THE TRR170-DB DATA REPOSITORY: ACCESS TO PLANETARY DATA FROM VARIOUS RESOURCES. Elfrun Lehmann[1], Harry Becker[1], [1]Freie Universität Berlin, Germany, elfrun.lehmann@fu-berlin.de.

Introduction: The TRR170-DB data repository (https://planetary-data-portal.org/) manages research data from the collaborative research center 'Late Accretion onto Terrestrial Planets' (TRR 170). The repository makes TRR 170 data and planetary science data from other sources accessible to researchers. Data in the repository reflect the different methods and approaches applied to investigate planet formation processes, including astromaterials data, experimental studies, remote sensing data, and geophysical modeling data. TRR170-DB aligns its data policy and practice to Open Science and the FAIR principles [1] as promoted by the national research data infrastructure initiative in Germany [2]. Its location on a Freie Universität Berlin server ensures long-term preservation and access to its published data promoting widespread usage by researchers and the interested public.

The **TRR170-DB system**: The repository is operated on the open source data management software Dataverse (http://dataverse.org/). Users access the repository directly through its interface that connects to the storage environment of the datasets hosted by Freie Universität Berlin. Alternatively, a web portal allows for repository access while also guiding users how to use TRR170-DB. The website provides additional information to the community related to data management and data publication and informs about legal conditions and embargo periods to safeguard when and how to publish data.

While TRR170-DB serves as a hub to exchange data for the TRR 170 user community through a password-guarded member area, it also allows for easy transfer of published data among various subdisciplines of the planetary sciences. Data stored and published in TRR170-DB use international formats so that they can be easily integrated into international repositories to ensure that all data are generally accessible.

The repository interface provides search tools to allow users to retrieve diverse planetary data such as experimental and analytical data on planetary samples, remote sensing data, geological maps, model simulations, and mission images. Users can conduct general searches or specify requests for published data via filters. Filters can direct searches to specific published data (i.e., planetary materials/geophysics, planetary surface data, astronomy) via their metadata information. Specified searches result in compilations of data and metadata information available in the repository that can be directly viewed, saved, and downloaded. At present, the majority of datasets were provided and used by authors of articles from the TRR 170 program, which appeared in international scientific journals since 2016. These replication datasets are freely available and no special permission is required to use them. TRR170-DB further provides links to some datasets at external sites and archives. They can be searched and retrieved by TRR170-DB metadata information.

Community Services: We are currently improving TRR170-DB tools that allow users to search and access data more efficiently. We inform members of TRR 170 regularly about news in the data community and offer webinars and workshops on data related topics.

Future Work: For effective management and structuring of data from heterogeneous datasets, we will adapt data in the repository to common international standardized formats and ontologies. Specified metadata templates are in progress that will request data suppliers to set standardized ways to annotate, structure and organize data. This metadata information on the content, quality, origin, and other characteristics of the datasets ensures reliable data quality for future use in research projects. In this way, data from different projects can be easier exchanged and be understood when used in different contexts.

All of TRR170's metadata content will be mapped to Freie Universität's central library system. This secures long-term preservation of its data and metadata information and provides the data to a larger community of researchers, teachers, and students. Some of the repository's tools in development may serve education and public outreach efforts.

References: [1] DFG: https://www.dfg.de/en/research_funding/programmes/nfdi/index.html. [2] Wilkinson et al., Scientific Data, 3, (2016).