deRSE25 - Selected Contributions of the 5th Conference for Research Software Engineering in Germany

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Preface

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We are pleased to present the proceedings of deRSE25 - the 5th Conference for Research Software Engineering in Germany, organised in 2025 by the Karlsruhe Institute of Technology (KIT). This annual conference serves as a unique meeting point for research software engineers, researchers, and developers to share their insights, projects, and experiences. Over the years, the deRSE series of conferences 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.

We are also grateful to de-RSE e.V. (the German Association for Research Software Engineering) for their endorsement of this conference. The 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.

This year's conference program reflected the diversity and dynamism of the field. It featured a wide array of contributions, including 81 talks, 2 keynote presentations, 28 interactive sessions such as workshops, meetups, and hackathons, as well as 56 poster presentations and demos; all designed to spark conversation and collaboration. The contributions spanned 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 is instrumental in bringing this event to life. Their commitment to the advancement of research software engineering is greatly appreciated:

- We extend our very special gratitude to the KIT for hosting us.

- We thank the Cluster of Excellence ct.qmat – Complexity and Topology in Quantum Matter for their continued support.

- We are grateful to the Forschungszentrum Jülich: Conducting research for a changing society, for their ongoing support.

- We are thankful to Diehl Defence for their support.

All contributions presented at the conference were invited to submit to the deRSE25 Post-Conference Proceedings, 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, and champions in the field. This collaborative approach ensured a thorough and community-driven evaluation of the submissions. Each submission went through a structured review process with four possible outcomes:

- Accepted as is – No further revisions were required.

- Minor revision – Authors were asked to make small adjustments, without requiring a second review round.

- Major revision – Submissions requiring substantial improvements were given the opportunity for revision and a second review round.

- Declined or Resubmit Elsewhere – These outcomes meant that the contribution is not publisehd, since it did not meet the required level of quality, or is better suited for a publication elsewhere.

It is worth noting that among the 31 submitted contributions for deRSE25, not a single one was accepted without revisions. This underscores the reviewers' dedication and substantial investment of time in assisting authors to enhance the quality of their work. Some contributions were also declined or suggested for a publication elsewhere.

All accepted contributions are published in this diamond open-access journal, ensuring free access for both authors and readers while maintaining rigorous academic quality.

Additionally, we wish to recognize the invaluable contributions of the program chair(s) and the entire program committee. Their expertise and dedication have shaped the high-quality program we proudly present in this volume.

The deRSE25 Post-Conference Proceedings would not have been possible without the help of the community. Therefore it is our pleasure to thank our reviewers from the national and international RSE community:

Susann Auer	Florian Goth	Stephanie Reilly
Parinaz Barakhshan	Jean-Noël Grad	Bernhard Rumpe
Michelle Barker	Magnus Hagdorn	Anna-Lena Schaible
Jan Bernoth	Toby Hodges	Christoph Schimeczek
René Caspart	Timo Homburg	Tobias Schlauch
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Felix Engel	Anna-Lena Lamprecht	Mattis Thor Straten
Christian Felder	Jan Linxweiler	Yudong Sun
Dirk Feuchter	Camilla Lüttgens	Jan Philipp Thiele
Bernd Flemisch	Florian Mannseicher	Florian Thiery
Mario Frank	Kim Martin	Yanick Thurn
Bernadette Fritzsch	Aleksander Marčić	Karsten Tolle
Stefan Fürtinger	Lasse Mempel-Länger	Jeremy Wilkinson
Leyla Garcia Castro	Sebastian Nielebock	Tim Wittenborg
Hendrik Geßner	Giacomo Nodjoumi	Joachim Wuttke

We hope these proceedings serve as both a valuable reference and an inspiration for further innovation and collaboration in research software engineering. May this conference be a stepping stone for new ideas, partnerships, and a stronger community.

Finally, we want to thank all the authors, reviewers, session chairs, and volunteers whose efforts have ensured the success of this conference. Your commitment to advancing the field of Research Software Engineering is evident in every page of these proceedings.

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

Sincerely, the Post-Conference Proceedings Editors:
René Caspart, Florian Goth, Oliver Karras, Jan Linxweiler, Florian Thiery, Joachim Wuttke