

Open Science at the IOS

Guidelines and measures

1. Preamble

Our society, along with all scientific disciplines, has always been subject to constant change, the pace of which has accelerated in recent decades due to various factors. Technological and political upheavals, globalization, and shifts in value systems have created a contradiction between the accelerated advancement of knowledge on one hand and increasing skepticism towards science among large segments of the population on the other.

Against this backdrop, the open communication of scientific principles and results becomes all the more significant. With its culture of openness, Open Science enhances awareness of the necessity of academic freedom and the societal relevance of transparent research findings and scientific work. Barrier-free accessibility reinforces the legitimacy of scientific work and evidence-based knowledge, particularly those funded by public money, to effectively counteract science skepticism. The sub-areas and measures of Open Science, which have emerged and proven effective in recent years, provide researchers, scientific support staff, and research-related services with the tools to promote a culture of open science.

The present Open Science guideline is therefore directed not only at all employees of the IOS but also at all (potential) users and cooperation partners of the institute. It outlines a strategic field of action and motivation for the institute within the national and international context of open and accessible science. It is based on the Leibniz Association's mission statement on Open Science¹, the recommendations of UNESCO², the position of the German Research Foundation³, and the Open Science policy of the European Union⁴.

2. Fundamentals and principles

In recent years, the IOS has achieved significant successes in implementing Open Science principles. Researchers increasingly present their findings through Gold Open Access or secondary publications. The institute has executed projects and developed infrastructures in the areas of Open Access and research data. Additionally, the IOS established an Open Science Office within the Library and Electronic Research Infrastructure department. Building on these foundations, the IOS is committed to sustainably establishing tools for opening up the scientific process and promoting an interdisciplinary scientific culture characterized by the principles of dialogue, exchange, and sharing.

A central concern of Open Science is the openness of scientific processes to other actors in science and society. In this way, social and moral responsibilities can be fulfilled, research quality promoted, and the sustainability of science ensured. By emphasizing transparency, Open Science significantly contributes to

¹ *Leibniz Open Science. Ein Leitbild für offene Forschung* (engl. *Leibniz Open Science. A guiding principle for open research*); Leibniz Association; November 24th 2022. ♦ Link to Zenodo: <https://zenodo.org/records/10555339> (german)

² *UNESCO Recommendation on Open Science*; UNESCO; 2021. ♦ Link to: <https://doi.org/10.54677/MNMH8546> (english).

³ *Open Science als Teil der Wissenschaftskultur. Positionierung der DFG* (engl. *Open Science as part of scientific culture. Positioning of the DFG*); German Research Foundation; October 17th 2022. ♦ Link to Zenodo: <https://doi.org/10.5281/zenodo.7193838> (german).

⁴ *The EU's open science policy*; European Commission; Strategy 2020-2024. ♦ Link to: [EU Open Science Policy](#) (english; status: November 2023)

good scientific practice. Increased transparency allows research processes to be understood, thereby reinforcing the integrity of knowledge. Especially in times when lies, "alternative facts", and conspiracy theories spread dynamically through the media and Internet, and the vast availability of freely accessible information, combined with increasing political polarization and disinformation campaigns, often leads to less, rather than more, understanding, it is essential to strengthen the reliability of research and trust in the sciences.

Open Science aims to give scientifically generated and critically reflected knowledge validity through dialogue and openness. Essential to the credibility of such an approach is that Open Science is based on equal opportunities, equality, and diversity. This ensures that knowledge, even beyond its immediate applicability, can strengthen social cohesion and the sustainability of knowledge acquisition. For IOS, openness also means considering and engaging with other perspectives and being sensitive to the cultural embedding of knowledge. In our long-standing tradition as a regional studies institution, we particularly embrace knowledge communicated in the languages of the region and interact with the societies of the research area. Thus, Open Science also facilitates translation between different contexts.

The opening of scientific methods and results must simultaneously be accompanied by quality assurance. Particularly with greater permeability in scientific spheres and knowledge transfer, adherence to high-quality research standards is of great importance. An open scientific culture and communication enable researchers to make their results reproducible and sustainable throughout their careers, as well as reusable and verifiable by others. Open Science methods unlock new possibilities for the collaborative development and execution of research projects, ensuring more efficient processes and resource utilization, and integrating diverse perspectives. Through intensive collaboration with individuals in science and society, Open Science fosters innovation and incorporates societal needs into research design, including critical reflection on these issues and their intended and unintended consequences.

3. Dimensions of Open Science and measures at the IOS

As a multidisciplinary research institution focused on the research region of Eastern and Southeastern Europe, the IOS views Open Science as a strategy with a comprehensive set of measures. To this end, research-related consulting and services are offered and continuously developed. The integration of these into the daily research activities of IOS researchers is increasingly reinforced and progressively strengthened by measures from all responsible parties. The Open Science Working Group, which includes members from all departments of the IOS, designs and evaluates measures to raise awareness of Open Science at the institute and consolidate existing initiatives. The IOS provides its staff with comprehensive information, services, and consulting on Open Science and is committed to integrating Open Science from all perspectives of the institute. In this context, the institute offers support for organizational, practical, legal, and research-ethical issues.

Open Access

Over the past decades, Open Access has become an established publication model in the sciences. The IOS strongly supports the scientific policy efforts of the Leibniz Association and the scientific community in Germany and Europe to promote public accessibility of scientific and research results. To this end, it has established an Open Access publication fund, an institutional repository, and corresponding advisory structures. To further promote an open publication culture at the IOS, the following measures are planned for the future:

- The IOS will continue to provide financial support to its researchers for various publication forms. Within its means, the IOS will allocate its own funds for the Open Access publications of its staff. By participating in the DEAL contracts, publishing in Open Access is also promoted.

- The IOS and its departments will provide infrastructures, processes, and services to facilitate the transition of the institute's staff to project-related or project-concluding Open Access publications and to enable transformation processes toward Open Access publications.
- Researchers at the IOS are encouraged to consider Open Access as a primary or supplementary publication option in the research process. This includes considering Open Access already in the project planning stage and securing funds for it in third-party funding applications.
- When signing contracts with publishers, researchers at the IOS are urged not to grant exclusive usage rights to their publications, thereby retaining the right to decide on further use independently at a later date. The IOS particularly supports its researchers in using free and individual licenses (e.g., Creative Commons).
- Researchers at the IOS are motivated and supported in exercising secondary publication rights for already published works and making them accessible in Open Access through institutional or other repositories.
- Open Access publications from the IOS will be published in the institutional repository, OstDok, or another relevant subject repository, depending on the context of the publication, and will be documented through LeibnizOpen.
- As part of its research monitoring, the IOS collects data on Open Access and documents publications that have appeared in Open Access accordingly.
- The necessity and feasibility of a subject-specific or cross-disciplinary publication policy for the institute will be evaluated.
- Transforming the publication series managed by the IOS to Open Access is considered a desirable goal, although its realization depends on the financial and technical capabilities of the institute (one journal has already been converted to Open Access).

Open Data

Research data are a fundamental component of every research project. The quality and credibility of scientific findings strongly depend on the underlying data and the traceability of their evaluation. Accordingly, the IOS adheres to the guidelines of the Leibniz Association on research data and research data management.⁵ At the IOS, research data should be made available to third parties whenever possible. To further raise awareness of transparent and ethical handling of research data at the IOS, the following measures will be implemented and intentions outlined as part of the Open Science Policy:

- The IOS centers its Open Data efforts on the FAIR principles⁶ of data management, aiming to improve the findability, accessibility, interoperability, and reusability of research data at the IOS.
- The IOS develops processes and structures to facilitate the establishment of research data management in the institute's daily scientific activities and offers infrastructures that enable interdisciplinary and inter-institutional collaboration. This includes evaluating and improving, if necessary and possible, the financial framework conditions for these activities.
- The IOS continues to take measures to ensure and optimize data protection for individuals and projects at the institute, as well as for other involved persons and institutions.
- The IOS recommends its researchers to utilize the institute's existing support services for research data management throughout all phases of a research project, thereby adhering to current standards of good scientific practice.

⁵ *Leitlinie zum Umgang mit Forschungsdaten in der Leibniz-Gemeinschaft* (engl. *Guideline for handling research data in the Leibniz Association*); Leibniz Association; Berlin; November 29th 2018. ♦ Link to: [Research data guidelines](#) (PDF; german)

⁶ *The FAIR Guiding Principles for scientific data management and stewardship*; Wilkinson, M., Dumontier, M., Aalbersberg, I. et al.; *Sci Data* 3; 2016 ♦ Link to: <https://doi.org/10.1038/sdata.2016.18> [english; status: November 2023]

- Depending on the project context, research data at the IOS will be archived in appropriate institutional or subject-specific repositories and, as far as possible, published through repositories such as LaMBDa and relevant subject repositories.

Open Source

In research projects at the IOS, researchers often face the question of which software offers the best tools and solutions for the pending issues. This also entails whether commercial software or open-source alternatives can be used or if software needs to be developed specifically for the individual project. The IOS is committed to ensuring that researchers perceive open-source software as an alternative to commercial solutions, implement them in their projects where possible, and customize and further develop them according to the project's needs. Any customization and further development should then be contributed back to the open-source community for future reuse and enhancement. Similarly, software solutions developed in-house or as part of an IOS research project should, if possible, be made available in open-source or open-code format.

Open Methodology

To ensure the reproducibility and sustainability of research results, clear and transparent descriptions are necessary from the beginning of a project, through data collection and analysis. However, due to the individuality and diversity of the research community as a whole and its methods even within a discipline, comprehensive coverage of these descriptions may not be feasible. The IOS advocates for research conducted by its staff to be as transparent as possible within legal or ethical regulations. Processes will be developed to optimally accompany the lifecycle of a research project by other researchers or research-related services. To achieve this, the IOS will evaluate necessary measures and develop frameworks for optimizing processes and methods.

Open Education

Through its close ties with the University of Regensburg and other academic institutions, the IOS and its researchers are often involved in the education of aspiring teachers and scholars. Additionally, the IOS collaborates with adult education institutions. Education and knowledge are public goods of high societal value, and therefore, the IOS is committed to this domain. Open educational resources related to the research fields of the IOS are of great significance. The institute advocates for initiatives promoting open education, which are considered by its staff as a sub-strategy of Open Science. This includes planned collaboration with schools and teachers.

Open Dialogue / Engagement

Research at the IOS does not exist in a vacuum and is closely linked to the realities of people's lives, not only in the Eastern and Southeastern European region. For this reason, the IOS will engage in improving both internal and external science communication by integrating open forms of participation (such as Citizen Science) into the institute's research projects. The institute supports the involvement of its staff with and in society, provided that such involvement aligns with the institute's tasks, promotes scientific work, does not focus on third-party interests, and respects the principle of political neutrality. Thus, the IOS promotes societal awareness through extensive knowledge transfer. To strategically align science communication and knowledge transfer at the IOS, a dedicated guideline has been issued.

Accessibility and Inclusion

A just coexistence is only possible when barriers of all kinds are recognized, and suitable measures are provided to bridge or break down these barriers according to individual capabilities. Open Science aims for the barrier-free accessibility of research and the participation in scientific dialogue by all people. For this reason, the IOS is committed to recognizing and addressing physical and mental limitations as well as cultural and regional differences within research and knowledge transfer, fostering an open, collaborative scientific community.

Additional dimensions of Open Science

As a non-university research institution in the humanities and social sciences with a regional focus, the IOS is not fully involved in all dimensions of Open Science. Overlaps between individual research projects at the institute and these dimensions have existed in the past and will continue to exist in the future, which is why the IOS will not close itself off to these dimensions. The Open Science Office, together with the Open Science Working Group, monitors and evaluates whether dimensions such as Open Hardware, Open Evaluation, or Open Infrastructure, as well as others that may emerge over the years in the Open Science movement, should be brought into focus in the institute's research activities and knowledge transfer.

4. Responsibilities at the IOS in the context of Open Science

Open Science is a holistic task for the entire institute and all its employees. Therefore, all (non-)scientific staff, regardless of their hierarchy within the institute, are encouraged to support the IOS's engagement in the various dimensions of Open Science to the best of their abilities and to promote their own participation for the benefit of a cooperative working atmosphere and an open scientific culture. To this end, the IOS implements measures to further optimize communication about Open Science within the institute.

Furthermore, additional open communication processes are promoted, aiming at internal as well as bilateral exchanges between the institute and other scientific and societal institutions and individuals. This promotion is advanced through collaboration among the various departments, the officers for knowledge transfer or public relations, as well as the Open Science Office and the institute-wide Open Science Working Group. The latter working group was first convened in February 2023 and consists of individual representatives from the Political Science Research Group, the departments of History, Economics, and Library, as well as administration. The working group is moderated and convened by the Open Science Office and will meet at regular intervals starting in 2024.

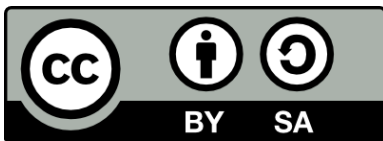
The Department of Library and Electronic Research Infrastructure has made a significant contribution to the IOS's efforts in the field of Open Science. This continues within the framework of numerous consulting and support services, which are consolidated in the Open Science Office. The Office will continue to monitor and evaluate developments in the field of Open Science, provided that they prove beneficial to the daily work of IOS employees or the value of their scientific research.

In the long term, the IOS aims to appoint representatives or a commission from the institute's departments to address ethical issues in the research context, in accordance with the appointed Ombudsperson for Good Scientific Practice in everyday research. In addition, in 2024, an external data protection officer was appointed for the IOS, who will advise on data protection aspects of Open Science among other responsibilities.

5. Evaluation

Open Science and its individual components are becoming increasingly complex and relevant with each passing year. The goals, measures, and responsibilities described in this Open Science Policy are therefore reviewed and evaluated on a regular basis by the board, the Scientific Advisory Board, the Open Science Office, and the Open Science Working Group of the IOS. Current developments on one hand and progress in the implementation of the present guidelines on the other are considered, and changes are recommended if necessary. A user advisory board, yet to be established, is intended to be involved in the evaluation processes of the IOS's Open Science measures in the future.

This Open Science Policy came into effect for the first time on June 3, 2024. It was developed by the Open Science Office in collaboration with the Open Science Working Group and the board. It replaces the Open Access Policy adopted by the board on June 11, 2018, and the Research Data Policy adopted by the board on October 19, 2020.



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