

2nd Working Workshop on Research Data Management for and in Software Engineering (RDMxSE 2026)

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Abstract: As part of NFDIxCS, core services are being developed to support software engineering researchers throughout the research process, in particular in the sustainable review, publication, and reuse of research artifacts. The goal of this invited workshop is to present these services in a practice-oriented manner, explore them together with the community, and gather targeted feedback from software engineering research. The workshop is aimed at researchers who wish to make their research more transparent, reproducible, and sustainable, and who are interested in open science, the FAIR principles, and modern research data infrastructures.

Keywords: Open Science, Reproducibility and Replicability, Software Artifacts and Metadata

1 Context, Motivation and Objectives

The NFDIxCS consortium (National Research Data Infrastructure for and with Computer Science; <https://nfdixcs.org/>) aims to establish a standardized, sustainable infrastructure for managing, sharing, and reusing complex research data and software in computer science in accordance with the FAIR principles. A central building block of this effort is the concept of reusable Research Data Management Containers (RDMCs), which bundle research data, metadata, software artifacts, and execution environments in a structured and standardized form. Through these containers and related services, NFDIxCS promotes FAIR data practices, improves the citation and long-term accessibility of software and data, and contributes to the development of broadly accepted standards for sustainable research data storage and reuse.

These objectives are particularly relevant for software engineering research. Empirical studies, tool-based contributions, benchmarks, and experimental evaluations form the backbone of the field, yet reproducibility, artifact availability, and long-term maintainability of research outputs remain persistent challenges. Software engineering research frequently relies on complex toolchains, evolving dependencies, and heterogeneous datasets, making it difficult to reproduce results or reuse artifacts beyond the original publication context. The services developed within NFDIxCS directly address these challenges by providing structured support for packaging, executing, evaluating, and preserving software engineering research artifacts in a reusable and transparent manner.

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The goal of this workshop is to present these services in a practice-oriented way, to explore them hands-on together with the community, and to gather targeted feedback from software engineering researchers. By fostering direct interaction with the tools and infrastructures provided by NFDIxCs, the workshop aims to bridge the gap between research data management concepts and their practical application in everyday software engineering research.

2 Workshop Format and Structure

The workshop introduces and explores several key services developed within the NFDIxCs consortium, including support for the creation of structured Research Data Management Containers, reusable execution environments (REEs) that promote reproducibility, and platforms for the systematic evaluation of research artifacts within the peer-review process.

Each session follows a uniform and well-defined structure. It begins with a brief introduction to the respective service, outlining its purpose, underlying concepts, and typical use cases in software engineering research. This is followed by an extensive hands-on phase in which participants work directly with the service, either by applying it to their own software projects or by using prepared example artifacts provided by the organizers. Each session concludes with a moderated discussion and feedback round, during which participants share their experiences, articulate requirements, and identify potential areas for improvement or future development.

3 Target Audience

The workshop is aimed at researchers in the field of software engineering at all career stages, as well as project leads and coordinators with a focus on research data management. It also addresses individuals with a broader interest in open science, reproducibility, and sustainable software research.

Participants will gain practical insights into current NFDIxCs services and receive concrete support for applying these services to their own research projects. In addition, the workshop offers opportunities for exchange and discussion within the software engineering community on best practices, common challenges, and emerging standards related to research artifacts and data management.

Overall, the workshop targets researchers who seek to make their work more transparent, reproducible, and sustainable, and who are interested in adopting FAIR principles and modern research data infrastructures as an integral part of software engineering research practice.