# Open Science@SimTech: Research meets Infrastructure

Sibylle Hermann[1], Jenny Kopsch-Xhema[1]

[1]) University of Stuttgart, Cluster of Excellence SimTech, Pfaffenwaldring 5a, 70156 Stuttgart, Germany
sibylle.hermann@simtech.uni-stuttgart.de

This abstract seeks to explore the concept and impact of Open Science on the scientific community in general and the specific implementation in SimTech in particular. The importance of Open Science has been widely recognized by many national and international research funders and organizations in recent years, as highlighted in their position papers. Open Science, as defined by UNESCO [1], involves a range of practices aimed at making scientific knowledge openly accessible and reusable for all, promoting scientific collaborations and sharing of information for the benefit of both science and society, and involving non-scientific actors in the scientific knowledge creation, evaluation, and communication processes. The German Research Foundation [2] also recognizes Open Science as an integral part of the culture of science and emphasizes the importance of Open Access (OA) to publications, Research Data, and Research Software, as well as the need for open infrastructures that do not create dependence on individual providers.

Open Science in SimTech implies a commitment to openness, transparency, collaboration, and inclusivity in research, which can lead to more impactful and sustainable scientific discoveries. It also promotes the sharing of scientific knowledge and data to a wider audience, leading to increased engagement and understanding among the public. The focus on openness to all people and participation promotes diversity and inclusivity in the research process, allowing for a wider range of perspectives and insights to be included in scientific inquiry. The emphasis on openness for change and new ways implies a willingness to adapt to new technologies and approaches in research, which can lead to more innovative and effective solutions to scientific problems. The emphasis on cooperation promotes collaboration among researchers, leading to a more efficient use of resources and a greater potential for interdisciplinary collaboration.

At SimTech, we have integrated our efforts in Research Data Management, Research Software, and Open Access into our infrastructure. To facilitate research data management, the university of stuttgart provide a data repository called DaRUS, which we develop further together with the people from the local infrastructure. Additionally, we use an open research software called PUMA for collecting and evaluating publications, which is not dependent on commercial providers. The infrastructure of the university provide OA funding and we also support Open Access (OA). With these integrated efforts, we strive to promote Open Science and make research more accessible and reusable for everyone.

Our research data management team consists of researchers, who are part of the SimTech management team and doing research in the field of reserach management. With this approach, we have already been able to build many useful services for our scientists. The connection between science and infrastructure promotes the development of sustainable and effective infrastructures

to support scientific research in Open Science, leading to a more efficient and effective research process.

# References


[1] UNESCO Recommendation on Open Science, 2021, *United Nations Educational, Scientific and Cultural Organization*, https://doi.org/10.5281/zenodo.5834767

[2] Open Science als Teil der Wissenschaftskultur. Positionierung der Deutschen Forschungsgemeinschaft, 2022, *Zenodo*, https://doi.org/10.5281/zenodo.7193838