deRSE24 - Selected Contributions of the 4th Conference for Research Software Engineering in Germany

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Preface

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We are pleased to present the proceedings of the 4th Conference for Research Software Engineering in Germany, hosted in 2024 by the Faculty of Physics and Astronomy of the University of Würzburg. The deRSE conference series serves as a unique meeting point for research software engineers, researchers, and developers to share their insights, projects, and experiences. Over the years, deRSE has become a cornerstone event for the German research software engineering community, fostering exchange across disciplines and addressing key topics such as teaching, practice, and recognition of the field.

As in previous years, the deRSE24 conference program reflected the diversity and dynamism of the field. It featured a wide array of contributions, including 75 talks, two keynote presentations, 24 interactive sessions such as workshops, meetups, and hackathons, as well as 35 poster presentations and demos. The contributions span key areas of research software engineering, including RSE Practices, RSE Infrastructure, RSE Community, RSE Training, RSE Policy, and RSE Research.

We extend our deepest gratitude to our sponsors, whose generous support has been instrumental in bringing this event to life, and whose commitment to the advancement of research software engineering is greatly appreciated:

- The Cluster of Excellence ct.qmat
- KONWIHR and NHR@FAU
- H.O. Computer and their partner Intel
- Prognostica
- Forschungszentrum Jülich

We are also grateful to de-RSE e.V. (the German Association for Research Software Engineering) for their endorsement of this conference. de-RSE e.V. plays a vital role in fostering the development, sharing, and professional recognition of research software engineering in Germany. Established to provide a platform for collaboration, knowledge exchange, and advocacy, de-RSE e.V. brings together individuals from academia, research institutions, and industry who are passionate about advancing the field of research software engineering. The organization emphasizes community-driven initiatives, inclusivity, and the acknowledgement of research software as an integral component of modern scientific inquiry.

All contributions presented at the conference were invited to submit to this post-conference volume, with the option to publish as individual works or as joint efforts combining multiple contributions. The review process was conducted by a diverse group of experts, including authors of other submissions, members of the program committee, experienced RSEs, senior RSE and SE researchers, and champions in the field.This collaborative approach ensured a thorough and community-driven evaluation of the submissions. Each submission underwent a structured review process with four possible outcomes:

1. Accepted as is – No further revisions required.
2. Minor revision – Authors were asked to make small adjustments, without requiring a second review round.
3. Major revision – Submissions requiring substantial improvements were given the opportunity for revision and a second review round.
4. Declined – Submissions that did not meet the required standards were not accepted for publication.

22 papers were submitted in response to our call for contributions to this post-proceedings volume, and 18 of those were finally accepted for publication. All accepted contributions are published in this diamond open-access journal, ensuring free access for both authors and readers while maintaining rigorous academic quality. We thank all authors for their work, and we wish to explicitly recognize the invaluable contributions of the reviewers, whose expertise and dedication have shaped the high-quality content of this volume:

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We hope these proceedings serve as both a valuable reference, and an inspiration for further innovation and collaboration in Research Software Engineering.

Sincerely,
   Jan Bernoth, Florian Goth, Anna-Lena Lamprecht, Jan Linxweiler