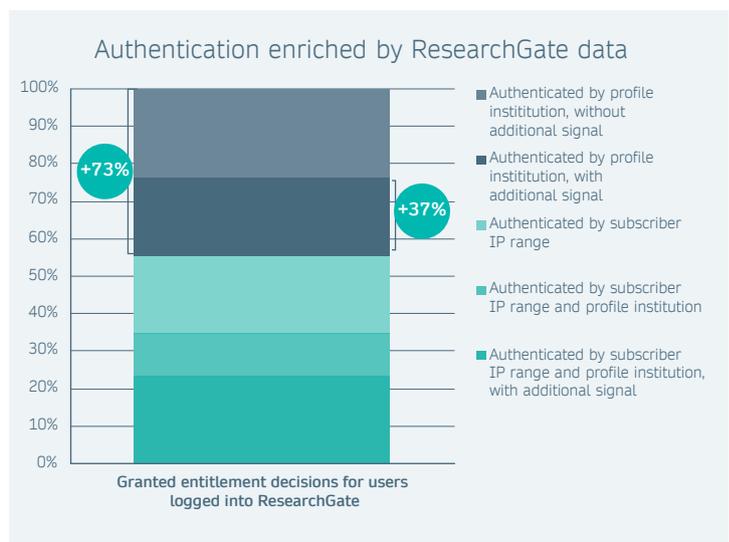
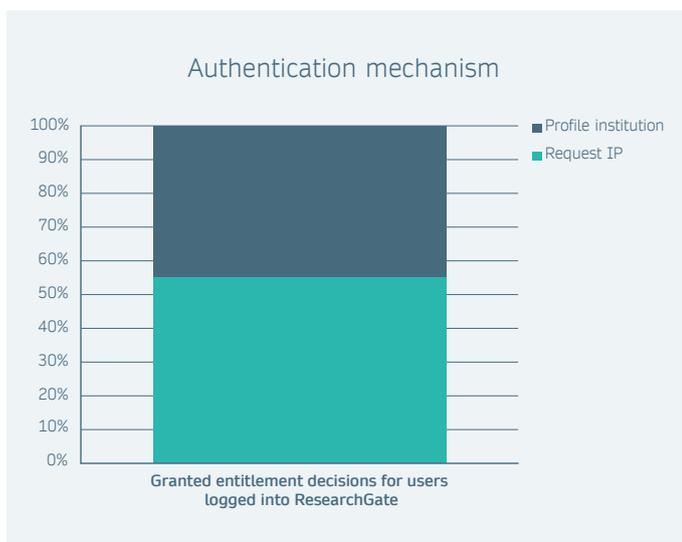
Authentication through ResearchGate is a multi-layered process. First, the IP address is checked, and if authentication does not occur this way, then the user's affiliation and email address — both of which are fields on ResearchGate profiles — are checked.

ResearchGate user profiles contain affiliations that help increase the likelihood that a user's entitlement is recognised. It is possible, therefore that users who did not realise that they were able to access the VoR through their institution were given access via ResearchGate because their entitlement was recognised through this enriched authentication approach.

Analysis of entitlement decisions

To determine the accuracy of entitlement decisions, ResearchGate and Springer Nature analysed decisions made between August and October 2019.

For every authentication decision, we measured whether the current profile affiliation matched additional signals, for example, recent usage of the ResearchGate account on-campus or continued email verification of an institutional address. Furthermore, we performed parallel entitlement decisions within the ResearchGate and Springer Nature systems and compared parity.



The analysis shows that 55% of granted entitlement decisions for users who were logged into ResearchGate were authenticated based on request IP and 45% based on ResearchGate profile affiliation.

The analysis shows that by using ResearchGate profile data together with the IP address, entitled access was granted 37% more frequently than when a profile affiliation plus an additional signal was used. When a user's profile affiliation was used alone, entitled access was granted 73% more frequently compared to the traditional IP method.

To determine whether entitlement decisions made by Springer Nature and ResearchGate were aligned, the parity of entitlement decisions was examined. ResearchGate mapped a user profile institutional affiliation to a Springer Nature customer institution and checked the granted entitlements for that customer. They then checked with Springer Nature that the entitlement decisions made for that institution and article matched the decision that Springer Nature would have made using its sites.

This comparison indicates that over 95% of entitlement decisions made by ResearchGate were confirmed by Springer Nature.

	Nature Research	%	Springer	%	Overall	%
Parity	120,703	97.7%	112,921	98.5%	233,624	98.1%
Disparity	2,791	2.3%	1,684	1.5%	4,475	1.9%
Total entitlement decisions	123,494		114,605		238,099	

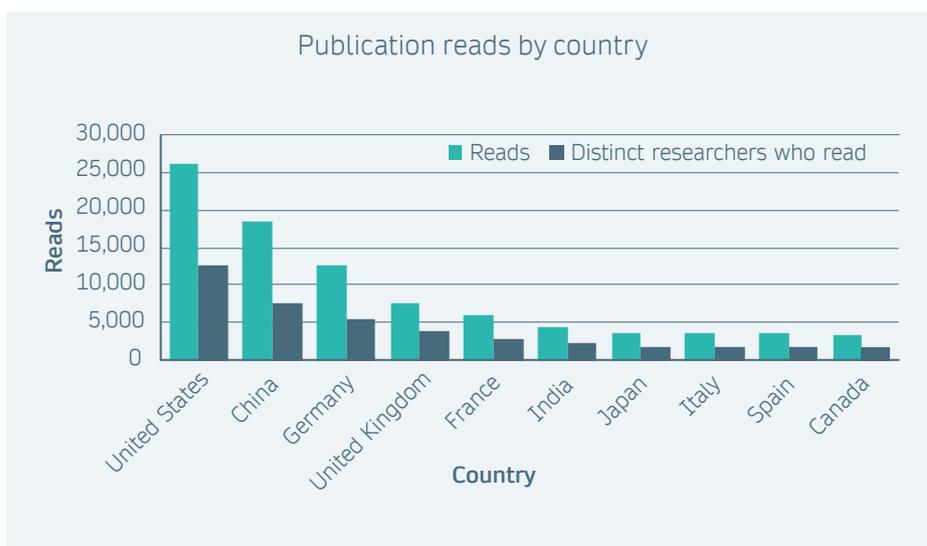
The advantage of authenticating researchers on ResearchGate based on their ResearchGate profiles is that it is easier to more frequently, but still seamlessly, identify their affiliation compared to the traditional IP method. ResearchGate can entitle those authenticated researchers to access publisher content on ResearchGate. This ensures that more researchers can access their institutional subscriptions on a platform which they are familiar with and already use for other collaborative and communication purposes.

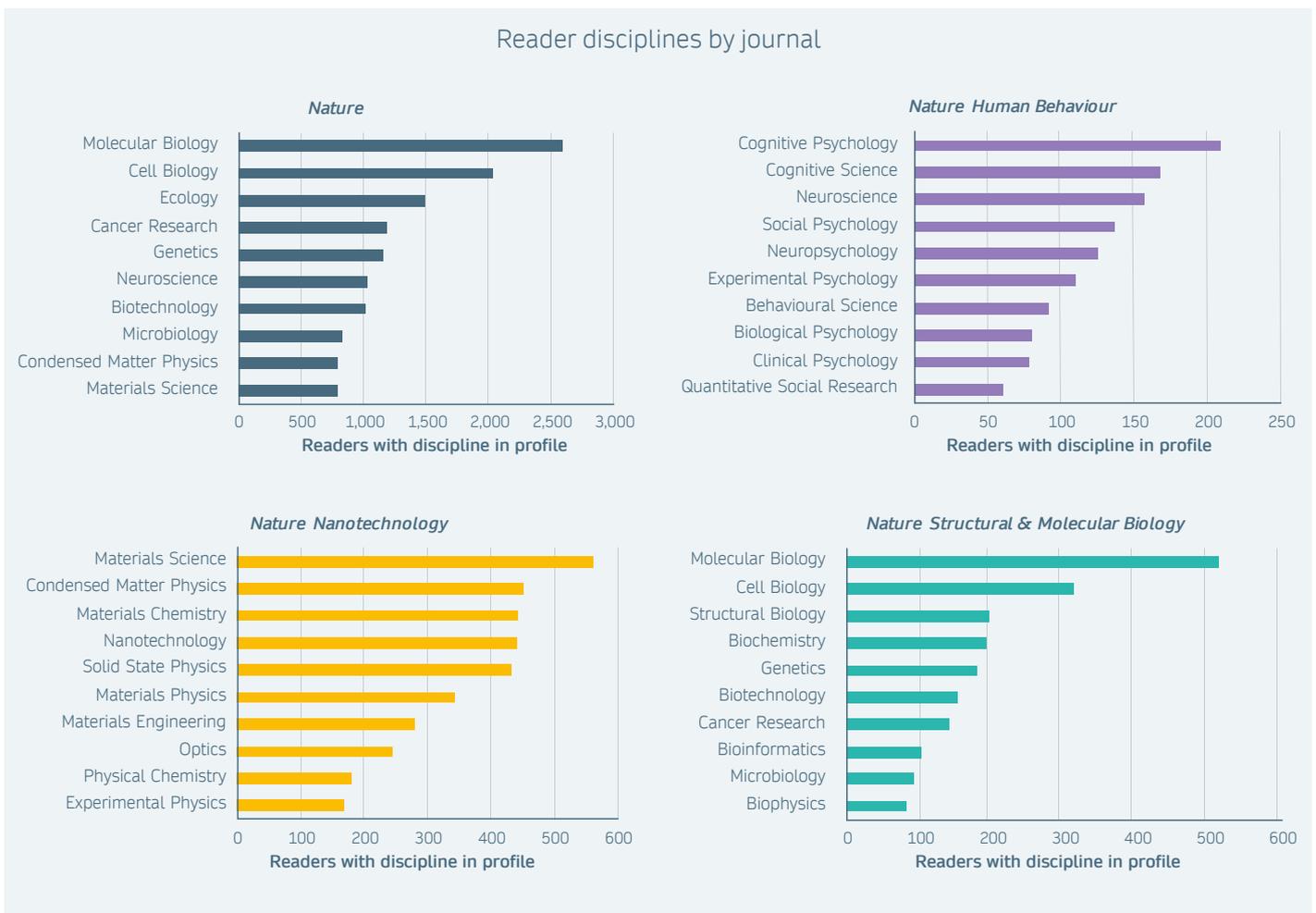
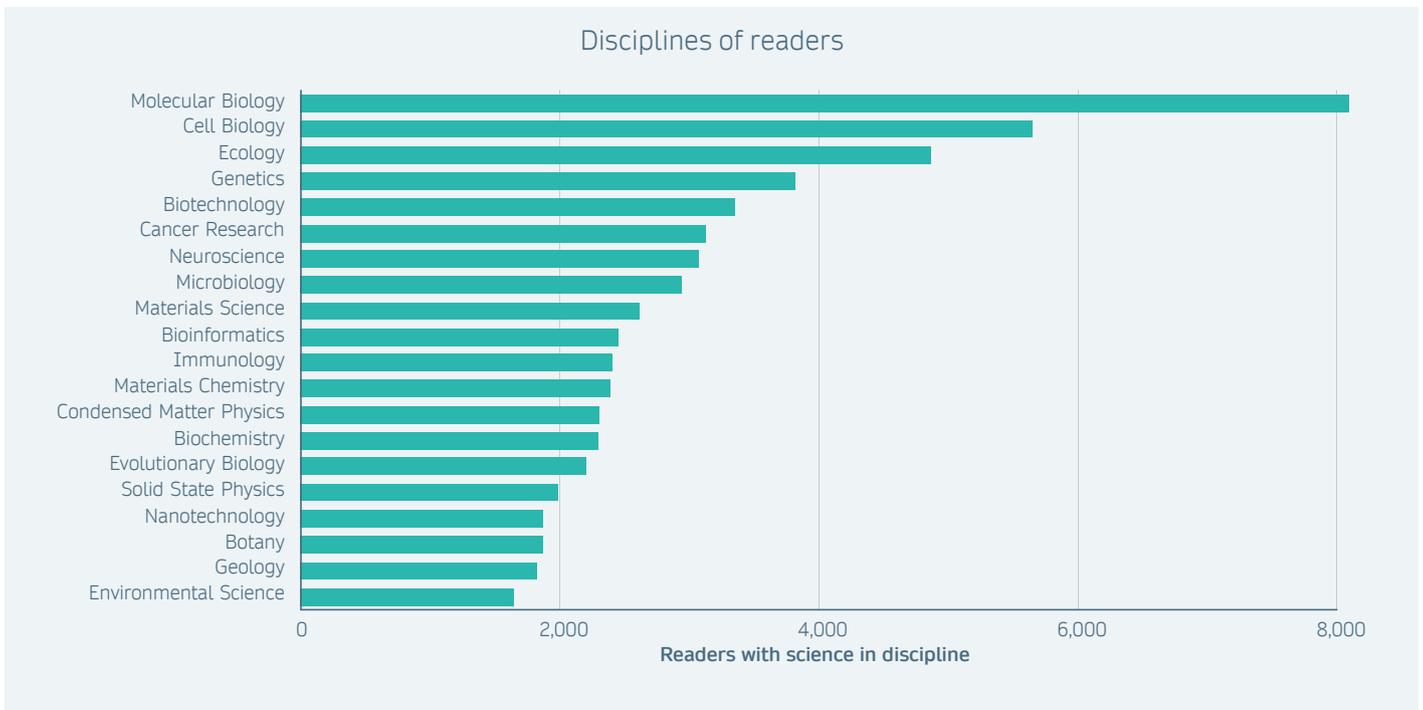
As the partnership has, and continues to develop, ResearchGate and Springer Nature want to work collaboratively to continue to improve the recognition of a user as entitled, and ensure the accurate mapping of Springer Nature institutional customers to the ResearchGate list of institutions.

7. Improved understanding of researchers and author behaviour

The partnership allows Springer Nature and ResearchGate to draw on a range of data on readership trends and behaviour gathered through researcher profiles. The process of collecting and analysing this data — such as publication reads by country, reader career levels, and the disciplines of readers — is anonymised, and no personal data about users is exchanged between the parties. By gaining a better understanding of researcher needs, Springer Nature can optimise and refine author, researcher, and librarian services, while also identifying research trends and reacting to potential gaps in their publishing portfolio.

Examples of data illustrating readership trends and behaviour are shown below.





Summary and Conclusion



Springer Nature and ResearchGate entered this collaborative content syndication pilot to explore how researchers and authors could be better served via the provision of easier access to articles' VoR. The success of the first pilot phase led to an expansion in the second phase, with the syndication of a wider range of Springer journals and the direct recognition of the role the library plays in facilitating this access.

Feedback from author surveys and librarian interviews showed that authors were positive about the collaboration, and librarians appreciated the visibility given to the library through the ResearchGate platform.

Further analysis reveals other benefits including increased usage, improved authentication, assurance that researchers are accessing the most up-to-date, sound science, and enhanced discoverability. The collaboration also plays an important role in providing more comprehensive and transparent usage statistics, as well as visibility for institutional subscribers and insights into researcher and author behaviour.

There are opportunities to develop and improve aspects of the partnership. For example, by examining in detail whether the authentication approach used by ResearchGate maps institutes to Springer Nature's institutional subscribers as effectively as possible. Both partners want to work together to improve the robustness of ResearchGate signals.

ResearchGate is working towards becoming COUNTER compliant so that both partners can jointly find a way to share usage generated on ResearchGate which is compliant with industry standards. Transparent communication about data exchange is also fundamental so that librarians trust the off-platform usage of their subscriptions.

Going forward, Springer Nature and ResearchGate are planning to expand content delivery to the VoR of articles from all Springer journals from the past five years, and all Nature-branded research journals from the past three years. As part of the planned long-term partnership, users will be able to download and read the VoR, while non-entitled users will have access to a preview version of the article. ResearchGate and Springer Nature will explore bi-directional user journeys between their platforms, with a focus on improving the overall user experience. Springer Nature and ResearchGate are evaluating how article level usage can be shared and displayed on both platforms.

Springer Nature and ResearchGate hope that this collaboration will serve as a starting point for other syndication projects in the future, and that these will enable research to be brought directly to researchers on the platforms and services they use for collaboration. Please contact us with questions, feedback, and ideas.

Appendices

Appendix 1: Journals included in the content syndication partnership.

Articles from the following journals published in and after 2017 were included in phase 1 and phase 2 of the pilot, as shown below.

Journals in phase 1	Journals added in phase 2 (selected for high volume)
<i>Nature</i>	<i>Experimental Brain Research</i>
<i>Nature Astronomy</i>	<i>Annals of Operations Research</i>
<i>Nature Biomedical Engineering</i>	<i>Microchimica Acta</i>
<i>Nature Cell Biology</i>	<i>Cluster Computing</i>
<i>Nature Chemical Biology</i>	<i>Environmental Earth Sciences</i>
<i>Nature Chemistry</i>	<i>Empirical Economics</i>
<i>Nature Climate Change</i>	<i>Higher Education</i>
<i>Nature Ecology & Evolution</i>	<i>The International Journal of Advanced</i>
<i>Nature Energy</i>	<i>Manufacturing Technology</i>
<i>Nature Genetics</i>	<i>Environmental Monitoring and</i>
<i>Nature Geoscience</i>	<i>Assessment</i>
<i>Nature Human Behaviour</i>	<i>Applied Microbiology and Biotechnology</i>
<i>Nature Immunology</i>	<i>Journal of Materials Science</i>
<i>Nature Materials</i>	<i>Journal of Optimization Theory and</i>
<i>Nature Medicine</i>	<i>Applications</i>
<i>Nature Methods</i>	<i>Surgical Endoscopy</i>
<i>Nature Microbiology</i>	<i>Journal of Business Ethics</i>
<i>Nature Nanotechnology</i>	<i>Applied Physics A</i>
<i>Nature Neuroscience</i>	<i>Journal of Autism and Developmental</i>
<i>Nature Photonics</i>	<i>Disorders</i>
<i>Nature Physics</i>	<i>Social Indicators Research</i>
<i>Nature Plants</i>	<i>International Journal of Dynamics and</i>
<i>Nature Structural & Molecular Biology</i>	<i>Control</i>

