

RMU – OPEN SCIENCE

The strategic alliance of the Rhine-Main Universities (RMU) is committed to free, open and transparent science, which it understands as a key factor for scientific progress and the transformation of society. It supports a culture of science that is characterized by openness and integration in all aspects and stages of scientific practice. The RMU considers itself as a scientific community that, whenever sensible and possible, enables free access to its knowledge resources, data, research results, teaching materials and parts of its infrastructure in order to strengthen transparency, verifiability, reusability and, ultimately, visibility of its research results and to ensure the quality of these results. It considers the transfer of scientific findings and methods to be a part of its social responsibility and supports the mutual exchange between science and society.

The RMU promotes open science in various areas. It encourages the members of its institutions to follow the principles of open science, always observing the principles of good research practice and in responsible consideration as to what extent openness regarding their scientific activity is possible in the individual case. The three universities integrate open science into academic teaching to raise students' awareness about the topic and to teach them methodological competences. They plan to support scientists in all stages of their career in the implementation of open science projects and to make (device) infrastructure available that makes open access to publications, data and educational resources possible and enables open research. Together, they offer information and trainings on practices and questions in connection with open science. Scientific teaching and research activities in the field of open science as well as open access publications of research results and data are taken into account in the evaluation and assessment of scientific achievements.

In particular, the RMU contributes to the goals of open science in the following fields of activity:

Open Access

The RMU supports the transformation towards open publishing and considers the development towards open access publications as an element of open science. Unrestricted access to scientific publications is a basic requirement to ensure that such publications are widely received by the scientific community, and then used in an appropriate research and teaching environment. It also ensures that scientific findings are acknowledged and utilized in society, culture and the industry. The RMU thus encourages its scientists to publish their research results free of any technological barriers, using open licenses (e.g. CC BY) by way of Gold Open Access and/or Diamond Open Access ("scholarly led and owned"). Jointly with other parties involved in the science system, the RMU provides financial support with regard to open access costs, creates the necessary organizational requirements and provides the necessary technical infrastructure and advisory services for open access publishing. The RMU asks its scientists to always make publications that have been published closed access available as secondary publications in the repositories of the RMU's university libraries (Green Open Access). In addition, in line with the initiatives by the different academic disciplines, it supports the use of research methods based on the principles open peer review.

Open Data

The RMU supports the disclosure of its scientists' research data. Research data is any data created in the course of preparing, conducting and postprocessing scientific research. If such data is documented and made easily findable and permanently accessible, the research process becomes more transparent, comprehensible and reproducible. Moreover, publishing such data as open data in standardized form via open interfaces, jointly with the research results derived from the data, enables the science

community to make subsequent use of the data and increases efficiency and transparency of scientific research.

Open Educational Resources

In line with the UNESCO Recommendations on Open Science, the RMU endorses the preparation, distribution and use of Open Educational Resources (OER) and encourages all its university members involved in teaching to publish their own teaching materials under open licenses in reusable formats in OER repositories and to use and further develop existing OERs, always observing the respective licenses. As institutions of education, the universities forming the RMU alliance are committed to academic teaching and offer diverse opportunities for training and further education. If digital teaching and learning materials and curricula are made accessible to everyone, it is possible to subsequently use, edit and distribute them. This promotes the digitalization of teaching and thus increases the efficiency and reach of university education. Knowledge is made accessible to society and educational opportunities are improved.

Open Source

The RMU advises its members to publish the source code created in the context of scientific activities under free licenses and to use free, non-commercial software wherever sensible and possible. Open source code of research software as well as software for establishing and operating scientific infrastructure which, observing the licensing terms, can be used, changed and distributed, reduces dependencies, enables innovation and contributes to the creation of high-quality software products. In addition, open source, fully documented research software facilitates reproducibility of scientific findings.

Open Methodology

The RMU supports the principles of Open Methodology. Full documentation of research methods, research designs and statistical analyses has already been established as an important part of good research practice. If this documentation is publicly accessible at an early stage, this creates the requirements for verifying, reproducing and replicating research results. This leads to increased transparency in the research process and thus contributes to quality assurance of scientific results, accelerates scientific innovation and, through better replicability of the methodological approach, also increases the credibility of science and research among society and the public.

Citizen Science

The RMU supports the involvement of citizens in scientific processes for topics suitable for this purpose and appreciates the resulting mutual enrichment of science and society. There are various ways in which citizens can participate in research, ranging from data collection to participatory knowledge creation to data evaluation or publishing activities. In this manner, citizen science can broaden the research scope of projects and also enables an exchange between civil society and science, which can lead to research becoming more relevant to society, more transparent and more widely accepted.