Presentation of Open Science resources
Information from the Research Commission

Preamble

The term "Open Science" encompasses strategies and procedures aiming at a consistent use of the opportunities offered by digitalisation in order to make all parts of the scientific process as open, comprehensible and reusable as possible via the internet. The intention is to open up new opportunities for science, society and the economy in dealing with scientific findings.

The Hannover Medical School (MHH) pursues open science as an integral part of its good scientific practice and its strive for excellence and is committed to open science in the spirit of the UNESCO 'Recommendation on Open Science'. While open science is already an established practice in some fields of action and has achieved substantial success, in other fields the development process is still in its early stages.

The continuous visualisation, targeted development and networking of all fields of action, as well as the development of synergies, are the **main objectives** of the Open Science Strategy of the Hannover Medical School. The library website acts as a central point of contact for all activities in the area of open science. In addition, further measures to spread the open science idea at the MHH are being planned.

Basic principles

Hannover Medical School follows a comprehensive approach based on the principles of open science and including all aspects of scientific practice and knowledge transfer. Free access to knowledge, the participation of the various stakeholders and their communication are central elements of an open society. The university therefore adheres to the open science principle and acts as openly as possible and as closed as necessary.

1. The principle of freedom of teaching and research anchored in the German constitution remains unaffected by open science. Rather, open science supports academic freedom.
2. Safeguarding good scientific practice and responsible conduct in science are explicit components of open science.
3. The principles of transparency and reproducibility, on which open science is based, enable an efficient research process.
4. Ensuring the protection of the intellectual property of researchers and teachers, as well as the prevention of misuse and the appropriate protection of data, are essential elements of open science.

Fields of action

The basic principle of scientific research and training, open science, develops and unfolds through the interaction of various fields of action. All fields of action contribute to the goals of open science:

- **Open Access Publishing**
  Open Access refers to a publication model in which scientific publications are made available and can be reused free of charge and publicly, without technical or legal restrictions. The MHH completely revised its open access policy (in German only), which was first adopted in 2013, in 2018, thereby supporting the scientific policy demand for open access to scientific publications in line with the 'Berlin Declaration' of October 2003. The MHH library offers researchers advice, publication services and publication funds for their open access publications.
- **Open & FAIR research data**
  Research data should, if possible, be published as open research data in accordance with the FAIR principles. This only concerns the publication of research data and not the storage or archiving of the data, for which MHH IT provides support with a structured process. Free access to this data, as required by third-party funding organisations or publishers, ensures more transparency in research. For sensitive data, a restriction to open metadata is possible. Publishing or at least referencing all hardware and software used in a research process (e.g. devices, operating and research software, analysis code) also strengthens the traceability and reproducibility of research data. To do this, scientists can rely on established subject-specific or interdisciplinary public data repositories as well as the in-house RepoMed repository. The research data policy (in German only) describes further details on how research data is handled at the Hannover Medical School. The library, the Peter L. Reichertz Institute and the MHH IT support the entire research data management process.
- **Open & FAIR software**
  Wherever possible, software developed as part of research should be made publicly available as open research software in accordance with the FAIR principles. Various public software repositories and the in-house RepoMed repository can be used for purpose.
- **Open infrastructure**
  Our open infrastructures, which include the RepoMed repository and our external research database (research information system), enable open access to and exchange of research results and research information. Wherever possible, open-source software is used.
- **Open educational Resources**
  The MHH advocates the opening of teaching materials, which are made available under an open licence for free use. In the 'OER-Portal Niedersachsen' project funded by the MWK Niedersachsen, a portal (twillo) (in German only) for open educational materials was set up under the direction of the TIB.