

Helmholtz Open Science Newsletter of June 15, 2022

Dear colleagues,

This is the 92nd Helmholtz Open Science Newsletter brought to you by the Helmholtz Open Science Office in German as well as in English. With this newsletter, we provide you with a regular overview of the most important open science developments.

You can find the current newsletter and the newsletter archive on the Helmholtz Open Science Office [website](#).

We appreciate you forwarding this newsletter to anyone interested.

For more information on the topic of open science: The internal mailing list os-pro-helmholtz “Helmholtz Open Science Professionals” supports members of the Helmholtz Association who are interested in open science topics, such as open access, open research data and open research software. In addition to information on current developments, practical discussions and information exchanges are facilitated. You can register for the mailing list [here](#). (**Please note:** This list is only available for employees of the Helmholtz Association).

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1. DFG Position Paper on Academic Publishing

The further development of publication and evaluation systems, also against the background of changing framework conditions due to openness, is the subject of national and international discussions. With its position paper "[Academic Publishing as a Foundation and Area of Leverage for Research Assessment: Challenges and Fields of Action](#)", the DFG offers a comprehensive orientation. The position paper provides a variety of impulses for the science-appropriate development of the publication system.

2. EU Science Ministries Strengthen Open Science

The EU science ministries discussed the reform of research assessment and the topic of open science in the [Competitiveness Council](#) on June 10, 2022. The "[Conclusions on Research Assessment and Implementation of Open Science](#)" have been adopted. These conclusions take a broad view of research performance in the context of open science and thus also emphasize the importance of the open publication of research data and software. The [FAIR principles](#) are highlighted in the accessibility and re-use of digital research data. In the area of scholarly publishing, activities to promote transparency and cost reduction in the business relationship with publication service providers are acknowledged. The [OpenAPC](#) initiative, in which several Helmholtz Centers participate, is mentioned as an example.

3. Lively Interest in Workshops on Open Access Budget Development

The [online workshops on "Budget development in the context of the open access transformation"](#) (in German) organized by the Helmholtz Open Science Office as part of the BMBF-funded [open-access.network](#) project have been met with lively interest. All five events in April and May 2022 were fully booked with around 30 participants each. During these workshops, library staff and other stakeholders from universities and research institutions discussed the development of the library budget and – respectively – the future information budget with the goal of an open access transformation.

In the workshops, it became clear that the open access budget development does not only concern numbers. At the institutions, the open access implementation extends beyond the information budget and is a leadership task. Communication, transparency, and the active inclusion of all stakeholders are important for success.

The [presentation slides](#) (in German) of the workshops have been published in open access and are linked on the event website. The Helmholtz Open Science Office is involved in [open-access.network](#) as a [project partner](#).

4. Open Access Transformation for Books

After the open access transformation of journals, which has already been active for years, the open access transformation of books is now increasingly coming into focus. For this reason, five experts in the field of institutional publication infrastructures have presented a position paper on the open access transformation of books. Based on an inventory of institutional publication services, a position paper identifies current fields of action and scope for research institutions in the area of non-commercial infrastructures for open access books.

Citation: Arning, U., Bargheer, M., Meinecke, I., Schobert, D., & Tobias, R. (2022). Open Access Transformation for Books: The Role of Institutional Presses and Publishing Services. Zenodo.

<https://doi.org/10.5281/zenodo.6346271>

5. DESY Involved in DFG Project openCost

The DFG project openCost aims to create a technical infrastructure to make publication costs freely accessible using standardized formats and open interfaces. This enables cost transparency on an institutional, on a national, and on an international level. To this end, Deutsches Elektronen-Synchrotron (DESY) and partners are developing a metadata schema to record, retrieve, and map all publication costs of a scientific publication in a structured form. This includes not only open access publication charges (APCs) or costs from transformation contracts, but also additional costs such as page or color charges. This data will be made freely accessible via OAI interfaces. Bielefeld University Library will extend [OpenAPC](#) to openCost as part of the project and become one of the first users of the data. The data will also be included in the [Open Access Monitor](#) operated by Forschungszentrum Jülich. In addition, the University Library of Regensburg plans to extend the Electronic Journals Library (EZB) with special functions for displaying publication costs as well as information on local funding options. Thus, all participating institutions can use the EZB as a central platform for communicating this information to researchers. Further information can be found at opencost.de.

6. Project EcoDM Publishes Final Report and Recommendations

At the end of its funding phase, the BMBF project [EcoDM – Ecosystem Data Management: Analyses – Recommendations – FAIRification](#) has published its comprehensive [final report](#) documenting the scientific work of the project. The goal of the project, implemented by the [German Archaeological Institute](#), the [Potsdam University of Applied Sciences](#) and the [Helmholtz Open Science Office](#), was to identify factors that influence the sharing or reuse of research data in and between the fields of business, science, and the public sector. In addition, the qualification requirements with regard to the management and curation of data have been investigated for these three aforementioned fields. Based on these research findings, recommendations have been developed for these study areas as well as across areas. The cross-cutting [recommendations](#) have been published separately in addition to the final report.

7. Helmholtz Contributions to FAIR Research Data in the Materials Sciences

Two recent publications, with the participation of Helmholtz researchers, describe concepts of FAIR research data in the field of materials science:

In an article published in the journal "Nature", Axel Groß ([Helmholtz Institute Ulm](#)) and Christof Wöll from the Karlsruhe Institute of Technology ([KIT](#)), jointly with colleagues, address the design of FAIR principles in materials science under the title "[FAIR data enabling new horizons for materials research](#)". A summary of their reflections can also be found in the Helmholtz blog "[Compass of the Research Field Information](#)".

A specific look at the realization of FAIR Data in the field of energy materials is offered by Gerrit Günther and colleagues from Helmholtz-Zentrum Berlin (HZB), among others, with partners from Helmholtz Institute Erlangen-Nürnberg (HI ERN). Using the Energy Materials In-Situ Laboratory Berlin ([EMIL](#)) at the electron storage ring BESSY II as an example, they describe requirements for the sustainable handling of research data in the context of large-scale scientific facilities in an article entitled "[FAIR Meets EMIL: Principles in Practice](#)".

8. EnMAP Space Mission Provides Environmental Data

Launched on April 1, 2022, the [EnMAP space mission](#) has delivered its [first images](#). The Environmental Mapping and Analysis Program (EnMAP) is a German hyperspectral satellite mission that aims at monitoring and characterizing Earth's environment on a global scale. EnMAP measures and models key dynamic processes of Earth's ecosystems by extracting geochemical, biochemical, and biophysical parameters that provide information on the status and evolution of various terrestrial and aquatic ecosystems. EnMAP provides unique data needed to address major environmental challenges related to human activity and climate change. The mission's main objective is to study and decipher coupled environmental processes and to promote the sustainable management of Earth's resources.

The satellite system is developed in Germany under the aegis of the [German Space Agency at DLR](#). The [German Research Centre for Geosciences \(GFZ\)](#) in Potsdam has the science leadership, supported by a Science Advisory Group (EnSAG). The ground segment, responsible for satellite control and data capture, will be operated by the [German Space Operations Center](#) at the DLR in Oberpfaffenhofen. The project is financed by the [Federal Ministry of Economic Affairs and Climate Action](#) (BMWK) with contributions from [OHB System AG](#), GFZ and DLR.

The [German Remote Sensing Data Center](#) and the [Remote Sensing Technology Institute](#) at DLR will archive, process and validate the received satellite data and make it available to the scientific community. Companies and government agencies will also be able to reuse the data. The future use of EnMAP hyperspectral data and the development of special applications will be supported by BMWK funding programs.

9. SCOAP³ Extended until 2024

The [SCOAP³](#) consortium has now announced that the term of the "Sponsoring Consortium for Open Access Publishing in Particle Physics" has been extended until the end of 2024. The largest disciplinary open access initiative of libraries, research funders, and science organizations, SCOAP³ aims to publish all high-energy physics articles in open access. Through contracts with publishers, SCOAP³ promotes open access publications in currently 11 journals, in which scientists can publish their results in open access and thus make them freely accessible and reusable for a worldwide readership.

In May 2022, SCOAP³ exceeded the number of [50,000 published research articles](#). In addition to open access journal articles, SCOAP³ has also been funding the [conversion of textbooks and monographs](#) from closed access to open access for the past two years.

10. Studies Published on the Copyright Knowledge Society Act

In the course of updating German copyright law with the [Copyright Knowledge Society Act - UrhWissG](#) (resolution of the law September 2017 ; entry into force March 2018), [Section 142 of this Copyright Act](#) stipulated an evaluation of the effects of the UrhWissG by the Federal Government within four years. Within the federal government, this task was assigned to the Ministry of Justice (BMJ). In April 2022, the BMJ published its [evaluation report](#). The Ministry's [website on the process](#) also publishes the comments submitted by interested stakeholders as part of a public consultation by the Ministry for this evaluation. The [statement of the Alliance of Science Organizations](#) is also accessible there. In addition to the evaluation by the BMJ, the BMBF commissioned the law firm [iRights](#) to prepare a [study on the UrhWissG](#), which was published in May 2022. iRights conducted 21 expert interviews for the preparation of the study. One interview was conducted with an employee of the Helmholtz Open Science Office.

11. Volkswagen Foundation Adopts an Open Science Policy

The Advisory Board of [VolkswagenStiftung](#) has adopted an [Open Science Policy](#) in November 2021. In addition to open data, the policy also addresses open access and open source, with the aim of positively supporting – from the very beginning – “open science by design”, i.e., the open design of the entire research process. The foundation refers to the [UNESCO definition of Open Science](#). In order to constructively support grantees in the dynamic transformation process within data-intensive science and beyond, the foundation will develop further funding opportunities for various fields of open science. The first ideas can already be implemented as part of the “[Pioneer Projects – Impetus for the German Research System](#)”.

12. NASA: Transform to Open Science

“Open-source science requires a culture shift to a more inclusive, transparent, and collaborative scientific process, which will increase the pace and quality of scientific progress.”

This example of NASA shows how organizations and communities [pave the way to open science](#). With an open science campaign called [Transform to Open Science \(TOPS\)](#) which will run for several years from 2022 to 2027, open science and its practical implementation in the relevant scientific community will be advanced significantly. Research data and research software are obvious focal points. A first highlight will be the NASA Year of Open Science planned for 2023. However, TOPS and the Year of Open Science are only a starting point. NASA has made a long-term commitment to support the advancement of open science over the next decade.

13. COAR Project Notify Receives 4 Million US Dollars Grant

[Project Notify](#) aims to improve the ability of information infrastructures to communicate with each other. The British [Arcadia Fund](#) considers the project initiated by [COAR](#) (Confederation of Open Access Repositories) to be so significant that [a grant of four million US dollars has been awarded](#). Networked information infrastructures are indispensable for the realization of open science. Project Notify aims to develop a new protocol that extends the communication capability between computers implementing the protocol. The goal is not only to retrieve information, but also to be able to have automated "conversations". As a first use case, communication between preprint repositories and overlay journals shall be realized. The two actors are to be enabled to automatically offer or retrieve manuscripts for review, to exchange results of reviews, and to include new versions of the article to be reviewed in the exchange in order to map a complete review process.

14. Retrospective: Helmholtz Forum Research Software

In April 2022, the Helmholtz Forum Research Software, jointly organized by the [Task Group Research Software](#) of the Helmholtz Working Group Open Science and the [HIFIS](#) Software Cluster, hosted another Helmholtz Open Science Forum on the topic of research software. The virtual forum was dedicated to three aspects of the open and sustainable use of research software in the Helmholtz Association: policy, practice, as well as infrastructures and tools.

The event was the second in a series of Helmholtz Open Science Forums on this topic. With just over 100 participants, the event was very well-attended and provided a platform for information and networking on the topic for interested individuals from various fields of work related to research software. The event was organized by the Helmholtz Open Science Office. The detailed documentation of the forum is now [available](#) (in German). Already in May 2021, a forum on the topic took place under the title "Policies for Research Software". Furthermore, an [article via helmholtz.de](#) provides an overview of current activities at Helmholtz around the sustainable use of scientific software.

15. Retrospective: Workshop “Enabling reproducibility in data science”

On June 9, 2022, the Helmholtz Open Science Office and [Helmholtz Information & Data Science Academy \(HIDA\)](#) organized the Helmholtz-internal event "Enabling reproducibility in data science – learn why it matters and how you can do it". In keynote talks and workshops, the speakers investigated the topics of digital reproducibility and best practices for data science with about 80 participants. The event, with contributions by Silke Christine Gerlich, Tobias Schlauch, Heidi Seibold, Peter Steinbach, and Annika Strupp, as well as a keynote lecture by the Helmholtz Open Science Office, provided a comprehensive introduction to the complex of open science and reproducibility; the slides and accompanying materials for the workshops are documented [via the event page](#) and can be reused.

16. Retrospective: Helmholtz Open Science Office at the 8th German Library Congress

The Helmholtz Open Science Office participated in this year's [8th German Library Congress](#) (from May 31 to June 2, 2022), which was also the 110th German Librarians' Day, with several contributions. The slides of the presentations are available (in German only):

Böttcher, C., Holzer, A., Schultze-Motel, P. (2022). [Open Access: Fördermöglichkeiten für eine offene Wissenschaft.](#)

Schrader, A., Pampel, H., Vierkant, V. (2022). [Vernetzte und offene Wissenschaft: PIDs für Open Science.](#)

Strecker, D., Schabinger, R., et. al (2022). [Develop & Curate – Einträge für Forschungsdatenrepositorien in re3data erstellen, bearbeiten, durchsuchen und nachnutzen.](#)

17. Retrospective: 6th ORCID DE Workshop

On May 4, 2022, the sixth and last [ORCID DE](#) workshop was held on the topic of "ORCID in extended contexts - results and outlook of persistent identifiers in science and culture". The DFG-funded project will end in November 2022.

More than 280 participants from Germany, Austria, and Switzerland attended the event to learn about and exchange information on various application scenarios in which ORCID and other persistent identifiers (PIDs), such as the organizational identifier, [ROR](#), can be implemented. The integration of PIDs in the workflows of the ongoing Open Access transformation, in the [National Research Data Infrastructure \(NFDI\)](#) as well as in services of the [integrated authority file \(GND\)](#) and net publications were discussed. There were also two practical reports on recent ORCID implementations. The workshop slides have been linked on the [event page](#) (in German only).

ORCID DE project partners are [DataCite](#), [the German National Library \(DNB\)](#), [the Helmholtz Open Science Office](#), [the German National Library of Science and Technology Hannover \(TIB\)](#), and [the Bielefeld University Library](#). The project was initiated by the [Deutsche Initiative für Netzwerkinformation \(DINI\)](#) and is funded by the [German Research Foundation \(DFG\)](#).

18. Retrospective: CampusSource Conference 2022

On March 17, 2022, the [CampusSource Conference 2022](#) took place, during which the campusSOURCE Award – supported by [CampusSource e.V.](#), [de-RSE e.V.](#) and the [Helmholtz Open Science Office](#) – was presented (see [press release](#), in German only). The online event focused on presentations of the award-winning contributions. Further presentations framed the event, such as by Bernadette Fritzsch (AWI & de-RSE e.V.), who addressed the issues of diversity and visibility of women in the development of research software with the question "Hidden Figures - where are they?".

All [presentations](#) have been recorded.

Recommended Reading

Carver, J. C., Weber, N., Ram, K., Gesing, S., & Katz, D. S. (2022). A survey of the state of the practice for research software in the United States. *PeerJ Computer Science*, 8, e963. <https://doi.org/10.7717/peerj-cs.963>

European Commission, Directorate-General for Research and Innovation. (2022). Open science and intellectual property rights. How can they better interact? State of the art and reflections. Executive summary. <https://doi.org/10.2777/347305>

European Commission. Directorate General for Research and Innovation. (2022). Study on factors impeding the productivity of research and the prospects for open science policies to improve the ability of the research and innovation system: Final report. <https://doi.org/10.2777/58887>

Pampel, H. (2022). From library budget to information budget: fostering transparency in the transformation towards open access. *Insights*, 35, 8. <https://doi.org/10.1629/uksg.576>

Mittermaier, B. (2022). DEAL - Ein persönliches Zwischenfazit. <http://hdl.handle.net/2128/31158>

Rutz, A., Sorokina, M., Galgonek, J., Mietchen, D., Willighagen, E., Gaudry, A., Graham, J. G., Stephan, R., Page, R., Vondrášek, J., Steinbeck, C., Pauli, G. F., Wolfender, J.-L., Bisson, J., & Allard, P.-M. (2022). The LOTUS initiative for open knowledge management in natural products research. *eLife*, 11, e70780. <https://doi.org/10.7554/eLife.70780>

White House Office of Science and Technology Policy (OSTP). (2022). Desirable characteristics of data repositories for federally funded research. Executive Office of the President of the United States. <https://doi.org/10.5479/10088/113528>

Wuttke, J., Cottrell, S., Gonzalez, M. A., Kaestner, A., Markvardsen, A., Rod, T. H., Rozyczko, P., & Vardanyan, G. (2022). Guidelines for collaborative development of sustainable data treatment software. *Journal of Neutron Research*, 24(1), 33–72. <https://doi.org/10.3233/JNR-220002>

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