

Supporting authors to bring data to the forefront: a case study on Springer Nature's past, present, and future interest in research data

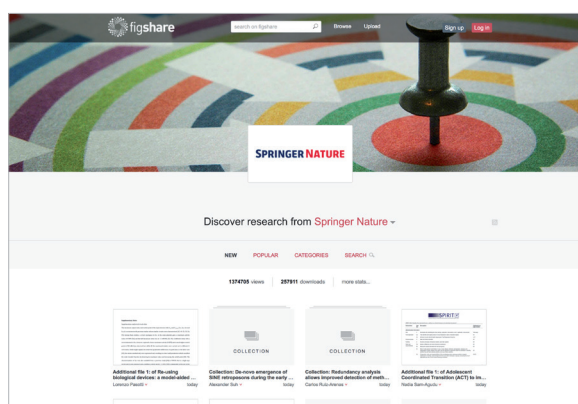
figshare is a cloud-based repository for supplementary research data, preprints, theses, media, and more. figshare offers publishers, government organisations, and societies portals for grouping and displaying data, as well as viewers for visualizing data directly on the journal article page. For more information, contact info@figshare.com.

springernature.figshare.com

Springer Nature and their figshare implementation

Springer Nature implemented figshare's Portal and Viewer in late 2016 for BioMed Central (BMC) and SpringerOpen journals.

The Portal allows each journal to have its own page that aggregates all the data published in that journal and visualizes it in the browser. The Viewer visualizes the data directly in the journal articles without readers having to download the files.



Springer Nature's portal is a collection of open access supplementary material and other data files made available through figshare. Their portal is accessible at: springernature.figshare.com

Springer Nature has focused on implementing the Portal and Viewer on open access journals where the supplementary data is licensed to be shared openly. There are more than 600 journals that are now implemented, with access to both the Portal and the Viewer.

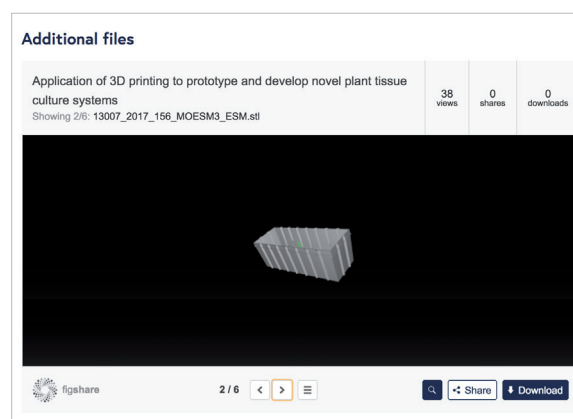
"Ensuring we raise awareness of, and remove barriers to, data sharing is one of our primary goals at Springer Nature. Enabling authors and their communities to effectively share and find data will provide huge benefits to researchers, their communities and the wider public."

Iain Hrynaskiewicz, Head of Data Publishing

Impact of exposing and sharing data

The ultimate goal is to make this content more discoverable, citable, and reusable by pulling it out of the article and visualizing it. Using the figshare Portal and Viewer has done just that:

there are over 1 million views and over 200,000 downloads of data in the Portal.



Springer Nature's widget allows users to interact with the data in the browser without having to download the content. figshare previews over 1,000 different file types in the browser.
doi.org/10.6084/m9.figshare.c.3669856_D2

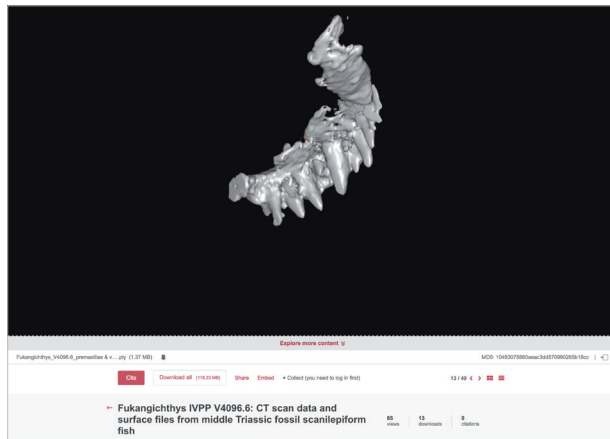
Springer Nature completed a survey of the Viewer with over 320 of their authors. The following are the key takeaways:

- **Appearance:** 68% rated as good or very good
- **Usage/engagement:** 76% are more likely to look at additional files
- **Submissions:** 62% more likely to submit a manuscript

Development work with figshare

Springer Nature has recently used their figshare platform to develop Springer Nature Research Data Support. This is currently a pilot service that supports the exposure and enhancement of electronic supplementary data to deposit in repositories, submit to meet funder requirements, and improve the data within journal articles - data which would otherwise have not been suitable or too large for standard journal submissions.

Authors can submit to the service without having to login. The submission portal provides a safe and secure way to upload data that is curated and managed by the Springer Nature Research Data team.



CT scans of a Triassic fossil were submitted through the service and are now visualised in the browser.
<https://doi.org/10.6084/m9.figshare.c.3814360>

I had a really great experience using Springer Nature Research Data Support. The process was straightforward, and the team were very helpful at guiding me through the process and dealing with my enquiries. The resultant data package is very easy to access and navigate. I opted to use the service because I wanted to make sure that the data accompanying my paper are as accessible as possible, and this presents an ideal way of facilitating access."

Dr Samantha Giles, Research Fellow, University of Oxford

Impact so far

Interest in the service has been positive. To date, 90 datasets have been submitted, 50 of which have been enhanced and published, including links to 22 articles and 19 conference papers, previously published by Springer Nature. Published datasets have been viewed and downloaded more than 3,400 times so far and have been highlighted in various news stories about their related research.

Springer Nature is also using this service to support The International Semantic Web Conference (ISWC) 2017 and The European Conference on Machine Learning & Principles and Practice of Knowledge Discovery in Databases (ECML PKDD) 2017. Materials from this conference are available at:

springernature.figshare.com/semweb.

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12	12	0	0	0	0	0	0	1	P1110000.0.1
13	13	0	0	0	0	0	0	0	P1110000.1.0
14	14	0	0	0	0	0	0	0	P1110000.1.0
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20	20	0	0	0	0	0	0	1	P1110000.0.1
21	21	0	0	0	0	0	0	1	P1110000.0.1
22	22	0	0	0	0	0	0	1	P1110000.0.1
23	23	0	0	0	0	0	0	1	P1110000.0.1

The second example is an Excel spreadsheet containing data on *Microcebus murinus*, a species of lemur.
<https://doi.org/10.6084/m9.figshare.5259415>

"[Springer Nature Research Data Support] provided an uncomplicated yet highly efficient way to share and archive my data. The whole process went smoothly and the team was always available and helpful. I really enjoyed the minimal effort and time I spent on the data submission, which resulted in high quality outputs."

Dr Hasina Josué Rakotoniaina, University of Göttingen

Future plans for the Springer Nature Research Data Support

Further testing will be conducted with participants to continue to develop the pilot. Other plans include:

- Implementing the figshare Viewer into more Springer Nature journals.
- Expanding to support use of other repositories, including institutional and subject-specific repositories.
- Roll Research Data Support out to more journals, providing support to more authors.
- Make the Research Data Support available to any researcher, not just those publishing with Springer Nature.
- Explore how we can help institutions and funders through Research Data Support.

If you'd like to know more about Springer Nature's use of figshare or Springer Nature Research Data Support, please contact:

researchdata@springernature.com
info@figshare.com