Making data easy to share in the form of articles

We explore the options available to authors who want to submit a data article alongside their original research manuscript

By Elena Zudilova-Seinstra, PhD and David Parsons  December 6, 2016

Traditional peer-reviewed journals don’t always fully address the different stages of the research cycle and the variety of data and other outputs produced along the way.

Instead, these outputs often remain hidden in dark cabinets and dusty lab books. Yet sharing research data in particular is vital as it increases transparency, allowing others to reproduce results and build upon research already completed.

To help support this sharing, Elsevier introduced data articles (https://www.elsevier.com/books-and-journals/research-elements/data-articles), as part of the Research Elements program (https://www.elsevier.com/books-and-journals/research-
elements). Data articles are brief, peer-reviewed publications about research data. Thanks to a detailed dataset description, the data published with these articles can be reused, reanalyzed and reproduced by others. They also complement full research papers, providing an easy channel for researchers to publish their datasets and receive proper credit and recognition for the work they have done. This is particularly true for replication data, negative datasets or data from intermediate experiments, which often go unpublished, even if they are directly related to a research paper that has been submitted to an Elsevier journal.

There are two data article submission options available to researchers:


- Nearly 300 journals (https://www.elsevier.com/books-and-journals/research-elements/data-articles/DIB-co-submission) offer their authors the opportunity to co-submit a data article alongside their original research article. That data article is published in Data in Brief and appears on ScienceDirect linked to the original research article. Already more than 700 authors have taken advantage of this route.
The *Data in Brief* co-submission workflow


2. Authors upload the data article as a single document or zip file with the other documents they are submitting (manuscript file, cover letter, figures etc.). They select the item type ‘Data in Brief’ in the drop-down menu.

3. Authors can submit their completed data article at original submission or revised submission stage.

4. If the research article is accepted, the data article files are sent directly to the *Data in Brief* journal for editorial review and/or external peer review; any necessary revisions are requested of the authors.

Each data article links to the relevant data in a repository or includes the data in the article itself, as well as linking to the original article on ScienceDirect. This makes it easier for other researchers to find the information relevant for their research. And since data articles have a DOI, citations link the data to all subsequent research that applies it, making it even easier to reuse and reproduce results.

**What's next?**

We are working on further simplifying the submission of data articles, and expanding the co-submission services to software, materials and methods articles. Currently, a dozen biomedical journals allow their authors to co-submit a method article next to their original research paper for peer review and publication in *MethodsX*.

---

**About the Research Elements program**

Elsevier created a series of Research Elements articles (https://www.elsevier.com/authors-update/home/featured-article/How-new-article-types-help-make-science-more-reproducible) to help unlock “hidden treasures.” These short articles are designed to allow researchers to publish – and get credit for – their datasets, software, experimental designs, protocols, materials and methods, and they are proving very popular.
Since the program started in early 2014, more than 2,500 Research Elements articles have been published, including 1,300 in 2016 alone. They are popular among early career researchers as well as data scientists and software developers and around 20 percent of the authors have never published before. Submissions come from around the world, with many originating in Europe, the US, Australia, Canada, China and Japan.

Elsevier has three main open access multidisciplinary journals which exclusively publish Research Elements articles:

- **MethodsX** ([http://www.journals.elsevier.com/methodsx](http://www.journals.elsevier.com/methodsx)) covers all experimental disciplines, publishing the details of methods and protocols in a brief, citable article format.

- **SoftwareX** ([http://www.journals.elsevier.com/softwarex](http://www.journals.elsevier.com/softwarex)) aims to acknowledge the impact of software on today's research practice and on new scientific discoveries in almost all research domains. **SoftwareX** also aims to stress the importance of the software developers who are, in part, responsible for this impact.

- **Data in Brief** ([http://www.journals.elsevier.com/data-in-brief](http://www.journals.elsevier.com/data-in-brief)) provides a way for researchers to easily share and reuse each other's datasets by publishing data articles that describe data, facilitating reproducibility.

Research Elements articles are also welcomed in a number of Elsevier's subject-specific journals. The complete overview of participating journals can be found on the Research Elements website ([https://www.elsevier.com/books-and-journals/research-elements](https://www.elsevier.com/books-and-journals/research-elements)).

Would you like to learn more about the **Data in Brief** and **MethodsX** co-submissions or have this new service for authors implemented in your journal? Please contact us at ☐ Research-Elements@Elsevier.com (mailto:Research-Elements@Elsevier.com)

We have also created a short YouTube video on Research Elements, which you can view below.
Research data and citations

Elsevier supports data citation (https://www.elsevier.com/connect/making-data-citation-a-reality) and authors are encouraged to cite the underlying data in the text of the article and in the reference list. These references look the same as other references, but have a specific tag so they can be recognized as a data references. This way, data citations can be counted which provides an additional way for authors to get credit. It also provides a persistent and consistent link to the data which makes it easy for readers and reviewers to find it.
Free online course: “Integrating gender into your scientific research” (https://www.elsevier.com/connect/free-online-course-integrating-gender-into-your-scientific-research)

How smart data can lead to serendipitous discovery (https://www.elsevier.com/connect/how-smart-data-can-lead-to-serendipitous-discovery)
Seasonal science to get in the holiday mood

#AcWriMo 2016

‘Tis the season for sharing...your top writing tips
Contributors

Elena Zudilova-Seinstra, PhD

Dr. Elena Zudilova-Seinstra for Research Data at Elsevier. In her current role, she focuses on delivering tools that help researchers to share and reuse research data. She is managing the Elsevier’s Research Elements Program. Before joining Elsevier, Elena worked at the University of Amsterdam, SARA Computing and Networking Services and Corning Inc. Elena holds an MSc degree in Technical Engineering and a PhD degree in Computer Science from the St. Petersburg State Technical University.

Follow me on
LinkedIn
David Parsons

David Parsons, based in New York City, is the Publisher of Data in Brief, along with a number of other journals in genetics and genomics. Before joining Elsevier, he worked as an Editor for journals in several other areas, including orthopedics, sports medicine, food science, and chemistry. He holds a Bachelors of Arts from Hunter College, also in New York City.

Sign Up for E-mail Updates (/connect/sign-up-for-community-updates)

(http://www.printfriendly.com)